



HYDRAULIC FITTINGS

INTRODUCTION

Manuli Hydraulics is globally respected for the breadth and versatility of our hydraulic fittings range. Comprising over 6,000 references, we have fittings to suit most of the common international standards as well as the specific requirements of several of our important OEM customers.

The Manuli Hydraulics fittings range is made up of 3 families: MF2000, MF3000 and Smart Connectors.

The **MF2000** range comprises our core range of two-piece fitting solutions and has over 4,000 references:

Multifit (MF) - Simple and cost effective universal solution for wire spiral and wire braid hoses

Minifit (MN) - Extremely compact fittings for braided hose (DN6 to DN10)

Interlock Plus (IP) - Maximum reliability for very high pressure wire spiral hoses in heavy-duty applications

Interlock Super (IS) - High-tech swaged fittings for very large bore wire spiral hose

Spiralfit (SP) - No-skive insert for wire spiral hoses and large bore hose

Spiralfit GX (SPGX) - No-skive insert for wire spiral hoses and large bore hoses

Pushlock (PL) - Insert solution for low pressure applications without the need for a swaged ferrule

The **MF3000** range is made up of one-piece fittings for hoses at medium/high pressures:

One-Piece Flat (OPF) - No-skive, compact and flat-crimp fittings for wire braid hoses up to 1½"

One-Piece Kompact (OPK) - No-skive, compact and flat-crimp fittings for wire spiral and wire braid high pressure hoses up to 2½"

There are also several types of **Smart Connectors** available:

RotoFit - A well-known and patented Manuli Hydraulics solution designed to eliminate hose twist under external torques, which can be a major contributor to premature hose failure. The additional advantage of RotoFit is that it is a "Direct-to-Hose" and "Direct-to-Port" solution. By eliminating the need for adaptors, the number of possible leak points is reduced.

EasyFit - The Manuli "threadless" fittings solution for quick and easy installation of assemblies.

This innovative termination end is fitted with a simple axial push, allowing the hose to self-align and thus improve service life. Maintenance and repair time is also drastically reduced and installation / disconnection in restricted spaces is far easier. Moreover the "Direct-to-Port" concept eliminates the need for adaptors and the possibility of related leakages. All EasyFit fittings have an eco-friendly coating treatment for superior corrosion performance.

FastFit / FastFit Disconnectable - A "one plug" connection consisting of a male half integrated onto the hose and then inserted into the female cartridge. This easy and safe operation does not require any tools for assembly and allows easy installation in restricted areas or in complex configurations. FastFit comes in a wide range of cartridges with direct connection on most standard ports, including BSP, SAE METRIC and NPTF. In addition, the new FastFit Disconnectable range offers all the benefits of standard FastFit technology, but with the ability to disconnect the plug from the cartridge if required.

Adjustable Flange - A new and innovative product which allows the body of the flange fitting to rotate even after being installed and tightened, making installation simpler and also ensuring that the hose is oriented in its most natural way, reducing the likelihood of premature fatigue failures due to poor hose orientation.

E-Coat 1000 - Over 1,000 hours of corrosion protection

Corrosion of fittings can have severely damaging effects on the life and reliability of hose assemblies. In cases where fittings are becoming corroded at an unacceptable rate, ISO/TS 17165-2:2018 recommends upgrading the fittings to ones with an alternative plating material suitable for the environment in which they will be used.

Manuli's standard **E-Coat 500** plating is a first-class, long lasting solution which offers up to 500 hours to red rust in standard salt-spray tests, versus the required minimum of 144 hours as per SAE J516 (ISO 9227 method).

But Manuli have upped their game even further and can now offer the new **E-Coat 1000** plating, which offers double the corrosion resistance of standard E-Coat 500 plating with minimal cost increase.

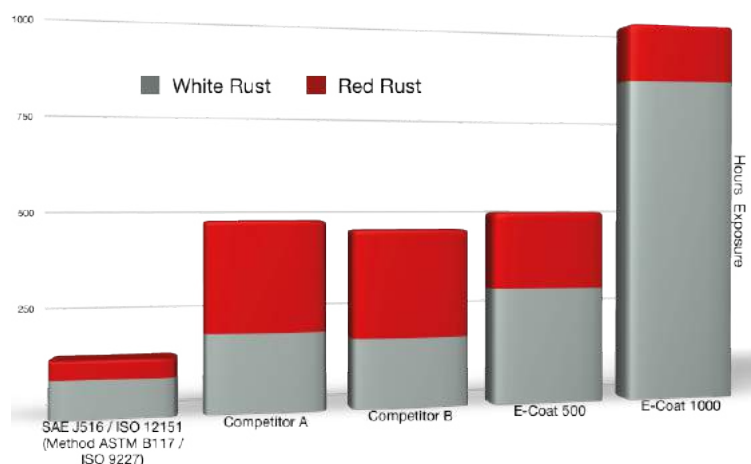
E-Coat 1000 offers:

- High resistance in crimped conditions eg: ferrules and crimped back nuts
- Enhanced performance of corrosion resistance compared to the standard E-Coat 500 plating (over 1,000 hours before red corrosion in standard salt spray test conditions ASTM B117 and ISO 9227*)
- Higher resistance to abrasion and handling than standard plating
- Full compliance with the European Directives REACH 1907/2006/EC, RoHS 2011/65/EC, ELV 2000/53/EC
- E-Coat 1000 is available as an option on all Manuli hydraulic fittings and flat-face quick couplings

E-Coat 1000 plating is the optimum solution for applications in severe environments and for demanding OEM specifications. It also offers even longer durability in standard hydraulic applications.

Best-In-Class Corrosion Resistance - Putting it to the test

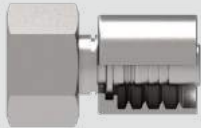
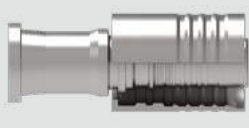
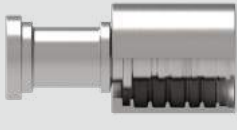
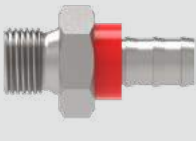
Many other fitting manufacturers declare the superb corrosion resistance of their fittings, so we tested E-Coat 1000 against the best of the competition. The results speak for themselves. The best comparable competitor coatings both declare 1,000 hours to red rust, however, they both began to show red corrosion after less than 500 hours, and were seriously corroded by 750 hours. In contrast, the Manuli sample with E-Coat 1000 was barely showing signs of white corrosion after more than 1,000 hours in salt spray conditions. Even crimped fittings with E-Coat 1000 lasted over 750 hours before showing significant signs of corrosion, despite the damage to the plating integrity which occurs during the mechanical deformation process of crimping.



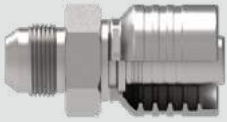
To order items with E-Coat 1000 plating, simply add the suffix "NK" to the part number when placing your orders.

Quantities and box sizes are as per standard fittings.

TWO PIECE TECHNOLOGY

OVERVIEW			
MINIFIT 	MULTIFIT 	INTERLOCK PLUS 	INTERLOCK SUPER 
p107 - p112	p113 - p175	p176 - p221	p222 - p225
SPIRALFIT 	SPIRALFIT GX 	PUSH-LOCK 	ACCESSORIES
p226 - p247	p248 - p249	p250 - p251	p252 - p255

ONE PIECE TECHNOLOGY

OVERVIEW	
OPK 	OPF 
p256 - p280	p281 - p307

SMART FITTINGS

OVERVIEW		
EASYFIT 	FASTFIT 	FASTFIT DISCONNECTABLE 
p308 - p311	p312 - p318	p319 - p321
ROTOFIT 	ADJUSTABLE FLANGE 	
p322 - p332	p333 - p334	

Fitting	Maximum Working Pressure (bar)														
	Hose Size / Dash														
	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
	03	04	05	06	08	10	12	16	20	24	32	40	48	56	64
BSP 60° CONE BS5200 / ISO 8434-6	350	500		460	430	350	350	350	350	300	300	140	105		
BSP 60° CONE DOUBLE THRUST-WIRE NUT BS5200 / ISO 8434-6							621	621	621	560					
JIC 37° CONE ISO 8434-2 / SAE J514		350	350	350	350	350	350	280	210	160	125				
JIC 37° CONE DOUBLE THRUST-WIRE NUT ISO 8434-2 / SAE J514							420	420	420	420	420				
ORFS ISO 8434-3 / SAE J1453		460		460	420	420	420	420	420	350					
NPTF MALE SAE J514 / ASME B1.20.3	350	350		280	245		210	175	145	145	145				
NPSM FEMALE SAE J514	350	350		280	245		210	175	145	145	145				
SAE 45° CONE SAE J512		350	350	350	310	240	240	210							
ISO/SAE CODE 61 FLANGE ISO 6162-1 / SAE J518-1					350		350	350	280	210	210	175	160	35	35
ISO/SAE CODE 62 FLANGE ISO 6162-2 / SAE J518-2					420		420	420	420	420	420	420	420		
XTRAFRANGE/61 ISO 6162-1 / SAE J518-1 PORT COMPATIBLE							420	420	420	420	420	420			
XTRAFRANGE/62 ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							560	560	560	560	450	420	420		
FLANGE/PLUS ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							420	420	420						
CAT FLANGE ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							420	420	420	420	420				
METRIC CONE 24° L SERIES ISO 8434-1 / DIN 3865	415	400	350	330	275	250	245	245	220	100					
METRIC CONE 24° S SERIES ISO 8434-1 / DIN 3865	630	630	630	630	450	420	420	420	420						
METRIC CONE 60° LL SERIES DIN 20066							63	63	63	63	40				
METRIC MULTISEAL DIN 20066	250	250	250	250	250	160									
FRENCH METRIC MILLIMETRIC NF E48-064						420	420	420							
FRENCH GAZ MILLIMETRIC NF E48-064				630	630	420	420	420							
JIS METRIC FEMALE 60° CONE (KOMATSU) JIS B8363		350	350	350	350	280	280	280	175	105					
JIS GAS FEMALE 60° CONE (TOYOTA) JIS B8363		350		350	350		280	280	175	105	105				
SAE MALE O-RING BOSS TYPE SAE J516 / ISO 11926		420		420	350	280	280	210	210						
METRIC STANDPIPE LIGHT DUTY DIN 2353 / ISO 8434-1	250	250	250	250	250	160	160	100	100	100					
METRIC STANDPIPE HEAVY DUTY DIN 2353 / ISO 8434-1	630	630	630	400	400	400	400	250	250						
BSP BANJO		210	210	210	210	210	210	210							
METRIC BANJO DIN 7642		210	210	210	210	210	210								
WASHCLEANER				420											

A523H95	318	M33H40	314	M21392/M21393	156	M30050	208
A52013H	315	M33H90	314	M21512/M21513	157	M30510	176
A52014H	321	M73H10	315	M21542/M21543	158	M30710	176
A52032H	310	M00110/M00120/M00130	112	M21592/M21593	159	M31110	196
A52053H	315	M00310/M00321	113	M21612/M21613	161	M31210	197
A52192H	311	M00820/M00830	113	M21642/M21643	162	M31240	197
A52193H	318	M00910/M00920/M00930	112	M21692/M21693	163	M31290	197
A52194H	320	M01500	175	M21713	164	M32410	182
A52283H	316	M01600	175	M21813	165	M32510	180
A52302H	310	M01800/M01810/M01850	175	M21893	165	M32810	187
A52323H	316	M01900	176	M22010	150	M33010	187
A52324H	320	M02400	106	M22040	151	M40512	177
A54363H	317	M02610	221	M22090	152	M40514	177
A57363H	317	M02700	221	M22110	150	M40542	177
AR520504	331	M02800	221	M22140	151	M40592	178
AR580504	332	M02900	222	M22190	152	M40812	178
IM01500	210	M03300	114	M22411	133	M40842	179
IM01600	210	M03400/M03450	114	M22441KR	135	M40892	179
IM01800/IM01810	210	M03500	115	M22441/M22443	134	M41243 LONG DROP	200
IM01900	211	M4364A	333	M22491KR	136	M41293 LONG DROP	200
IM30510	211	M4369A	333	M22491/M22493	135	M41612/M41613	198
IM31210	218	M05400	226	M22512/M22513	126	M41642/M41643	198
IM32510	212	M05500	226	M22541KR	129	M41663	199
IM32810	215	M05500-GX	248	M22542/M22543	129	M41692/M41693	199
IM40812	211	M10050	172	M22582F	132	M42411	183
IM40842	212	M10510	116	M22591KR	130	M42412	183
IM40892	212	M10610	124	M22592/M22593	130	M42431	184
IM41612/IM41613	218	M10710	115	M22612	138	M42441	184
IM41642/IM41643	219	M11010	153	M22642	139	M42442	184
IM41692/IM41693	219	M11110	156	M22692	139	M42443	185
IM42412	214	M11190	157	M22711/M22711KR	128	M42461	185
IM42442	214	M11210	160	M22712	127	M42491	185
IM42492	215	M11290	160	M22812	141	M42492	186
IM42512	213	M11710	163	M23301P	146	M42493	186
IM42542	213	M11810	164	M23301S	147	M42512	180
IM42592	214	M12410	132	M23301T	147	M42542	181
IM43310	216	M12510	125	M23311	141	M42592	182
IM43310	219	M12810	140	M23321	142	M42714	181
IM43340	216	M13010	137	M23331	142	M43310	188
IM43390	216	M14110R	140	M23341	143	M43320	188
IM43610	217	M14310	137	M23361	144	M43330	189
IM43640	217	M14390	138	M23371	144	M43340	189
IM43690	218	M20511KR	117	M23391	145	M43360	190
IM43910	220	M20512/M20513	117	M23391 LONG DROP	146	M43370	190
IM43940	220	M20514	118	M23611	148	M43390	191
IM43990	220	M20541KR	119	M23641	148	M43610	191
INFINITY	59	M20542/M20543	118	M23691	149	M43620	192
IO821GA	255	M20591KR	120	M23811	167	M43630	192
IO84210	255	M20592/M20593	119	M23911	169	M43640	193
JO29	209	M20594	120	M23911CT	169	M43660	193
JO29	225	M20612/M20613	125	M23941	170	M43670	194
L10510	250	M20711/M20712	167	M23941CT	170	M43690	194
L20513	250	M20811HKR	121	M23991	171	M43710	200
L20543	251	M20812/M20813	121	M23991CT	171	M43740	201
L20593	251	M20841KR	122	M24011/M24012	166	M43790	201
M12H10	308	M20842/M20843	122	M24091	166	M43910	202
M12H40	308	M20882F	124	M24111	168	M43910CT	202
M12H90	309	M20891KR	123	M24141	168	M43920	203
M13H10	313	M20892/M20893	123	M24191	168	M43930	203
M13H40	313	M21012/M21013	153	M24491 LONG DROP	136	M43930CT	204
M13H90	313	M21043	154	M24791KR	131	M43940	204
M14H10	320	M21093	154	M24792/M24793	131	M43940CT	205
M22H10	309	M21312/M21313	155	M27411	133	M43960	205
M33H10	314	M21342/M21343	155	M27411KR	134	M43960CT	206

M43970	206
M43970CT	206
M43990	207
M43990CT	208
M43990CT LONG DROP	208
M43990 LONG DROP	207
M44492 LONG DROP	186
M48410	195
M48490	195
M48510	195
M48540	196
M48590	196
M49510WL	209
M70050	247
M70510	227
M71210	240
M72410	231
M72510	229
M72810	233
M73010	233
M80812	227
M80842	228
M80892	228
M81612	240
M81642/M81643	241
M81692/M81693	241
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M82442	232
M82492	232
M82542	230
M82592	230
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M83631	237
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M83641-GX	248
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M83941	245
M83961	245
M83971	246
M83991	246
M83991 LONG DROP	247
M84492	232
M84792	231
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M88591	239
M89510WL	247
MB0514	222
MB3610	222

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MB3690	223
MB3910	224
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MB3990	225
MB8510	223
MB8590	224
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MR11210	327
MR11910	327
MR12410	325
MR12810	325
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MR23361FK	326
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MR32810	329
MR40812	328
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MR43310	330
MR43610	330
MR43690	330
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MR83691	331
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MS0513	106
MS0541KR	107
MS0543	107
MS0591KR	108
MS0593	107
MS0811HKR	108
MS0813	108
MS0841KR	109
MS0843	109
MS0882F	110
MS0891KR	110
MS0893	109
MS1513	111
MS1593	111
MT0710	110
O82H10	311
O820	252
O821 / IO821	252
O20310	173
O20910	173
O80210	174
O80810	174
O83308	253
O83607	254
O83609	253
O88407	254
O88507	254
OPF10510	281
OPF10710	281
OPF11110	301

OPF11210	303
OPF12410	292
OPF12510	286
OPF12810	296
OPF13010	294
OPF14110R	297
OPF14310	295
OPF14390	295
OPF20512/OPF20513	282
OPF20542/OPF20543	282
OPF20592/OPF20593	283
OPF20612/OPF20613	285
OPF20711	306
OPF20812/OPF20813	283
OPF20842/OPF20843	284
OPF20882F	285
OPF20892/OPF20893	284
OPF21312/OPF21313	300
OPF21392/OPF21393	301
OPF21512/OPF21513	302
OPF21542/OPF21543	302
OPF21592/OPF21593	303
OPF21612/OPF21613	304
OPF21642/OPF21643	304
OPF21692/OPF21693	305
OPF22010	300
OPF22411/ OPF22412	292
OPF22441/OPF22443	293
OPF22491/OPF22493	293
OPF22541KR	288
OPF22542/OPF22543	288
OPF22582F	291
OPF22591KR	290
OPF22592/OPF22593	289
OPF22612	296
OPF22711K	287
OPF22711/OPF22711KR/	287
OPF22712	286
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OPF23311	298
OPF23321	298
OPF23331	298
OPF23341	299
OPF23361	299
OPF23371	299
OPF23391	300
OPF23811	306
OPF24011	305
OPF24111	306
OPF24141	307
OPF24191	307
OPF24491	294
OPF24791KR	291
OPF24792/OPF24793	290
OPK10510	256
OPK11110	273
OPK11210	275
OPK11710	277
OPK11810	277
OPK12410	264
OPK12510	259
OPK12810	267
OPK13010	266
OPK14110R	267

OPK14310	266
OPK20512/OPK20513	256
OPK20542/OPK20543	257
OPK20592/OPK20593	257
OPK20812/OPK20813	258
OPK20842/OPK20843	258
OPK20892/OPK20893	259
OPK21512/OPK21513	274
OPK21542/OPK21543	274
OPK21592/OPK21593	275
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OPK23331	269
OPK23341	270
OPK23361	270
OPK23371	271
OPK23391	271
OPK23611	272
OPK23641	272
OPK23691	273
OPK23911	279
OPK23941	280
OPK23991	280
OPK24011/OPK24012	278
OPK24111	278
OPK24141	279
OPK24191	279
OPK24491	266
OPK24791KR	263
OPK24792/OPK24793	263

MINIFIT

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48

FERRULES

M02400

FITTINGS

BSP

DIN METRIC 24° CONE
LIGHT TYPE

MULTIFIT

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M00110 / M00120 /
M00130

M00910 / M00920

M03300

M03400

M03500

M00310 / M00320

M00820 / M00830

FITTINGS

BSP

SAE (JIC)

SAE (ORFS)

SAE (O-RING BOSS)

SAE (NPTF-NPSM)

SAE FLANGE CODE 61

SAE FLANGE CODE 62

DIN STANDPIPE

DIN METRIC 60° CONE

DIN METRIC MULTISEAL

DIN METRIC 24° CONE

LIGHT TYPE

DIN METRIC 24° CONE

HEAVY TYPE

NF (FRENCH MILLIMERIC

TYPE)

NF (FRENCH GAZ TYPE)

JIS

ORIGINAL EQUIPMENT

CONNECTIONS

BANJO CONNECTIONS

SAE (45° CONE)

INTERLOCK PLUS

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M01500																
M01600																
M01800 / M01810 / M01850																
M01900																

FITTINGS

BSP																
SAE (JIC)																
SAE (ORFS)																
SAE (O-RING COSS)																
SAE (NPTF-NPSM)																
SAE FLANGE CODE 61																
SAE FLANGE CODE 62																
DIN METRIC 24° CONE HEAVY TYPE																
ORIGINAL EQUIPMENT CONNECTIONS																
XTRAFLLANGE/61																
XTRAFLLANGE/62																

INTERLOCK PLUS STAINLESS STEEL

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

IM01500																
IM01600																
IM01800 / IM01810																
IM01900																

FITTINGS

BSP																
SAE (JIC)																
SAE (ORFS)																
SAE (NPTF)																
SAE FLANGE CODE 61																
SAE FLANGE CODE 62																
DIN METRIC 24° CONE HEAVY TYPE																
ORIGINAL EQUIPMENT CONNECTIONS																

INTERLOCK SUPER

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M02700																
M02800																

FITTINGS

SAE FLANGE CODE 62																
XTRAFLANGE/62																
BSP																
ORIGINAL EQUIPMENT CONNECTIONS																

SPIRALFIT

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M05400																
M05500																

FITTINGS

BSP																
SAE (JIC)																
SAE (ORFS)																
SAE (O-RING BOSS)																
SAE (NPTF-NPSM)																
SAE FLANGE CODE 61																
SAE FLANGE CODE 62																
DIN METRIC 24° CONE HEAVY TYPE																
ORIGINAL EQUIPMENT CONNECTIONS																
XTRAFLANGE/62																

SPIRALFIT GX

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M05500-GX																
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FITTINGS

SAE FLANGE CODE 62																
--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PUSHLOCK

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"	$2\frac{3}{8}$ "	$2\frac{1}{2}$ "	3"	$3\frac{1}{2}$ "	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FITTINGS

BSP																
-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

OPF

DN	5	6	8	10	12	16	19	25	31	38	51
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32

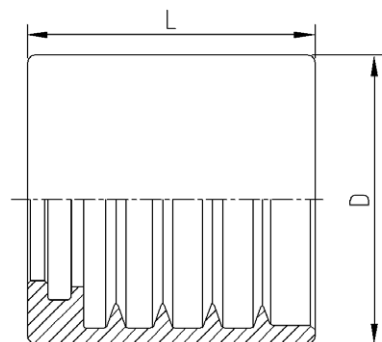
FITTINGS

BSP												
SAE (JIC)												
SAE (ORFS)												
SAE (O-RING BOSS)												
SAE (NPTF-NPSM)												
SAE FLANGE CODE 61												
DIN STANDPIPE												
DIN METRIC MULTISEAL												
DIN METRIC 24° CONE LIGHT TYPE												
DIN METRIC 24° CONE HEAVY TYPE												
JIS												
ORIGINAL EQUIPMENT CONNECTIONS												

OPK

DN	5	6	8	10	12	16	19	25	31	38	51
Inch	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	2"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32

FITTINGS											
BSP											
SAE (JIC)											
SAE (ORFS)											
SAE (O-RING BOSS)											
SAE (NPTF-NPSM)											
SAE FLANGE CODE 61											
SAE FLANGE CODE 62											
DIN METRIC 24° CONE LIGHT TYPE											
DIN METRIC 24° CONE HEAVY TYPE											
NF (FRENCH MILLIMETRIC TYPE)											
NF (FRENCH GAZ TYPE)											
JIS											
ORIGINAL EQUIPMENT CONNECTIONS											

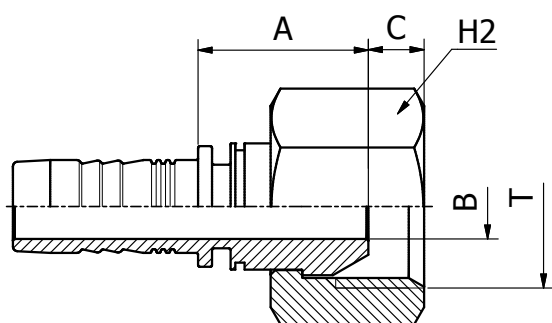


FERRULE

M02400

NO-SKIVE FERRULE FOR COMPACT HOSES

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M02400-03	5	- 3	3/16"			19.2	17.4				
M02400-04	6	- 4	1/4"			18.5	18.5				
M02400-05	8	- 5	5/16"			21.3	19.6				
M02400-06	10	- 6	3/8"			23.8	21.2				
M02400-08	12	- 8	1/2"			24.7	22.0				

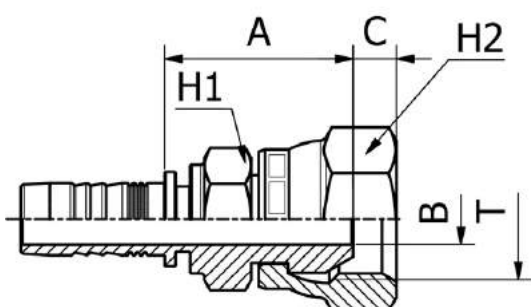


BS STANDARD CONNECTIONS

MS0513

BSP
FEMALE 60° CONE
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H2			
MS0513-04-04	6	- 4	1/4"	1/4" - 19		4.0	15.7	5.4	19.0			
MS0513-06-06	10	- 6	3/8"	3/8" - 19		7.0	18.3	6.0	22.0			

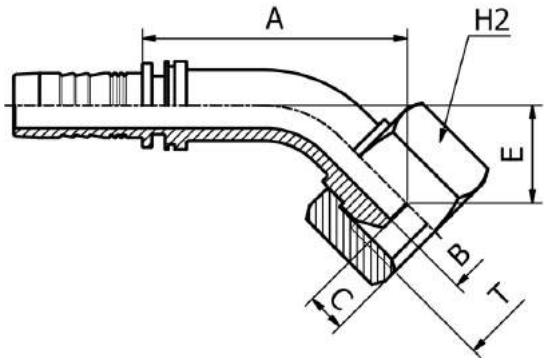


BS STANDARD CONNECTIONS

MS0511KR

BSP FEMALE 60° CONE
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H1	H2		
MS0511-03-04H12KR	5	-3	3/16"	1/4" - 19		4.0	23.5	5.2	12.0	19.0		
MS0511-04-04H12KR	6	- 4	1/4"	1/4" - 19		4.0	23.5	5.2	12.0	19.0		
MS0511-06-06H17KR	10	- 6	3/8"	3/8" - 19		7.0	26.0	6.0	17.0	22.0		
MS0511-08-08H19KR	12	-8	1/2"	1/2" - 14		9.3	32.5	6.5	19.0	27.0		

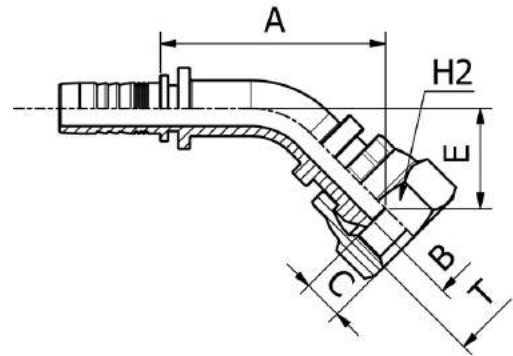


BS STANDARD CONNECTIONS

MS0543

**45° BSP
FEMALE 60° CONE
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
MS0543-04-04	6	- 4	1/4"	1/4" - 19		4.0	34.7	5.4	14.7	19.0		
MS0543-06-06	10	- 6	3/8"	3/8" - 19		7.0	41.0	6.0	15.3	22.0		

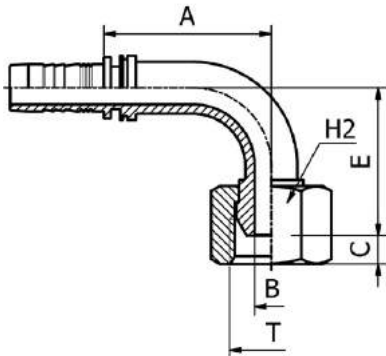


BS STANDARD CONNECTIONS

MS0541KR

**BSP
FEMALE 60° CONE
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
MS0541-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	36.5	5.2	16.6	19.0		
MS0541-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	44.5	6.0	20.0	22.0		

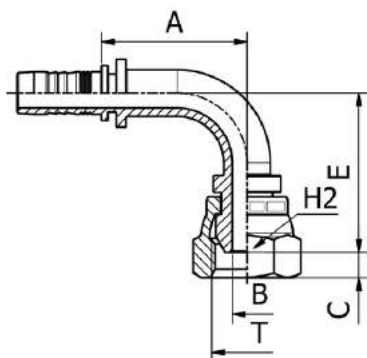


BS STANDARD CONNECTIONS

MS0593

**90° BSP
FEMALE 60° CONE
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
MS0593-04-04	6	- 4	1/4"	1/4" - 19		4.0	28.2	5.4	29.0	19.0		
MS0593-06-06	10	- 6	3/8"	3/8" - 19		7.0	35.3	6.0	31.5	22.0		

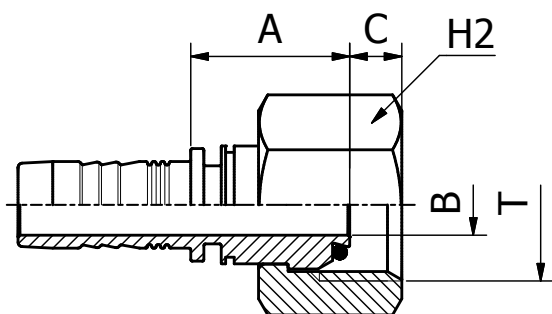


BS STANDARD CONNECTIONS

MS0591KR

**90° BSP
FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
MS0591-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	27.0	5.2	30.5	19.0		
MS0591-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	34.5	6.0	37.5	22.0		

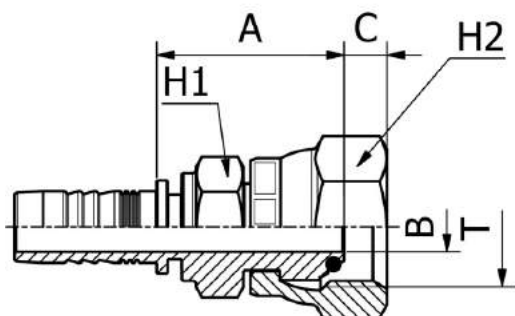


BS STANDARD CONNECTIONS

MS0813

**BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
MS0813-03-04	5	- 3	3/16"	1/4" - 19		4.0	15.5	5.4	19.0			
MS0813-04-04	6	- 4	1/4"	1/4" - 19		4.0	15.5	5.4	19.0			
MS0813-05-06	8	- 5	5/16"	3/8" - 19		7.0	18.0	6.0	22.0			
MS0813-06-06	10	- 6	3/8"	3/8" - 19		7.0	18.5	6.0	22.0			
MS0813-08-08	12	- 8	1/2"	1/2" - 14		9.3	20.5	6.3	27.0			



BS STANDARD CONNECTIONS

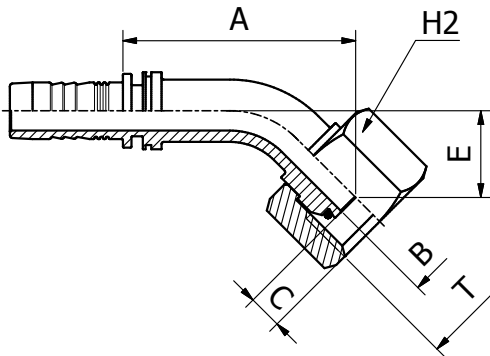
MS0811HKR

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
MS0811-04-04H12KR	6	- 4	1/4"	1/4" - 19		4.0	23.5	5.2	12.0	19.0		
MS0811-06-06H17KR	10	- 6	3/8"	3/8" - 19		7.0	26.0	6.0	17.0	22.0		

BS STANDARD CONNECTIONS

MS0843

45° BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 8434-6

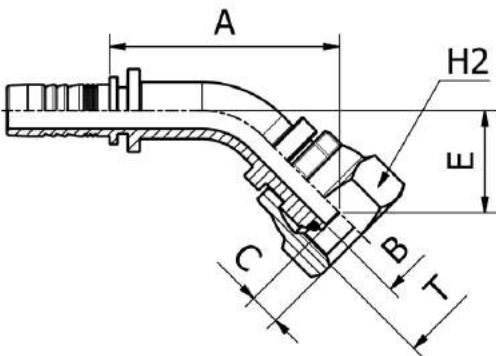


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
MS0843-04-04	6	- 4	1/4"	1/4" - 19		4.0	34.7	5.4	14.7	19.0		
MS0843-05-06	8	- 5	5/16"	3/8" - 19		7.0	40.5	6.0	17.0	22.0		
MS0843-06-06	10	- 6	3/8"	3/8" - 19		7.0	41.0	6.0	15.3	22.0		

BS STANDARD CONNECTIONS

MS0841KR

45° BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 8434-6

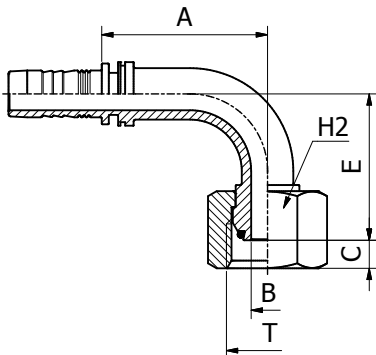


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
MS0841-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	36.5	5.2	16.5	19.0		
MS0841-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	44.5	6.0	20.0	22.0		

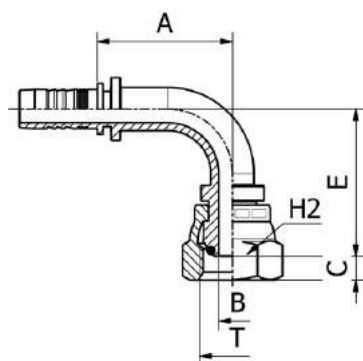
BS STANDARD CONNECTIONS

MS0893

90° BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 8434-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
MS0893-03-04	5	- 3	3/16"	1/4" - 19		4.2	28.0	5.4	29.0	19.0		
MS0893-04-04	6	- 4	1/4"	1/4" - 19		4.0	28.0	5.4	29.0	19.0		
MS0893-05-06	8	- 5	5/16"	3/8" - 19		7.0	31.0	6.0	32.5	22.0		
MS0893-06-06	10	- 6	3/8"	3/8" - 19		7.0	35.5	6.0	31.5	22.0		
MS0893-08-08	12	- 8	1/2"	1/2" - 14		9.3	45.0	6.3	36.5	27.0		

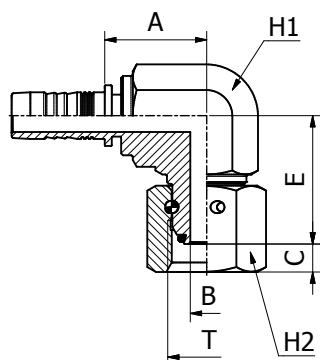


BS STANDARD CONNECTIONS

MS0891KR

90° BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 8434-6

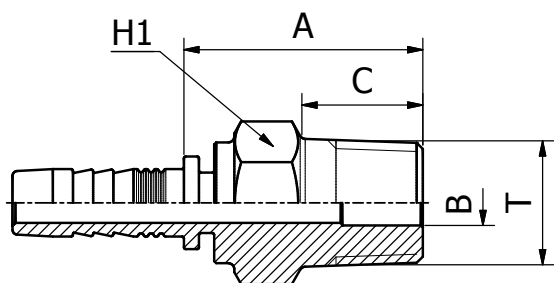
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
MS0891-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	27.0	5.2	30.5	19.0		
MS0891-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	34.5	6.0	37.5	22.0		



BS STANDARD CONNECTIONS

MS0882F

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H1	H2	
MS0882-04-04F	6	-4	1/4"	1/4" - 19		4	18,7	4,1	22	14	19	
MS0882-06-06F	10	-6	3/8"	3/8" - 19		7	21,8	6	27,5	19	22	

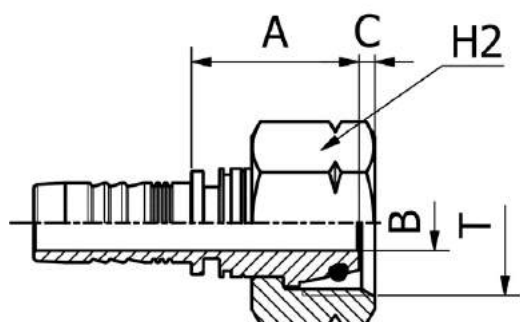


BS STANDARD CONNECTIONS

MT0710**BSP MALE TAPERED**

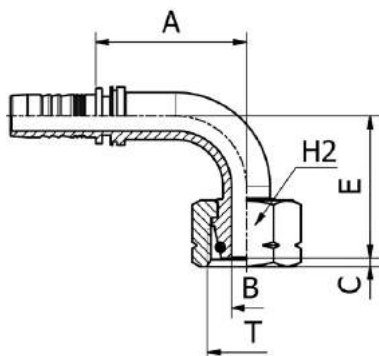
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
MT0710-04-04	6	- 4	1/4"	1/4" - 19		4.5	23.5	12.0	14.0			

DIN STANDARD CONNECTIONS

**MS1513**

METRIC
O-RING FEMALE 24° CONE LIGHT DUTY
ISO 8434-1 / DIN 3865

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H2			
MS1513-04-14	6	- 4	1/4"	M14 X 1.5		4.0	21.0	1.3	17.0			
MS1513-05-16	8	- 5	5/16"	M16 X 1.5		6.0	21.5	1.8	19.0			
MS1513-05-18	8	- 5	5/16"	M18 X 1.5		7.0	20.9	2.0	22.0			
MS1513-06-18	10	- 6	3/8"	M18 X 1.5		7.0	21.1	2.0	22.0			

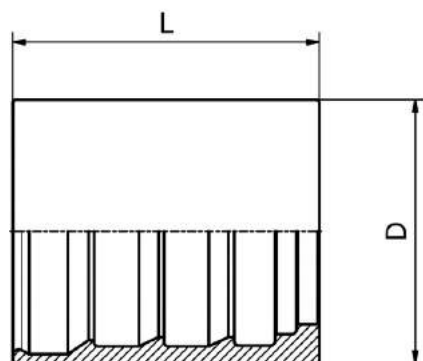


DIN STANDARD CONNECTIONS

MS1593

90° METRIC
O-RING FEMALE 24° CONE LIGHT DUTY
ISO 8434-1 / DIN 3865

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
MS1593-04-14	6	- 4	1/4"	M14 X 1.5		4.0	28.0	1.3	31.5	17.0		
MS1593-05-16	8	- 5	5/16"	M16 X 1.5		6.0	31.0	1.8	32.5	19.0		
MS1593-06-18	10	- 6	3/8"	M18 X 1.5		7.0	35.5	2.5	33.5	22.0		

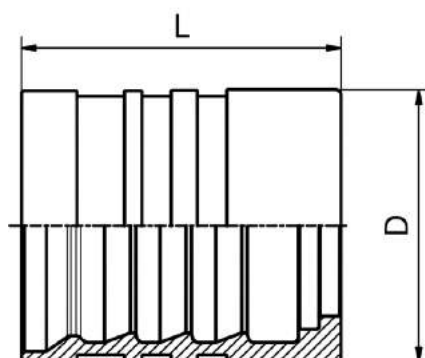


FERRULE

M00110/M00120/M00130

**SKIVE FERRULE
FOR WIRE BRAID HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00120-03	5	- 3	3/16"			17.0	23.9				
M00120-04	6	- 4	1/4"			19.5	28.0				
M00120-05	8	- 5	5/16"			20.0	28.6				
M00120-06	10	- 6	3/8"			23.0	30.0				
M00120-08	12	- 8	1/2"			26.7	32.0				
M00120-10	16	- 10	5/8"			32.0	38.0				
M00120-12	19	- 12	3/4"			35.8	41.7				
M00130-16	25	- 16	1"			43.0	47.0				
M00110-20	31	- 20	1.1/4"			50.5	59.0				
M00110-24	38	- 24	1.1/2"			57.0	70.0				
M00110-32	51	- 32	2"			70.0	72.0				

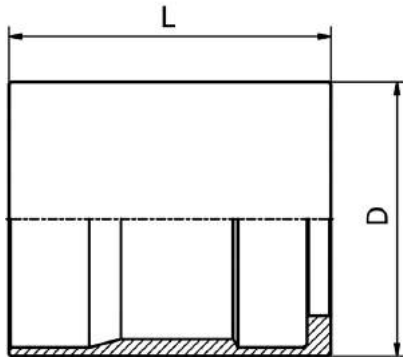


FERRULE

M00910/M00920/M00930

**SKIVE FERRULE
FOR WIRE BRAID
AND SPIRAL HOSES**

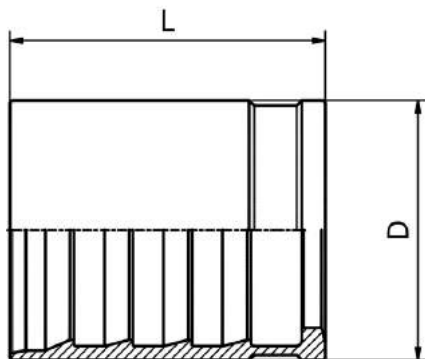
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00910-03	5	- 3	3/16"			20.6	26.0				
M00910-04	6	- 4	1/4"			22.0	30.0				
M00910-05	8	- 5	5/16"			24.0	31.0				
M00910-06	10	- 6	3/8"			26.0	33.0				
M00920-06	10	- 6	3/8"			26.7	33.0				
M00910-08	12	- 8	1/2"			30.0	34.0				
M00910-10	16	- 10	5/8"			33.0	39.0				
M00920-12	19	- 12	3/4"			38.0	40.0				
M00930-16	25	- 16	1"			46.0	54.0				
M00920-20	31	- 20	1.1/4"			57.0	60.0				
M00910-24	38	- 24	1.1/2"			65.0	70.0				
M00910-32	51	- 32	2"			79.0	72.0				



FERRULE

M00310/M00321
**NO-SKIVE FERRULE
FOR TEXTILE BRAID HOSES**

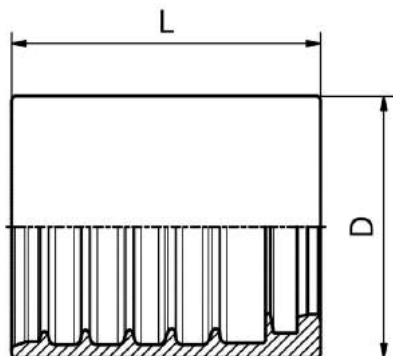
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00310-03	5	- 3	3/16"			17.5	27.0				
M00310-04	6	- 4	1/4"			19.3	30.0				
M00310-05	8	- 5	5/16"			21.0	32.0				
M00310-06	10	- 6	3/8"			24.0	32.0				
M00310-08	12	- 8	1/2"			28.4	34.0				
M00310-10	16	- 10	5/8"			33.0	37.0				
M00321-12	19	- 12	3/4"			37.0	43.0				
M00310-16	25	- 16	1"			43.5	51.0				
M00310-20	31	- 20	1.1/4"			50.0	59.0				



FERRULE

M00820/M00830
**NO-SKIVE FERRULE
FOR COMPACT HOSES**

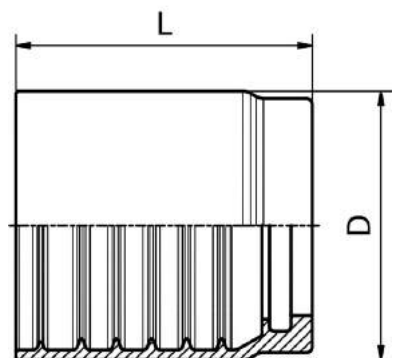
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00820-03	5	- 3	3/16"			14.0	26.4				
M00830-04	6	- 4	1/4"			18.0	29.6				
M00830-05	8	- 5	5/16"			19.0	31.9				
M00820-06	10	- 6	3/8"			22.0	32.9				
M00820-08	12	- 8	1/2"			26.0	33.9				
M00820-10	16	- 10	5/8"			29.0	35.9				
M00820-12	19	- 12	3/4"			33.0	41.7				
M00820-16	25	- 16	1"			41.0	49.7				
M00820-20	31	- 20	1.1/4"			48.0	57.0				
M00820-24	38	- 24	1.1/2"			55.5	66.0				
M00820-32	51	- 32	2"			68.6	70.0				



FERRULE

M03300
**NO-SKIVE FERRULE
FOR WIRE BRAID HOSES**

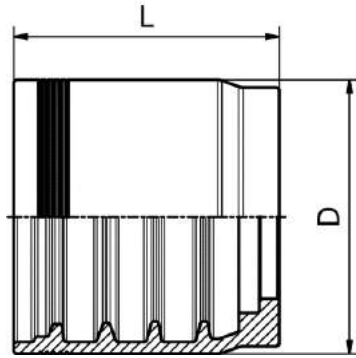
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03300-03	5	- 3	3/16"			19.2	22.0				
M03300-04	6	- 4	1/4"			20.5	27.5				
M03300-05	8	- 5	5/16"			22.8	28.5				
M03300-06	10	- 6	3/8"			25.0	30.0				
M03300-08	12	- 8	1/2"			28.0	33.0				



FERRULE

M03400/M03450
**NO-SKIVE FERRULE
FOR WIRE BRAID HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03400-03	5	- 3	3/16"			21.0	23.0				
M03400-04	6	- 4	1/4"			23.0	30.1				
M03400-05	8	- 5	5/16"			24.0	30.0				
M03400-06	10	- 6	3/8"			26.0	31.1				
M03400-08	12	- 8	1/2"			29.0	34.0				
M03450-08	12	- 8	1/2"			30.3	31.0				
M03400-10	16	- 10	5/8"			33.0	37.0				
M03400-12	19	- 12	3/4"			37.0	42.0				
M03400-16	25	- 16	1"			46.0	50.7				
M03400-20	31	- 20	1.1/4"			59.0	57.2				
M03400-24	38	- 24	1.1/2"			67.0	64.8				
M03400-32	51	- 32	2"			80.0	68.3				
M03400-38	60	- 38	2.3/8"			82.5	69.0				
M03400-40	63	- 40	2.1/2"			88.2	68.8				
M03400-48	76	- 48	3"			103.0	75.0				
M03400-56	89	- 56	3.1/2"			123.4	91.0				
M03400-64	102	- 64	4"			131.0	93.0				



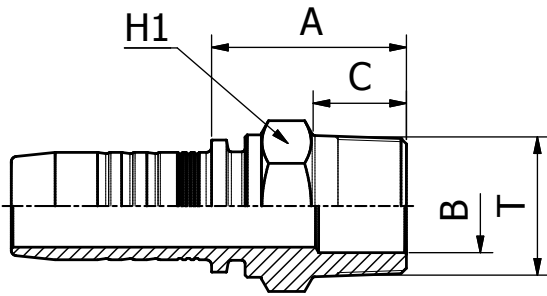
FERRULE

M03500

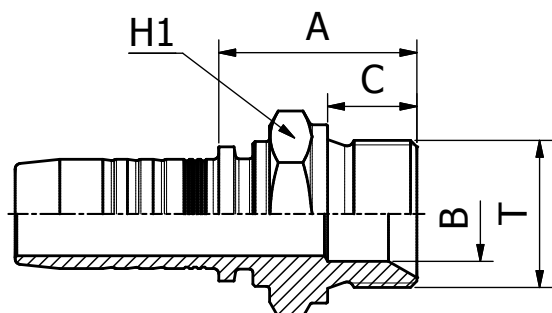
**NO SKIVE FERRULE
FOR WIRE SPIRAL HOSES**

PART. REF.	HOSE BORE					DIMENSIONS mm						
	DN	Dash	inch			D	L					
M03500-06	10	- 6	3/8"			29.5	30.7					
M03500-08	12	- 8	1/2"			33.4	32.0					
M03500-10	16	- 10	5/8"			37.2	34.8					
M03500-12	19	- 12	3/4"			41.3	40.0					
M03500-16	25	- 16	1"			49.1	51.0					
M03500-20	31	- 20	1.1/4"			59.3	54.5					

BS STANDARD CONNECTIONS

M10710**BSP MALE TAPERED - ISO 7**

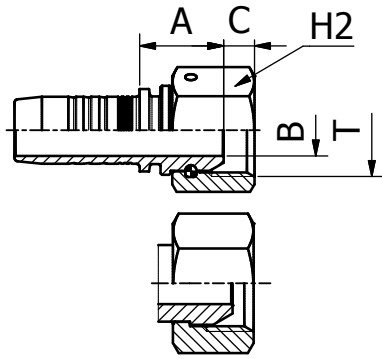
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M10710-03-02	5	- 3	3/16"	1/8" - 28		4.5	20.5	8.0	12.0			
M10710-03-04	5	- 3	3/16"	1/4" - 19		4.5	24.5	12.0	14.0			
M10710-04-02	6	- 4	1/4"	1/8" - 28		4.5	21.0	8.0	12.0			
M10710-04-04	6	- 4	1/4"	1/4" - 19		4.5	25.0	12.0	14.0			
M10710-04-06	6	- 4	1/4"	3/8" - 19		7.0	26.0	12.0	19.0			
M10710-04-08	6	- 4	1/4"	1/2" - 14		10.0	29.5	15.0	22.0			
M10710-05-04	8	- 5	5/16"	1/4" - 19		5.5	25.0	12.0	14.0			
M10710-05-06	8	- 5	5/16"	3/8" - 19		7.0	26.5	12.0	19.0			
M10710-05-08	8	- 5	5/16"	1/2" - 14		10.0	30.0	15.0	22.0			
M10710-06-06	10	- 6	3/8"	3/8" - 19		7.0	27.0	12.0	19.0			
M10710-06-08	10	- 6	3/8"	1/2" - 14		10.0	30.5	15.0	22.0			
M10710-08-04	12	- 8	1/2"	1/4" - 19		4.5	26.0	12.0	19.0			
M10710-08-08	12	- 8	1/2"	1/2" - 14		10.0	31.0	15.0	22.0			
M10710-10-08	16	- 10	5/8"	1/2" - 14		10.0	31.0	15.0	22.0			
M10710-10-12	16	- 10	5/8"	3/4" - 14		17.0	34.0	17.0	27.0			
M10710-12-12	19	- 12	3/4"	3/4" - 14		17.0	35.5	17.0	27.0			
M10710-16-12	25	- 16	1"	3/4" - 14		17.0	38.0	17.0	32.0			
M10710-16-16	25	- 16	1"	1" - 11		22.5	42.0	21.0	36.0			
M10710-20-20	31	- 20	1.1/4"	1.1/4" - 11		28.5	47.5	23.0	46.0			
M10710-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	50.0	23.0	50.0			
M10710-32-32	51	- 32	2"	2" - 11		44.0	55.5	27.0	65.0			



BS STANDARD CONNECTIONS

M10510
BSP MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M10510-03-02	5	- 3	3/16"	1/8" - 28		3.5	22.5	10.0	14.0			
M10510-03-04	5	- 3	3/16"	1/4" - 19		5.0	25.0	11.0	19.0			
M10510-04-02	6	- 4	1/4"	1/8" - 28		3.5	22.5	10.0	14.0			
M10510-04-04	6	- 4	1/4"	1/4" - 19		5.0	25.5	11.0	19.0			
M10510-04-06	6	- 4	1/4"	3/8" - 19		8.0	27.0	12.0	22.0			
M10510-04-08	6	- 4	1/4"	1/2" - 14		11.0	30.0	14.0	27.0			
M10510-05-04	8	- 5	5/16"	1/4" - 19		5.0	26.0	11.0	19.0			
M10510-05-06	8	- 5	5/16"	3/8" - 19		8.0	27.5	12.0	22.0			
M10510-06-04	10	- 6	3/8"	1/4" - 19		5.0	26.0	11.0	19.0			
M10510-06-06	10	- 6	3/8"	3/8" - 19		8.0	28.0	12.0	22.0			
M10510-06-08	10	- 6	3/8"	1/2" - 14		11.0	30.5	14.0	27.0			
M10510-08-06	12	- 8	1/2"	3/8" - 19		8.0	28.0	12.0	22.0			
M10510-08-08	12	- 8	1/2"	1/2" - 14		11.0	31.0	14.0	27.0			
M10510-08-10	12	- 8	1/2"	5/8" - 14		14.5	33.0	16.0	30.0			
M10510-08-12	12	- 8	1/2"	3/4" - 14		17.0	34.0	16.0	32.0			
M10510-10-10	16	- 10	5/8"	5/8" - 14		14.5	33.0	16.0	30.0			
M10510-10-12	16	- 10	5/8"	3/4" - 14		17.0	35.5	16.0	32.0			
M10510-12-08	19	- 12	3/4"	1/2" - 14		11.0	32.0	14.0	27.0			
M10510-12-12	19	- 12	3/4"	3/4" - 14		17.0	35.5	16.0	32.0			
M10510-12-16	19	- 12	3/4"	1" - 11		22.5	39.5	19.0	41.0			
M10510-16-12	25	- 16	1"	3/4" - 14		17.0	36.5	16.0	32.0			
M10510-16-16	25	- 16	1"	1" - 11		22.5	41.0	19.0	41.0			
M10510-16-20	25	- 16	1"	1.1/4" - 11		28.5	45.0	20.0	50.0			
M10510-20-20	31	- 20	1.1/4"	1.1/4" - 11		28.5	46.5	20.0	50.0			
M10510-20-24	31	- 20	1.1/4"	1.1/2" - 11		33.5	48.5	22.0	55.0			
M10510-24-24	38	- 24	1.1/2"	1.1/2" - 11		33.5	49.5	22.0	55.0			
M10510-32-32	51	- 32	2"	2" - 11		46.0	54.0	25.0	70.0			

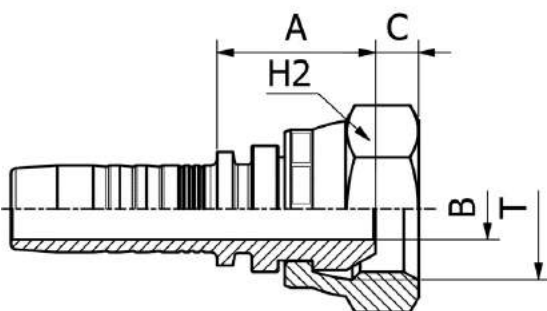


BS STANDARD CONNECTIONS

M20512/M20513

BSP FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
M20512-03-02	5	- 3	3/16"	1/8" - 28		3.0	16.0	4.4	14.0			
M20512-04-02	6	- 4	1/4"	1/8" - 28		3.1	16.5	4.4	14.0			
M20512-05-04	8	- 5	5/16"	1/4" - 19		4.1	17.5	4.2	19.0			
M20512-06-04	10	- 6	3/8"	1/4" - 19		4.1	18.0	4.2	19.0			
M20512-08-06	12	- 8	1/2"	3/8" - 19		7.1	21.0	6.0	22.0			
M20512-08-10	12	- 8	1/2"	5/8" - 14		12.1	22.0	10.2	28.0			
M20512-08-12	12	- 8	1/2"	3/4" - 14		15.0	24.5	9.0	32.0			
M20512-10-08	16	- 10	5/8"	1/2" - 14		9.8	24.0	6.5	27.0			
M20512-10-10	16	- 10	5/8"	5/8" - 14		12.5	21.5	10.2	28.0			
M20512-10-12	16	- 10	5/8"	3/4" - 14		15.0	23.0	9.0	32.0			
M20512-12-08	19	- 12	3/4"	1/2" - 14		9.8	25.0	6.5	27.0			
M20512-12-12	19	- 12	3/4"	3/4" - 14		15.0	24.5	9.0	32.0			
M20512-12-16	19	- 12	3/4"	1" - 11		19.8	26.0	10.5	38.0			
M20512-16-12	25	- 16	1"	3/4" - 14		15.0	25.5	9.0	32.0			
M20512-16-16	25	- 16	1"	1" - 11		19.8	27.5	10.5	38.0			
M20513-03-04	5	- 3	3/16"	1/4" - 19		4.0	16.5	5.4	19.0			
M20513-04-04	6	- 4	1/4"	1/4" - 19		4.0	17.0	5.4	19.0			
M20513-04-06	6	- 4	1/4"	3/8" - 19		7.0	19.0	6.0	22.0			
M20513-04-08	6	- 4	1/4"	1/2" - 14		9.5	19.5	6.3	27.0			
M20513-05-06	8	- 5	5/16"	3/8" - 19		7.0	19.0	6.0	22.0			
M20513-05-08	8	- 5	5/16"	1/2" - 14		9.3	20.5	6.3	27.0			
M20513-06-06	10	- 6	3/8"	3/8" - 19		7.0	19.5	6.0	22.0			
M20513-06-08	10	- 6	3/8"	1/2" - 14		9.3	20.0	6.3	27.0			
M20513-08-08	12	- 8	1/2"	1/2" - 14		9.3	20.5	6.3	27.0			



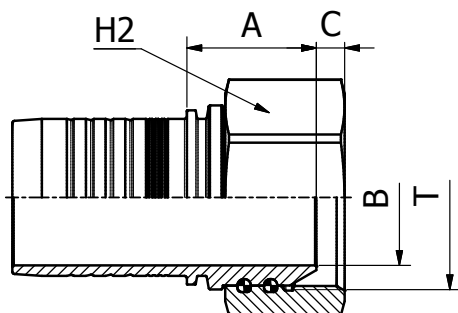
BS STANDARD CONNECTIONS

M20511KR

BSP FEMALE 60° CONE
BS5200 / ISO 12151-6

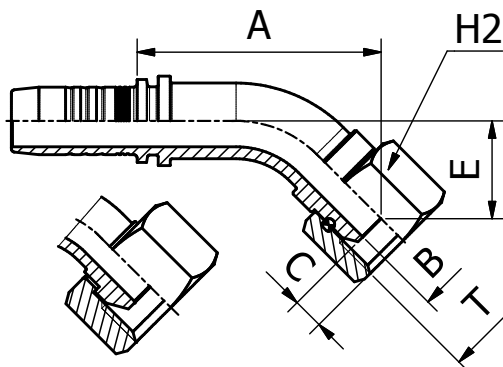
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
M20511-04-04KR	6	- 4	1/4"	1/4" - 19		4.0	20.0	5.2	19.0			
M20511-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	22.0	6.0	22.0			
M20511-08-08KR	12	- 8	1/2"	1/2" - 14		9.3	24.0	6.5	27.0			

BS STANDARD CONNECTIONS

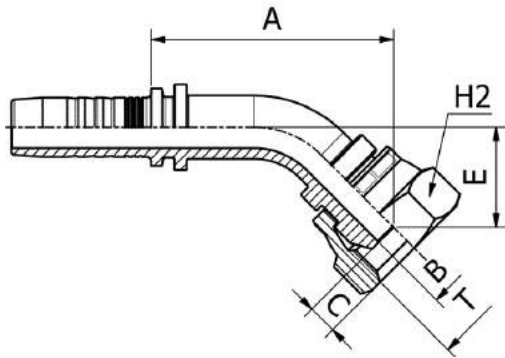
M20514
BSP FEMALE 60° CONE
BS5200 / ISO 12151-6


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	H2		
M20514-40-40	63	- 40	2.1/2"	2.1/2"		55.4	52.5	11.5	85.0		
M20514-48-48	76	- 48	3"	3"		65.0	57.0	10.9	100.0		

BS STANDARD CONNECTIONS

M20542/M20543
45° BSP FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M20542-03-02	5	- 3	3/16"	1/8" - 28		3.0	31.0	4.4	15.0	14.0	
M20542-04-02	6	- 4	1/4"	1/8" - 28		3.1	35.5	4.4	14.5	14.0	
M20542-05-04	8	- 5	5/16"	1/4" - 19		4.0	35.5	4.1	16.0	19.0	
M20542-08-06	12	- 8	1/2"	3/8" - 19		7.1	52.0	6.0	20.0	22.0	
M20542-08-10	12	- 8	1/2"	5/8" - 14		12.1	54.5	10.2	22.5	28.0	
M20542-08-12	12	- 8	1/2"	3/4" - 14		15.0	57.0	9.0	25.0	32.0	
M20542-10-08	16	- 10	5/8"	1/2" - 14		9.3	63.5	6.5	26.5	27.0	
M20542-10-10	16	- 10	5/8"	5/8" - 14		12.5	63.0	10.2	26.0	28.0	
M20542-10-12	16	- 10	5/8"	3/4" - 14		15.0	64.0	9.0	27.0	32.0	
M20542-12-08	19	- 12	3/4"	1/2" - 14		9.3	55.5	6.5	22.5	27.0	
M20542-12-12	19	- 12	3/4"	3/4" - 14		15.0	70.5	9.0	28.5	32.0	
M20542-12-16	19	- 12	3/4"	1" - 11		19.8	72.5	10.5	30.0	38.0	
M20542-16-16	25	- 16	1"	1" - 11		19.8	91.0	10.5	36.5	38.0	
M20543-03-04	5	- 3	3/16"	1/4" - 19		4.0	35.5	5.4	14.5	19.0	
M20543-04-04	6	- 4	1/4"	1/4" - 19		4.0	36.0	5.4	15.0	19.0	
M20543-04-06	6	- 4	1/4"	3/8" - 19		7.0	37.5	6.0	16.0	22.0	
M20543-05-06	8	- 5	5/16"	3/8" - 19		7.0	38.0	6.0	13.5	22.0	
M20543-06-06	10	- 6	3/8"	3/8" - 19		7.0	42.0	6.0	15.5	22.0	
M20543-06-08	10	- 6	3/8"	1/2" - 14		9.3	42.5	6.3	16.0	27.0	
M20543-08-08	12	- 8	1/2"	1/2" - 14		9.3	49.5	6.3	17.0	27.0	

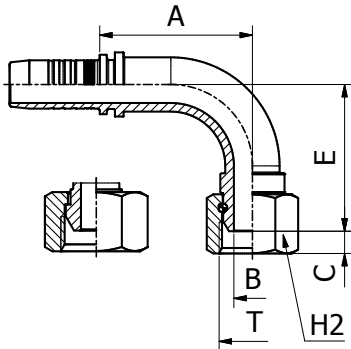


BS STANDARD CONNECTIONS

M20541KR

45° BSP FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20541-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	38.0	5.2	16.6	19.0		
M20541-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	45.5	6.0	20.0	22.0		
M20541-08-08KR	12	- 8	1/2"	1/2" - 14		9.3	54.0	6.5	22.0	27.0		

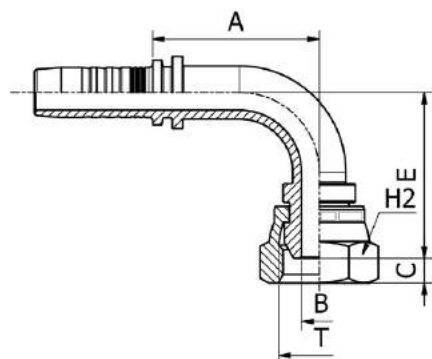


BS STANDARD CONNECTIONS

M20592/M20593

90° BSP FEMALE SWEEP ELBOW
60° CONE - BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20592-03-02	5	- 3	3/16"	1/8" - 28		3.0	21.5	4.4	26.0	14.0		
M20592-04-02	6	- 4	1/4"	1/8" - 28		3.1	28.5	4.4	27.0	14.0		
M20592-05-04	8	- 5	5/16"	1/4" - 19		4.0	26.5	4.1	29.5	19.0		
M20592-06-04	10	- 6	3/8"	1/4" - 19		4.0	27.0	4.1	29.5	19.0		
M20592-08-06	12	- 8	1/2"	3/8" - 19		7.1	45.0	6.0	41.0	22.0		
M20592-08-10	12	- 8	1/2"	5/8" - 14		12.1	44.0	10.2	44.0	28.0		
M20592-08-12	12	- 8	1/2"	3/4" - 14		15.0	44.0	9.0	45.5	32.0		
M20592-10-08	16	- 10	5/8"	1/2" - 14		9.3	53.5	6.5	54.5	27.0		
M20592-10-10	16	- 10	5/8"	5/8" - 14		12.5	53.5	10.2	53.5	28.0		
M20592-10-12	16	- 10	5/8"	3/4" - 14		15.0	53.5	9.0	55.0	32.0		
M20592-12-08	19	- 12	3/4"	1/2" - 14		9.3	45.5	6.5	44.0	27.0		
M20592-12-12	19	- 12	3/4"	3/4" - 14		15.0	61.5	9.0	59.5	32.0		
M20592-12-16	19	- 12	3/4"	1" - 11		19.8	61.5	10.5	62.0	38.0		
M20592-16-12	25	- 16	1"	3/4" - 14		15.0	64.5	9.0	59.5	32.0		
M20592-16-16	25	- 16	1"	1" - 11		19.8	79.5	10.5	76.0	38.0		
M20593-03-04	5	- 3	3/16"	1/4" - 19		4.0	29.0	5.4	29.0	19.0		
M20593-04-04	6	- 4	1/4"	1/4" - 19		4.0	29.5	5.4	29.0	19.0		
M20593-04-06	6	- 4	1/4"	3/8" - 19		7.0	29.5	6.0	31.0	22.0		
M20593-05-06	8	- 5	5/16"	3/8" - 19		7.0	32.0	6.0	27.5	22.0		
M20593-05-08	8	- 5	5/16"	1/2" - 14		9.3	36.5	6.3	32.0	27.0		
M20593-06-06	10	- 6	3/8"	3/8" - 19		7.0	36.5	6.0	31.5	22.0		
M20593-06-08	10	- 6	3/8"	1/2" - 14		9.3	36.5	6.3	32.0	27.0		
M20593-08-08	12	- 8	1/2"	1/2" - 14		9.3	45.0	6.3	36.5	27.0		

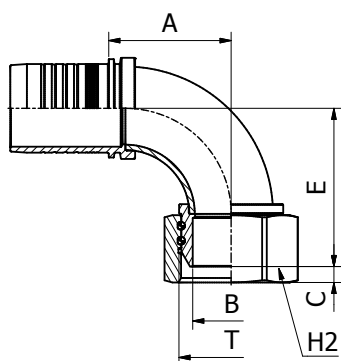


BS STANDARD CONNECTIONS

M20591KR

90° BSP FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20591-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	28.5	5.2	30.5	19.0		
M20591-04-06KR	6	- 4	1/4"	3/8" - 19		7.0	28.5	6.0	32.0	22.0		
M20591-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	35.5	6.0	37.5	22.0		
M20591-06-08KR	10	- 6	3/8"	1/2" - 14		9.3	35.5	6.5	39.0	27.0		
M20591-08-06KR	12	- 8	1/2"	3/8" - 19		7.0	44.0	6.0	42.0	22.0		
M20591-08-08KR	12	- 8	1/2"	1/2" - 14		9.3	44.0	6.5	43.5	27.0		

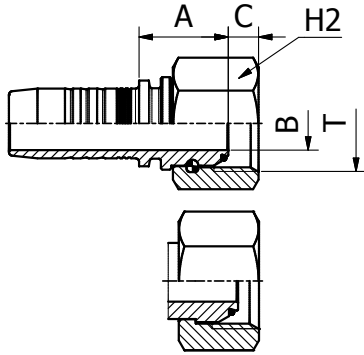


BS STANDARD CONNECTIONS

M20594

90° BSP FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20594-40-40	63	- 40	2.1/2"	2.1/2"		55.4	88.0	11.5	114.0	85.0		
M20594-48-48	76	- 48	3"	3"		65.0	123.0	10.9	135.0	100.0		



BS STANDARD CONNECTIONS

M20812/M20813

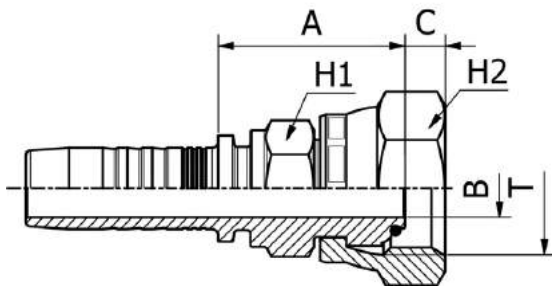
BSP O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M20812-06-04	10	- 6	3/8"	1/4" - 19		4.1	18.0	4.1	19.0			
M20812-10-10	16	- 10	5/8"	5/8" - 14		12.5	22.0	9.7	28.0			
M20812-12-12	19	- 12	3/4"	3/4" - 14		15.0	25.0	8.5	32.0			
M20812-16-12	25	- 16	1"	3/4" - 14		15.0	26.0	8.5	32.0			
M20812-16-16	25	- 16	1"	1" - 11		19.8	27.5	10.6	38.0			
M20812-16-20	25	- 16	1"	1.1/4" - 11		26.1	31.0	10.5	50.0			
M20812-20-16	31	- 20	1.1/4"	1" - 11		19.8	29.0	10.5	38.0			
M20812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	31.5	10.5	50.0			
M20812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	29.5	12.5	60.0			
M20812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26.0	31.5	10.5	50.0			
M20812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	30.5	12.5	60.0			
M20812-24-32	38	- 24	1.1/2"	2" - 11		42.1	30.0	16.1	70.0			
M20812-32-32	51	- 32	2"	2" - 11		42.0	32.0	16.1	70.0			
M20813-03-04	5	- 3	3/16"	1/4" - 19		4.0	16.5	5.4	19.0			
M20813-04-04	6	- 4	1/4"	1/4" - 19		4.0	17.0	5.4	19.0			
M20813-04-06	6	- 4	1/4"	3/8" - 19		7.0	19.0	6.0	22.0			
M20813-06-06	10	- 6	3/8"	3/8" - 19		7.0	19.5	6.0	22.0			
M20813-06-08	10	- 6	3/8"	1/2" - 14		9.3	21.0	6.3	27.0			
M20813-08-08	12	- 8	1/2"	1/2" - 14		9.3	20.5	6.3	27.0			

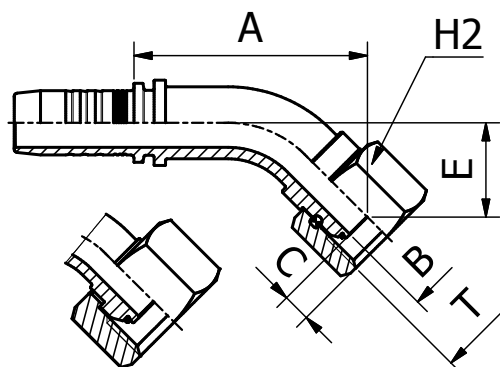
BS STANDARD CONNECTIONS

M20811HKR

BSP O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M20811-04-04H12KR	6	- 4	1/4"	1/4" - 19		4.0	25.0	5.2	12.0	19.0		
M20811-04-06H17KR	6	- 4	1/4"	3/8" - 19		7.0	27.0	6.0	17.0	22.0		
M20811-06-04H17KR	10	- 6	3/8"	1/4" - 19		4.0	26.0	5.2	17.0	19.0		
M20811-06-06H17KR	10	- 6	3/8"	3/8" - 19		7.0	27.5	6.0	17.0	22.0		
M20811-06-08H19KR	10	- 6	3/8"	1/2" - 14		9.3	29.5	6.5	19.0	27.0		
M20811-08-06H19KR	12	- 8	1/2"	3/8" - 19		7.0	29.5	6.0	19.0	22.0		
M20811-08-08H19KR	12	- 8	1/2"	1/2" - 14		9.3	30.0	5.5	19.0	27.0		

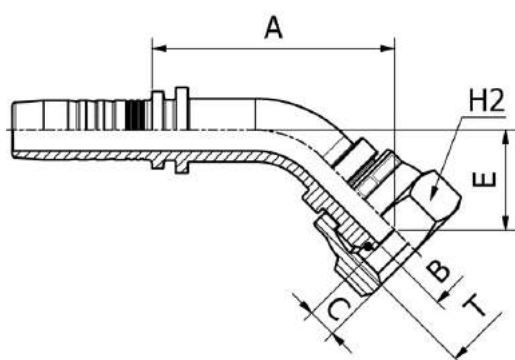


BS STANDARD CONNECTIONS

M20842/M20843

45° BSP O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20842-10-10	16	- 10	5/8"	5/8" - 14		12.5	63.5	9.7	27.5	28.0		
M20842-12-12	19	- 12	3/4"	3/4" - 14		15.0	71.0	8.5	29.0	32.0		
M20842-16-12	25	- 16	1"	3/4" - 14		15.0	79.5	8.5	29.0	32.0		
M20842-16-16	25	- 16	1"	1" - 11		19.8	90.5	10.6	35.5	38.0		
M20842-16-20	25	- 16	1"	1.1/4" - 11		26.1	93.0	10.5	38.0	50.0		
M20842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	101.5	10.5	39.0	50.0		
M20842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	118.5	12.5	40.5	60.0		
M20842-24-20	38	- 24	1.1/2"	1.1/4" - 11		26.0	106.0	10.5	42.0	50.0		
M20842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	118.0	12.5	45.0	60.0		
M20842-24-32	38	- 24	1.1/2"	2" - 11		42.1	117.5	16.1	44.5	70.0		
M20842-32-32	51	- 32	2"	2" - 11		42.0	134.0	16.1	47.0	70.0		
M20843-04-04	6	- 4	1/4"	1/4" - 19		4.0	36.0	5.4	14.5	19.0		
M20843-06-06	10	- 6	3/8"	3/8" - 19		7.0	42.0	6.0	15.5	22.0		
M20843-08-08	12	- 8	1/2"	1/2" - 14		9.3	49.5	6.3	17.0	27.0		

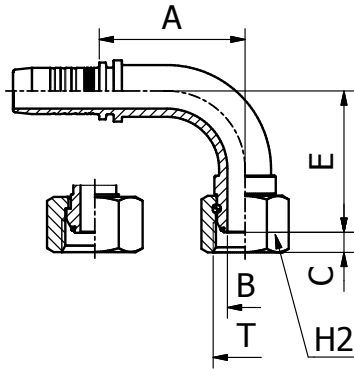


BS STANDARD CONNECTIONS

M20841KR

45° BSP O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M20841-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	38.0	5.2	16.6	19.0		
M20841-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	45.5	6.0	16.5	22.0		
M20841-08-08KR	12	- 8	1/2"	1/2" - 14		9.3	54.0	6.5	22.0	27.0		

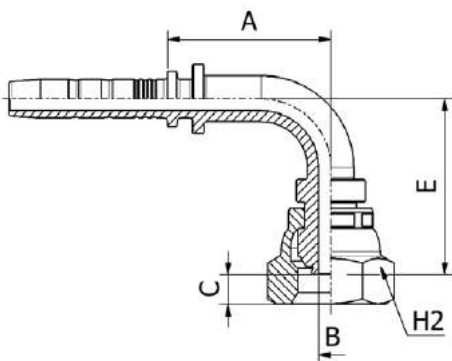


BS STANDARD CONNECTIONS

M20892/M20893

90° BSP O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M20892-06-04	10	- 6	3/8"	1/4" - 19		4.1	35.5	4.1	33.0	19.0		
M20892-10-10	16	- 10	5/8"	5/8" - 14		12.5	53.0	9.7	55.0	28.0		
M20892-12-12	19	- 12	3/4"	3/4" - 14		15.0	61.5	8.5	60.0	32.0		
M20892-12-16	19	- 12	3/4"	1" - 11		19.8	61.5	10.6	62.0	38.0		
M20892-16-12	25	- 16	1"	3/4" - 14		15.0	79.5	8.5	60.0	32.0		
M20892-16-16	25	- 16	1"	1" - 11		19.8	79.5	10.6	76.0	38.0		
M20892-16-20	25	- 16	1"	1.1/4" - 11		26.1	79.5	10.5	78.5	50.0		
M20892-20-16	31	- 20	1.1/4"	1" - 11		19.8	79.5	10.6	76.0	38.0		
M20892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	90.5	10.5	83.5	50.0		
M20892-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	90.5	12.5	84.5	60.0		
M20892-24-20	38	- 24	1.1/2"	1.1/4" - 11		26.0	95.0	10.5	90.5	50.0		
M20892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	108.0	12.5	98.5	60.0		
M20892-24-32	38	- 24	1.1/2"	2" - 11		42.1	108.0	16.1	98.0	70.0		
M20892-32-32	51	- 32	2"	2" - 11		42.0	131.0	16.1	110.5	70.0		
M20893-03-04	5	- 3	3/16"	1/4" - 19		4.0	29.0	5.4	29.0	19.0		
M20893-04-04	6	- 4	1/4"	1/4" - 19		4.0	29.5	5.4	29.0	19.0		
M20893-06-06	10	- 6	3/8"	3/8" - 19		7.0	36.5	6.0	31.5	22.0		
M20893-08-08	12	- 8	1/2"	1/2" - 14		9.3	45.0	6.3	36.5	27.0		

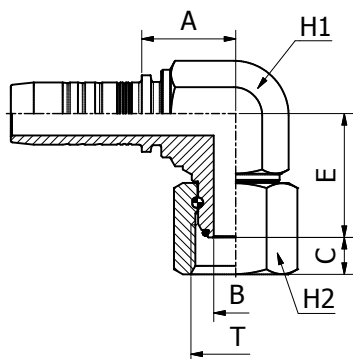


BS STANDARD CONNECTIONS

M20891KR

90° BSP O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M20891-04-04KR	6	- 4	1/4"	1/4" - 19		4.2	28.5	5.2	30.5	19.0		
M20891-04-06KR	6	- 4	1/4"	3/8" - 19		7.0	28.5	6.0	32.0	22.0		
M20891-06-04KR	10	- 6	3/8"	1/4" - 19		4.0	37.5	5.2	36.0	19.0		
M20891-06-06KR	10	- 6	3/8"	3/8" - 19		7.0	35.5	6.0	37.5	22.0		
M20891-06-08KR	10	- 6	3/8"	1/2" - 14		9.3	35.5	6.5	39.0	27.0		
M20891-08-06KR	12	- 8	1/2"	3/8" - 19		7.0	44.0	6.0	42.0	22.0		
M20891-08-08KR	12	- 8	1/2"	1/2" - 14		9.3	44.0	5.5	43.5	22.0		

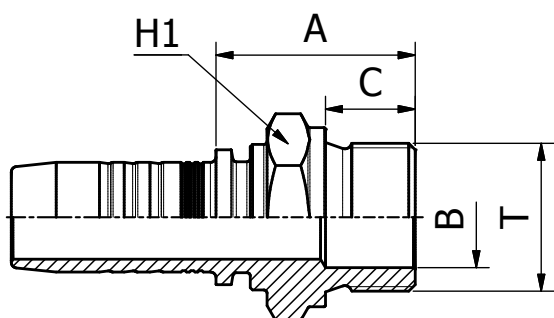


BS STANDARD CONNECTIONS

M20882F

**90° BSP O-RING FEMALE
COMPACT ELBOW 60° CONE
BS5200 / ISO 12151-6 (THRUST-WIRE NUT)**

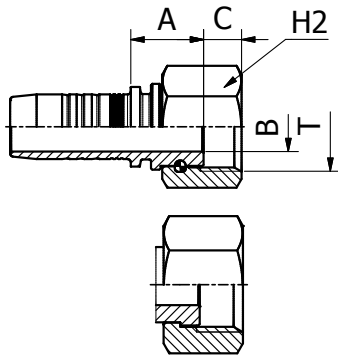
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H1	H2	
M20882-04-04F	6	- 4	1/4"	1/4" - 19		4.0	20.0	4.1	22.0	14.0	19.0	
M20882-06-06F	10	- 6	3/8"	3/8" - 19		7.0	23.0	6.0	27.5	19.0	22.0	
M20882-08-08F	12	- 8	1/2"	1/2" - 14		9.3	25.0	6.5	31.0	22.0	27.0	
M20882-10-10F	16	- 10	5/8"	5/8" - 14		12.5	24.5	9.7	32.5	24.0	28.0	
M20882-12-12F	19	- 12	3/4"	3/4" - 14		15.0	37.5	8.5	36.0	27.0	32.0	
M20882-16-16F	25	- 16	1"	1" - 11		20.0	52.0	10.6	44.0	36.0	38.0	



BS STANDARD CONNECTIONS

M10610**BSP MALE FLAT SEAT**

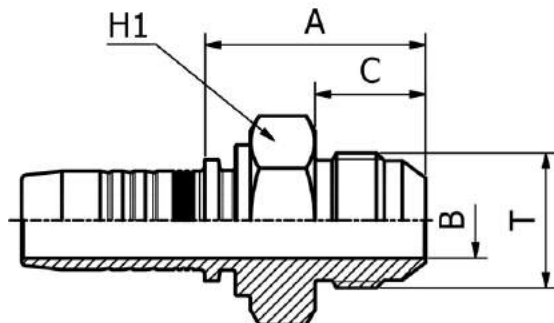
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M10610-04-04	6	- 4	1/4"	1/4" - 19		6.0	25.5	11.0	19.0			
M10610-06-06	10	- 6	3/8"	3/8" - 19		9.5	28.0	12.0	22.0			
M10610-06-08	10	- 6	3/8"	1/2" - 14		13.0	30.5	14.0	27.0			
M10610-08-08	12	- 8	1/2"	1/2" - 14		13.0	31.0	14.0	27.0			
M10610-10-08	16	- 10	5/8"	1/2" - 14		13.0	31.0	14.0	27.0			
M10610-12-12	19	- 12	3/4"	3/4" - 14		18.0	35.5	16.0	32.0			



BS STANDARD CONNECTIONS

M20612/M20613**BSP FEMALE FLAT SEAT**

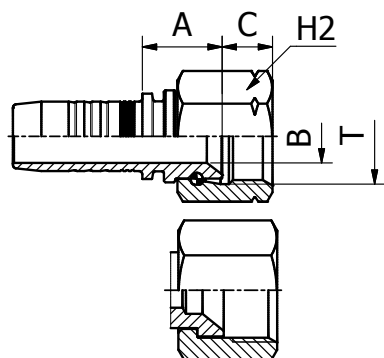
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M20612-08-12	12	- 8	1/2"	3/4" - 14		15.0	21.0	11.5	32.0			
M20612-10-12	16	- 10	5/8"	3/4" - 14		15.0	20.5	11.5	32.0			
M20612-12-12	19	- 12	3/4"	3/4" - 14		15.0	22.0	11.5	32.0			
M20612-12-16	19	- 12	3/4"	1" - 11		19.8	23.5	13.0	38.0			
M20612-16-16	25	- 16	1"	1" - 11		19.8	25.0	13.0	38.0			
M20612-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	26.0	15.0	50.0			
M20613-04-04	6	- 4	1/4"	1/4" - 19		4.0	14.5	7.9	19.0			
M20613-05-06	8	- 5	5/16"	3/8" - 19		7.0	16.0	9.0	22.0			
M20613-06-06	10	- 6	3/8"	3/8" - 19		7.0	16.5	9.0	22.0			
M20613-06-08	10	- 6	3/8"	1/2" - 14		9.3	17.5	9.8	27.0			
M20613-08-08	12	- 8	1/2"	1/2" - 14		9.3	18.0	9.8	27.0			



SAE STANDARD CONNECTIONS

M12510**JIC MALE 37° CONE
SAE J516 / ISO 12151-5**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M12510-04-04	6	- 4	1/4"	7/16" - 20		4.0	28.0	14.0	12.0			
M12510-04-05	6	- 4	1/4"	1/2" - 20		5.5	29.0	14.0	14.0			
M12510-04-06	6	- 4	1/4"	9/16" - 18		7.0	29.0	14.0	17.0			
M12510-05-04	8	- 5	5/16"	7/16" - 20		4.0	29.0	14.0	14.0			
M12510-05-05	8	- 5	5/16"	1/2" - 20		5.5	29.0	14.0	14.0			
M12510-05-06	8	- 5	5/16"	9/16" - 18		7.0	29.0	14.0	17.0			
M12510-06-05	10	- 6	3/8"	1/2" - 20		5.5	29.5	14.0	17.0			
M12510-06-06	10	- 6	3/8"	9/16" - 18		7.0	29.5	14.0	17.0			
M12510-06-08	10	- 6	3/8"	3/4" - 16		9.3	34.0	16.5	19.0			
M12510-06-10	10	- 6	3/8"	7/8" - 14		12.5	38.5	19.5	24.0			
M12510-08-06	12	- 8	1/2"	9/16" - 18		7.0	32.0	14.0	19.0			
M12510-08-08	12	- 8	1/2"	3/4" - 16		9.3	34.5	16.5	19.0			
M12510-08-10	12	- 8	1/2"	7/8" - 14		12.5	39.0	19.5	24.0			
M12510-08-12	12	- 8	1/2"	1.1/16" - 12		15.0	43.0	22.0	27.0			
M12510-10-10	16	- 10	5/8"	7/8" - 14		12.5	39.0	19.5	24.0			
M12510-10-12	16	- 10	5/8"	1.1/16" - 12		15.0	42.5	22.0	27.0			
M12510-12-10	19	- 12	3/4"	7/8" - 14		12.5	41.5	19.5	27.0			
M12510-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	44.0	22.0	27.0			
M12510-12-14	19	- 12	3/4"	1.3/16" - 12		15.0	44.5	22.5	32.0			
M12510-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	47.0	23.0	34.0			
M12510-16-12	25	- 16	1"	1.1/16" - 12		15.0	45.0	22.0	32.0			
M12510-16-16	25	- 16	1"	1.5/16" - 12		19.8	48.0	23.0	34.0			
M12510-16-20	25	- 16	1"	1.5/8" - 12		26.0	53.0	24.3	42.0			
M12510-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	53.5	24.3	42.0			
M12510-20-24	31	- 20	1.1/4"	1.7/8" - 12		32.0	60.5	27.5	50.0			
M12510-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	60.5	27.5	50.0			
M12510-32-32	51	- 32	2"	2.1/2" - 12		42.0	72.0	34.0	65.0			



SAE STANDARD CONNECTIONS

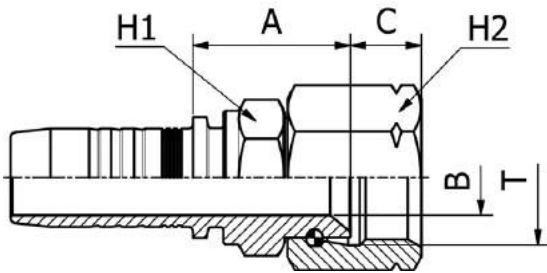
M22512/M22513

JIC FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M22512-03-05	5	- 3	3/16"	1/2" - 20		4.0	15.5	9.1	17.0			
M22512-04-04	6	- 4	1/4"	7/16" - 20		4.0	15.5	8.7	17.0			
M22512-04-05	6	- 4	1/4"	1/2" - 20		4.0	16.0	9.1	17.0			
M22512-05-04	8	- 5	5/16"	7/16" - 20		4.0	15.5	8.7	17.0			
M22512-05-05	8	- 5	5/16"	1/2" - 20		5.5	16.0	9.1	17.0			
M22512-05-06	8	- 5	5/16"	9/16" - 18		7.0	15.5	9.2	19.0			
M22512-06-05	10	- 6	3/8"	1/2" - 20		5.5	16.5	9.1	17.0			
M22512-06-06	10	- 6	3/8"	9/16" - 18		7.0	16.0	9.2	19.0			
M22512-08-08	12	- 8	1/2"	3/4" - 16		9.3	20.0	10.2	22.0			
M22512-10-10	16	- 10	5/8"	7/8" - 14		12.5	20.0	12.3	27.0			
M22512-12-08	19	- 12	3/4"	3/4" - 16		9.3	21.5	10.2	22.0			
M22512-12-10	19	- 12	3/4"	7/8" - 14		12.5	21.5	12.3	27.0			
M22512-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	22.5	14.2	32.0			
M22512-12-14	19	- 12	3/4"	1.3/16" - 12		15.0	23.0	14.3	36.0			
M22512-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	23.0	15.0	38.0			
M22512-16-12	25	- 16	1"	1.1/16" - 12		15.0	23.5	14.2	32.0			
M22512-16-16	25	- 16	1"	1.5/16" - 12		19.8	24.0	15.0	38.0			
M22512-16-20	25	- 16	1"	1.5/8" - 12		26.0	30.0	16.2	50.0			
M22512-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	30.0	16.2	50.0			
M22512-20-24	31	- 20	1.1/4"	1.7/8" - 12		32.0	35.0	18.8	60.0			
M22512-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	35.0	18.8	60.0			
M22512-32-24	51	- 32	2"	1.7/8" - 12		32.0	37.0	18.8	60.0			
M22512-32-32	51	- 32	2"	2.1/2" - 12		44.0	35.5	24.0	75.0			
M22513-03-04	5	- 3	3/16"	7/16" - 20		3.0	15.0	8.0	15.0			
M22513-04-06	6	- 4	1/4"	9/16" - 18		4.0	16.5	9.8	19.0			
M22513-05-08	8	- 5	5/16"	3/4" - 16		5.5	17.0	10.1	22.0			
M22513-06-08	10	- 6	3/8"	3/4" - 16		7.0	17.5	10.1	22.0			
M22513-06-10	10	- 6	3/8"	7/8" - 14		9.3	18.0	12.4	27.0			
M22513-08-10	12	- 8	1/2"	7/8" - 14		9.3	18.5	12.4	27.0			
M22513-08-12	12	- 8	1/2"	1.1/16" - 12		12.5	22.0	14.1	32.0			
M22513-10-12	16	- 10	5/8"	1.1/16" - 12		12.5	21.5	14.1	32.0			

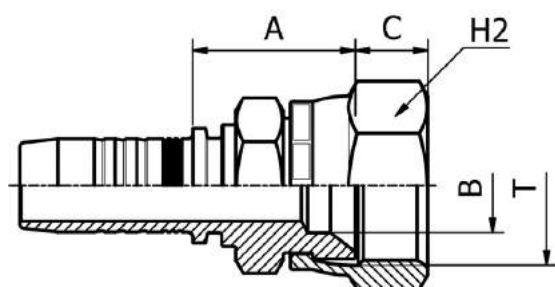
SAE STANDARD CONNECTIONS

M22712


**JIC FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M22712-03-04	5	- 3	3/16"	7/16" - 20		4.0	20.5	8.7	12.0	17.0		
M22712-04-04	6	- 4	1/4"	7/16" - 20		4.0	21.0	8.7	12.0	17.0		
M22712-04-05	6	- 4	1/4"	1/2" - 20		4.0	21.5	9.1	12.0	17.0		
M22712-04-06	6	- 4	1/4"	9/16" - 18		7.0	24.0	9.2	14.0	19.0		
M22712-05-05	8	- 5	5/16"	1/2" - 20		5.5	21.5	9.1	14.0	17.0		
M22712-05-06	8	- 5	5/16"	9/16" - 18		7.0	24.0	9.2	14.0	19.0		
M22712-05-08	8	- 5	5/16"	3/4" - 16		9.3	26.0	10.2	19.0	22.0		
M22712-06-04	10	- 6	3/8"	7/16" - 20		4.0	24.5	8.7	17.0	17.0		
M22712-06-05	10	- 6	3/8"	1/2" - 20		5.5	25.0	9.1	17.0	17.0		
M22712-06-06	10	- 6	3/8"	9/16" - 18		7.0	24.5	9.2	17.0	19.0		
M22712-06-08	10	- 6	3/8"	3/4" - 16		9.3	27.0	10.2	19.0	22.0		
M22712-06-10	10	- 6	3/8"	7/8" - 14		12.5	28.0	12.3	22.0	27.0		
M22712-08-06	12	- 8	1/2"	9/16" - 18		7.0	24.5	9.2	19.0	19.0		
M22712-08-08	12	- 8	1/2"	3/4" - 16		9.3	27.5	10.2	19.0	22.0		
M22712-08-10	12	- 8	1/2"	7/8" - 14		12.5	28.5	12.3	22.0	27.0		
M22712-08-12	12	- 8	1/2"	1.1/16" - 12		14.0	30.0	14.2	27.0	32.0		
M22712-10-08	16	- 10	5/8"	3/4" - 16		9.3	28.5	10.2	22.0	22.0		
M22712-10-10	16	- 10	5/8"	7/8" - 14		12.5	28.5	12.3	22.0	27.0		
M22712-10-12	16	- 10	5/8"	1.1/16" - 12		15.0	30.0	14.2	27.0	32.0		
M22712-12-08	19	- 12	3/4"	3/4" - 16		9.3	30.0	10.2	27.0	22.0		
M22712-12-10	19	- 12	3/4"	7/8" - 14		12.5	30.0	12.3	27.0	27.0		
M22712-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	31.5	14.2	27.0	32.0		
M22712-12-14	19	- 12	3/4"	1.3/16" - 12		15.0	33.0	14.3	30.0	36.0		
M22712-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	32.5	15.0	32.0	38.0		
M22712-16-12	25	- 16	1"	1.1/16" - 12		12.5	34.0	14.2	32.0	32.0		
M22712-16-16	25	- 16	1"	1.5/16" - 12		19.8	34.5	15.0	32.0	38.0		
M22712-16-20	25	- 16	1"	1.5/8" - 12		26.0	43.0	16.2	41.0	50.0		
M22712-20-16	31	- 20	1.1/4"	1.5/16" - 12		19.8	36.0	15.0	38.0	38.0		
M22712-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	43.5	16.2	41.0	50.0		
M22712-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	51.0	18.8	50.0	60.0		
M22712-32-32	51	- 32	2"	2.1/2" - 12		44.0	51.5	24.0	65.0	75.0		

SAE STANDARD CONNECTIONS

**M22711/M22711KR**

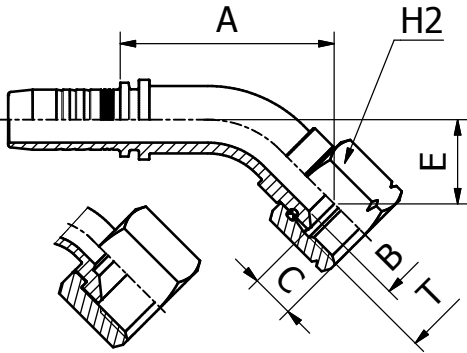
JIC FEMALE
37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M22711-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	34.5	15.3	32.0	38.0		
M22711-16-16	25	- 16	1"	1.5/16" - 12		19.8	35.5	15.3	32.0	38.0		
M22711-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	42.0	16.1	41.0	50.0		
M22711-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	46.5	18.6	50.0	60.0		
M22711-32-32	51	- 32	2"	2.1/2" - 12		42.0	50.5	23.5	65.0	75.0		
M22711-04-04KR	6	- 4	1/4"	7/16" - 20		4.0	20.5	8.9	12.0	15.0		
M22711-04-05KR	6	- 4	1/4"	1/2" - 20		4.0	21.0	9.4	14.0	17.0		
M22711-04-06KR	6	- 4	1/4"	9/16" - 18		7.0	21.5	9.5	14.0	17.0		
M22711-06-04KR	10	- 6	3/8"	7/16" - 20		4.0	21.5	8.9	17.0	15.0		
M22711-06-05KR	10	- 6	3/8"	1/2" - 20		4.0	22.0	9.4	17.0	17.0		
M22711-06-06KR	10	- 6	3/8"	9/16" - 18		7.0	22.0	9.5	17.0	17.0		
M22711-06-08KR	10	- 6	3/8"	3/4" - 16		9.3	26.5	10.7	19.0	22.0		
M22711-08-08KR	12	- 8	1/2"	3/4" - 16		9.3	27.0	10.7	19.0	22.0		
M22711-08-10KR	12	- 8	1/2"	7/8" - 14		9.3	29.5	12.5	22.0	25.0		
M22711-08-12KR	12	- 8	1/2"	1.1/16" - 12		15.0	28.5	14.1	27.0	32.0		
M22711-10-08KR	16	- 10	5/8"	3/4" - 16		9.3	28.5	10.7	22.0	22.0		
M22711-10-10KR	16	- 10	5/8"	7/8" - 14		12.5	29.5	12.5	22.0	25.0		
M22711-10-12KR	16	- 10	5/8"	1.1/16" - 12		15.0	29.0	14.1	27.0	32.0		
M22711-12-08KR	19	- 12	3/4"	3/4" - 16		9.3	29.5	10.7	27.0	22.0		
M22711-12-10KR	19	- 12	3/4"	7/8" - 14		12.5	30.5	12.5	27.0	25.0		
M22711-12-12KR	19	- 12	3/4"	1.1/16" - 12		15.0	30.0	14.1	27.0	32.0		
M22711-16-12KR	25	- 16	1"	1.1/16" - 12		15.0	32.5	14.1	32.0	32.0		

SAE STANDARD CONNECTIONS

M22542/M22543

45° JIC FEMALE SWEPT ELBOW
37° CONE SEAT
SAE J516 / ISO 12151-5

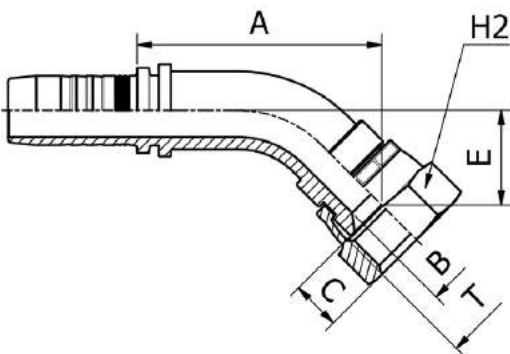


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		B	A	C	E	H2		
M22542-03-04	5	- 3	3/16"	7/16" - 20	4.0	35.0	8.7	14.5	17.0		
M22542-04-04	6	- 4	1/4"	7/16" - 20	4.0	35.5	8.7	14.5	17.0		
M22542-04-05	6	- 4	1/4"	1/2" - 20	4.0	35.5	9.1	14.5	17.0		
M22542-05-05	8	- 5	5/16"	1/2" - 20	5.5	37.5	9.1	14.0	17.0		
M22542-05-06	8	- 5	5/16"	9/16" - 18	7.0	38.0	9.2	14.5	19.0		
M22542-06-06	10	- 6	3/8"	9/16" - 18	7.0	42.0	9.2	16.5	19.0		
M22542-08-06	12	- 8	1/2"	9/16" - 18	7.0	43.0	9.2	16.5	19.0		
M22542-08-08	12	- 8	1/2"	3/4" - 16	9.3	52.0	10.2	20.0	22.0		
M22542-10-10	16	- 10	5/8"	7/8" - 14	12.5	62.0	12.3	25.5	27.0		
M22542-12-08	19	- 12	3/4"	3/4" - 16	9.3	53.5	10.2	20.0	22.0		
M22542-12-10	19	- 12	3/4"	7/8" - 14	12.5	63.5	12.3	25.0	27.0		
M22542-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	70.0	14.2	27.5	32.0		
M22542-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	69.5	14.3	27.5	36.0		
M22542-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	70.0	15.0	27.5	38.0		
M22542-16-12	25	- 16	1"	1.1/16" - 12	15.0	72.5	14.2	27.5	32.0		
M22542-16-16	25	- 16	1"	1.5/16" - 12	19.8	84.0	15.0	32.0	38.0		
M22542-16-20	25	- 16	1"	1.5/8" - 12	26.0	90.0	16.2	36.0	50.0		
M22542-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	103.5	16.2	41.5	50.0		
M22542-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	106.5	18.8	44.5	60.0		
M22542-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	119.0	18.8	46.5	60.0		
M22542-32-32	51	- 32	2"	2.1/2" - 12	44.0	163.0	24.0	68.0	75.0		
M22543-04-06	6	- 4	1/4"	9/16" - 18	4.0	35.5	9.8	14.0	19.0		
M22543-06-08	10	- 6	3/8"	3/4" - 16	7.0	41.0	10.1	14.0	22.0		
M22543-06-10	10	- 6	3/8"	7/8" - 14	9.3	42.5	12.4	15.5	27.0		
M22543-08-10	12	- 8	1/2"	7/8" - 14	9.3	49.5	12.4	17.0	27.0		
M22543-08-12	12	- 8	1/2"	1.1/16" - 12	12.5	49.5	14.1	17.0	32.0		
M22543-10-12	16	- 10	5/8"	1.1/16" - 12	12.5	60.0	14.1	24.0	32.0		

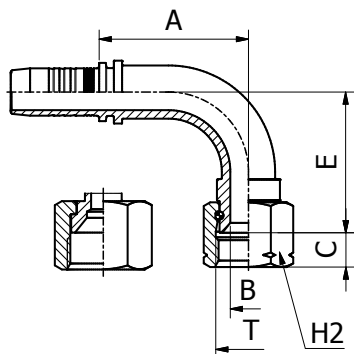
SAE STANDARD CONNECTIONS

M22541KR

45° JIC FEMALE SWEPT ELBOW
37° CONE SEAT
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		B	A	C	E	H2		
M22541-04-04KR	6	- 4	1/4"	7/16" - 20	4.2	34.5	8.9	13.5	15.0		
M22541-04-05KR	6	- 4	1/4"	1/2" - 20	4.0	35.0	9.4	14.0	17.0		
M22541-06-06KR	10	- 6	3/8"	9/16" - 18	7.0	42.0	9.5	16.0	17.0		
M22541-08-08KR	12	- 8	1/2"	3/4" - 16	9.3	52.0	10.7	20.0	22.0		
M22541-10-10KR	16	- 10	5/8"	7/8" - 14	12.5	61.0	12.5	22.5	25.0		
M22541-12-12KR	19	- 12	3/4"	1.1/16" - 12	15.0	69.0	14.1	26.5	32.0		

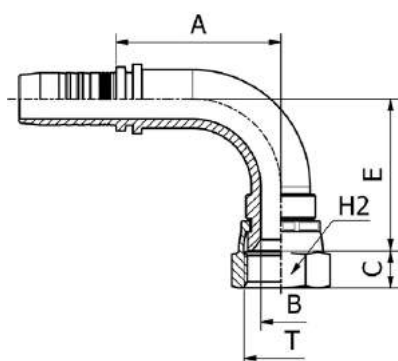


SAE STANDARD CONNECTIONS

M22592/M22593

90° JIC FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M22592-04-04	6	- 4	1/4"	7/16" - 20		4.0	28.5	8.7	27.0	17.0	
M22592-04-05	6	- 4	1/4"	1/2" - 20		4.0	28.5	9.1	27.5	17.0	
M22592-05-05	8	- 5	5/16"	1/2" - 20		5.5	31.0	9.1	28.0	17.0	
M22592-05-06	8	- 5	5/16"	9/16" - 18		7.0	31.0	9.2	28.5	19.0	
M22592-06-05	10	- 6	3/8"	1/2" - 20		5.5	30.0	9.1	26.5	17.0	
M22592-06-06	10	- 6	3/8"	9/16" - 18		7.0	35.5	9.2	32.5	19.0	
M22592-08-06	12	- 8	1/2"	9/16" - 18		7.0	37.0	9.2	33.0	19.0	
M22592-08-08	12	- 8	1/2"	3/4" - 16		9.3	44.0	10.2	41.0	22.0	
M22592-10-10	16	- 10	5/8"	7/8" - 14		12.5	53.5	12.3	52.5	27.0	
M22592-12-10	19	- 12	3/4"	7/8" - 14		12.5	55.0	12.3	52.5	27.0	
M22592-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	62.0	14.2	58.0	32.0	
M22592-12-14	19	- 12	3/4"	1.3/16" - 12		15.0	63.0	14.3	58.0	36.0	
M22592-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	63.0	15.0	57.5	38.0	
M22592-16-16	25	- 16	1"	1.5/16" - 12		19.8	77.0	15.0	68.5	38.0	
M22592-16-20	25	- 16	1"	1.5/8" - 12		26.0	77.5	16.2	74.5	50.0	
M22592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	90.5	16.2	86.5	50.0	
M22592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32.0	90.5	18.8	90.5	60.0	
M22592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	108.0	18.8	100.5	60.0	
M22592-32-32	51	- 32	2"	2.1/2" - 12		44.0	142.0	24.0	137.0	75.0	
M22593-03-04	5	- 3	3/16"	7/16" - 20		3.0	26.0	8.5	23.5	15.0	
M22593-04-06	6	- 4	1/4"	9/16" - 18		4.0	29.5	9.8	28.0	19.0	
M22593-04-08	6	- 4	1/4"	3/4" - 16		7.0	29.5	10.0	30.5	22.0	
M22593-06-08	10	- 6	3/8"	3/4" - 16		7.0	36.5	10.1	29.5	22.0	
M22593-06-10	10	- 6	3/8"	7/8" - 14		9.3	36.5	12.4	31.5	27.0	
M22593-08-10	12	- 8	1/2"	7/8" - 14		9.3	45.0	12.4	36.0	27.0	
M22593-08-12	12	- 8	1/2"	1.1/16" - 12		12.5	45.0	14.1	36.0	32.0	
M22593-10-12	16	- 10	5/8"	1.1/16" - 12		12.5	51.5	14.1	50.0	32.0	

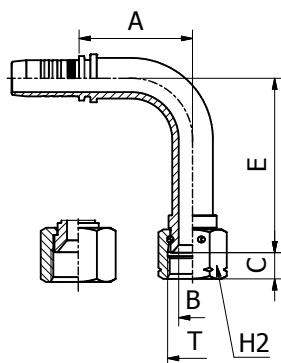


SAE STANDARD CONNECTIONS

M22591KR

90° JIC FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M22591-04-04KR	6	- 4	1/4"	7/16" - 20		4.2	28.5	8.9	26.0	15.0	
M22591-04-05KR	6	- 4	1/4"	1/2" - 20		4.0	28.5	9.4	26.5	17.0	
M22591-06-06KR	10	- 6	3/8"	9/16" - 18		7.0	35.5	9.5	32.0	17.0	
M22591-08-08KR	12	- 8	1/2"	3/4" - 16		9.3	44.0	10.7	40.5	22.0	
M22591-10-10KR	16	- 10	5/8"	7/8" - 14		12.5	53.5	12.5	47.0	25.0	
M22591-12-12KR	19	- 12	3/4"	1.1/16" - 12		15.0	62.0	14.1	57.0	32.0	
M22591-16-12KR	25	- 16	1"	1.1/16" - 12		15.0	62.0	14.1	57.0	32.0	

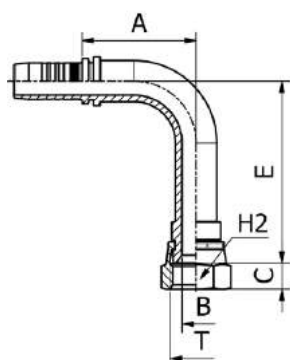


SAE STANDARD CONNECTIONS

M24792/M24793

90° JIC FEMALE LONG DROP ELBOW
37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M24792-04-04	6	- 4	1/4"	7/16" - 20		4.0	28.5	8.7	45.0	17.0		
M24792-04-05	6	- 4	1/4"	1/2" - 20		4.0	28.5	9.1	45.0	17.0		
M24792-06-06	10	- 6	3/8"	9/16" - 18		7.0	35.5	9.2	55.0	19.0		
M24792-08-08	12	- 8	1/2"	3/4" - 16		9.3	44.0	10.2	61.0	22.0		
M24792-10-10	16	- 10	5/8"	7/8" - 14		12.5	53.5	12.3	65.5	27.0		
M24792-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	62.0	14.2	94.5	32.0		
M24792-16-16	25	- 16	1"	1.5/16" - 12		19.8	77.5	15.0	110.0	38.0		
M24792-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	90.5	16.2	129.0	50.0		
M24793-04-06	6	- 4	1/4"	9/16" - 18		4.0	29.5	9.8	55.5	19.0		
M24793-06-08	10	- 6	3/8"	3/4" - 16		7.0	36.5	10.1	61.5	22.0		
M24793-08-10	12	- 8	1/2"	7/8" - 14		9.3	45.0	12.4	65.0	27.0		

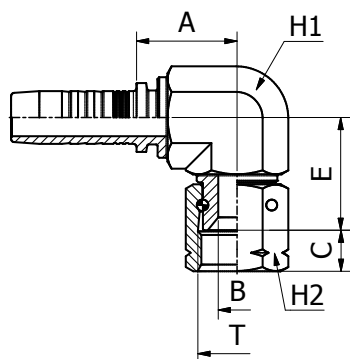


SAE STANDARD CONNECTIONS

M24791KR

90° JIC FEMALE LONG DROP ELBOW
37° CONE SEAT
SAE J516 / ISO 12151-5

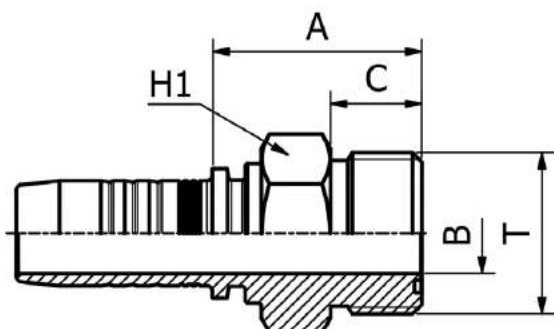
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M24791-04-04KR	6	- 4	1/4"	7/16" - 20		4.2	28.5	8.9	45.0	15.0		
M24791-06-06KR	10	- 6	3/8"	9/16" - 18		7.0	35.5	9.5	55.0	17.0		
M24791-08-08KR	12	- 8	1/2"	3/4" - 16		9.3	44.0	10.7	64.0	22.0		
M24791-10-10KR	16	- 10	5/8"	7/8" - 14		12.5	53.5	12.5	70.0	25.0		
M24791-12-12KR	19	- 12	3/4"	1.1/16" - 12		15.0	62.0	14.1	96.0	32.0		



SAE STANDARD CONNECTIONS

M22582F**90° JIC FEMALE COMPACT ELBOW****37° CONE SEAT****SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H1	H2	
M22582-04-04F	6	- 4	1/4"	7/16" - 20		4.0	20.0	8.7	20.5	14.0	17.0	
M22582-04-06F	6	- 4	1/4"	9/16" - 18		7.0	20.0	9.2	21.5	14.0	19.0	
M22582-06-06F	10	- 6	3/8"	9/16" - 18		7.0	23.0	9.2	24.0	19.0	19.0	
M22582-06-08F	10	- 6	3/8"	3/4" - 16		9.3	26.5	10.2	28.0	22.0	22.0	
M22582-08-08F	12	- 8	1/2"	3/4" - 16		9.3	25.0	10.2	28.0	22.0	22.0	
M22582-08-10F	12	- 8	1/2"	7/8" - 14		12.5	25.0	12.3	29.0	22.0	27.0	
M22582-12-12F	19	- 12	3/4"	1.1/16" - 12		15.0	37.5	14.2	33.0	27.0	32.0	
M22582-16-16F	25	- 16	1"	1.5/16" - 12		20.0	52.0	15.0	40.0	36.0	38.0	



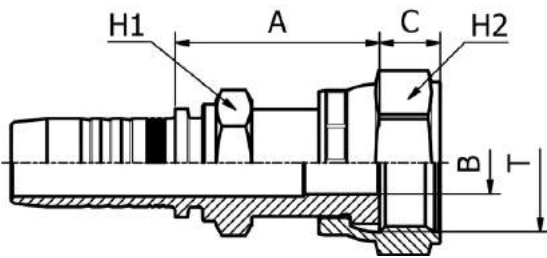
SAE STANDARD CONNECTIONS

M12410**ORFS MALE****SAE J516 / ISO 12151-1**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M12410-04-04	6	- 4	1/4"	9/16" - 18		4.0	24.0	9.8	16.0			
M12410-04-06	6	- 4	1/4"	11/16" - 16		6.7	26.5	11.2	19.0			
M12410-05-06	8	- 5	5/16"	11/16" - 16		6.7	27.0	11.2	19.0			
M12410-06-06	10	- 6	3/8"	11/16" - 16		6.7	27.5	11.2	19.0			
M12410-06-08	10	- 6	3/8"	13/16" - 16		9.3	30.0	12.8	22.0			
M12410-08-06	12	- 8	1/2"	11/16" - 16		6.7	29.0	11.2	22.0			
M12410-08-08	12	- 8	1/2"	13/16" - 16		9.3	30.5	12.8	22.0			
M12410-08-10	12	- 8	1/2"	1" - 14		12.5	35.0	15.5	27.0			
M12410-08-12	12	- 8	1/2"	1.3/16" - 12		15.0	37.5	17.0	32.0			
M12410-10-08	16	- 10	5/8"	13/16" - 16		9.3	30.5	12.8	22.0			
M12410-10-10	16	- 10	5/8"	1" - 14		12.5	34.5	15.5	27.0			
M12410-10-12	16	- 10	5/8"	1.3/16" - 12		15.0	37.5	17.0	32.0			
M12410-12-12	19	- 12	3/4"	1.3/16" - 12		15.0	39.0	17.0	32.0			
M12410-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	40.5	17.5	38.0			
M12410-16-16	25	- 16	1"	1.7/16" - 12		19.8	42.0	17.5	38.0			
M12410-16-20	25	- 16	1"	1.11/16" - 12		26.0	44.0	17.5	46.0			
M12410-20-20	31	- 20	1.1/4"	1.11/16" - 12		26.0	46.5	17.5	46.0			
M12410-24-24	38	- 24	1.1/2"	2" - 12		32.0	48.5	17.5	55.0			

SAE STANDARD CONNECTIONS

M22411

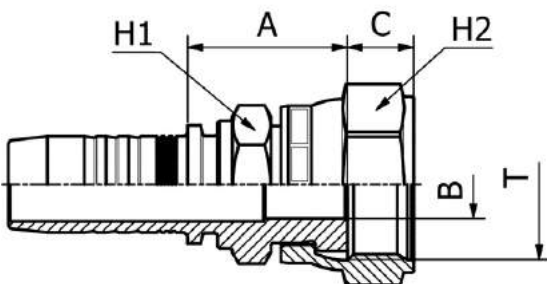


ORFS FEMALE
SAE J516 / ISO 12151-1 PULLBACK TYPE
(CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		B	A	C	H1	H2			
M22411-04-04	6	- 4	1/4"	9/16" - 18	4.0	27.5	8.0	13.0	19.0			
M22411-04-06	6	- 4	1/4"	11/16" - 16	7.0	30.0	9.5	16.0	22.0			
M22411-04-08	6	- 4	1/4"	13/16" - 16	9.3	35.5	11.0	19.0	24.0			
M22411-05-04	8	- 5	5/16"	9/16" - 18	4.0	28.5	8.0	16.0	19.0			
M22411-05-06	8	- 5	5/16"	11/16" - 16	7.0	30.5	9.5	16.0	22.0			
M22411-06-04	10	- 6	3/8"	9/16" - 18	4.0	29.0	8.0	16.0	19.0			
M22411-06-06	10	- 6	3/8"	11/16" - 16	7.0	31.0	9.5	16.0	22.0			
M22411-06-08	10	- 6	3/8"	13/16" - 16	9.3	36.5	11.0	19.0	24.0			
M22411-08-06	12	- 8	1/2"	11/16" - 16	7.0	32.0	9.5	19.0	22.0			
M22411-08-08	12	- 8	1/2"	13/16" - 16	9.3	37.0	11.0	19.0	24.0			
M22411-08-10	12	- 8	1/2"	1" - 14	11.5	39.0	13.5	24.0	30.0			
M22411-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	44.0	14.5	28.0	36.0			
M22411-10-08	16	- 10	5/8"	13/16" - 16	9.3	37.0	11.0	24.0	24.0			
M22411-10-10	16	- 10	5/8"	1" - 14	11.5	39.0	13.5	24.0	30.0			
M22411-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	44.0	14.5	28.0	36.0			
M22411-12-10	19	- 12	3/4"	1" - 14	11.5	41.5	13.5	28.0	30.0			
M22411-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	45.5	14.5	28.0	36.0			
M22411-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	48.5	15.0	36.0	41.0			
M22411-16-12	25	- 16	1"	1.3/16" - 12	13.9	48.0	13.5	36.0	36.0			
M22411-16-16	25	- 16	1"	1.7/16" - 12	19.8	49.5	15.0	36.0	41.0			
M22411-16-20	25	- 16	1"	1.11/16" - 12	26.0	52.0	13.6	41.0	50.0			
M22411-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	52.0	14.8	41.0	50.0			
M22411-20-24	31	- 20	1.1/4"	2" - 12	32.0	56.5	14.2	50.0	60.0			
M22411-24-24	38	- 24	1.1/2"	2" - 12	32.0	56.5	14.2	50.0	60.0			

SAE STANDARD CONNECTIONS

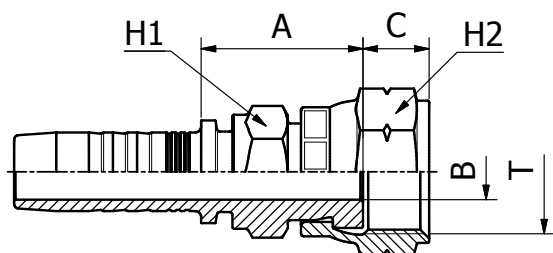
M27411



ORFS FEMALE
SAE J516 / ISO 12151-1 SHORT TYPE
(CRIMPED BACK-NUT)

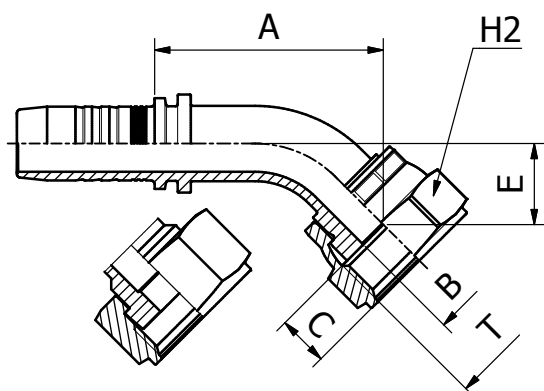
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		B	A	C	H1	H2			
M27411-04-04	6	- 4	1/4"	9/16" - 18	4.0	20.5	8.0	13.0	19.0			
M27411-04-06	6	- 4	1/4"	11/16" - 16	7.0	22.0	9.5	16.0	22.0			
M27411-05-06	8	- 5	5/16"	11/16" - 16	7.0	25.5	9.5	16.0	22.0			
M27411-06-06	10	- 6	3/8"	11/16" - 16	7.0	26.0	9.5	16.0	22.0			
M27411-06-08	10	- 6	3/8"	13/16" - 16	9.3	26.5	11.0	19.0	24.0			
M27411-08-08	12	- 8	1/2"	13/16" - 16	9.3	26.5	11.0	19.0	24.0			
M27411-08-10	12	- 8	1/2"	1" - 14	11.5	27.5	12.5	24.0	30.0			
M27411-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	31.0	13.5	28.0	36.0			
M27411-10-10	16	- 10	5/8"	1" - 14	11.5	28.0	12.5	24.0	30.0			
M27411-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	31.0	13.5	28.0	36.0			
M27411-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	32.5	13.5	28.0	36.0			
M27411-16-16	25	- 16	1"	1.7/16" - 12	19.8	36.5	13.5	36.0	41.0			

SAE STANDARD CONNECTIONS

**M27411KR**

ORFS FEMALE
SAE J516 / ISO 12151-1 SHORT TYPE
(CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M27411-04-04KR	6	- 4	1/4"	9/16" - 18		4.0	20.5	8.0	14.0	17.0		
M27411-06-06KR	10	- 6	3/8"	11/16" - 16		7.0	23.0	9.5	17.0	22.0		
M27411-08-08KR	12	- 8	1/2"	13/16" - 16		9.3	27.0	11.0	19.0	24.0		



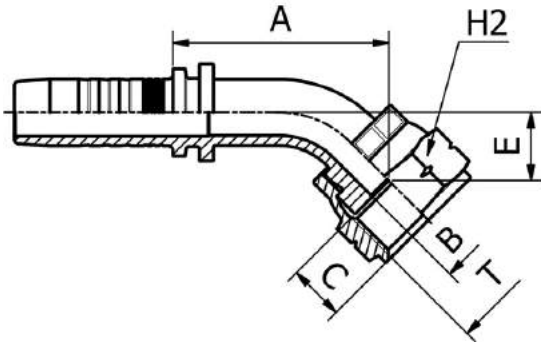
SAE STANDARD CONNECTIONS

M22441/M22443

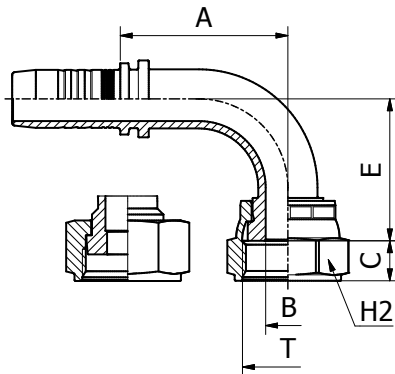
45° ORFS FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22441-08-06	12	- 8	1/2"	11/16" - 16		7.0	32.5	9.5	11.0	22.0		
M22441-12-10	19	- 12	3/4"	1" - 14		11.5	51.0	12.5	16.5	30.0		
M22441-16-12	25	- 16	1"	1.3/16" - 12		13.9	66.0	13.5	21.5	36.0		
M22443-04-04	6	- 4	1/4"	9/16" - 18		4.0	31.0	8.2	10.5	17.0		
M22443-04-06	6	- 4	1/4"	11/16" - 16		7.0	31.0	9.5	10.5	22.0		
M22443-05-06	8	- 5	5/16"	11/16" - 16		7.0	34.0	9.5	10.5	22.0		
M22443-06-06	10	- 6	3/8"	11/16" - 16		6.0	32.5	9.5	11.0	22.0		
M22443-06-08	10	- 6	3/8"	13/16" - 16		9.3	34.0	11.0	12.5	24.0		
M22443-08-08	12	- 8	1/2"	13/16" - 16		9.0	42.0	11.0	13.0	24.0		
M22443-08-10	12	- 8	1/2"	1" - 14		11.5	42.0	13.5	13.5	30.0		
M22443-08-12	12	- 8	1/2"	1.3/16" - 12		13.9	46.5	14.5	18.5	36.0		
M22443-10-10	16	- 10	5/8"	1" - 14		11.5	49.0	13.5	16.0	30.0		
M22443-10-12	16	- 10	5/8"	1.3/16" - 12		13.9	51.5	14.5	18.5	36.0		
M22443-12-12	19	- 12	3/4"	1.3/16" - 12		13.9	60.5	14.5	21.5	36.0		
M22443-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	60.0	14.8	21.0	41.0		
M22443-16-16	25	- 16	1"	1.7/16" - 12		19.8	72.0	14.8	23.5	41.0		
M22443-16-20	25	- 16	1"	1.11/16" - 12		26.0	74.0	14.8	25.0	50.0		
M22443-20-20	31	- 20	1.1/4"	1.11/16" - 12		26.0	82.0	14.8	27.0	50.0		
M22443-24-24	38	- 24	1.1/2"	2" - 12		32.0	98.0	14.8	31.5	60.0		

SAE STANDARD CONNECTIONS

M22441KR
45° ORFS FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1


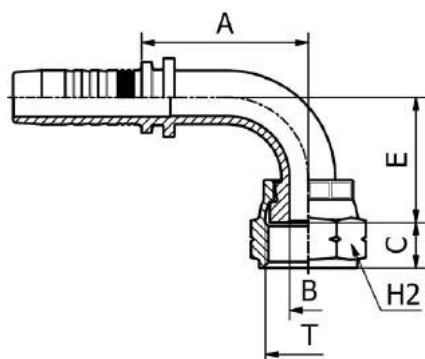
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22441-04-04KR	6	- 4	1/4"	9/16" - 18		4.2	30.0	8.0	10.5	17.0		
M22441-06-06KR	10	- 6	3/8"	11/16" - 16		6.0	31.5	9.5	11.0	22.0		
M22441-08-08KR	12	- 8	1/2"	13/16" - 16		9.0	42.5	11.0	13.5	24.0		



SAE STANDARD CONNECTIONS

M22491/M22493
90° ORFS FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22491-10-10032	16	- 10	5/8"	1" - 14		11.0	42.0	7.5	32.0	30.0		
M22491-06-04	10	- 6	3/8"	9/16" - 18		4.0	28.0	8.0	23.0	19.0		
M22491-08-06	12	- 8	1/2"	11/16" - 16		7.0	30.0	9.5	24.5	22.0		
M22491-10-08	16	- 10	5/8"	13/16" - 16		9.3	41.0	11.0	34.0	24.0		
M22491-12-10	19	- 12	3/4"	1" - 14		11.5	49.0	12.5	38.5	30.0		
M22491-16-12	25	- 16	1"	1.3/16" - 12		13.9	57.5	13.5	48.0	36.0		
M22493-04-04	6	- 4	1/4"	9/16" - 18		4.0	27.5	8.2	22.0	17.0		
M22493-04-06	6	- 4	1/4"	11/16" - 16		7.0	27.5	9.5	22.0	22.0		
M22493-05-06	8	- 5	5/16"	11/16" - 16		7.0	32.0	9.5	23.0	22.0		
M22493-06-06	10	- 6	3/8"	11/16" - 16		6.0	30.0	9.5	24.0	22.0		
M22493-06-08	10	- 6	3/8"	13/16" - 16		9.3	30.0	11.0	26.5	24.0		
M22493-08-08	12	- 8	1/2"	13/16" - 16		9.0	40.5	11.0	30.0	24.0		
M22493-08-10	12	- 8	1/2"	1" - 14		11.5	40.0	13.5	30.5	30.0		
M22493-08-12	12	- 8	1/2"	1.3/16" - 12		13.9	39.5	14.5	37.5	36.0		
M22493-10-10	16	- 10	5/8"	1" - 14		11.5	48.0	13.5	37.5	30.0		
M22493-10-12	16	- 10	5/8"	1.3/16" - 12		13.9	48.0	14.5	41.0	36.0		
M22493-12-12	19	- 12	3/4"	1.3/16" - 12		13.9	56.5	14.5	48.0	36.0		
M22493-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	56.5	14.8	47.5	41.0		
M22493-16-16	25	- 16	1"	1.7/16" - 12		19.8	71.5	14.8	56.0	41.0		
M22493-16-20	25	- 16	1"	1.11/16" - 12		26.0	71.5	14.8	58.5	50.0		
M22493-20-20	31	- 20	1.1/4"	1.11/16" - 12		26.0	83.0	14.8	66.0	50.0		
M22493-24-24	38	- 24	1.1/2"	2" - 12		32.0	102.0	14.8	79.5	60.0		

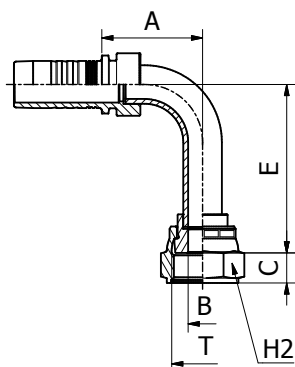


SAE STANDARD CONNECTIONS

M22491KR

90° ORFS FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22491-04-04KR	6	- 4	1/4"	9/16" - 18		4.2	26.5	8.0	22.0	17.0		
M22491-04-06KR	6	- 4	1/4"	11/16" - 16		6.0	26.3	9.5	22.0	22.0		
M22491-06-06KR	10	- 6	3/8"	11/16" - 16		6.0	29.0	9.5	24.0	22.0		
M22491-06-08KR	10	- 6	3/8"	13/16" - 16		9.0	35.5	11.0	28.5	24.0		
M22491-08-08KR	12	- 8	1/2"	13/16" - 16		9.0	40.5	11.0	30.5	24.0		



SAE STANDARD CONNECTIONS

M24491 LONG DROP

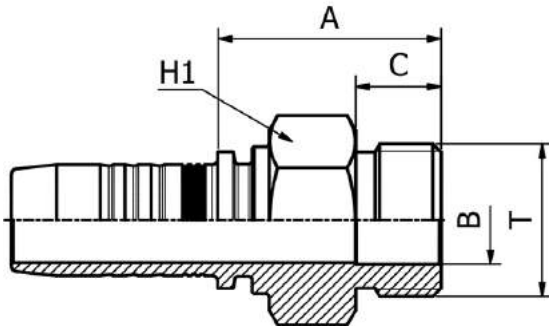
90° ORFS FEMALE LONG DROP ELBOW
SAE J516 / ISO 12151-1
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M24491-04-04	6	- 4	1/4"	9/16" - 18		4.4	25.0	8.0	46.0	17.0		
M24491-04-06	6	- 4	1/4"	11/16" - 16		7.0	26.5	9.5	53.5	22.0		
M24491-05-06	8	- 5	5/16"	11/16" - 16		6.7	31.5	9.5	54.0	22.0		
M24491-06-06	10	- 6	3/8"	11/16" - 16		6.7	32.0	9.5	54.0	22.0		
M24491-06-08	10	- 6	3/8"	13/16" - 16		6.7	32.0	11.0	54.0	24.0		
M24491-08-08	12	- 8	1/2"	13/16" - 16		9.6	37.0	11.0	64.0	24.0		
M24491-08-10	12	- 8	1/2"	1" - 14		9.6	37.0	12.5	64.5	30.0		
M24491-10-10	16	- 10	5/8"	1" - 14		12.0	41.0	13.0	70.0	30.0		
M24491-10-12	16	- 10	5/8"	1.3/16" - 12		12.7	41.0	13.5	73.0	36.0		
M24491-12-12	19	- 12	3/4"	1.3/16" - 12		15.0	58.5	13.5	96.0	36.0		
M24491-16-16	25	- 16	1"	1.7/16" - 12		19.8	71.5	13.5	114.0	41.0		
M24491-20-20	31	- 20	1.1/4"	1.11/16" - 12		26.0	82.5	13.6	129.0	50.0		

SAE STANDARD CONNECTIONS

M13010

SAE MALE O-RING BOSS TYPE
SAE J516 / ISO 11926

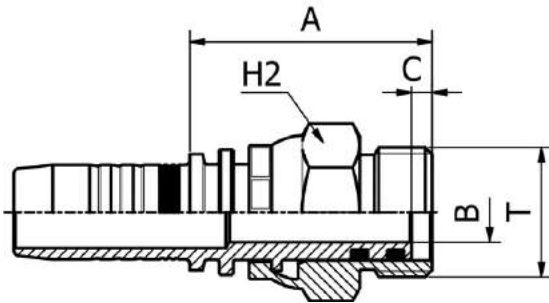


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M13010-04-04	6	- 4	1/4"	7/16" - 20		4.4	24.0	9.1	14.0			
M13010-04-06	6	- 4	1/4"	9/16" - 18		7.5	24.5	9.9	17.0			
M13010-06-06	10	- 6	3/8"	9/16" - 18		7.5	25.5	9.9	17.0			
M13010-06-08	10	- 6	3/8"	3/4" - 16		9.9	28.5	11.1	22.0			
M13010-06-10	10	- 6	3/8"	7/8" - 14		12.3	31.5	12.7	25.0			
M13010-08-08	12	- 8	1/2"	3/4" - 16		9.9	29.0	11.1	22.0			
M13010-08-10	12	- 8	1/2"	7/8" - 14		12.3	32.0	12.7	25.0			
M13010-08-12	12	- 8	1/2"	1.1/16" - 12		15.5	38.5	15.1	32.0			
M13010-10-10	16	- 10	5/8"	7/8" - 14		12.5	32.0	12.7	25.0			
M13010-10-12	16	- 10	5/8"	1.1/16" - 12		15.5	37.5	15.1	32.0			
M13010-12-12	19	- 12	3/4"	1.1/16" - 12		15.5	39.5	15.1	32.0			
M13010-12-16	19	- 12	3/4"	1.5/16" - 12		21.5	40.0	15.1	38.0			
M13010-16-16	25	- 16	1"	1.5/16" - 12		21.5	41.0	15.1	38.0			
M13010-20-20	31	- 20	1.1/4"	1.5/8" - 12		27.5	43.5	15.1	46.0			

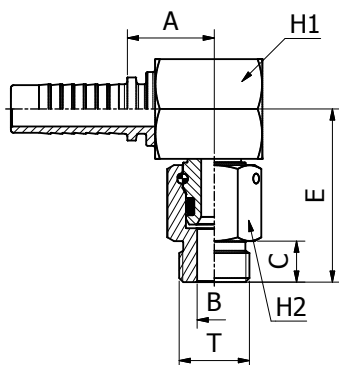
SAE STANDARD CONNECTIONS

M14310

SAE SWIVEL MALE O-RING BOSS TYPE
SAE J516 / ISO 11926



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
M14310-04-04	6	- 4	1/4"	7/16" - 20		4.0	43.0	9.1	17.0			
M14310-04-06	6	- 4	1/4"	9/16" - 18		7.0	44.0	9.9	22.0			
M14310-06-06	10	- 6	3/8"	9/16" - 18		7.0	48.0	9.9	22.0			
M14310-06-08	10	- 6	3/8"	3/4" - 16		9.3	47.0	11.1	22.0			
M14310-08-08	12	- 8	1/2"	3/4" - 16		9.3	53.0	11.1	27.0			
M14310-08-10	12	- 8	1/2"	7/8" - 14		9.3	41.5	13.0	27.0			
M14310-08-12	12	- 8	1/2"	1.1/16" - 12		12.5	49.5	15.0	32.0			
M14310-10-10	16	- 10	5/8"	7/8" - 14		9.3	41.5	13.0	27.0			
M14310-12-12	19	- 12	3/4"	1.1/16" - 12		12.5	50.5	15.0	32.0			

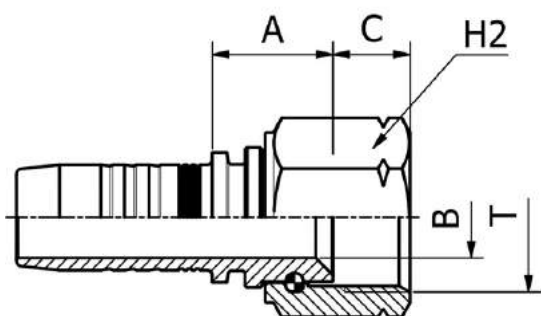


SAE STANDARD CONNECTIONS

M14390

90° SAE SWIVEL MALE O-RING BOSS TYPE
SAE J516 / ISO 11926

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H1	H2	
M14390-06-06	10	- 6	3/8"	9/16" - 18		5.7	20.0	9.9	40.0	22.0	17.0	
M14390-06-08	10	- 6	3/8"	3/4" - 16		9.3	20.0	11.1	44.5	22.0	22.0	
M14390-08-08	12	- 8	1/2"	3/4" - 16		9.3	23.5	11.1	47.0	27.0	22.0	
M14390-08-10	12	- 8	1/2"	7/8" - 14		9.8	23.5	13.0	47.0	27.0	27.0	
M14390-10-10	16	- 10	5/8"	7/8" - 14		9.8	23.5	13.0	47.0	27.0	27.0	
M14390-12-12	19	- 12	3/4"	1.1/16" - 12		13.0	28.0	15.0	58.5	34.0	32.0	

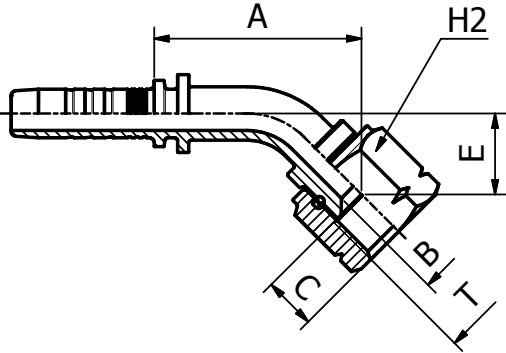


SAE STANDARD CONNECTIONS

M22612

SAE FEMALE 45° CONE SEAT
SAE J516/J512
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M22612-04-04	6	- 4	1/4"	7/16" - 20		4.0	15.5	8.7	17.0			
M22612-05-06	8	- 5	5/16"	5/8" - 18		7.0	16.0	10.8	22.0			
M22612-06-06	10	- 6	3/8"	5/8" - 18		7.0	16.5	10.8	22.0			
M22612-12-12	19	- 12	3/4"	1.1/16" - 14		15.0	22.5	14.4	32.0			

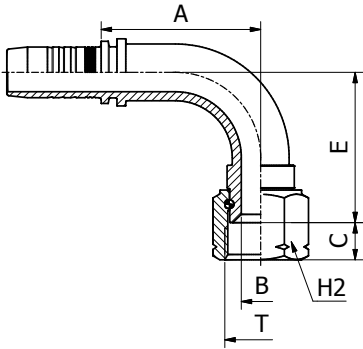


SAE STANDARD CONNECTIONS

M22642

**45° SAE FEMALE SWEPT ELBOW 45° CONE SEAT
SAE J516/J512
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22642-06-06	10	- 6	3/8"	5/8" - 18		7.0	42.5	10.8	16.5	22.0		



SAE STANDARD CONNECTIONS

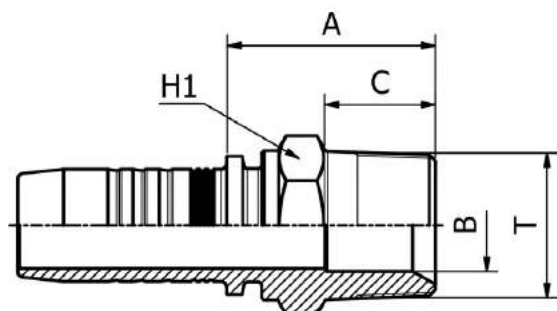
M22692

**90° SAE FEMALE SWEPT ELBOW 45° CONE SEAT
SAE J516/J512
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M22692-04-04	6	- 4	1/4"	7/16" - 20		4.0	28.5	8.7	27.0	17.0		
M22692-06-06	10	- 6	3/8"	5/8" - 18		7.0	35.5	10.8	33.0	22.0		
M22692-12-12	19	- 12	3/4"	1.1/16" - 14		15.0	62.0	14.4	58.0	32.0		

SAE STANDARD CONNECTIONS

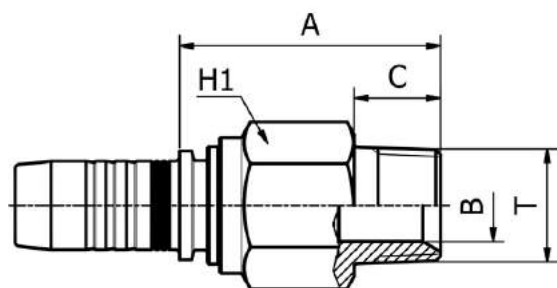
M12810

NPTF MALE 60° CONE SEAT
SAE J516/J514

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M12810-03-02	5	- 3	3/16"	1/8" - 27		3.0	23.5	10.0	12.0			
M12810-03-04	5	- 3	3/16"	1/4" - 18		5.5	29.0	14.5	14.0			
M12810-04-02	6	- 4	1/4"	1/8" - 27		4.0	24.0	10.0	12.0			
M12810-04-04	6	- 4	1/4"	1/4" - 18		5.5	29.0	14.5	14.0			
M12810-04-06	6	- 4	1/4"	3/8" - 18		9.3	27.5	14.5	19.0			
M12810-04-08	6	- 4	1/4"	1/2" - 14		9.3	33.5	19.2	24.0			
M12810-05-04	8	- 5	5/16"	1/4" - 18		5.5	29.5	14.5	14.0			
M12810-05-06	8	- 5	5/16"	3/8" - 18		9.3	32.0	14.5	19.0			
M12810-06-04	10	- 6	3/8"	1/4" - 18		5.5	30.0	14.5	14.0			
M12810-06-06	10	- 6	3/8"	3/8" - 18		9.3	28.5	14.5	19.0			
M12810-06-08	10	- 6	3/8"	1/2" - 14		12.5	34.5	19.2	24.0			
M12810-08-06	12	- 8	1/2"	3/8" - 18		9.3	29.0	14.5	19.0			
M12810-08-08	12	- 8	1/2"	1/2" - 14		12.5	35.0	19.2	24.0			
M12810-08-12	12	- 8	1/2"	3/4" - 14		15.5	35.5	19.2	27.0			
M12810-10-08	16	- 10	5/8"	1/2" - 14		12.5	38.5	19.2	24.0			
M12810-10-12	16	- 10	5/8"	3/4" - 14		16.0	40.0	19.2	27.0			
M12810-12-08	19	- 12	3/4"	1/2" - 14		12.5	36.5	19.2	27.0			
M12810-12-12	19	- 12	3/4"	3/4" - 14		16.0	36.5	19.2	27.0			
M12810-12-16	19	- 12	3/4"	1" - 11.5		19.8	46.0	24.2	36.0			
M12810-16-12	25	- 16	1"	3/4" - 14		15.5	39.0	19.2	32.0			
M12810-16-16	25	- 16	1"	1" - 11.5		19.8	44.0	24.2	36.0			
M12810-16-20	25	- 16	1"	1.1/4" - 11.5		26.0	56.5	25.0	46.0			
M12810-20-20	31	- 20	1.1/4"	1.1/4" - 11.5		26.0	56.5	25.0	46.0			
M12810-24-24	38	- 24	1.1/2"	1.1/2" - 11.5		32.0	57.5	26.0	50.0			
M12810-32-32	51	- 32	2"	2" - 11.5		45.0	64.5	26.5	65.0			
M12810-40-40	63	- 40	2.1/2"	2.1/2" - 8		55.4	78.0	39.9	80.0			
M12810-48-48	76	- 48	3"	3" - 8		68.9	86.0	41.5	100.0			

SAE STANDARD CONNECTIONS

M14110R

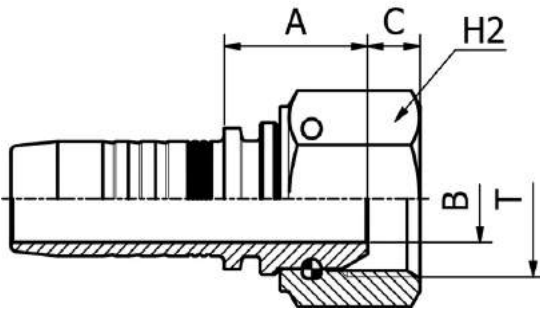
NPTF SWIVEL MALE 60° CONE SEAT
SAE J516/J514

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M14110-04-02R	6	- 4	1/4"	1/8" - 27		3.0	42.0	10.0	17.0			
M14110-04-04R	6	- 4	1/4"	1/4" - 18		4.0	46.5	14.5	17.0			
M14110-04-06R	6	- 4	1/4"	3/8" - 18		7.0	46.5	14.5	19.0			
M14110-06-04R	10	- 6	3/8"	1/4" - 18		4.0	50.5	14.5	22.0			
M14110-06-06R	10	- 6	3/8"	3/8" - 18		7.0	50.5	14.5	22.0			
M14110-06-08R	10	- 6	3/8"	1/2" - 14		9.3	55.0	19.2	24.0			
M14110-08-06R	12	- 8	1/2"	3/8" - 18		7.0	54.5	14.5	27.0			
M14110-08-08R	12	- 8	1/2"	1/2" - 14		9.3	59.0	19.2	27.0			
M14110-12-12R	19	- 12	3/4"	3/4" - 14		16.0	58.0	19.2	32.0			
M14110-16-16R	25	- 16	1"	1" - 11.5		19.8	66.0	24.2	38.0			

SAE STANDARD CONNECTIONS

M22812

**NPSM FEMALE 60° CONE
SAE J516/J514
(THRUST-WIRE NUT)**

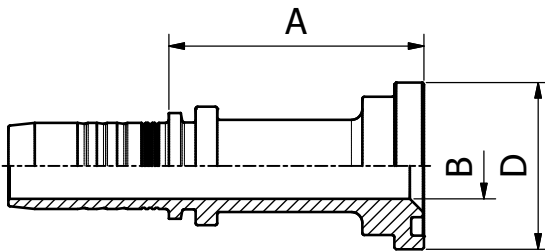


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M22812-04-04	6	- 4	1/4"	1/4" - 18		4.0	17.5	4.2	19.0			
M22812-06-04	10	- 6	3/8"	1/4" - 18		4.1	18.0	4.2	19.0			
M22812-06-06	10	- 6	3/8"	3/8" - 18		7.0	21.0	6.0	22.0			
M22812-08-08	12	- 8	1/2"	1/2" - 14		9.3	23.0	6.5	27.0			
M22812-12-12	19	- 12	3/4"	3/4" - 14		15.0	24.5	9.0	32.0			
M22812-16-16	25	- 16	1"	1" - 11.5		19.8	27.5	10.5	38.0			

SAE STANDARD CONNECTIONS

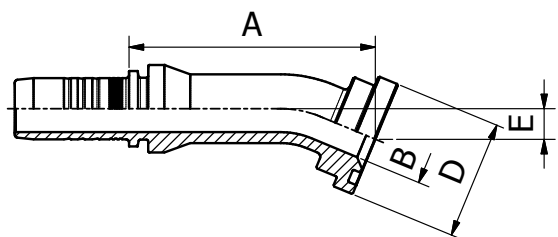
M23311

**ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3**



PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
M23311-08-08	12	-8	1/2"	1/2"		9.3	51.0	30.3				
M23311-08-12	12	-8	1/2"	3/4"		15.1	58.0	38.0				
M23311-10-08	16	-10	5/8"	1/2"		9.3	51.0	30.3				
M23311-10-12	16	-10	5/8"	3/4"		15.0	65.5	38.0				
M23311-10-24	16	-10	5/8"	1.1/2"		32.0	69.5	60.5				
M23311-12-12	19	-12	3/4"	3/4"		15.0	58.0	38.0				
M23311-12-16	19	-12	3/4"	1"		20.0	58.0	44.6				
M23311-12-20	19	-12	3/4"	1.1/4"		26.0	69.5	51.0				
M23311-16-12	25	-16	1"	3/4"		15.0	60.5	38.0				
M23311-16-16	25	-16	1"	1"		19.8	64.5	44.6				
M23311-16-20	25	-16	1"	1.1/4"		26.0	70.5	51.0				
M23311-20-12	31	-20	1.1/4"	3/4"		15.0	61.0	38.0				
M23311-20-16	31	-20	1.1/4"	1"		19.8	64.5	44.6				
M23311-20-20	31	-20	1.1/4"	1.1/4"		26.0	70.5	51.0				
M23311-20-24	31	-20	1.1/4"	1.1/2"		32.0	72.5	60.5				
M23311-20-32	31	-20	1.1/4"	2"		42.0	75.5	71.6				
M23311-24-24	38	-24	1.1/2"	1.1/2"		32.0	75.5	60.5				
M23311-24-32	38	-24	1.1/2"	2"		42.0	75.5	71.6				
M23311-32-32	51	-32	2"	2"		42.0	79.0	71.6				
M23311-32-40	51	-32	2"	2.1/2"		56.0	81.0	84.3				
M23311-38-40	60	-38	2.3/8"	2.1/2"		50.5	84.0	84.3				
M23311-40-32	63	-40	2.1/2"	2"		42.0	78.5	71.6				
M23311-40-40	63	-40	2.1/2"	2.1/2"		55.4	84.0	84.3				
M23311-40-48	63	-40	2.1/2"	3"		68.9	79.0	101.6				
M23311-40-56	63	-40	2.1/2"	3.1/2"		79.0	90.5	114.3				
M23311-40-64	63	-40	2.1/2"	4"		90.0	96.5	127.0				
M23311-48-48	76	-48	3"	3"		68.9	85.5	101.6				
M23311-56-56	89	-56	3.1/2"	3.1/2"		79.0	94.5	114.3				
M23311-64-64	102	-64	4"	4"		90.0	100.5	127.0				

SAE STANDARD CONNECTIONS



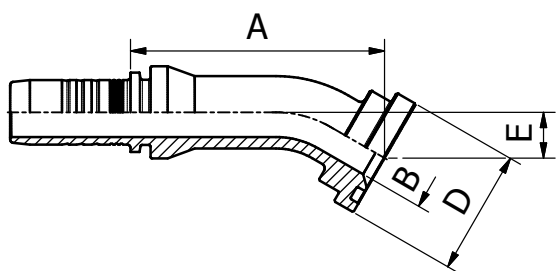
M23321

22.5° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23321-08-08	12	-8	1/2"	1/2"		9.3	64.0	30.3	8.0			
M23321-12-12	19	-12	3/4"	3/4"		15.0	74.5	38.0	10.0			
M23321-12-16	19	-12	3/4"	1"		20.0	74.5	44.6	10.0			
M23321-16-16	25	-16	1"	1"		19.8	89.0	44.6	11.5			
M23321-16-20	25	-16	1"	1.1/4"		26.0	88.5	51.0	11.5			
M23321-16-24	25	-16	1"	1.1/2"		32.0	88.5	60.5	12.0			
M23321-20-20	31	-20	1.1/4"	1.1/4"		26.0	100.0	51.0	12.0			
M23321-20-20018	31	-20	1.1/4"	1.1/4"		26.0	99.0	51.0	18.0			
M23321-20-24	31	-20	1.1/4"	1.1/2"		32.0	102.0	60.5	13.0			
M23321-24-24	38	-24	1.1/2"	1.1/2"		32.0	116.5	60.5	14.0			
M23321-24-24023	38	-24	1.1/2"	1.1/2"		32.0	115.0	60.5	23.0			
M23321-24-32	38	-24	1.1/2"	2"		42.0	116.5	71.6	14.0			
M23321-32-32	51	-32	2"	2"		42.0	134.5	71.6	15.0			
M23321-40-40	63	-40	2.1/2"	2.1/2"		52.0	80.0	84.3	16.5			
M23321-40-40A150	63	-40	2.1/2"	2.1/2"		52.0	151.0	84.3	17.5			
M23321-40-48	63	-40	2.1/2"	3"		61.0	107.5	101.6	20.5			
M23321-48-48	76	-48	3"	3"		61.0	111.0	101.6	20.5			

All items are made from solid with the exception of M23321-40-40, M23321-40-48, M23321-48-48

SAE STANDARD CONNECTIONS



M23331

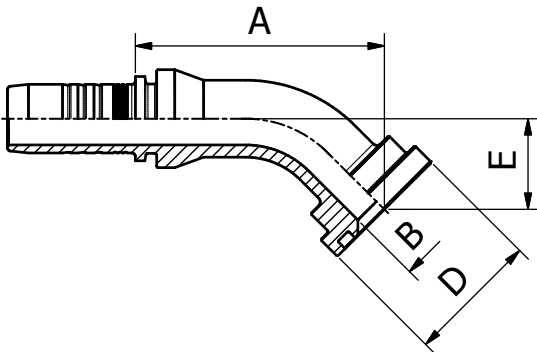
30° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23331-08-08	12	-8	1/2"	1/2"		9.3	62.5	30.3	11.0			
M23331-08-12	12	-8	1/2"	3/4"		15.0	63.5	38.0	11.5			
M23331-12-12	19	-12	3/4"	3/4"		15.0	73.0	38.0	14.0			
M23331-12-16	19	-12	3/4"	1"		20.0	73.0	44.6	14.0			
M23331-16-16	25	-16	1"	1"		19.8	87.0	44.6	16.5			
M23331-16-20	25	-16	1"	1.1/4"		26.0	87.0	51.0	16.5			
M23331-20-20	31	-20	1.1/4"	1.1/4"		26.0	98.0	51.0	17.5			
M23331-20-24	31	-20	1.1/4"	1.1/2"		32.0	100.0	60.5	18.5			
M23331-20-24044	31	-20	1.1/4"	1.1/2"		32.0	131.5	60.5	44.0			
M23331-24-24	38	-24	1.1/2"	1.1/2"		32.0	114.5	60.5	20.0			
M23331-24-32	38	-24	1.1/2"	2"		42.0	114.5	71.6	20.0			
M23331-32-32	51	-32	2"	2"		42.0	132.0	71.6	22.0			
M23331-40-40	63	-40	2.1/2"	2.1/2"		52.0	87.5	84.3	24.0			
M23331-40-40A150	63	-40	2.1/2"	2.1/2"		52.0	149.0	84.3	26.0			
M23331-40-48	63	-40	2.1/2"	3"		52.0	85.0	101.6	24.5			
M23331-48-48	76	-48	3"	3"		61.0	117.5	101.6	31.5			

All items are made from solid with the exception of M23331-40-40, M23331-40-48, M23331-48-48

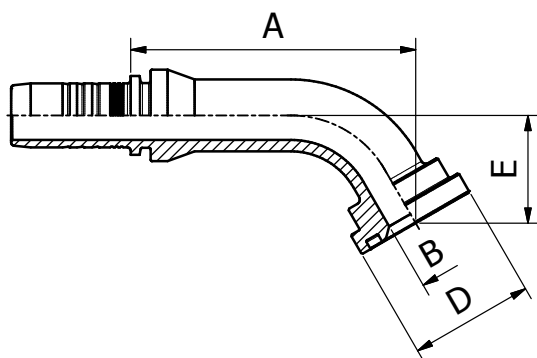
M23341

45° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23341-06-08	10	-6	3/8"	1/2"		9.3	52.5	30.0	17.5			
M23341-08-08	12	-8	1/2"	1/2"		9.3	58.5	30.3	18.5			
M23341-08-12	12	-8	1/2"	3/4"		15.0	59.5	38.0	19.0			
M23341-08-16	12	-8	1/2"	1"		19.8	59.5	44.6	19.0			
M23341-10-12	16	-10	5/8"	3/4"		15.0	61.0	38.0	22.0			
M23341-12-12	19	-12	3/4"	3/4"		15.0	71.0	38.0	26.0			
M23341-12-16	19	-12	3/4"	1"		20.0	68.5	44.6	23.0			
M23341-16-12	25	-16	1"	3/4"		15.0	74.5	38.0	23.0			
M23341-16-16	25	-16	1"	1"		19.8	81.5	44.6	27.5			
M23341-16-16032	25	-16	1"	1"		19.8	86.0	44.5	32.0			
M23341-16-20	25	-16	1"	1.1/4"		26.0	81.5	51.0	27.5			
M23341-20-16	31	-20	1.1/4"	1"		19.8	84.5	44.6	29.5			
M23341-20-20	31	-20	1.1/4"	1.1/4"		26.0	92.0	51.0	29.5			
M23341-20-20038	31	-20	1.1/4"	1.1/4"		26.0	100.5	50.9	38.0			
M23341-20-24	31	-20	1.1/4"	1.1/2"		32.0	93.5	60.5	31.0			
M23341-24-24	38	-24	1.1/2"	1.1/2"		32.0	107.5	60.5	34.5			
M23341-24-24044	38	-24	1.1/2"	1.1/2"		32.0	117.0	60.5	44.0			
M23341-24-32	38	-24	1.1/2"	2"		42.0	107.5	71.6	34.5			
M23341-32-20	51	-32	2"	1.1/4"		26.0	128.5	51.0	32.0			
M23341-32-32	51	-32	2"	2"		42.0	124.0	71.6	39.0			
M23341-32-32056	51	-32	2"	2"		42.0	141.0	71.5	56.0			
M23341-32-40	51	-32	2"	2.1/2"		56.0	136.5	84.3	49.5			
M23341-40-32	63	-40	2.1/2"	2"		42.0	152.0	71.6	48.5			
M23341-40-40	63	-40	2.1/2"	2.1/2"		52.0	95.0	84.3	48.5			
M23341-40-40A140	63	-40	2.1/2"	2.1/2"		52.0	141.0	84.3	46.0			
M23341-40-48	63	-40	2.1/2"	3"		61.0	117.5	101.6	53.5			
M23341-48-48	76	-48	3"	3"		58.0	125.5	101.6	53.5			
M23341-56-56	89	-56	3.1/2"	3.1/2"		79.0	139.0	114.3	68.0			
M23341-56-64	89	-56	3.1/2"	4"		79.0	124.5	127.0	53.5			
M23341-64-64	102	-64	4"	4"		90.0	132.0	127.0	56.5			

All items are made from solid with the exception of M23341-40-40, M23341-40-48, M23341-48-48, M23341-56-56, M23341-56-64, M23341-64-64.

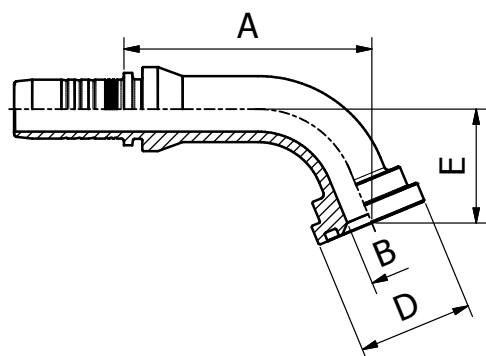


SAE STANDARD CONNECTIONS

M23361
60° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23361-08-08	12	-8	1/2"	1/2"		9.3	71.5	30.3	26.0			
M23361-08-12	12	-8	1/2"	3/4"		15.0	72.0	38.0	26.5			
M23361-12-12	19	-12	3/4"	3/4"		15.0	87.0	38.0	33.0			
M23361-12-16	19	-12	3/4"	1"		20.0	87.0	44.6	33.0			
M23361-16-16	25	-16	1"	1"		19.8	104.0	44.6	39.0			
M23361-16-20	25	-16	1"	1.1/4"		26.0	104.0	51.0	39.0			
M23361-20-20	31	-20	1.1/4"	1.1/4"		26.0	120.0	51.0	43.0			
M23361-20-20065	31	-20	1.1/4"	1.1/4"		26.0	107.5	51.0	65.0			
M23361-20-24	31	-20	1.1/4"	1.1/2"		32.0	121.0	60.5	44.5			
M23361-24-20	38	-24	1.1/2"	1.1/4"		26.0	136.5	51.0	46.5			
M23361-24-24	38	-24	1.1/2"	1.1/2"		32.0	143.5	60.5	50.5			
M23361-24-32	38	-24	1.1/2"	2"		42.0	143.5	71.6	51.0			
M23361-32-32	51	-32	2"	2"		42.0	129.0	71.6	58.0			
M23361-40-40	63	-40	2.1/2"	2.1/2"		52.0	94.5	84.3	67.0			
M23361-40-40A200	63	-40	2.1/2"	2.1/2"		52.0	196.6	84.3	68.5			
M23361-40-48	63	-40	2.1/2"	3"		52.0	87.5	101.6	54.5			
M23361-48-48	76	-48	3"	3"		61.0	128.5	101.6	79.0			

All items are made from solid with the exception of M23361-40-40, M23361-40-48, M23361-48-48.



SAE STANDARD CONNECTIONS

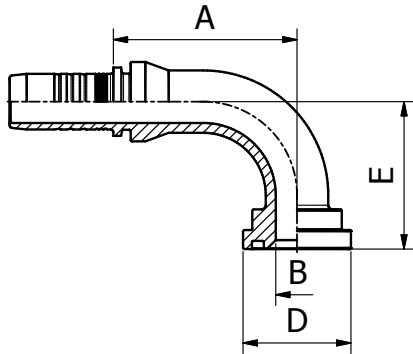
M23371
67.5° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23371-08-08	12	-8	1/2"	1/2"		9.3	68.0	30.3	29.5			
M23371-08-12	12	-8	1/2"	3/4"		15.0	68.5	38.0	30.5			
M23371-08-16	12	-8	1/2"	1"		19.8	68.5	44.6	30.5			
M23371-12-12	19	-12	3/4"	3/4"		15.0	82.0	38.0	38.0			
M23371-12-16	19	-12	3/4"	1"		20.0	82.0	44.6	38.0			
M23371-12-20	19	-12	3/4"	1.1/4"		26.0	82.0	51.0	38.0			
M23371-16-16	25	-16	1"	1"		19.8	98.5	44.6	45.0			
M23371-16-20	25	-16	1"	1.1/4"		26.0	98.5	51.0	45.0			
M23371-20-20	31	-20	1.1/4"	1.1/4"		26.0	114.0	51.0	50.0			
M23371-20-24	31	-20	1.1/4"	1.1/2"		32.0	115.0	60.5	52.0			
M23371-24-24	38	-24	1.1/2"	1.1/2"		32.0	136.5	60.5	59.0			
M23371-24-32	38	-24	1.1/2"	2"		42.0	136.5	71.6	59.0			
M23371-32-32	51	-32	2"	2"		42.0	162.0	71.6	68.5			
M23371-32-32085	51	-32	2"	2"		42.0	150.5	71.6	85.0			
M23371-32-40	51	-32	2"	2.1/2"		56.0	171.5	84.3	83.5			
M23371-40-40	63	-40	2.1/2"	2.1/2"		52.0	95.0	84.3	78.0			
M23371-40-40A190	63	-40	2.1/2"	2.1/2"		52.0	188.0	84.3	81.0			
M23371-40-48	63	-40	2.1/2"	3"		52.0	90.5	101.6	64.5			

All items are made from solid with the exception of M23371-40-40, M23371-40-48.

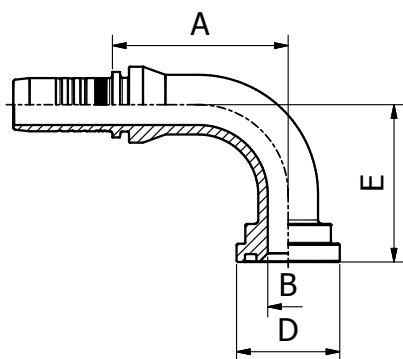
SAE STANDARD CONNECTIONS

M23391

90° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M23391-06-08	10	-6	3/8"	1/2"		9.3	44.5	30.0	34.5				
M23391-08-08	12	-8	1/2"	1/2"		9.3	54.5	30.3	40.0				
M23391-08-12	12	-8	1/2"	3/4"		15.0	54.5	38.0	41.0				
M23391-08-16	12	-8	1/2"	1"		19.8	54.5	44.6	66.0				
M23391-10-08	16	-10	5/8"	1/2"		9.3	56.0	30.3	46.5				
M23391-10-12	16	-10	5/8"	3/4"		15.0	56.0	38.0	47.5				
M23391-12-12	19	-12	3/4"	3/4"		15.0	64.5	38.0	52.0				
M23391-12-16	19	-12	3/4"	1"		20.0	64.5	44.6	52.0				
M23391-12-20	19	-12	3/4"	1.1/4"		26.0	64.5	51.0	52.0				
M23391-16-12	25	-16	1"	3/4"		15.0	71.0	38.0	52.0				
M23391-16-16	25	-16	1"	1"		19.8	77.5	44.6	62.0				
M23391-16-20	25	-16	1"	1.1/4"		26.0	77.5	51.0	62.0				
M23391-16-24	25	-16	1"	1.1/2"		32.0	77.0	60.5	64.0				
M23391-20-16	31	-20	1.1/4"	1"		19.8	80.0	44.6	66.0				
M23391-20-20	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	70.0				
M23391-20-24	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	72.0				
M23391-20-32	31	-20	1.1/4"	2"		42.0	93.5	71.6	76.0				
M23391-24-20	38	-24	1.1/2"	1.1/4"		26.0	104.5	51.0	75.0				
M23391-24-24	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	84.0				
M23391-24-32	38	-24	1.1/2"	2"		42.0	108.0	71.6	84.0				
M23391-32-24	51	-32	2"	1.1/2"		32.0	136.0	60.5	89.0				
M23391-32-32	51	-32	2"	2"		42.0	129.0	71.6	99.0				
M23391-32-40	51	-32	2"	2.1/2"		56.0	132.5	84.3	116.0				
M23391-40-32	63	-40	2.1/2"	2"		42.0	149.5	71.6	114.0				
M23391-40-40	63	-40	2.1/2"	2.1/2"		52.0	88.0	84.3	119.0				
M23391-40-40A150	63	-40	2.1/2"	2.1/2"		52.0	150.5	84.3	117.0				
M23391-40-48	63	-40	2.1/2"	3"		61.0	120.0	101.6	140.0				
M23391-48-48	76	-48	3"	3"		58.0	123.0	101.6	140.0				
M23391-48-56	76	-48	3"	3.1/2"		61.0	123.0	114.3	115.0				
M23391-56-56	89	-56	3.1/2"	3.1/2"		79.0	134.5	114.3	160.0				
M23391-64-64	102	-64	4"	4"		90.0	153.5	127.0	158.5				

All items are made from solid with the exception of M23391-40-40, M23391-40-48, M23391-48-48, M23391-48-56, M23391-56-56, M23391-64-64.

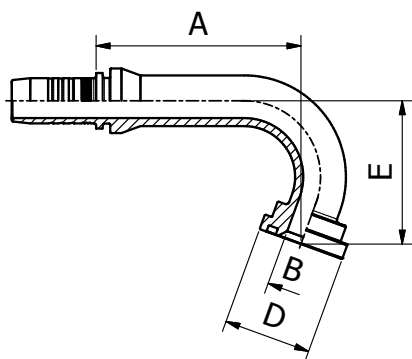


SAE STANDARD CONNECTIONS

M23391 LONG DROP

90° LONG DROP ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23391-06-08041	10	-6	3/8"	1/2"		9.3	44.5	30.0	41.0			
M23391-12-12058	19	-12	3/4"	3/4"		15.0	64.5	38.0	58.0			
M23391-16-16070	25	-16	1"	1"		19.8	77.5	44.5	70.0			
M23391-16-20117	25	-16	1"	1.1/4"		26.0	77.5	51.0	117.0			
M23391-16-24107	25	-16	1"	1.1/2"		32.0	77.0	60.5	107.0			
M23391-20-20091	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	91.0			
M23391-20-20100	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	100.0			
M23391-20-20112	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	112.0			
M23391-20-20130	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	130.0			
M23391-20-20168	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	168.0			
M23391-20-24118	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	118.0			
M23391-20-24130	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	130.0			
M23391-24-24104	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	104.0			
M23391-24-24148	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	148.0			
M23391-24-24172	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	172.0			
M23391-24-32115	38	-24	1.1/2"	2"		42.0	108.0	71.6	115.0			
M23391-24-32172	38	-24	1.1/2"	2"		42.0	108.0	71.6	172.0			
M23391-32-32138	51	-32	2"	2"		42.0	129.0	71.5	138.0			
M23391-32-32203	51	-32	2"	2"		42.0	129.0	71.6	203.0			

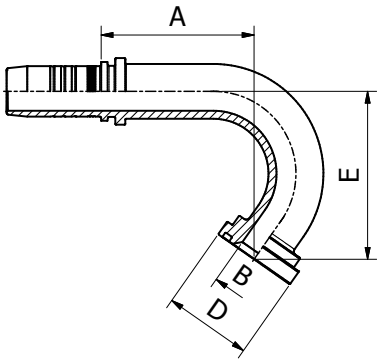


SAE STANDARD CONNECTIONS

M23301P

110° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23301-08-12P	12	-8	1/2"	3/4"		15.0	53.0	38.0	48.0			
M23301-12-12P	19	-12	3/4"	3/4"		15.0	89.0	38.0	62.0			
M23301-12-16P	19	-12	3/4"	1"		20.0	89.0	44.6	62.0			
M23301-16-16P	25	-16	1"	1"		19.8	88.5	44.6	79.0			
M23301-16-20133P	25	-16	1"	1.1/4"		26.0	69.0	51.0	133.0			
M23301-20-20P	31	-20	1.1/4"	1.1/4"		26.0	102.0	51.0	91.0			
M23301-20-24P	31	-20	1.1/4"	1.1/2"		32.0	96.5	60.5	93.0			
M23301-24-24119P	38	-24	1.1/2"	1.1/2"		32.0	105.5	60.5	119.0			
M23301-32-32P	51	-32	2"	2"		42.0	142.0	71.6	123.0			

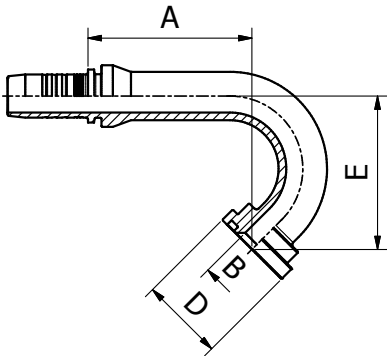


SAE STANDARD CONNECTIONS

M23301S

125° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M23301-32-32151S	51	-32	2"	2"		42.0	118.5	71.6	151.0			



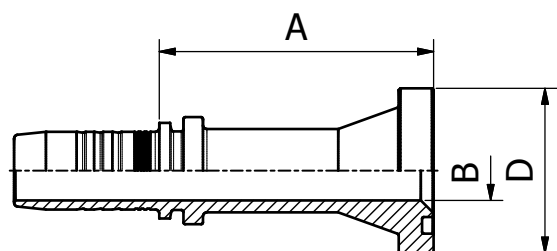
SAE STANDARD CONNECTIONS

M23301T

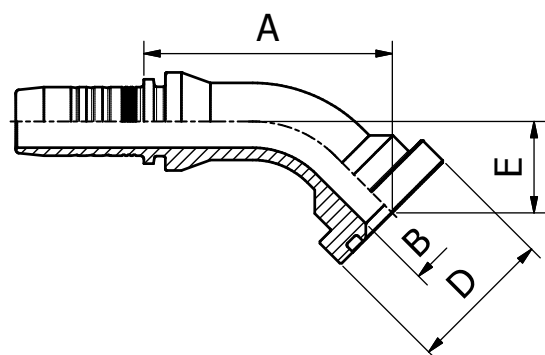
135° ISO/SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M23301-12-12T	19	-12	3/4"	3/4"		15.0	74.5	38.0	70.0			
M23301-12-16T	19	-12	3/4"	1"		20.0	74.5	44.6	70.0			
M23301-16-16T	25	-16	1"	1"		19.8	70.0	44.6	88.5			

SAE STANDARD CONNECTIONS

**M23611**
ISO/SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

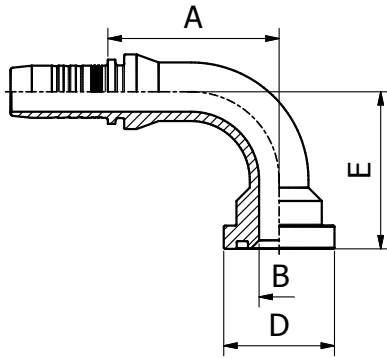
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D					
M23611-08-08	12	-8	1/2"	1/2"		9.3	52.0	31.8					
M23611-08-12	12	-8	1/2"	3/4"		15.0	68.5	41.5					
M23611-10-08	16	-10	5/8"	1/2"		9.3	52.0	31.8					
M23611-10-12	16	-10	5/8"	3/4"		15.0	70.0	41.5					
M23611-10-16	16	-10	5/8"	1"		20.0	80.0	47.7					
M23611-12-12	19	-12	3/4"	3/4"		15.0	69.0	41.5					
M23611-12-16	19	-12	3/4"	1"		20.0	81.0	47.7					
M23611-16-16	25	-16	1"	1"		19.8	82.5	47.7					
M23611-16-20	25	-16	1"	1.1/4"		26.0	90.0	54.2					
M23611-20-16	31	-20	1.1/4"	1"		19.8	82.5	47.7					
M23611-20-20	31	-20	1.1/4"	1.1/4"		26.0	84.5	54.2					
M23611-20-24	31	-20	1.1/4"	1.1/2"		32.0	90.5	63.7					
M23611-24-24	38	-24	1.1/2"	1.1/2"		32.0	92.5	63.6					
M23611-32-32	51	-32	2"	2"		42.0	109.0	79.5					



SAE STANDARD CONNECTIONS

M23641
45° ISO/SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M23641-08-08	12	-8	1/2"	1/2"		9.3	59.0	31.7	19.0				
M23641-08-12	12	-8	1/2"	3/4"		15.0	68.0	41.5	27.5				
M23641-10-08	16	-10	5/8"	1/2"		9.3	62.5	31.8	23.5				
M23641-10-12	16	-10	5/8"	3/4"		15.0	67.5	41.5	31.0				
M23641-12-12	19	-12	3/4"	3/4"		15.0	72.5	41.5	28.0				
M23641-12-16	19	-12	3/4"	1"		20.0	77.0	47.7	32.5				
M23641-16-12	25	-16	1"	3/4"		15.0	80.0	41.5	30.0				
M23641-16-16	25	-16	1"	1"		19.8	83.5	47.7	32.5				
M23641-16-20	25	-16	1"	1.1/4"		26.0	88.5	54.2	37.5				
M23641-20-20	31	-20	1.1/4"	1.1/4"		26.0	95.0	54.2	37.5				
M23641-20-24	31	-20	1.1/4"	1.1/2"		32.0	102.5	63.7	45.0				
M23641-24-24	38	-24	1.1/2"	1.1/2"		32.0	118.0	63.7	44.0				
M23641-24-32	38	-24	1.1/2"	2"		42.0	129.0	79.6	55.5				
M23641-32-32	51	-32	2"	2"		42.0	151.5	79.6	60.5				
M23641-32-32056	51	-32	2"	2"		42.0	147.5	79.6	56.5				

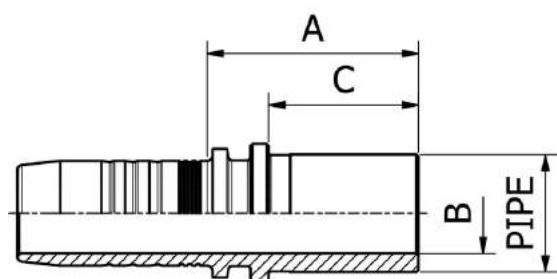


SAE STANDARD CONNECTIONS

M23691
90° ISO/SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

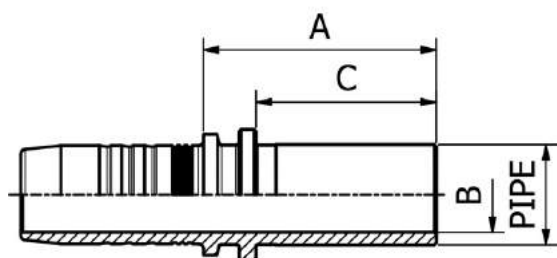
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M23691-08-08	12	-8	1/2"	1/2"		9.3	54.5	31.8	45.0				
M23691-08-08040	12	-8	1/2"	1/2"		9.3	54.5	31.7	41.0				
M23691-08-12	12	-8	1/2"	3/4"		15.0	54.5	41.5	53.0				
M23691-10-08	16	-10	5/8"	1/2"		9.3	57.5	31.8	45.0				
M23691-10-12	16	-10	5/8"	3/4"		15.0	53.5	41.5	60.5				
M23691-10-16	16	-10	5/8"	1"		19.8	56.0	47.7	64.0				
M23691-12-08	19	-12	3/4"	1/2"		9.3	60.6	31.8	57.5				
M23691-12-12	19	-12	3/4"	3/4"		15.0	64.0	41.5	59.0				
M23691-12-16	19	-12	3/4"	1"		20.0	64.5	47.7	65.0				
M23691-16-12	25	-16	1"	3/4"		15.0	74.5	41.5	67.0				
M23691-16-16	25	-16	1"	1"		19.8	73.5	47.7	68.0				
M23691-16-20	25	-16	1"	1.1/4"		26.0	73.5	54.2	75.0				
M23691-20-16	31	-20	1.1/4"	1"		19.8	82.5	47.7	68.0				
M23691-20-20	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.2	81.0				
M23691-20-20090	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.1	90.0				
M23691-20-24	31	-20	1.1/4"	1.1/2"		32.0	85.5	63.7	91.5				
M23691-24-20	38	-24	1.1/2"	1.1/4"		26.0	105.0	54.2	91.0				
M23691-24-24	38	-24	1.1/2"	1.1/2"		32.0	106.0	63.7	94.5				
M23691-24-24104	38	-24	1.1/2"	1.1/2"		32.0	106.0	63.7	104.0				
M23691-24-32	38	-24	1.1/2"	2"		42.0	106.0	79.6	110.5				
M23691-32-32	51	-32	2"	2"		42.0	138.0	79.6	132.0				
M23691-32-32138	51	-32	2"	2"		42.0	138.0	79.6	138.0				

DIN STANDARD CONNECTIONS

**M22010**
METRIC STANDPIPE LIGHT DUTY
DIN 2353 / ISO 8434-1

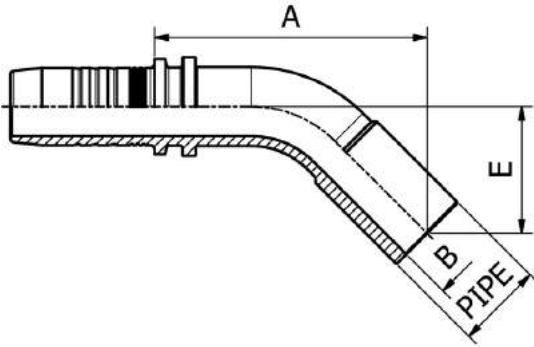
PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	C				
M22010-03-04	5	- 3	3/16"	4.0		2.0	29.5	22.0				
M22010-03-06	5	- 3	3/16"	6.0		3.0	29.5	22.0				
M22010-04-06	6	- 4	1/4"	6.0		3.0	30.0	22.0				
M22010-05-08	8	- 5	5/16"	8.0		5.5	30.0	22.0				
M22010-05-10	8	- 5	5/16"	10.0		7.0	31.0	23.0				
M22010-06-10	10	- 6	3/8"	10.0		7.0	31.5	23.0				
M22010-06-12	10	- 6	3/8"	12.0		8.0	31.5	23.0				
M22010-06-15	10	- 6	3/8"	15.0		10.5	33.5	25.0				
M22010-08-12	12	- 8	1/2"	12.0		8.0	32.0	23.0				
M22010-08-15	12	- 8	1/2"	15.0		10.5	34.0	25.0				
M22010-08-18	12	- 8	1/2"	18.0		12.5	35.0	26.0				
M22010-10-18	16	- 10	5/8"	18.0		12.5	35.0	26.0				
M22010-10-22	16	- 10	5/8"	22.0		15.0	37.0	28.0				
M22010-12-18	19	- 12	3/4"	18.0		12.5	36.5	26.0				
M22010-12-22	19	- 12	3/4"	22.0		15.0	38.5	28.0				
M22010-16-28	25	- 16	1"	28.0		19.8	41.5	30.0				
M22010-20-35	31	- 20	1.1/4"	35.0		26.0	48.5	36.0				
M22010-24-42	38	- 24	1.1/2"	42.0		32.0	52.5	40.0				

DIN STANDARD CONNECTIONS

**M22110**
METRIC STANDPIPE HEAVY DUTY
DIN 2353 / ISO 8434-1

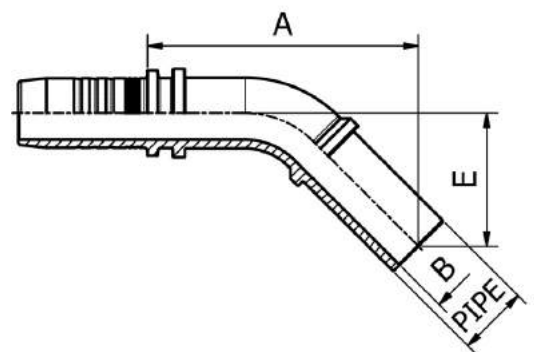
PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	C				
M22110-03-08	5	- 3	3/16"	8.0		3.0	31.0	24.0				
M22110-03-10	5	- 3	3/16"	10.0		3.0	29.5	22.0				
M22110-04-08	6	- 4	1/4"	8.0		4.0	32.0	24.0				
M22110-04-10	6	- 4	1/4"	10.0		4.0	34.0	26.0				
M22110-04-12	6	- 4	1/4"	12.0		7.0	34.0	26.0				
M22110-05-12	8	- 5	5/16"	12.0		7.0	34.0	26.0				
M22110-06-14	10	- 6	3/8"	14.0		8.0	37.5	29.0				
M22110-08-14	12	- 8	1/2"	14.0		9.3	38.0	29.0				
M22110-08-16	12	- 8	1/2"	16.0		10.5	39.0	30.0				
M22110-10-20	16	- 10	5/8"	20.0		12.5	45.0	36.0				
M22110-12-20	19	- 12	3/4"	20.0		15.0	46.5	36.0				
M22110-12-25	19	- 12	3/4"	25.0		15.0	50.5	40.0				
M22110-16-25	25	- 16	1"	25.0		15.0	51.5	40.0				
M22110-16-30	25	- 16	1"	30.0		19.8	55.5	44.0				
M22110-16-38	25	- 16	1"	38.0		26.0	61.5	50.0				
M22110-20-30	31	- 20	1.1/4"	30.0		20.5	56.5	44.0				
M22110-20-38	31	- 20	1.1/4"	38.0		26.0	62.5	50.0				
M22110-24-38	38	- 24	1.1/2"	38.0		26.0	62.5	50.0				

DIN STANDARD CONNECTIONS

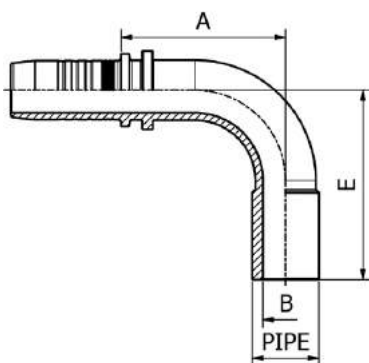
M22040
45° METRIC STANDPIPE LIGHT DUTY
DIN 2353 / ISO 8434-1


PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	E				
M22040-03-06	5	- 3	3/16"	6.0		3.0	37.5	20.5				
M22040-04-06	6	- 4	1/4"	6.0		3.0	38.0	20.5				
M22040-05-10	8	- 5	5/16"	10.0		7.0	44.5	22.5				
M22040-06-10	10	- 6	3/8"	10.0		7.0	47.5	23.0				
M22040-06-12	10	- 6	3/8"	12.0		8.0	49.5	25.0				
M22040-08-15	12	- 8	1/2"	15.0		10.5	58.0	28.0				
M22040-10-18	16	- 10	5/8"	18.0		12.5	63.5	30.5				
M22040-12-22	19	- 12	3/4"	22.0		15.0	69.0	32.0				
M22040-16-28	25	- 16	1"	28.0		19.8	81.5	37.0				

DIN STANDARD CONNECTIONS

M22140
45° METRIC STANDPIPE HEAVY DUTY
DIN 2353 / ISO 8434-1


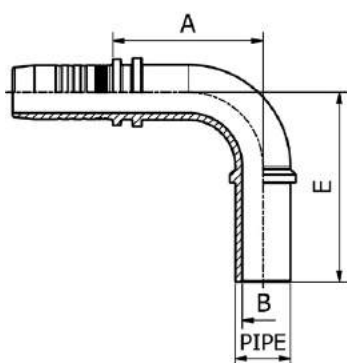
PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	E				
M22140-04-08	6	- 4	1/4"	8.0		4.0	42.0	22.0				
M22140-04-10	6	- 4	1/4"	10.0		6.0	44.0	24.0				
M22140-06-14	10	- 6	3/8"	14.0		9.3	54.5	29.0				
M22140-08-16	12	- 8	1/2"	16.0		10.5	61.0	30.0				
M22140-10-20	16	- 10	5/8"	20.0		12.5	69.0	36.0				
M22140-12-25	19	- 12	3/4"	25.0		15.0	80.5	40.5				
M22140-16-25	25	- 16	1"	25.0		15.0	82.0	41.0				



DIN STANDARD CONNECTIONS

M22090
90° METRIC STANDPIPE LIGHT DUTY
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	E				
M22090-03-06	5	- 3	3/16"	6.0		3.0	22.5	34.0				
M22090-04-06	6	- 4	1/4"	6.0		3.0	23.0	34.0				
M22090-05-10	8	- 5	5/16"	10.0		7.0	29.5	40.0				
M22090-06-10	10	- 6	3/8"	10.0		7.0	33.0	42.5				
M22090-06-12	10	- 6	3/8"	12.0		8.0	34.0	45.0				
M22090-08-12	12	- 8	1/2"	12.0		8.0	34.5	45.0				
M22090-08-15	12	- 8	1/2"	15.0		10.5	42.0	52.0				
M22090-08-18	12	- 8	1/2"	18.0		12.5	42.0	55.0				
M22090-10-18	16	- 10	5/8"	18.0		12.5	49.0	59.0				
M22090-10-22	16	- 10	5/8"	22.0		15.0	53.5	63.0				
M22090-12-22	19	- 12	3/4"	22.0		15.0	54.5	63.0				
M22090-16-28	25	- 16	1"	28.0		19.8	67.5	75.0				
M22090-20-35	31	- 20	1.1/4"	35.0		26.0	80.5	94.0				

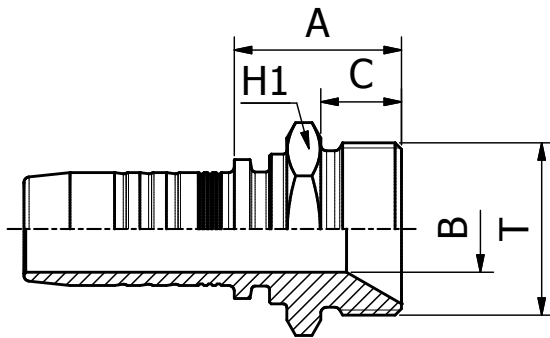


DIN STANDARD CONNECTIONS

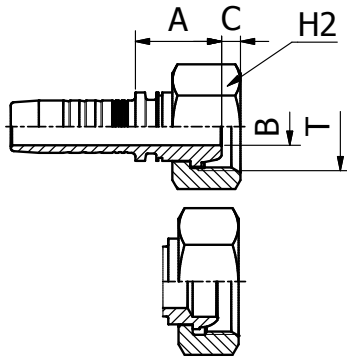
M22190
90° METRIC STANDPIPE HEAVY DUTY
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	E				
M22190-04-08	6	- 4	1/4"	8.0		4.0	27.0	38.0				
M22190-04-10	6	- 4	1/4"	10.0		6.0	27.0	41.0				
M22190-04-12	6	- 4	1/4"	12.0		7.0	27.0	44.0				
M22190-05-12	8	- 5	5/16"	12.0		7.0	30.5	44.0				
M22190-06-14	10	- 6	3/8"	14.0		9.3	35.0	51.0				
M22190-08-14	12	- 8	1/2"	14.0		9.3	42.0	53.5				
M22190-08-16	12	- 8	1/2"	16.0		10.5	43.0	55.0				
M22190-10-20	16	- 10	5/8"	20.0		12.5	49.0	66.5				
M22190-12-20	19	- 12	3/4"	20.0		15.0	54.5	69.0				
M22190-12-25	19	- 12	3/4"	25.0		15.0	57.5	75.0				
M22190-16-25	25	- 16	1"	25.0		15.0	61.5	76.5				
M22190-16-30	25	- 16	1"	30.0		19.8	69.5	87.0				

DIN STANDARD CONNECTIONS

M11010
**METRIC MALE 60° CONE SEAT
SUPER LIGHT - DIN 3863**


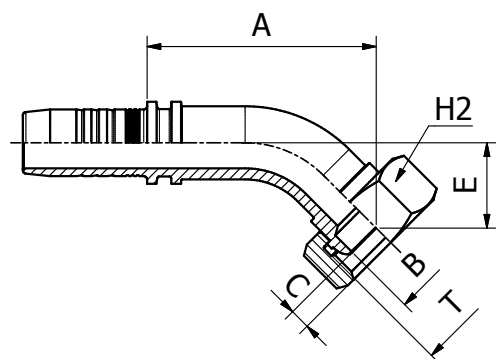
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M11010-04-12	6	- 4	1/4"	M12 X 1.5		4.0	19.5	8.0	14.0			
M11010-04-16	6	- 4	1/4"	M16 X 1.5		4.0	23.5	11.0	19.0			
M11010-05-16	8	- 5	5/16"	M16 X 1.5		5.5	23.5	11.0	19.0			
M11010-10-26	16	- 10	5/8"	M26 X 1.5		12.5	25.5	12.0	27.0			



DIN STANDARD CONNECTIONS

M21012/M21013
**METRIC FEMALE 60° CONE
DIN 20078/3863**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
M21012-03-10	5	-3	3/16"	M10 X1		3.0	18.5	1.8	14.0			
M21012-04-12	6	-4	1/4"	M12 X 1.5		4.0	19.5	3.9	17.0			
M21012-06-14	10	-6	3/8"	M14 X 1.5		6.0	19.5	3.9	17.0			
M21012-06-16	10	-6	3/8"	M16 X 1.5		8.0	21.5	3.8	19.0			
M21013-06-18	10	-6	3/8"	M18 X 1.5		10.0	19.5	4.5	22.0			
M21013-10-26	16	-10	5/8"	M26 X 1.5		12.5	22.0	2.0	32.0			
M21013-10-30	16	-10	5/8"	M30 X 1.5		20.0	20.0	6.0	36.0			
M21013-12-30	19	-12	3/4"	M30 X 1.5		20.0	21.0	6.0	36.0			
M21013-16-38	25	-16	1"	M38 X 1.5		26.0	23.0	7.5	46.0			
M21013-20-45	31	-20	1.1/4"	M45 X 1.5		33.0	23.5	8.0	50.0			
M21013-24-52	38	-24	1.1/2"	M52 X 1.5		40.0	25.0	8.0	60.0			
M21013-32-65	51	-32	2"	M65 X 2		42.0	35.0	5.2	75.0			

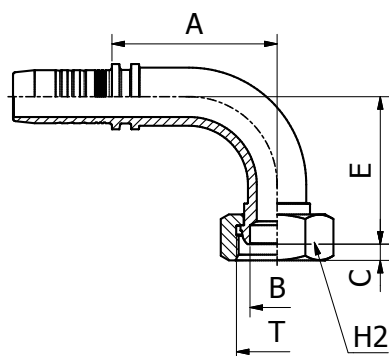


DIN STANDARD CONNECTIONS

M21043

45° METRIC FEMALE SWEPT ELBOW 60° CONE
DIN 20078/3863

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M21043-12-30	19	- 12	3/4"	M30 X 1.5		20.0	67.5	7.0	25.0	36.0		
M21043-16-38	25	- 16	1"	M38 X 1.5		26.0	81.0	7.5	28.0	46.0		

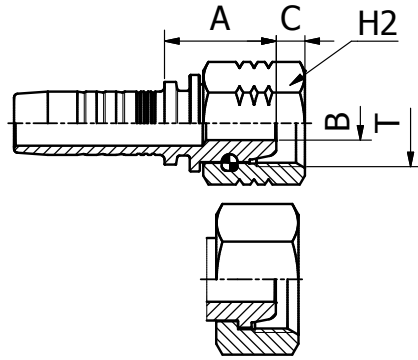


DIN STANDARD CONNECTIONS

M21093

90° METRIC FEMALE SWEPT ELBOW 60° CONE
DIN 20078/3863

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M21093-12-30	19	- 12	3/4"	M 30X1.5		20.0	61.0	6.0	54.5	36.0		
M21093-16-38	25	- 16	1"	M 38X1.5		26.0	76.5	7.5	63.0	46.0		
M21093-20-45	31	- 20	1.1/4"	M 45X1.5		33.0	92.0	8.0	81.0	50.0		

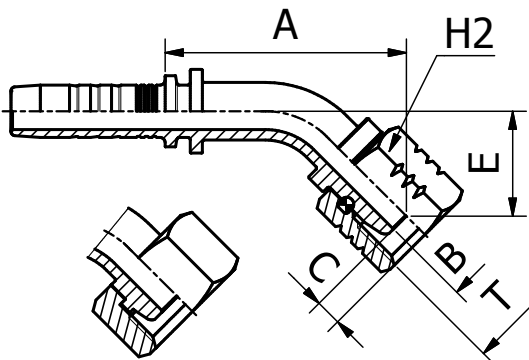


DIN STANDARD CONNECTIONS

M21312/M21313

METRIC FEMALE MULTISEAL
DIN 20078/3868

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M21312-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	19.5	4.0	17.0			
M21312-06-14	10	- 6	3/8"	M 14X1.5	8.0	4.0	19.5	3.9	17.0			
M21312-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	21.5	5.0	19.0			
M21312-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	23.0	5.9	22.0			
M21312-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	23.5	5.5	27.0			
M21313-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	18.5	3.2	14.0			
M21313-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	19.5	3.0	17.0			
M21313-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	19.5	4.0	19.0			
M21313-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	19.5	4.0	19.0			
M21313-05-18	8	- 5	5/16"	M 18X1.5	12.0	5.5	19.5	4.0	22.0			
M21313-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	20.0	4.0	22.0			
M21313-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	21.0	4.7	27.0			
M21313-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	21.5	4.7	27.0			
M21313-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	22.0	5.0	32.0			

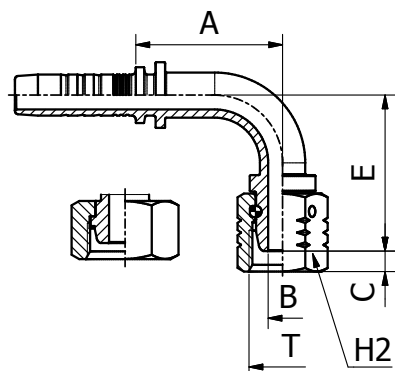


DIN STANDARD CONNECTIONS

M21342/M21343

45° METRIC FEMALE SWEPT ELBOW MULTISEAL
DIN 20078/3868

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21342-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	40.0	3.9	19.5	17.0		
M21342-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	46.0	5.0	20.0	19.0		
M21343-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	36.5	3.0	15.0	17.0		
M21343-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	36.5	4.0	15.0	19.0		
M21343-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	39.0	4.0	15.0	19.0		
M21343-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	42.0	4.0	15.5	22.0		
M21343-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	42.5	4.7	15.5	27.0		
M21343-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	49.5	4.7	17.0	27.0		
M21343-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	60.0	5.0	24.0	32.0		

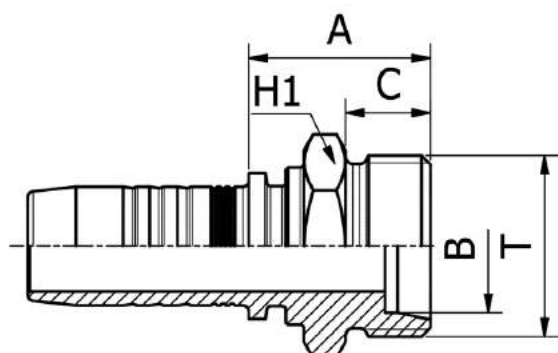


DIN STANDARD CONNECTIONS

M21392/M21393

90° METRIC FEMALE SWEPT ELBOW MULTISEAL
DIN 20078/3868

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21392-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	28.0	4.0	30.5	17.0		
M21392-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	35.5	5.0	38.0	19.0		
M21392-12-26	19	- 12	3/4"	M 26X1.5	18.0	15.0	61.5	2.3	63.0	32.0		
M21393-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	26.0	3.2	27.0	14.0		
M21393-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	29.5	3.0	29.5	17.0		
M21393-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	29.5	4.0	29.5	19.0		
M21393-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	32.0	4.0	29.0	19.0		
M21393-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	32.0	4.0	30.5	22.0		
M21393-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	36.5	4.0	31.5	22.0		
M21393-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	36.5	4.7	32.0	27.0		
M21393-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	45.0	4.7	36.5	27.0		
M21393-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	51.5	5.0	50.0	32.0		

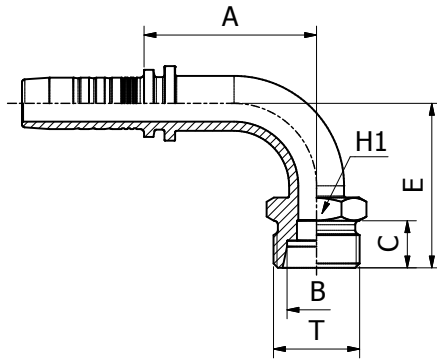


DIN STANDARD CONNECTIONS

M11110

METRIC MALE 24° CONE SEAT LIGHT DUTY
DIN 20066 / ISO 12151-2

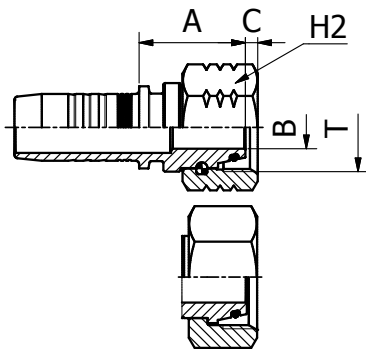
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M11110-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	21.0	10.0	14.0			
M11110-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	21.5	10.0	14.0			
M11110-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	21.5	10.0	14.0			
M11110-04-16	6	- 4	1/4"	M 16X1.5	10.0	7.0	23.5	11.0	17.0			
M11110-04-18	6	- 4	1/4"	M 18X1.5	12.0	9.0	23.5	11.0	19.0			
M11110-05-16	8	- 5	5/16"	M 16X1.5	10.0	7.0	24.0	11.0	17.0			
M11110-05-18	8	- 5	5/16"	M 18X1.5	12.0	9.0	24.0	11.0	19.0			
M11110-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	24.0	11.0	17.0			
M11110-06-18	10	- 6	3/8"	M 18X1.5	12.0	9.0	24.5	11.0	19.0			
M11110-06-22	10	- 6	3/8"	M 22X1.5	15.0	10.0	25.5	12.0	22.0			
M11110-06-26	10	- 6	3/8"	M 26X1.5	18.0	12.5	26.5	12.0	27.0			
M11110-08-16	12	- 8	1/2"	M 16X1.5	10.0	7.0	24.5	11.0	22.0			
M11110-08-18	12	- 8	1/2"	M 18X1.5	12.0	9.3	24.5	11.0	22.0			
M11110-08-22	12	- 8	1/2"	M 22X1.5	15.0	10.0	25.5	12.0	22.0			
M11110-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	26.5	12.0	27.0			
M11110-10-22	16	- 10	5/8"	M 22X1.5	15.0	10.0	25.5	12.0	22.0			
M11110-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	26.5	12.0	27.0			
M11110-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	28.5	14.0	30.0			
M11110-12-26	19	- 12	3/4"	M 26X1.5	18.0	15.0	28.0	12.0	27.0			
M11110-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	30.0	14.0	30.0			
M11110-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	31.0	14.0	36.0			
M11110-16-36	25	- 16	1"	M 36X2	28.0	19.8	32.5	14.0	36.0			
M11110-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	40.5	16.0	46.0			
M11110-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	43.0	16.0	55.0			



DIN STANDARD CONNECTIONS

M11190
90° METRIC MALE 24° CONE SEAT LIGHT DUTY
DIN 20066 / ISO 12151-2

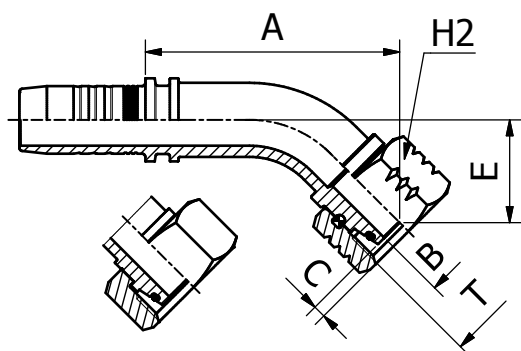
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H1		
M11190-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	27.0	10.0	33.0	14.0		
M11190-06-18	10	- 6	3/8"	M 18X1.5	12.0	9.0	32.0	11.0	35.5	19.0		



DIN STANDARD CONNECTIONS

M21512/M21513
METRIC O-RING FEMALE
24° CONE LIGHT DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M21512-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	21.0	2.2	17.0			
M21512-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	20.0	2.9	17.0			
M21512-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	23.0	3.0	19.0			
M21512-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	29.0	2.9	22.0			
M21512-10-18	16	- 10	5/8"	M 18X1.5	12.0	7.0	29.0	2.9	22.0			
M21512-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.5	26.5	2.4	27.0			
M21512-12-22	19	- 12	3/4"	M 22X1.5	15.0	9.5	31.0	2.4	27.0			
M21512-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	31.0	2.3	32.0			
M21512-16-30	25	- 16	1"	M 30X2	22.0	15.0	34.0	4.2	36.0			
M21512-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	35.5	5.0	41.0			
M21512-24-45	38	- 24	1.1/2"	M 45X2	35.0	26.0	42.5	5.8	50.0			
M21512-32-52	51	- 32	2"	M 52X2	42.0	32.0	50.5	5.6	60.0			
M21513-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	22.0	0.7	14.0			
M21513-03-14	5	- 3	3/16"	M 14X1.5	8.0	4.0	24.5	1.3	17.0			
M21513-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	22.0	1.3	17.0			
M21513-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	22.5	1.8	19.0			
M21513-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	22.0	2.0	22.0			
M21513-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	22.5	1.8	19.0			
M21513-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	22.0	2.0	22.0			
M21513-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	22.5	2.0	22.0			
M21513-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	25.0	1.5	27.0			
M21513-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	25.5	1.5	27.0			
M21513-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	26.0	2.0	32.0			
M21513-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	26.0	2.0	32.0			
M21513-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	34.0	3.0	36.0			
M21513-10-36	16	- 10	5/8"	M 36X2	28.0	20.0	30.5	3.7	41.0			
M21513-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	28.0	3.0	36.0			
M21513-12-36	19	- 12	3/4"	M 36X2	28.0	20.0	28.5	3.7	41.0			
M21513-16-36	25	- 16	1"	M 36X2	28.0	19.8	29.5	3.7	41.0			
M21513-16-45	25	- 16	1"	M 45X2	35.0	26.0	39.0	4.0	50.0			
M21513-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	33.0	4.0	50.0			
M21513-20-52	31	- 20	1.1/4"	M 52X2	42.0	32.0	32.5	4.5	60.0			
M21513-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	33.0	4.5	60.0			



DIN STANDARD CONNECTIONS

M21542/M21543

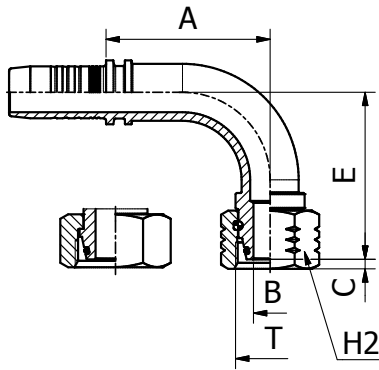
45° METRIC O-RING FEMALE SWEEP ELBOW
24° CONE LIGHT DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21542-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	39.0	2.2	18.0	17.0		
M21542-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	47.5	3.0	21.5	19.0		
M21542-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	56.5	2.9	25.0	22.0		
M21542-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	65.5	3.0	29.0	27.0		
M21542-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	73.0	2.3	31.0	32.0		
M21542-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	107.5	5.0	44.0	41.0		
M21542-24-36	38	- 24	1.1/2"	M 36X2	28.0	19.8	113.0	5.0	34.5	41.0		
M21543-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	35.0	0.7	16.0	14.0		
M21543-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	38.0	1.3	16.5	17.0		
M21543-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	38.0	1.8	17.0	19.0		
M21543-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	38.5	2.0	17.5	22.0		
M21543-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	41.5	1.8	17.5	19.0		
M21543-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	41.5	2.0	17.0	22.0		
M21543-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	43.5	2.0	16.5	22.0		
M21543-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	45.0	1.5	18.0	27.0		
M21543-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	52.0	1.5	19.0	27.0		
M21543-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	52.5	2.0	19.5	32.0		
M21543-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	62.0	2.0	26.5	32.0		
M21543-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	71.0	3.0	28.5	36.0		
M21543-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	72.0	3.7	30.0	41.0		
M21543-16-36	25	- 16	1"	M 36X2	28.0	19.8	85.0	3.7	32.0	41.0		
M21543-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	100.0	4.0	36.0	50.0		
M21543-20-52	31	- 20	1.1/4"	M 52X2	42.0	32.0	100.0	4.5	42.0	60.0		
M21543-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	117.0	4.5	44.5	60.0		

DIN STANDARD CONNECTIONS

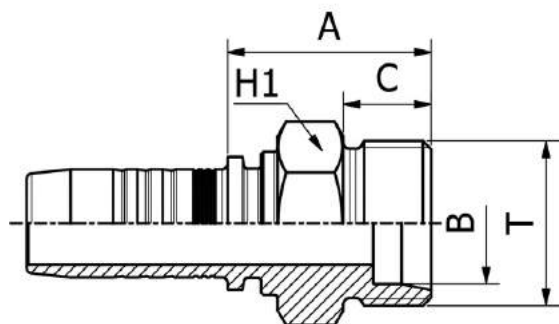
M21592/M21593

90° METRIC O-RING FEMALE SWEEP ELBOW
24° CONE LIGHT DUTY
DIN 20066 / ISO 12151-2



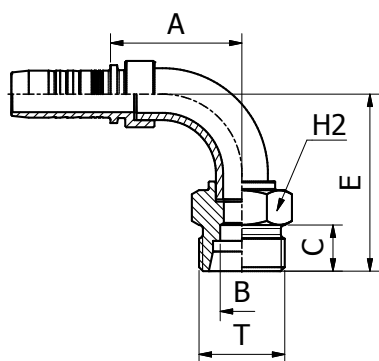
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M21592-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	28.5	2.2	32.5	17.0		
M21592-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	31.0	2.9	33.0	17.0		
M21592-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	35.5	3.0	40.0	19.0		
M21592-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	44.0	2.9	48.0	22.0		
M21592-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	53.5	3.0	57.5	27.0		
M21592-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	61.5	2.3	63.0	32.0		
M21592-16-30	25	- 16	1"	M 30X2	22.0	15.0	79.5	4.2	80.5	36.0		
M21592-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	93.5	5.0	92.0	41.0		
M21592-24-36	38	- 24	1.1/2"	M 36X2	28.0	19.8	97.0	5.0	68.0	41.0		
M21592-32-52	51	- 32	2"	M 52X2	42.0	32.0	131.0	5.6	119.0	60.0		
M21593-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	26.0	0.7	30.0	14.0		
M21593-03-14	5	- 3	3/16"	M 14X1.5	8.0	4.0	29.0	1.3	31.5	17.0		
M21593-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	29.5	1.3	31.5	17.0		
M21593-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	29.5	1.8	32.0	19.0		
M21593-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	29.5	2.0	33.0	22.0		
M21593-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	32.0	1.8	32.5	19.0		
M21593-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	32.0	2.0	32.5	22.0		
M21593-05-22	8	- 5	5/16"	M 22X1.5	15.0	9.3	36.0	1.5	35.0	27.0		
M21593-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	36.5	2.0	33.5	22.0		
M21593-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	36.5	1.5	35.0	27.0		
M21593-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	45.0	1.5	39.5	27.0		
M21593-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	45.0	2.0	40.0	32.0		
M21593-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	51.5	2.0	53.0	32.0		
M21593-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	51.5	3.0	54.0	36.0		
M21593-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	61.5	3.0	59.5	36.0		
M21593-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	61.5	3.7	61.0	41.0		
M21593-16-36	25	- 16	1"	M 36X2	28.0	19.8	76.5	3.7	69.5	41.0		
M21593-16-45	25	- 16	1"	M 45X2	35.0	26.0	79.0	4.0	72.0	50.0		
M21593-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	93.5	4.0	81.0	50.0		
M21593-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	107.5	4.5	98.0	60.0		

DIN STANDARD CONNECTIONS

**M11210**

METRIC MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M11210-04-16	6	- 4	1/4"	M 16X1.5	8.0	5.5	25.5	12.0	17.0			
M11210-04-18	6	- 4	1/4"	M 18X1.5	10.0	6.0	26.5	12.0	19.0			
M11210-04-20	6	- 4	1/4"	M 20X1.5	12.0	7.0	29.0	12.0	22.0			
M11210-05-16	8	- 5	5/16"	M 16X1.5	8.0	5.5	26.0	12.0	17.0			
M11210-05-18	8	- 5	5/16"	M 18X1.5	10.0	7.0	26.5	12.0	19.0			
M11210-05-20	8	- 5	5/16"	M 20X1.5	12.0	7.0	29.0	12.0	22.0			
M11210-06-18	10	- 6	3/8"	M 18X1.5	10.0	7.0	27.0	12.0	19.0			
M11210-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	29.0	12.0	22.0			
M11210-06-22	10	- 6	3/8"	M 22X1.5	14.0	8.0	31.0	14.0	22.0			
M11210-08-20	12	- 8	1/2"	M 20X1.5	12.0	9.3	29.5	12.0	22.0			
M11210-08-22	12	- 8	1/2"	M 22X1.5	14.0	9.3	31.5	14.0	22.0			
M11210-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	31.5	14.0	24.0			
M11210-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	35.5	16.0	30.0			
M11210-10-36	16	- 10	5/8"	M 36X2	25.0	19.8	40.0	18.0	36.0			
M11210-12-30	19	- 12	3/4"	M 30X2	20.0	15.0	37.0	16.0	30.0			
M11210-12-36	19	- 12	3/4"	M 36X2	25.0	19.8	41.0	18.0	36.0			
M11210-16-36	25	- 16	1"	M 36X2	25.0	19.8	42.5	18.0	36.0			
M11210-16-42	25	- 16	1"	M 42X2	30.0	25.0	44.5	20.0	46.0			
M11210-20-52	31	- 20	1.1/4"	M 52X2	38.0	30.0	51.0	22.0	55.0			

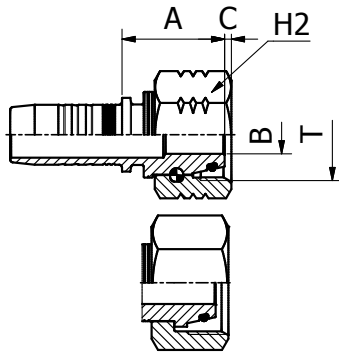


DIN STANDARD CONNECTIONS

M11290

90° METRIC MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H1		
M11290-05-20	8	- 5	5/16"	M 20X1.5	12.0	7.0	29.0	12.0	36.5	22.0		
M11290-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	45.5	16.0	61.5	30.0		



DIN STANDARD CONNECTIONS

M21612/M21613

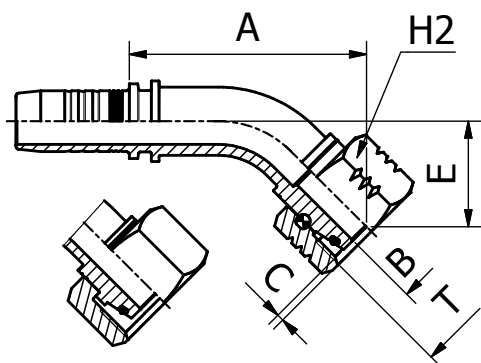
**METRIC O-RING FEMALE
24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M21612-08-20	12	- 8	1/2"	M 20X1.5	12.0	7.0	29.0	2.5	24.0			
M21612-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	27.0	2.5	27.0			
M21612-10-24	16	- 10	5/8"	M 24X1.5	16.0	9.3	29.5	4.0	30.0			
M21612-12-24	19	- 12	3/4"	M 24X1.5	16.0	9.3	30.5	4.0	30.0			
M21612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	33.5	2.2	36.0			
M21612-16-30	25	- 16	1"	M 30X2	20.0	12.5	34.5	2.2	36.0			
M21612-16-36	25	- 16	1"	M 36X2	25.0	15.0	35.5	1.7	41.0			
M21613-03-14	5	- 3	3/16"	M 14X1.5	6.0	2.5	25.5	3.5	17.0			
M21613-03-16	5	- 3	3/16"	M 16X1.5	8.0	3.0	21.5	3.4	19.0			
M21613-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	23.5	1.9	17.0			
M21613-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	22.0	3.4	19.0			
M21613-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	28.0	2.5	22.0			
M21613-04-20	6	- 4	1/4"	M 20X1.5	12.0	7.0	26.0	2.0	24.0			
M21613-05-18	8	- 5	5/16"	M 18X1.5	10.0	5.5	28.0	2.5	22.0			
M21613-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	25.0	2.0	24.0			
M21613-06-18	10	- 6	3/8"	M 18X1.5	10.0	7.0	28.5	2.5	22.0			
M21613-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	25.5	2.0	24.0			
M21613-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	32.5	3.0	27.0			
M21613-06-24	10	- 6	3/8"	M 24X1.5	16.0	7.0	32.0	4.0	30.0			
M21613-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	26.5	4.0	30.0			
M21613-08-30	12	- 8	1/2"	M 30X2	20.0	12.5	37.0	3.5	36.0			
M21613-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	30.5	3.5	36.0			
M21613-10-36	16	- 10	5/8"	M 36X2	25.0	15.0	40.0	4.5	41.0			
M21613-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	34.0	4.5	41.0			
M21613-16-42	25	- 16	1"	M 42X2	30.0	19.8	35.5	6.3	50.0			
M21613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	37.5	8.0	60.0			
M21613-24-52	38	- 24	1.1/2"	M 52X2	38.0	26.0	49.5	8.0	60.0			

DIN STANDARD CONNECTIONS

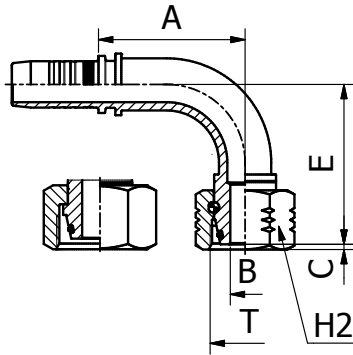
M21642/M21643

45° METRIC O-RING FEMALE SWEEP ELBOW
24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21642-06-18	10	- 6	3/8"	M 18X1.5	10.0	4.0	49.0	3.9	23.0	22.0		
M21642-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	57.5	2.5	25.5	27.0		
M21642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	76.5	2.2	34.0	36.0		
M21642-16-36	25	- 16	1"	M 36X2	25.0	15.0	98.0	1.7	43.5	41.0		
M21642-24-52	38	- 24	1.1/2"	M 52X2	38.0	24.7	111.0	8.8	48.0	60.0		
M21643-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	38.5	1.9	17.5	17.0		
M21643-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	36.5	3.4	15.0	19.0		
M21643-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	37.5	2.5	16.5	22.0		
M21643-05-18	8	- 5	5/16"	M 18X1.5	10.0	4.0	42.5	2.5	18.0	22.0		
M21643-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	42.0	2.0	18.5	24.0		
M21643-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	45.0	2.5	18.0	24.0		
M21643-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	45.5	3.0	18.5	27.0		
M21643-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	52.5	4.0	20.0	30.0		
M21643-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	65.5	3.5	29.5	36.0		
M21643-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	75.0	4.5	32.5	41.0		
M21643-16-42	25	- 16	1"	M 42X2	30.0	19.8	90.0	6.3	35.5	50.0		
M21643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	103.0	8.0	39.5	60.0		

DIN STANDARD CONNECTIONS



M21692/M21693

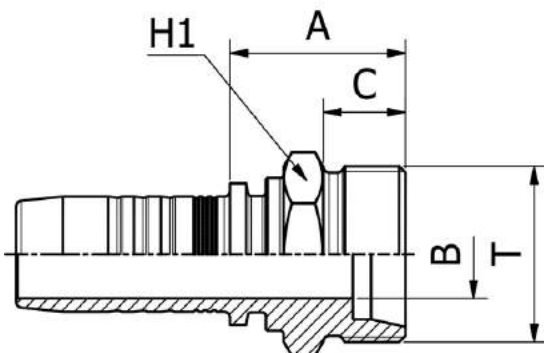
90° METRIC O-RING FEMALE SWEEP ELBOW
24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21692-06-18	10	- 6	3/8"	M 18X1.5	10.0	4.0	35.5	3.9	42.5	22.0		
M21692-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	44.0	2.5	48.5	27.0		
M21692-10-24	16	- 10	5/8"	M 24X1.5	16.0	9.3	53.5	4.0	58.5	30.0		
M21692-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	61.5	2.2	67.5	36.0		
M21692-16-36	25	- 16	1"	M 36X2	25.0	15.0	79.5	1.7	86.0	41.0		
M21692-24-52	38	- 24	1 1/2"	M 52X2	38.0	24.7	91.5	8.8	95.5	60.0		
M21693-03-14	5	- 3	3/16"	M 14X1.5	6.0	3.0	26.0	3.5	30.0	17.0		
M21693-03-16	5	- 3	3/16"	M 16X1.5	8.0	3.0	26.0	3.4	29.5	19.0		
M21693-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	29.5	1.9	32.5	17.0		
M21693-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	29.5	3.4	29.5	19.0		
M21693-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	29.5	2.5	31.0	22.0		
M21693-04-20	6	- 4	1/4"	M 20X1.5	12.0	5.5	29.5	2.0	34.5	24.0		
M21693-05-18	8	- 5	5/16"	M 18X1.5	10.0	4.0	32.0	2.5	33.5	22.0		
M21693-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	32.0	2.0	34.0	24.0		
M21693-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	36.5	2.0	35.0	24.0		
M21693-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	36.5	3.0	37.0	27.0		
M21693-06-24	10	- 6	3/8"	M 24X1.5	16.0	9.3	36.5	4.0	36.0	30.0		
M21693-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	45.0	4.0	40.5	30.0		
M21693-08-30	12	- 8	1/2"	M 30X2	20.0	12.5	45.0	3.5	44.5	36.0		
M21693-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	51.5	3.5	57.5	36.0		
M21693-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	61.5	4.5	64.5	41.0		
M21693-16-42	25	- 16	1"	M 42X2	30.0	19.8	79.0	6.3	74.5	50.0		
M21693-20-52	31	- 20	1 1/4"	M 52X2	38.0	26.0	93.5	8.0	85.5	60.0		

FITTINGS

163

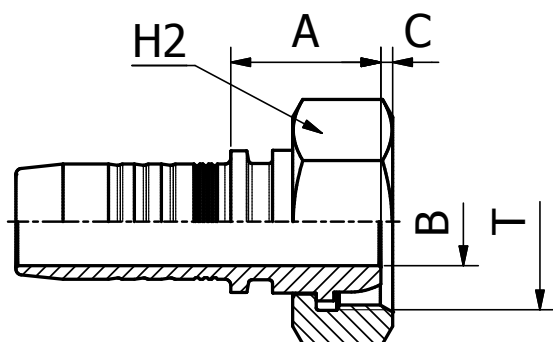
NF STANDARD CONNECTIONS



M11710

FRENCH METRIC MALE
24° CONE SEAT MILLIMETRIC TYPE

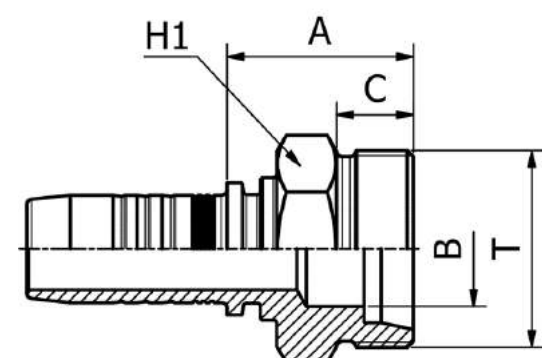
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	H1	
M11710-10-2718	16	- 10	5/8"	M 27X1.5	18.0	12.5	28.5	14.0	28.0	
M11710-10-2720	16	- 10	5/8"	M 27X1.5	20.0	12.5	28.5	14.0	28.0	
M11710-12-30	19	- 12	3/4"	M 30X1.5	22.0	15.0	30.0	14.0	30.0	
M11710-12-33	19	- 12	3/4"	M 33X1.5	25.0	15.0	31.0	14.0	34.0	



NF STANDARD CONNECTIONS

M21713
**FRENCH METRIC FEMALE
MILLIMETRIC TYPE (SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M21713-10-2718	16	-10	5/8"	M 27X1.5	18	12.5	21.5	5.0	32.0			
M21713-10-2720	16	-10	5/8"	M 27X1.5	20	12.5	21.5	5.0	32.0			
M21713-12-30	19	-12	3/4"	M 30X1.5	22	15.0	25.5	2.0	36.0			
M21713-12-33	19	-12	3/4"	M 33X1.5	25	15.0	25.5	2.0	38.0			
M21713-16-36	25	-16	1"	M 36X1.5	28	19.8	28.0	4.7	41.0			
M21713-16-39	25	-16	1"	M 39X1.5	30	19.8	28.5	4.2	46.0			

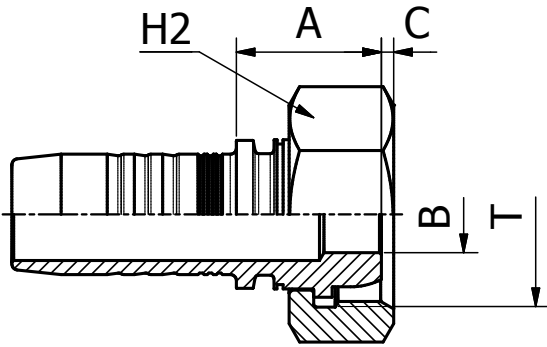


NF STANDARD CONNECTIONS

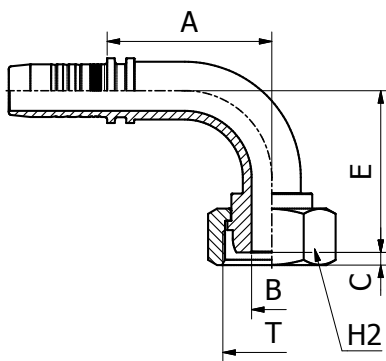
M11810
**FRENCH METRIC MALE
24° CONE SEAT GAZ TYPE**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M11810-05-20	8	- 5	5/16"	M 20X1.5	13.25	8.0	27.0	12.0	22.0			
M11810-06-20	10	- 6	3/8"	M 20X1.5	13.25	8.0	27.5	12.0	22.0			
M11810-06-24	10	- 6	3/8"	M 24X1.5	16.75	12.0	28.0	12.0	24.0			
M11810-08-24	12	- 8	1/2"	M 24X1.5	16.75	12.0	28.5	12.0	24.0			
M11810-10-30	16	- 10	5/8"	M 30X1.5	21.25	15.0	31.5	14.0	30.0			
M11810-12-36	19	- 12	3/4"	M 36X1.5	26.75	21.0	34.0	14.0	36.0			
M11810-16-45	25	- 16	1"	M 45X1.5	33.5	26.0	39.5	16.0	46.0			

NF STANDARD CONNECTIONS

M21813**FRENCH METRIC FEMALE
GAZ TYPE (SLIP-ON NUT)**

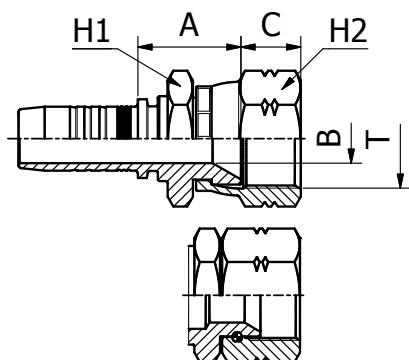
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M21813-04-20	6	-4	1/4"	M 20X1.5	13.25	7.0	22.0	4.0	24.0			
M21813-05-20	8	-5	5/16"	M 20X1.5	13.25	7.0	22.0	4.0	24.0			
M21813-06-20	10	-6	3/8"	M 20X1.5	13.25	7.0	22.5	4.0	24.0			
M21813-06-24	10	-6	3/8"	M 24X1.5	16.75	9.3	25.5	3.5	30.0			
M21813-08-24	12	-8	1/2"	M 24X1.5	16.75	9.3	26.0	3.5	30.0			
M21813-08-30	12	-8	1/2"	M 30X1.5	21.25	12.5	23.5	2.0	36.0			
M21813-10-30	16	-10	5/8"	M 30X1.5	21.25	12.5	23.5	2.0	36.0			
M21813-12-36	19	-12	3/4"	M 36X1.5	26.75	15.0	27.0	4.7	41.0			
M21813-16-45	25	-16	1"	M 45X1.5	33.5	19.8	27.0	4.5	50.0			



NF STANDARD CONNECTIONS

M21893**90° FRENCH METRIC FEMALE
GAZ TYPE (SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21893-05-20	8	-5	5/16"	M 20X1.5	13.25	7.0	32.0	4.0	29.5	24.0		
M21893-06-20	10	-6	3/8"	M 20X1.5	13.25	7.0	36.5	4.0	33.5	24.0		
M21893-08-24	12	-8	1/2"	M 24X1.5	16.75	12.0	45.0	3.5	41.0	30.0		
M21893-10-30	16	-10	5/8"	M 30X1.5	21.25	12.5	51.5	2.0	53.5	36.0		
M21893-12-36	19	-12	3/4"	M 36X1.5	26.75	15.0	61.5	4.7	60.0	41.0		

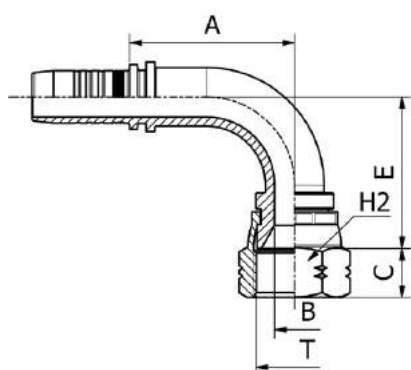


JIS STANDARD CONNECTIONS

M24011/M24012

**JIS METRIC FEMALE 60° CONE SEAT
(KOMATSU) JIS B 8363**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M24011-04-14	6	- 4	1/4"	M 14X1.5		4.0	23.0	10.5	19.0	19.0		
M24011-04-18	6	- 4	1/4"	M 18X1.5		7.0	22.5	11.5	24.0	24.0		
M24011-05-16	8	- 5	5/16"	M 16X1.5		5.5	22.5	9.3	21.0	21.0		
M24011-06-14	10	- 6	3/8"	M 14X1.5		4.0	23.5	10.5	19.0	19.0		
M24011-06-18	10	- 6	3/8"	M 18X1.5		7.0	23.5	11.5	24.0	24.0		
M24011-08-22	12	- 8	1/2"	M 22X1.5		9.3	25.0	13.0	27.0	27.0		
M24011-10-24	16	- 10	5/8"	M 24X1.5		12.5	26.5	15.1	32.0	32.0		
M24011-12-30	19	- 12	3/4"	M 30X1.5		15.0	31.5	18.3	36.0	36.0		
M24011-16-33	25	- 16	1"	M 33X1.5		19.8	33.5	21.3	41.0	41.0		
M24011-20-36	31	- 20	1.1/4"	M 36X1.5		19.8	41.0	20.0	46.0	46.0		
M24012-24-42	38	- 24	1.1/2"	M 42X1.5		26.0	44.0	18.8	55.0	55.0		



JIS STANDARD CONNECTIONS

M24091

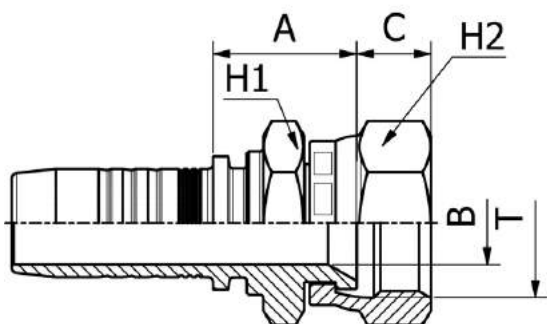
90° JIS METRIC FEMALE 60° CONE SEAT

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M24091-04-14	6	- 4	1/4"	M 14X1.5		4.0	29.0	10.5	28.5	19.0		
M24091-06-18	10	- 6	3/8"	M 18X1.5		7.0	35.5	11.5	34.0	24.0		
M24091-08-22	12	- 8	1/2"	M 22X1.5		9.3	44.0	13.0	40.0	27.0		
M24091-10-24	16	- 10	5/8"	M 24X1.5		12.5	53.5	15.2	47.0	32.0		
M24091-12-30	19	- 12	3/4"	M 30X1.5		15.0	61.5	18.3	56.5	36.0		

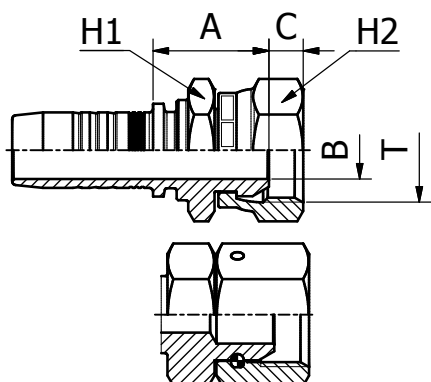
JIS STANDARD CONNECTIONS

M23811

**JIS BSP FEMALE 60° CONE SEAT
(TOYOTA) - JIS B 8363
(CRIMPED-BACK NUT)**



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M23811-04-04	6	- 4	1/4"	1/4" - 19		4.0	18.5	8.3	19.0	19.0		
M23811-06-06	10	- 6	3/8"	3/8" - 19		7.0	23.0	10.0	22.0	22.0		
M23811-08-08	12	- 8	1/2"	1/2" - 14		9.3	22.0	11.5	27.0	27.0		
M23811-12-12	19	- 12	3/4"	3/4" - 14		15.0	26.0	13.5	32.0	32.0		
M23811-16-16	25	- 16	1"	1" - 11		19.8	30.5	14.5	38.0	38.0		



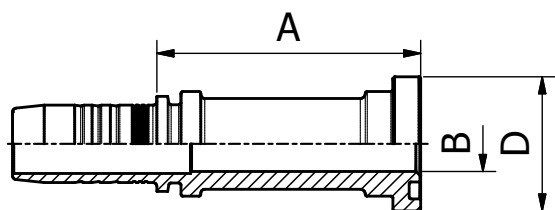
JIS STANDARD CONNECTIONS

M20711/M20712

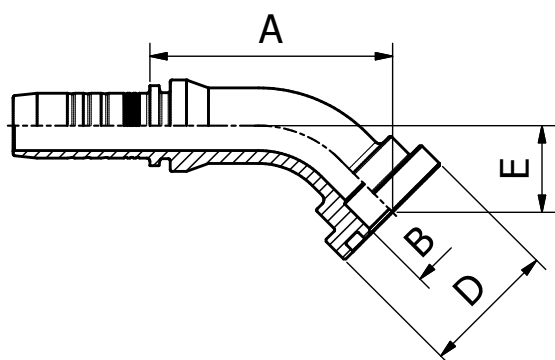
**JIS BSP FEMALE 60° CONE
(NISSAN) - JIS B 8363**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M20711-04-04	6	- 4	1/4"	1/4" - 19		4.0	22.5	4.5	19.0	19.0		
M20711-06-06	10	- 6	3/8"	3/8" - 19		7.0	24.5	6.4	22.0	22.0		
M20711-08-08	12	- 8	1/2"	1/2" - 14		9.3	26.5	6.7	27.0	27.0		
M20711-12-12	19	- 12	3/4"	3/4" - 14		15.0	30.0	8.9	32.0	32.0		
M20712-10-08	16	- 10	5/8"	1/2" - 14		9.3	29.0	6.5	27.0	27.0		
M20712-10-12	16	- 10	5/8"	3/4" - 14		15.0	30.5	9.0	32.0	32.0		
M20712-16-16	25	- 16	1"	1" - 11		19.8	35.5	10.5	38.0	38.0		
M20712-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	44.5	12.5	50.0	50.0		

ORIGINAL EQUIPMENT CONNECTIONS

**M24111****STRAIGHT KOMATSU FLANGE**

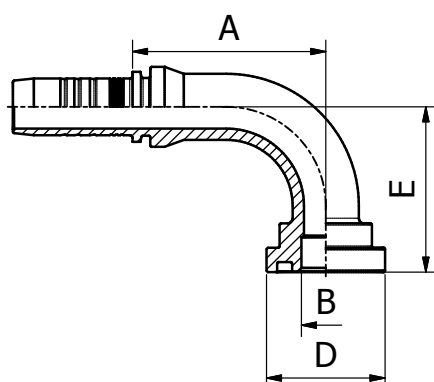
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
M24111-08-10	12	-8	1/2"	5/8"		14.0	66.0	34.0				
M24111-10-10	16	-10	5/8"	5/8"		14.0	65.5	34.0				
M24111-12-10	19	-12	3/4"	5/8"		14.0	66.5	34.0				



ORIGINAL EQUIPMENT CONNECTIONS

M24141**45° KOMATSU FLANGE**

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M24141-10-10	16	-10	5/8"	5/8"		14.0	61.0	34.0	22.0			



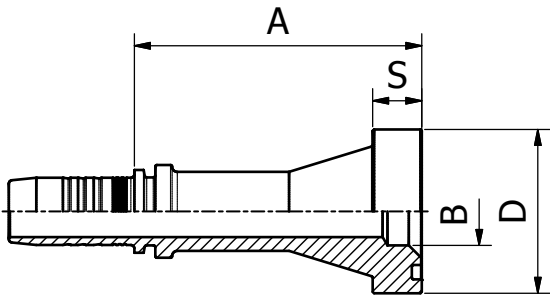
ORIGINAL EQUIPMENT CONNECTIONS

M24191**90° KOMATSU FLANGE**

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M24191-10-10	16	-10	5/8"	5/8"		14.0	56.0	34.0	47.5			
M24191-12-10	19	-12	3/4"	5/8"		14.0	56.0	34.0	47.5			

ORIGINAL EQUIPMENT CONNECTIONS

M23911

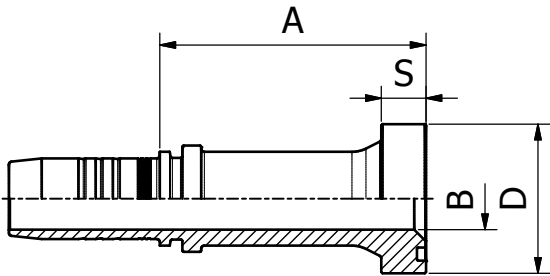


STRAIGHT SUPERCAT FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	S			
M23911-12-12	19	-12	3/4"	3/4"		15.0	74.5	41.5	14.3			
M23911-12-16	19	-12	3/4"	1"		19.8	83.5	47.7	14.3			
M23911-16-16	25	-16	1"	1"		19.8	87.0	47.7	14.3			
M23911-16-20	25	-16	1"	1.1/4"		26.0	92.5	54.0	14.3			
M23911-20-20	31	-20	1.1/4"	1.1/4"		26.0	86.0	54.0	14.3			
M23911-24-24	38	-24	1.1/2"	1.1/2"		32.0	94.0	63.6	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

M23911CT



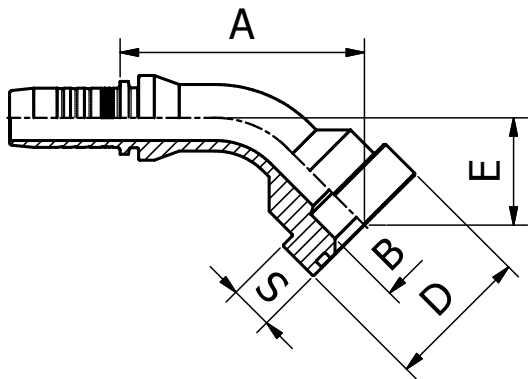
STRAIGHT REALCAT FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	S			
M23911-16-16CT	25	-16	1"	1"		19.8	85.0	47.7	14.3			
M23911-20-20CT	31	-20	1.1/4"	1.1/4"		26.0	88.5	54.0	14.3			
M23911-24-24CT	38	-24	1.1/2"	1.1/2"		32.0	93.0	63.6	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

M23941

45° SUPERCAT FLANGE

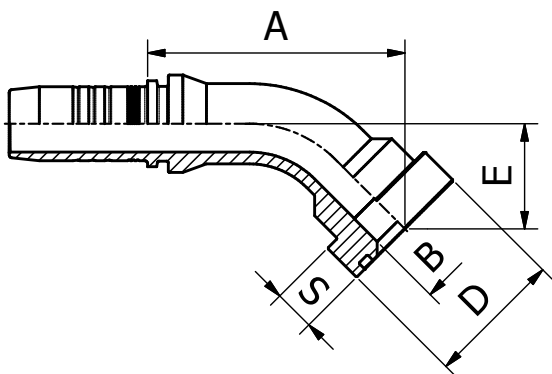


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M23941-12-12	19	-12	3/4"	3/4"		15.0	77.0	41.5	32.0	14.3		
M23941-16-16	25	-16	1"	1"		19.8	89.5	47.7	36.5	14.3		
M23941-16-20	25	-16	1"	1"		26.0	92.5	54.0	40.5	14.3		
M23941-20-20	31	-20	1.1/4"	1.1/4"		26.0	99.0	54.0	41.5	14.3		
M23941-24-24	38	-24	1.1/2"	1.1/2"		32.0	119.0	63.6	45.5	14.3		

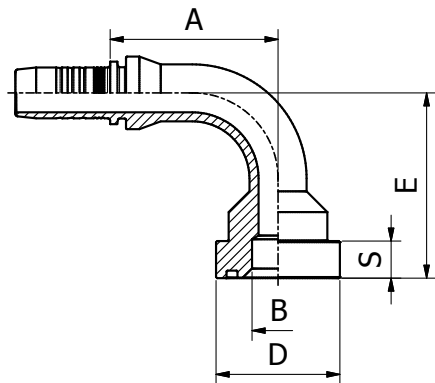
ORIGINAL EQUIPMENT CONNECTIONS

M23941CT

45° REALCAT FLANGE



PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M23941-16-16CT	25	-16	1"	1"		19.8	89.5	47.7	36.5	14.3		
M23941-16-20CT	25	-16	1"	1.1/4"		26.0	93.0	54.0	40.5	14.3		
M23941-20-20CT	31	-20	1.1/4"	1.1/4"		26.0	99.0	54.0	41.5	14.3		
M23941-24-24CT	38	-24	1.1/2"	1.1/2"		32.0	119.0	63.7	45.0	14.3		

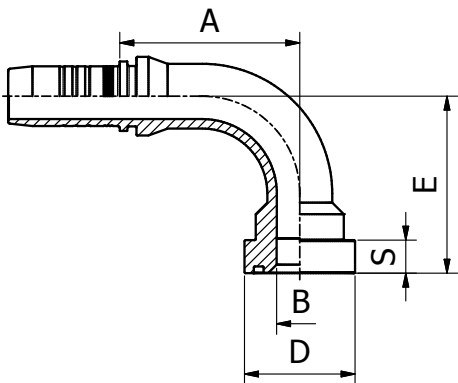


ORIGINAL EQUIPMENT CONNECTIONS

M23991

90° SUPERCAT FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M23991-12-12	19	-12	3/4"	3/4"		15.0	64.5	41.5	64.5	14.3		
M23991-16-16	25	-16	1"	1"		19.8	77.5	47.7	76.5	14.3		
M23991-16-20	25	-16	1"	1.1/4"		26.0	75.5	54.0	80.5	14.3		
M23991-20-20	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.0	87.0	14.3		
M23991-20-24	31	-20	1.1/4"	1.1/2"		32.0	85.5	63.7	93.0	14.3		

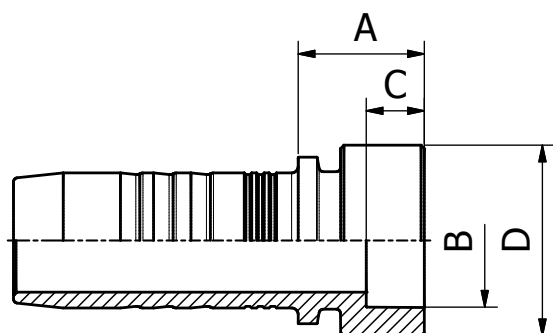


ORIGINAL EQUIPMENT CONNECTIONS

M23991CT

90° REALCAT FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M23991-16-16CT	25	-16	1"	1"		19.8	77.5	47.7	76.5	14.3		
M23991-16-20CT	25	-16	1"	1.1/4"		26.0	75.5	54.0	80.5	14.3		
M23991-20-20CT	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.0	87.0	14.3		
M23991-24-24CT	38	-24	1.1/2"	1.1/2"		32.0	106.0	63.7	96.0	14.3		



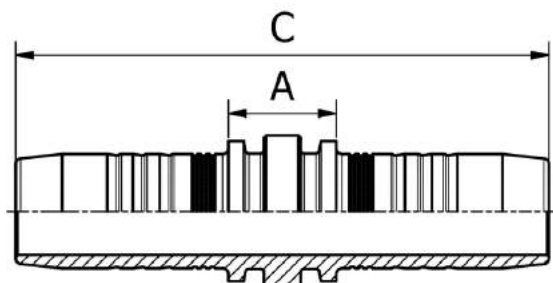
TAIL

M..IP..

WELDING TAIL

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D		
M03IP06	5	- 3	3/16"			6.0	11.5	5.0	10.0		
M04IP08	6	- 4	1/4"			8.0	13.0	5.0	12.0		
M05IP10	8	- 5	5/16"			10.0	13.5	6.0	14.0		
M06IP12	10	- 6	3/8"			12.0	13.5	6.0	16.0		
M06IP14	10	- 6	3/8"			14.0	13.5	6.0	18.0		
M08IP15	12	- 8	1/2"			15.0	14.0	6.0	20.0		
M08IP16	12	- 8	1/2"			16.0	14.0	6.0	20.0		
M10IP18	16	- 10	5/8"			18.0	15.0	7.0	23.0		
M12IP22	19	- 12	3/4"			22.0	16.0	7.0	26.0		
M16IP28	25	- 16	1"			28.0	18.5	8.0	34.0		
M20IP35	31	- 20	1.1/4"			35.0	20.5	9.0	40.0		
M24IP40	38	- 24	1.1/2"			40.0	21.5	9.0	50.0		
M32IP50	51	- 32	2"			50.0	23.0	10.0	60.0		
M40IP60	63	- 40	2.1/2"			61.0	19.0	7.0	73.0		
M48IP70	76	- 48	3"			70.0	38.0	10.0	89.0		

DOUBLE CONNECTOR



M10050

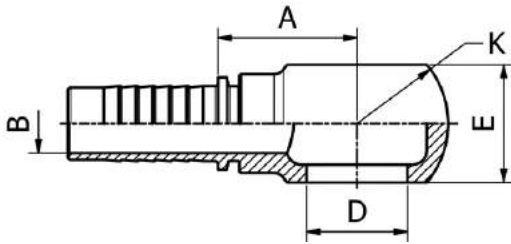
DOUBLE CONNECTOR

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C			
M10050-03-03	5	- 3	3/16"			3.0	15.5	58.2			
M10050-04-04	6	- 4	1/4"			4.0	14.0	69.0			
M10050-05-05	8	- 5	5/16"			5.5	14.0	70.0			
M10050-06-06	10	- 6	3/8"			7.0	14.5	73.5			
M10050-08-08	12	- 8	1/2"			9.3	15.5	77.9			
M10050-10-10	16	- 10	5/8"			12.5	15.5	84.0			
M10050-12-12	19	- 12	3/4"			15.0	18.5	91.5			
M10050-16-16	25	- 16	1"			19.8	22.5	119.0			
M10050-20-20	31	- 20	1.1/4"			26.0	23.0	128.1			
M10050-24-24	38	- 24	1.1/2"			32.0	23.5	147.5			

BANJO CONNECTIONS

020310

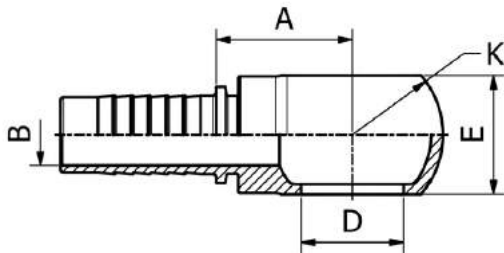
BSP BANJO



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	D	E	K		
O20310-04-04	6	- 4	1/4"	1/4" - 19		4.4	22.0	13.25	15.0	24.0		
O20310-04-06	6	- 4	1/4"	3/8" - 19		4.4	23.5	16.7	18.0	28.0		
O20310-05-04	8	- 5	5/16"	1/4" - 19		5.0	23.0	13.2	14.0	24.0		
O20310-05-06	8	- 5	5/16"	3/8" - 19		5.6	23.0	16.7	20.0	29.0		
O20310-06-06	10	- 6	3/8"	3/8" - 19		7.0	24.5	16.7	20.0	29.0		
O20310-06-08	10	- 6	3/8"	1/2" - 19		7.1	27.0	21.0	25.0	38.0		
O20310-08-08	12	- 8	1/2"	1/2" - 14		9.8	27.5	21.0	25.0	38.0		
O20310-10-10	16	- 10	5/8"	5/8" - 14		12.7	29.5	23.0	27.0	40.0		
O20310-12-12	19	- 12	3/4"	3/4" - 14		15.5	36.5	26.5	31.0	48.0		
O20310-16-16	25	- 16	1"	1" - 11		20.5	40.5	33.3	42.0	60.0		

BANJO CONNECTIONS

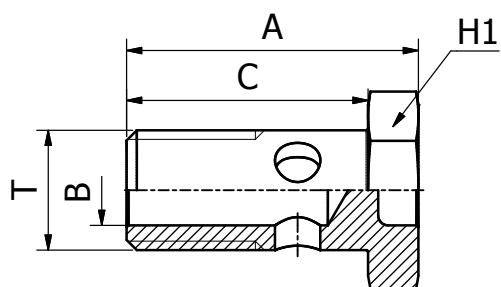
020910

METRIC BANJO
DIN 7642

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	D	E	K		
O20910-04-12	6	- 4	1/4"	M 12X1.5		4.4	22.5	12.0	12.0	20.0		
O20910-04-14	6	- 4	1/4"	M 14X1.5		4.4	23.5	14.0	14.0	24.0		
O20910-05-14	8	- 5	5/16"	M 14X1.5		5.6	23.5	14.0	14.0	24.0		
O20910-06-14	10	- 6	3/8"	M 14X1.5		7.1	25.0	14.0	14.0	24.0		
O20910-06-16	10	- 6	3/8"	M 16X1.5		7.1	25.0	16.0	16.0	28.0		
O20910-06-18	10	- 6	3/8"	M 18X1.5		7.1	27.0	18.0	20.0	32.0		
O20910-08-18	12	- 8	1/2"	M 18X1.5		9.8	28.0	18.0	20.0	32.0		
O20910-08-22	12	- 8	1/2"	M 22X1.5		9.8	31.0	22.0	25.0	39.0		
O20910-10-22	16	- 10	5/8"	M 22X1.5		12.7	31.0	22.0	25.0	39.0		
O20910-12-26	19	- 12	3/4"	M 26X1.5		15.5	34.5	26.0	30.0	46.0		

BOLT

080810

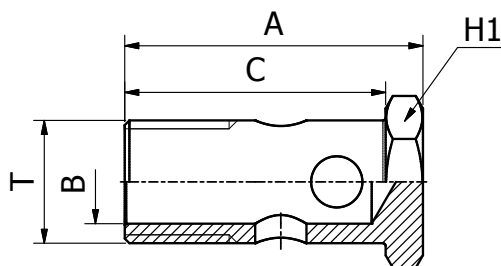


METRIC BOLT - DIN 7643

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
O80810-12				M 12X1.5		7.0	29.0	24.0	17.0			
O80810-14				M 14X1.5		9.0	31.0	26.0	19.0			
O80810-16				M 16X1.5		11.0	33.0	28.0	22.0			
O80810-18				M 18X1.5		13.0	37.0	32.0	24.0			
O80810-22				M 22X1.5		16.0	45.0	39.0	27.0			
O80810-26				M 26X1.5		20.0	51.0	45.0	32.0			

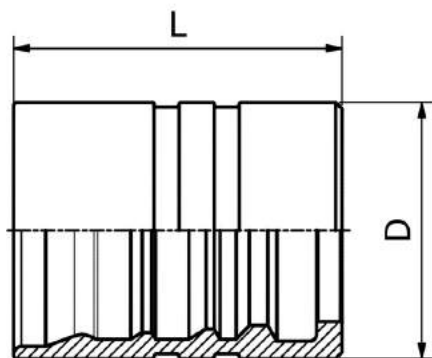
BOLT

080210



BSP BOLT

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
O80210-04				1/4" - 19		6.0	34.5	28.5	17.0			
O80210-06				3/8" - 19		9.0	45.5	38.5	22.0			
O80210-08				1/2" - 14		13.0	52.0	44.0	27.0			
O80210-10				5/8" - 14		15.0	56.5	48.5	30.0			
O80210-12				3/4" - 14		18.0	64.0	54.0	32.0			
O80210-16				1" - 11		24.0	77.5	68.5	41.0			



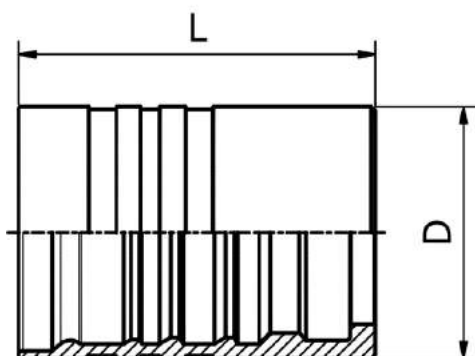
FERRULE

M01500
**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01500-10	16	- 10	5/8"			35.0	40.9				
M01500-12	19	- 12	3/4"			40.0	51.4				
M01500-16	25	- 16	1"			48.0	64.5				
M01500-20	31	- 20	1.1/4"			57.0	84.0				
M01500-24	38	- 24	1.1/2"			64.3	94.0				
M01500-32	51	- 32	2"			83.5	107.0				
M01500-40	63	- 40	2.1/2"			100.0	135.0				
M01500-48	76	- 48	3"			107.0	125.0				

175 FITTINGS

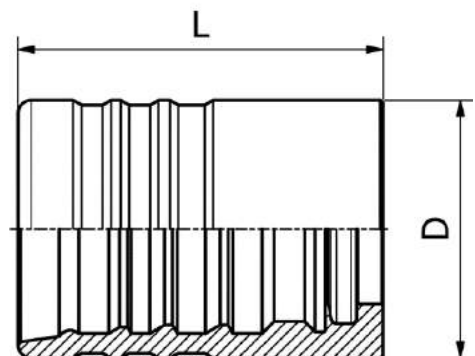
175



FERRULE

M01600
**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (6 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01600-20	31	- 20	1.1/4"			60.0	85.0				
M01600-24	38	- 24	1.1/2"			69.0	96.0				



FERRULE

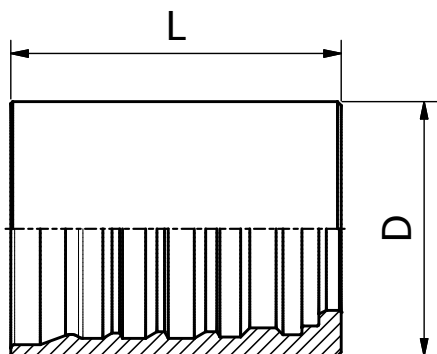
M01800/M01810/M01850
**DOUBLE SKIVE FERRULE FOR
EXTRA DUTY SPIRAL HOSES (6 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01850-12	19	-12	3/4"			45.1	51.4				
M01850-16	25	-16	1"			53.5	64.5				
M01850-20	31	- 20	1.1/4"			65.0	88.2				
M01800-32	51	- 32	2"			86.5	108.0				
M01810-40	63	- 40	2.1/2"			103.0	135.0				
M01810-48	76	- 48	3"			113.5	125.0				

FERRULE

M01900

DOUBLE SKIVE FERRULE

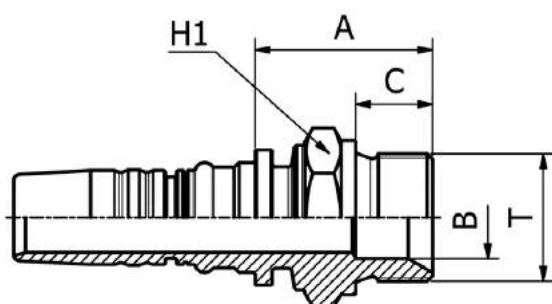


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01900-20	31	-20	1.1/4"			68	88,2				
M01900-40	63	-40	2.1/2"			109	135				

BS STANDARD CONNECTIONS

M30510

BSP MALE
PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6

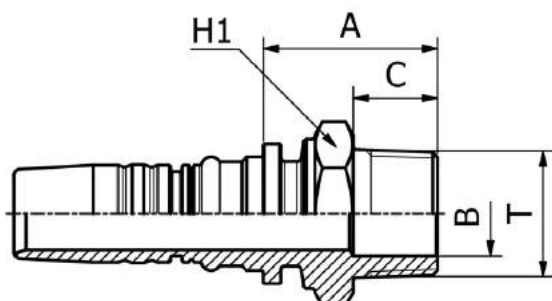


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M30510-12-12	19	- 12	3/4"	3/4" - 14	17.0	37.0	16.0	32.0			
M30510-12-16	19	- 12	3/4"	1" - 11	22.5	43.0	19.0	41.0			
M30510-16-16	25	- 16	1"	1" - 11	22.5	43.0	19.0	41.0			
M30510-16-20	25	- 16	1"	1.1/4" - 11	28.5	48.0	20.0	50.0			
M30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28.5	50.5	20.0	50.0			
M30510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	54.5	22.0	55.0			
M30510-32-32	51	- 32	2"	2" - 11	42.0	58.0	25.0	70.0			

BS STANDARD CONNECTIONS

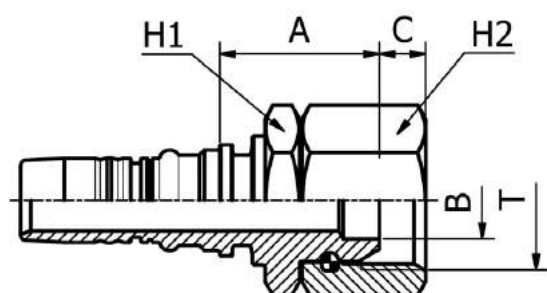
M30710

BSP
MALE TAPERED)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M30710-12-12	19	- 12	3/4"	3/4" BSPT	17.0	35.0	17.0	32.0			
M30710-16-16	25	- 16	1"	1" BSPT	22.5	41.5	21.0	41.0			
M30710-20-20	31	- 20	1.1/4"	1.1/4" BSPT	28.5	82.0	23.0	46.0			
M30710-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	52.0	23.0	55.0			
M30710-32-32	51	- 32	2"	2" - 11	42.0	56.1	27.0	70.0			

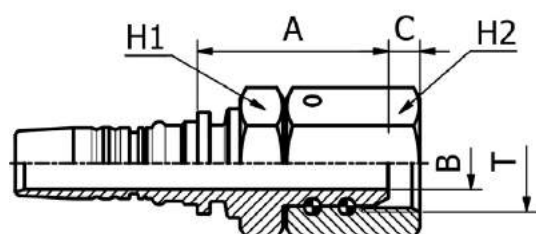
BS STANDARD CONNECTIONS

**M40512**

BSP
FEMALE 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M40512-10-12H32	16	- 10	5/8"	3/4" - 14		15.0	31.0	9.0	32.0	32.0		

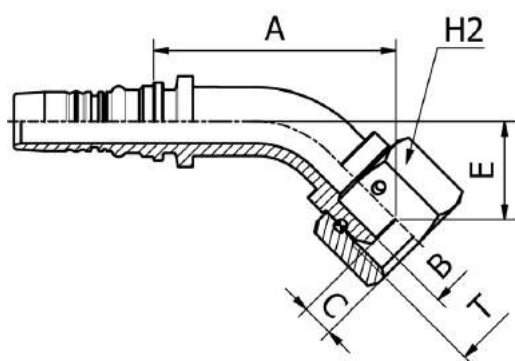
BS STANDARD CONNECTIONS

**M40514**

BSP
FEMALE 60° CONE
BS5200 / ISO 12151-6
(DOUBLE THRUST-WIRE)

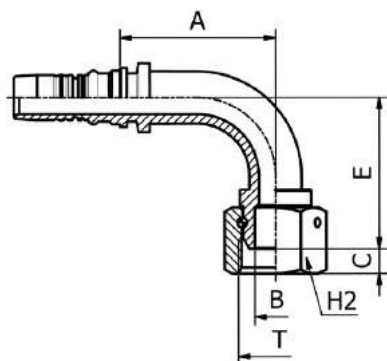
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M40514-12-12	19	- 12	3/4"	3/4" - 14		14.5	53.0	8.7	36.0	36.0		
M40514-16-16	25	- 16	1"	1" - 11		18.0	58.0	11.1	41.0	41.0		
M40514-20-20	31	- 20	1.1/4"	1.1/4" - 11		23.0	75.0	10.1	50.0	55.0		
M40514-24-24	38	- 24	1.1/2"	1.1/2" - 11		27.0	76.0	12.5	55.0	60.0		

BS STANDARD CONNECTIONS

**M40542**

45° BSP
FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M40542-10-12	16	- 10	5/8"	3/4" - 14		15.0	67.0	9.0	27.0	32.0		



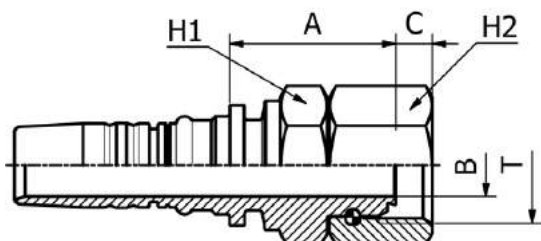
BS STANDARD CONNECTIONS

M40592

**90° BSP
FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M40592-10-12	16	- 10	5/8"	3/4" - 14		15.0	56.5	9.0	55.0	32.0		

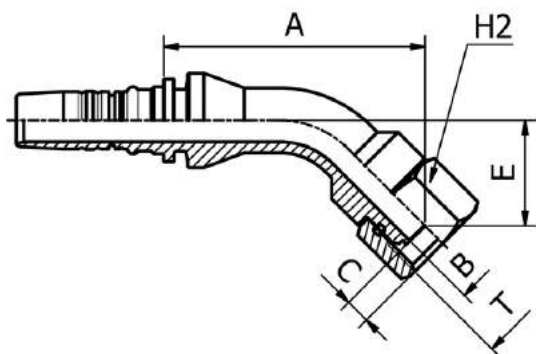
BS STANDARD CONNECTIONS

**M40812**

**BSP O-RING
FEMALE 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)**

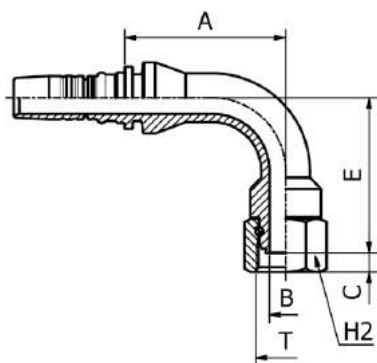
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M40812-12-12	19	- 12	3/4"	3/4" - 14		14.5	39.0	8.5	32.0	32.0		
M40812-12-16	19	- 12	3/4"	1" - 11		19.0	36.5	10.6	32.0	41.0		
M40812-16-12	25	- 16	1"	3/4" - 14		15.0	35.0	8.5	41.0	32.0		
M40812-16-16	25	- 16	1"	1" - 11		19.5	44.5	10.6	41.0	41.0		
M40812-16-20	25	- 16	1"	1.1/4" - 11		26.1	41.0	10.5	41.0	50.0		
M40812-20-16	31	- 20	1.1/4"	1" - 11		19.0	44.5	10.6	50.0	41.0		
M40812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	52.5	10.5	50.0	50.0		
M40812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	46.0	12.5	50.0	60.0		
M40812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26.1	48.5	10.5	60.0	50.0		
M40812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	51.5	12.5	60.0	60.0		
M40812-32-32	51	- 32	2"	2" - 11		42.0	51.5	16.1	70.0	70.0		

BS STANDARD CONNECTIONS

**M40842**

45° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
M40842-12-12	19	- 12	3/4"	3/4" - 14		14.5	88.0	8.5	35.0	32.0		
M40842-12-16	19	- 12	3/4"	1" - 11		19.0	89.5	10.6	36.5	41.0		
M40842-16-12	25	- 16	1"	3/4" - 14		15.0	105.5	8.5	36.0	32.0		
M40842-16-16	25	- 16	1"	1" - 11		19.5	97.0	10.6	40.0	41.0		
M40842-16-20	25	- 16	1"	1.1/4" - 11		26.1	108.5	10.5	38.0	50.0		
M40842-20-16	31	- 20	1.1/4"	1" - 11		19.0	118.0	10.6	47.5	41.0		
M40842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	120.0	10.5	49.5	50.0		
M40842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	114.5	12.5	40.0	60.0		
M40842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	126.5	12.5	50.0	60.0		
M40842-32-32	51	- 32	2"	2" - 11		42.0	162.5	16.1	66.5	70.0		



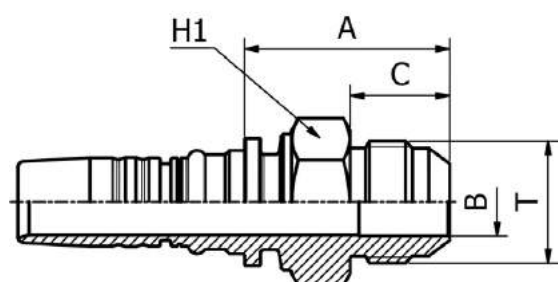
BS STANDARD CONNECTIONS

M40892

90° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	H2		
M40892-12-12	19	- 12	3/4"	3/4" - 14		14.5	72.5	8.5	70.0	32.0		
M40892-12-16	19	- 12	3/4"	1" - 11		19.0	72.5	10.6	71.0	41.0		
M40892-16-16	25	- 16	1"	1" - 11		19.5	82.0	10.6	80.5	41.0		
M40892-16-20	25	- 16	1"	1.1/4" - 11		26.1	95.0	10.5	78.5	50.0		
M40892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	98.5	10.5	98.0	50.0		
M40892-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	98.5	12.5	84.5	60.0		
M40892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	111.5	12.5	109.0	60.0		
M40892-32-32	51	- 32	2"	2" - 11		42.0	143.0	16.1	140.5	70.0		

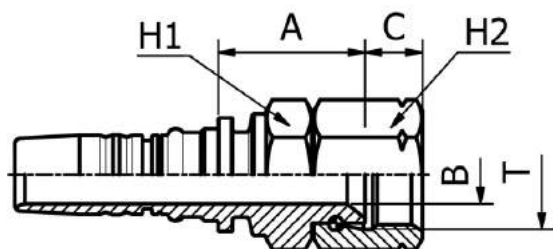
SAE STANDARD CONNECTIONS

**M32510**

JIC
MALE 37° CONE
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M32510-10-10	16	- 10	5/8"	7/8" - 14	12.0	41.0	19.5	27.0				
M32510-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	45.5	22.0	32.0				
M32510-16-16	25	- 16	1"	1.5/16" - 12	20.0	50.5	23.0	38.0				
M32510-16-20	25	- 16	1"	1.5/8" - 12	26.0	57.0	24.3	42.0				
M32510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	66.0	24.3	46.0				
M32510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	64.0	27.5	50.0				
M32510-32-32	51	- 32	2"	2.1/2" - 12	42.0	81.0	34.0	70.0				

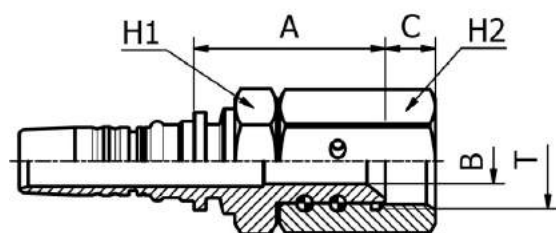
SAE STANDARD CONNECTIONS

**M42512**

JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1	H2			
M42512-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	36.0	14.2	32.0	32.0			
M42512-12-16	19	- 12	3/4"	1.5/16" - 12	21.7	32.5	15.2	41.0	41.0			
M42512-16-16	25	- 16	1"	1.5/16" - 12	21.7	40.5	15.2	41.0	41.0			
M42512-16-20	25	- 16	1"	1.5/8" - 12	26.1	44.0	16.2	50.0	50.0			
M42512-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	51.5	16.2	50.0	50.0			
M42512-20-24	31	- 20	1.1/4"	1.7/8" - 12	30.5	51.0	18.8	55.0	60.0			
M42512-24-24	38	- 24	1.1/2"	1.7/8" - 12	31.0	54.5	18.8	55.0	60.0			
M42512-32-32	51	- 32	2"	2.1/2" - 12	42.0	54.0	24.0	70.0	75.0			

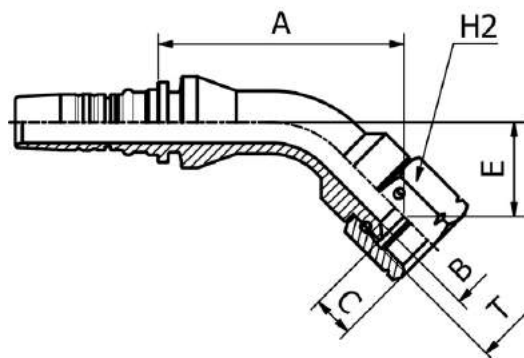
SAE STANDARD CONNECTIONS

**M42714**

JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(DOUBLE THRUST-WIRE NUT)

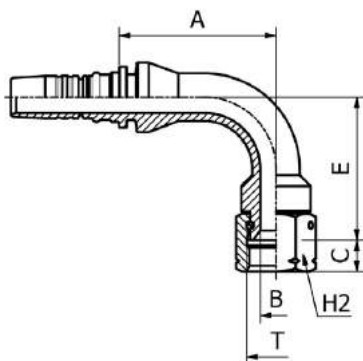
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M42714-12-12	19	- 12	3/4"	1.1/16" - 12		13.0	55.0	14.4	36.0	36.0		
M42714-16-16	25	- 16	1"	1.5/16" - 12		18.0	60.5	15.1	41.0	41.0		
M42714-20-20	31	- 20	1.1/4"	1.5/8" - 12		23.0	71.0	15.9	50.0	55.0		
M42714-24-24	38	- 24	1.1/2"	1.7/8" - 12		27.0	71.0	18.6	55.0	60.0		
M42714-32-32	51	- 32	2"	2.1/2" - 12		37.0	77.5	23.8	70.0	75.0		

SAE STANDARD CONNECTIONS

**M42542**

45° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M42542-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	86.0	14.2	33.0	32.0		
M42542-16-16	25	- 16	1"	1.5/16" - 12		21.7	95.0	15.2	37.0	41.0		
M42542-16-20	25	- 16	1"	1.5/8" - 12		26.1	102.5	16.2	36.5	50.0		
M42542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	115.5	16.2	45.0	50.0		
M42542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	126.5	18.8	50.0	60.0		
M42542-32-32	51	- 32	2"	2.1/2" - 12		42.0	161.5	24.0	63.5	75.0		

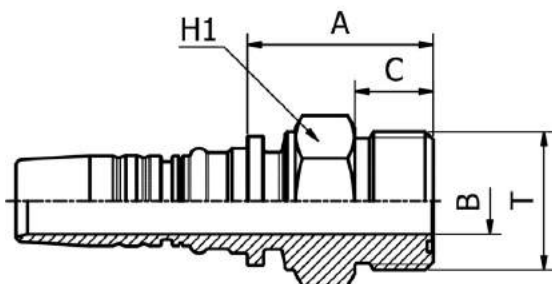


SAE STANDARD CONNECTIONS

M42592

90° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M42592-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	72.5	14.2	66.0	32.0		
M42592-12-16	19	- 12	3/4"	1.5/16" - 12		21.7	72.5	15.2	71.5	41.0		
M42592-16-16	25	- 16	1"	1.5/16" - 12		21.7	82.5	15.2	77.5	41.0		
M42592-16-20	25	- 16	1"	1.5/8" - 12		26.1	90.5	16.2	76.5	50.0		
M42592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	98.5	16.2	92.0	50.0		
M42592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32.1	101.5	18.8	108.0	60.0		
M42592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	111.5	18.8	106.0	60.0		
M42592-32-32	51	- 32	2"	2.1/2" - 12		42.0	144.5	24.0	137.0	75.0		



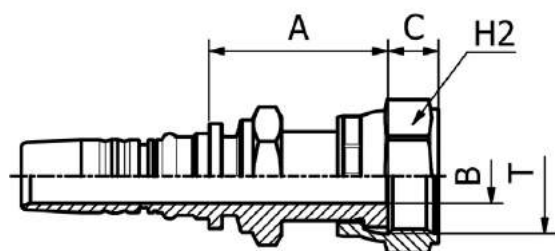
SAE STANDARD CONNECTIONS

M32410

ORFS
MALE
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M32410-10-08	16	- 10	5/8"	13/16" - 16		9.3	33.0	12.8	27.0			
M32410-10-10	16	- 10	5/8"	1" - 14		12.0	36.0	15.5	27.0			
M32410-10-12	16	- 10	5/8"	1.3/16" - 12		15.0	39.0	17.0	32.0			
M32410-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	40.5	17.0	32.0			
M32410-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	42.5	17.5	38.0			
M32410-16-16	25	- 16	1"	1.7/16" - 12		19.5	45.0	17.5	41.0			
M32410-16-20	25	- 16	1"	1.11/16" - 12		25.0	48.0	17.5	46.0			
M32410-20-16	31	- 20	1.1/4"	1.7/16" - 12		19.5	47.0	17.5	50.0			
M32410-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	50.5	17.5	46.0			
M32410-24-24	38	- 24	1.1/2"	2" - 12		31.0	53.0	17.5	55.0			
M32410-32-24	51	- 32	2"	2" - 12		31.0	53.0	17.5	70.0			

SAE STANDARD CONNECTIONS



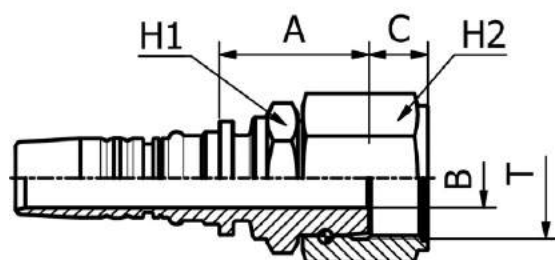
M42411

ORFS
FEMALE

SAE J516 / ISO 12151-1
PULLBACK TYPE (CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M42411-10-10	16	- 10	5/8"	1" - 14		11.5	40.5	12.5	24.0	30.0		
M42411-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	48.0	13.5	32.0	36.0		
M42411-12-16	19	- 12	3/4"	1.7/16" - 12		19.0	50.0	13.5	36.0	41.0		
M42411-16-12	25	- 16	1"	1.3/16" - 12		14.3	50.0	13.5	41.0	36.0		
M42411-16-16	25	- 16	1"	1.7/16" - 12		19.5	51.5	13.5	41.0	41.0		
M42411-16-20	25	- 16	1"	1.11/16" - 12		26.0	51.5	13.6	41.0	50.0		
M42411-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	58.0	13.6	50.0	50.0		
M42411-24-24	38	- 24	1.1/2"	2" - 12		31.0	60.5	14.2	60.0	60.0		

SAE STANDARD CONNECTIONS



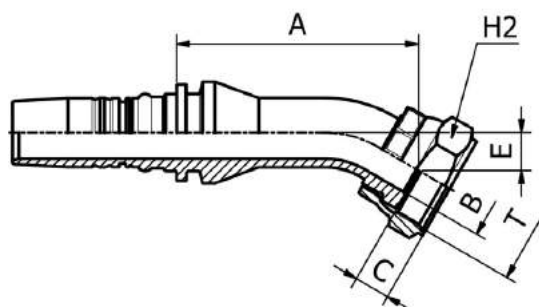
M42412

ORFS
FEMALE

SAE J516 / ISO 12151-1
HEAVY TYPE (THRUST-WIRE NUT)

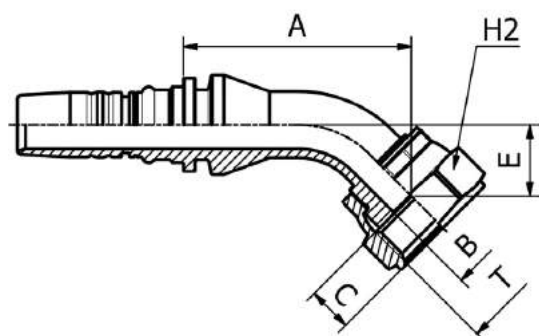
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M42412-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	37.0	14.1	32.0	36.0		
M42412-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	41.0	15.0	41.0	46.0		
M42412-16-16	25	- 16	1"	1.7/16" - 12		19.5	42.0	15.0	41.0	46.0		
M42412-16-20	25	- 16	1"	1.11/16" - 12		26.0	50.0	15.1	46.0	55.0		
M42412-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	52.0	15.1	50.0	55.0		
M42412-20-24	31	- 20	1.1/4"	2" - 12		31.0	53.0	15.0	55.0	60.0		
M42412-24-24	38	- 24	1.1/2"	2" - 12		31.0	55.0	15.0	60.0	60.0		

SAE STANDARD CONNECTIONS

**M42431**

30° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1
(CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M42431-16-16	25	- 16	1"	1.7/16", 25.4 MM, 1"		19.5	91.0	10.3	14.0	41.0	

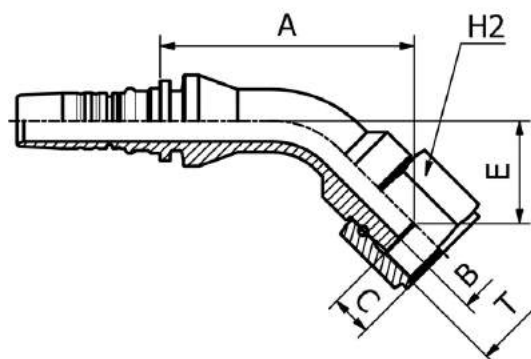


SAE STANDARD CONNECTIONS

M42441

45° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1
(CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M42441-10-12	16	- 10	5/8"	1.3/16" - 12		14.3	56.0	13.5	21.5	36.0	
M42441-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	69.0	13.5	21.5	36.0	
M42441-12-16	19	- 12	3/4"	1.7/16" - 12		19.0	77.5	13.5	25.0	41.0	
M42441-16-16	25	- 16	1"	1.7/16" - 12		19.5	86.0	13.5	24.0	41.0	
M42441-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	97.0	13.6	27.0	50.0	
M42441-24-24	38	- 24	1.1/2"	2" - 12		31.0	112.0	14.2	31.5	60.0	



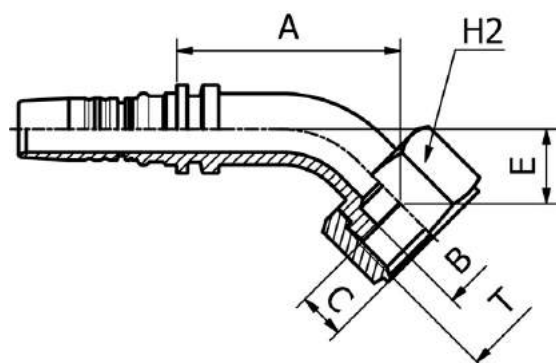
SAE STANDARD CONNECTIONS

M42442

45° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1
HEAVY TYPE (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	H2	
M42442-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	89.0	14.0	36.0	36.0	
M42442-16-16	25	- 16	1"	1.7/16" - 12		19.5	100.0	15.0	42.5	46.0	
M42442-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	119.5	15.1	49.5	55.0	
M42442-24-24	38	- 24	1.1/2"	2" - 12		31.0	128.5	15.0	52.0	60.0	

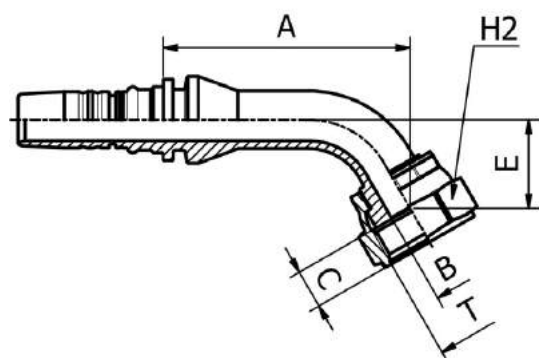
SAE STANDARD CONNECTIONS

**M42443**

45° ORFS
FEMALE SWEEP ELBOW
SAE J516 / ISO 12151-1
(SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	H2		
M42443-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	71.0	14.8	23.5	41.0		
M42443-16-20	25	- 16	1"	1.11/16" - 12		26.0	81.0	14.8	24.0	50.0		
M42443-20-24	31	- 20	1 1/4"	2" - 12		32.0	99.0	14.8	29.0	60.0		

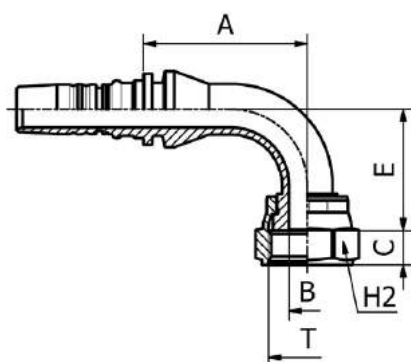
SAE STANDARD CONNECTIONS

**M42461**

60° ORFS
FEMALE SWEEP ELBOW
SAE J516 / ISO 12151-1
(CRIMPED BACK-NUT)

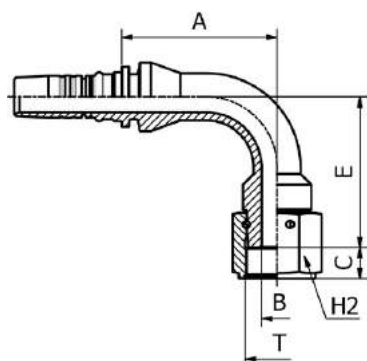
PART. REF.		HOSE BORE		Thread		DIMENSIONS mm							
		DN	Dash	inch	T		B	A	C	E	H2		
M42461-12-12		19	- 12	3/4"	1.3/16" - 12		14.5	85.5	13.5	30.5	36.0		

SAE STANDARD CONNECTIONS

**M42491**

90° ORFS
FEMALE SWEEP ELBOW
SAE J516 / ISO 12151-1
(CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	H2		
M42491-10-12	16	- 10	5/8"	1.3/16" - 12		14.3	51.0	13.5	47.0	36.0		
M42491-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	65.0	13.5	48.0	36.0		
M42491-12-12109	19	- 12	3/4"	1.3/16" - 12		14.5	65.0	13.5	109.0	36.0		
M42491-12-16	19	- 12	3/4"	1.7/16" - 12		19.0	70.0	13.5	53.0	41.0		
M42491-16-16	25	- 16	1"	1.7/16" - 12		19.5	85.0	13.5	57.0	41.0		
M42491-16-16128	25	- 16	1"	1.7/16" - 12		19.5	85.0	13.5	128.0	41.0		
M42491-16-20	25	- 16	1"	1.11/16" - 12		24.0	84.5	13.6	61.0	50.0		
M42491-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	98.5	13.6	66.0	50.0		
M42491-24-24	38	- 24	1.1/2"	2" - 12		31.0	116.0	14.2	79.5	60.0		

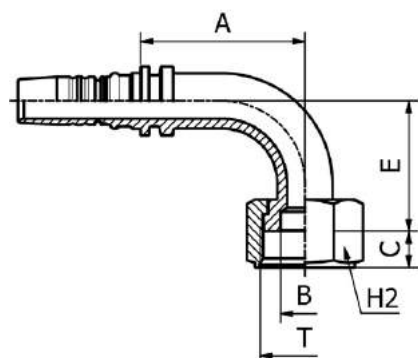


SAE STANDARD CONNECTIONS

M42492

**90° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1
HEAVY TYPE (THRUST-WIRE-NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M42492-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	72.5	14.1	70.5	36.0		
M42492-16-16	25	- 16	1"	1.7/16" - 12		19.5	82.5	15.0	84.5	46.0		
M42492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	98.5	15.1	98.0	55.0		
M42492-24-24	38	- 24	1.1/2"	2" - 12		31.0	111.5	15.0	109.0	60.0		

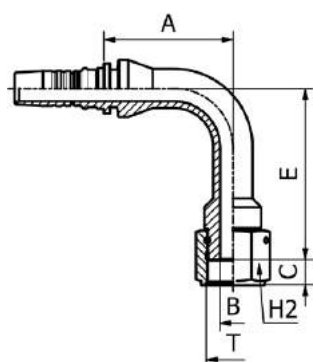


SAE STANDARD CONNECTIONS

M42493

**90° ORFS FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M42493-12-16	19	- 12	3/4"	1.7/16" - 12		19.8	67.0	14.8	53.0	41.0		
M42493-16-20	25	- 16	1"	1.11/16" - 12		26.0	81.5	14.8	58.5	50.0		
M42493-20-24	31	- 20	1.1/4"	2" - 12		32.0	100.0	14.8	70.5	60.0		



SAE STANDARD CONNECTIONS

M44492 LONG DROP

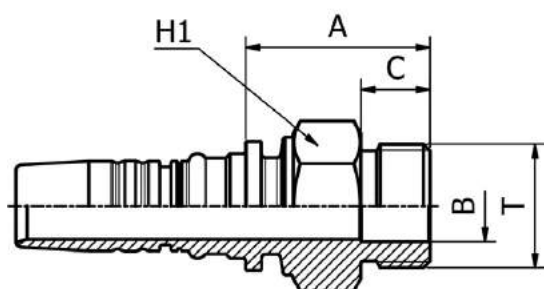
**90° ORFS
FEMALE LONG DROP ELBOW
SAE J516 / ISO 12151-1
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M44492-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	72.5	14.1	96.0	36.0		
M44492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	98.5	15.1	129.0	55.0		

SAE STANDARD CONNECTIONS

M33010

SAE
MALE O-RING BOSS TYPE
SAE J516 / ISO 11926

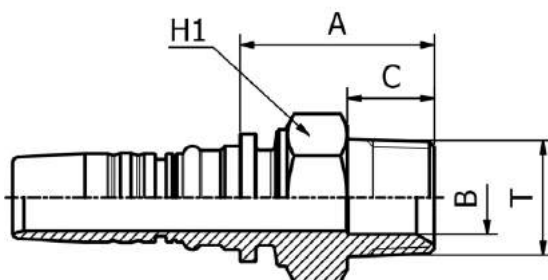


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H1			
M33010-12-12	19	- 12	3/4"	1.1/16" - 12		15.5	42.0	15.1	32.0			
M33010-16-16	25	- 16	1"	1.5/16" - 12		21.5	43.5	15.1	38.0			
M33010-20-20	31	- 20	1.1/4"	1.5/8" - 12		27.5	47.5	15.1	46.0			

SAE STANDARD CONNECTIONS

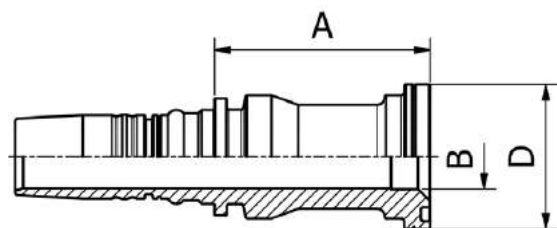
M32810

NPTF
MALE 60° CONE SEAT
SAE J516/J514



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H1			
M32810-10-12	16	- 10	5/8"	3/4" - 14		16.0	40.7	19.2	27.0			
M32810-12-12	19	- 12	3/4"	3/4" - 14		16.0	42.9	19.2	32.0			
M32810-16-16	25	- 16	1"	1" - 11,5		19.5	50.5	24.2	38.0			
M32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5		26.1	61.0	25.0	46.0			
M32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5		32.1	62.5	26.0	50.0			
M32810-24-32	38	- 24	1.1/2"	2" - 11,5		42.0	67.0	26.5	70.0			
M32810-32-32	51	- 32	2"	2" - 11,5		42.0	67.0	26.5	70.0			
M32810-40-40	63	- 40	2.1/2"	2.1/2" - 8		51.5	94.5	43.0	80.0			
M32810-48-48	76	- 48	3"	3" - 8		62.5	123.5	51.5	100.0			

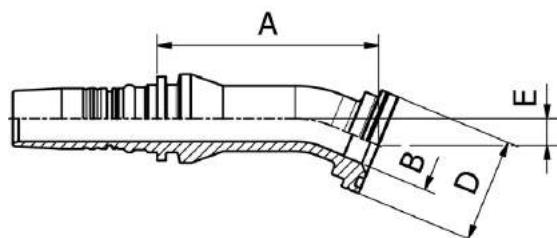
SAE STANDARD CONNECTIONS

**M43310**

ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D				
M43310-10-16	16	- 10	5/8"	1"		20.0	64.0	44.6				
M43310-12-12	19	- 12	3/4"	3/4"		16.0	60.0	38.0				
M43310-12-16	19	- 12	3/4"	1"		20.0	65.5	44.6				
M43310-16-12	25	- 16	1"	3/4"		16.0	67.0	38.0				
M43310-16-16	25	- 16	1"	1"		20.0	66.5	44.6				
M43310-16-20	25	- 16	1"	1.1/4"		26.1	73.0	51.0				
M43310-20-20	31	- 20	1.1/4"	1.1/4"		26.1	75.0	51.0				
M43310-20-24	31	- 20	1.1/4"	1.1/2"		32.1	80.0	60.5				
M43310-24-24	38	- 24	1.1/2"	1.1/2"		32.1	80.5	60.5				
M43310-24-32	38	- 24	1.1/2"	2"		42.0	88.5	71.6				
M43310-32-24	38	- 24	1.1/2"	2"		32.1	104.0	60.5				
M43310-32-32	51	- 32	2"	2"		42.0	82.5	71.6				
M43310-40-40	63	- 40	2.1/2"	2.1/2"		51.5	92.5	84.3				
M43310-48-48	76	- 48	3"	3"		62.5	101.0	101.6				

SAE STANDARD CONNECTIONS

**M43320**

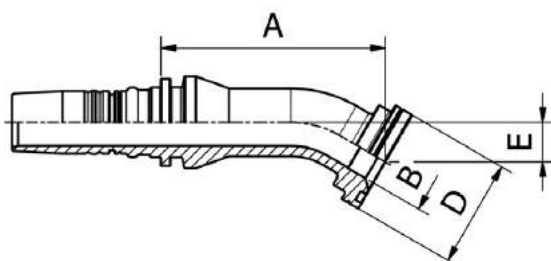
22,5° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E			
M43320-16-16	25	- 16	1"	1"		20.0	94.5	44.6	11.5			

SAE STANDARD CONNECTIONS

M43330

30° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

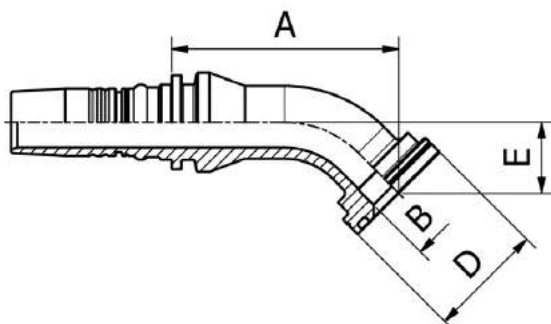


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E			
M43330-16-16	25	- 16	1"	1"		20.0	93.0	44.6	16.5			
M43330-20-20	31	- 20	1.1/4"	1.1/4"		26.1	106.5	51.0	17.5			
M43330-24-24	38	- 24	1.1/2"	1.1/2"		32.1	118.0	60.5	20.0			
M43330-32-32	51	- 32	2"	2"		42.0	137.0	71.6	22.0			

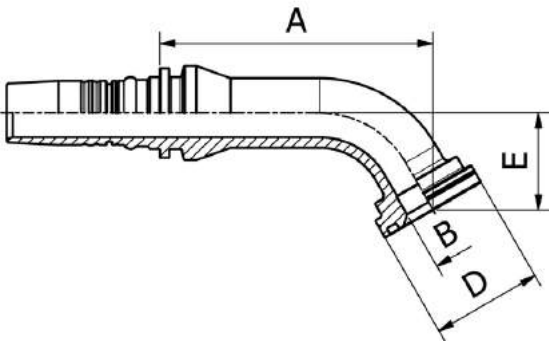
SAE STANDARD CONNECTIONS

M43340

45° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E			
M43340-12-12	19	- 12	3/4"	3/4"		16.0	75.5	38.0	26.0			
M43340-12-16	19	- 12	3/4"	1"		20.0	76.0	44.6	23.0			
M43340-16-16	25	- 16	1"	1"		20.0	87.0	44.6	27.5			
M43340-16-16032	25	- 16	1"	1"		20.0	92.0	44.5	32.0			
M43340-16-20	25	- 16	1"	1.1/4"		26.0	87.5	51.0	27.5			
M43340-20-20	31	- 20	1.1/4"	1.1/4"		26.1	100.5	51.0	29.5			
M43340-20-20038	31	- 20	1.1/4"	1.1/4"		26.1	109.0	50.9	38.0			
M43340-20-24	31	- 20	1.1/4"	1.1/2"		32.1	101.5	60.5	31.0			
M43340-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.0	60.5	34.5			
M43340-24-24044	38	- 24	1.1/2"	1.1/2"		32.1	120.0	60.5	44.0			
M43340-24-32	38	- 24	1.1/2"	2"		42.0	113.0	71.6	34.5			
M43340-32-32	51	- 32	2"	2"		42.0	128.5	71.6	39.0			
M43340-32-32056	51	- 32	2"	2"		42.0	146.0	71.6	56.0			
M43340-48-48	76	- 48	3"	3"		59.0	147.5	101.6	53.0			

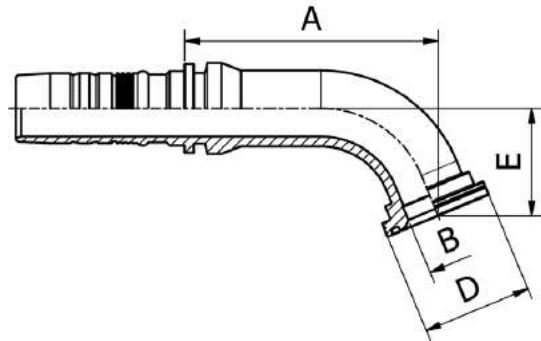


SAE STANDARD CONNECTIONS

M43360

60° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43360-16-16	25	- 16	1"	1"		20.0	110.0	44.6	39.0			
M43360-20-24	31	- 20	1.1/4"	1.1/2"		32.1	219.0	60.6	45.0			
M43360-24-24	38	- 24	1.1/2"	1.1/2"		32.1	147.0	60.5	51.0			
M43360-24-32	38	- 24	1.1/2"	2"		42.0	147.0	71.6	51.0			
M43360-32-32	51	- 32	2"	2"		42.0	175.0	71.6	58.5			

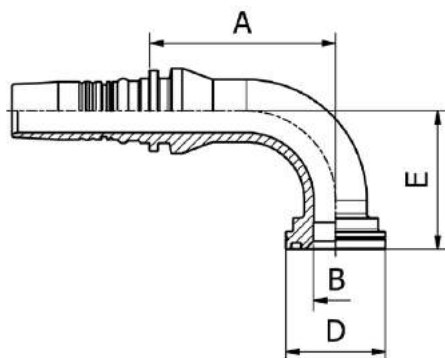


SAE STANDARD CONNECTIONS

M43370

67.5° ISO / SAE
FLANGE 3000 PSI
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43370-24-24	38	- 24	1.1/2"	1.1/2"		32.1	139.5	60.5	59.0			
M43370-24-32	38	- 24	1.1/2"	2"		42.0	130.0	71.6	59.0			
M43370-32-32	51	- 32	2"	2"		42.0	167.0	71.5	68.5			



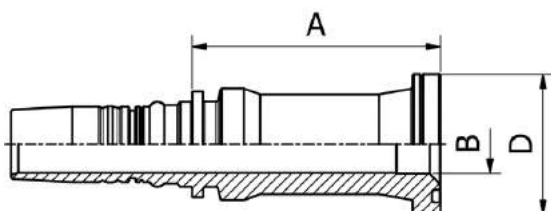
SAE STANDARD CONNECTIONS

M43390

90° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43390-10-16	16	- 10	5/8"	1"		20.0	71.0	44.6	52.0			
M43390-12-12	19	- 12	3/4"	3/4"		16.0	72.0	38.0	52.0			
M43390-12-12058	19	- 12	3/4"	3/4"		16.0	72.0	38.0	58.0			
M43390-12-16	19	- 12	3/4"	1"		20.0	72.5	44.6	52.0			
M43390-16-16	25	- 16	1"	1"		20.0	83.5	44.6	62.0			
M43390-16-16070	25	- 16	1"	1"		20.0	83.5	44.5	70.0			
M43390-16-20	25	- 16	1"	1.1/4"		26.0	83.5	51.0	62.0			
M43390-20-20	31	- 20	1.1/4"	1.1/4"		26.1	99.0	51.0	70.0			
M43390-20-20090	31	- 20	1.1/4"	1.1/4"		26.1	99.0	50.9	90.0			
M43390-20-16	31	- 20	1.1/4"	1"		19.8	96.5	44.6	66.0			
M43390-20-24	31	- 20	1.1/4"	1.1/2"		32.1	98.5	60.5	72.0			
M43390-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.5	60.5	84.0			
M43390-24-24104	38	- 24	1.1/2"	1.1/2"		32.1	111.5	60.5	104.0			
M43390-24-32	38	- 24	1.1/2"	2"		42.0	111.5	71.6	84.0			
M43390-32-32	51	- 32	2"	2"		42.0	133.5	71.6	99.0			
M43390-32-32138	51	- 32	2"	2"		42.0	133.5	71.5	138.0			
M43390-48-48	76	- 48	3"	3"		59.0	145.0	101.6	140.0			

SAE STANDARD CONNECTIONS

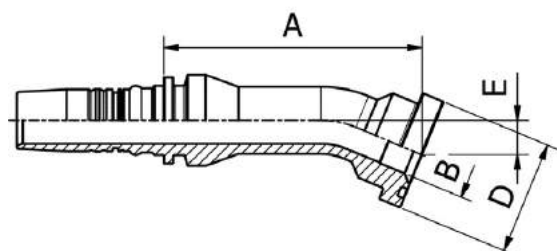


M43610

ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D				
M43610-10-12	16	- 10	5/8"	3/4"		16.0	65.0	41.5				
M43610-10-16	16	- 10	5/8"	1"		20.0	81.5	47.7				
M43610-12-12	19	- 12	3/4"	3/4"		16.0	71.5	41.4				
M43610-12-16	19	- 12	3/4"	1"		20.0	83.5	47.7				
M43610-16-12	25	- 16	1"	3/4"		16.0	80.5	41.4				
M43610-16-16	25	- 16	1"	1"		20.0	84.5	47.7				
M43610-16-20	25	- 16	1"	1.1/4"		26.0	89.0	54.2				
M43610-20-16	31	- 20	1.1/4"	1"		20.0	87.0	47.7				
M43610-20-20	31	- 20	1.1/4"	1.1/4"		26.1	91.0	54.2				
M43610-20-24	31	- 20	1.1/4"	1.1/2"		32.1	97.0	63.7				
M43610-24-20	38	- 24	1.1/2"	1.1/4"		26.0	101.0	54.2				
M43610-24-24	38	- 24	1.1/2"	1.1/2"		32.1	97.5	63.7				
M43610-24-32	38	- 24	1.1/2"	2"		42.0	113.0	79.6				
M43610-32-24	51	- 32	2"	1.1/2"		32.1	117.0	63.7				
M43610-32-32	51	- 32	2"	2"		42.0	112.5	79.6				
M43610-40-40	63	- 40	2.1/2"	2.1/2"		51.5	126.5	107.9				
M43610-48-48	76	- 48	3"	3"		62.5	167.0	131.9				

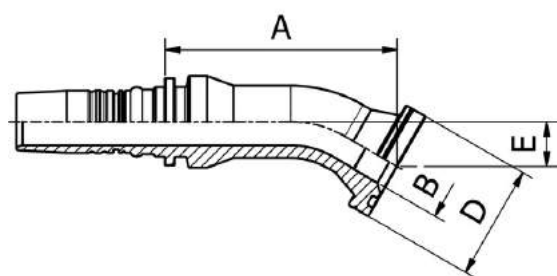
SAE STANDARD CONNECTIONS

**M43620**

**22.5° ISO / SAE
FLANGE 6000 PSI
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43620-12-12	19	- 12	3/4"	3/4"		16.0	89.0	41.3	12.5			
M43620-16-16	25	- 16	1"	1"		20.0	100.5	47.7	14.5			
M43620-16-16023	25	- 16	1"	1"		20.0	106.5	47.7	23.0			
M43620-20-20	31	- 20	1.1/4"	1.1/4"		26.0	118.3	54.1	16.5			
M43620-20-20030	31	- 20	1.1/4"	1.1/4"		26.0	132.5	54.2	30.0			
M43620-24-24	38	- 24	1.1/2"	1.1/2"		32.0	136.5	63.7	19.0			
M43620-32-32	51	- 32	2"	2"		42.0	171.0	79.6	26.0			

SAE STANDARD CONNECTIONS

**M43630**

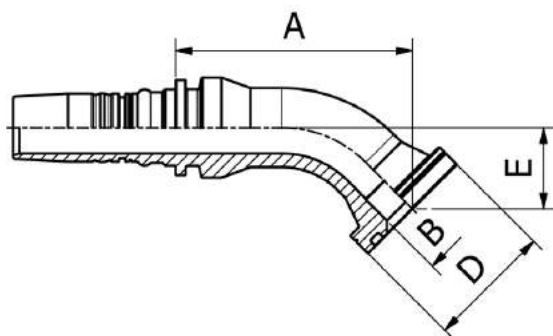
**30° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43630-12-12	19	- 12	3/4"	3/4"		16.0	87.0	41.4	17.5			
M43630-16-12	25	- 16	1"	3/4"		16.0	93.0	41.4	17.0			
M43630-16-16	25	- 16	1"	1"		20.0	96.0	47.7	18.5			
M43630-20-20	31	- 20	1.1/4"	1.1/4"		26.0	116.0	54.2	22.5			
M43630-24-24	38	- 24	1.1/2"	1.1/2"		32.1	128.7	63.7	28.0			
M43630-32-32	51	- 32	2"	2"		42.0	164.0	79.6	35.5			

SAE STANDARD CONNECTIONS

M43640

45° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43640-10-12	16	- 10	5/8"	3/4"		16.0	71.0	41.4	31.0			
M43640-10-16	16	- 10	5/8"	1"		20.0	83.5	47.7	32.5			
M43640-12-12	19	- 12	3/4"	3/4"		16.0	79.0	41.4	26.0			
M43640-12-16	19	- 12	3/4"	1"		20.0	85.5	47.7	32.5			
M43640-16-12	25	- 16	1"	3/4"		16.0	87.0	41.4	28.0			
M43640-16-16	25	- 16	1"	1"		20.0	90.0	47.7	31.0			
M43640-16-20	25	- 16	1"	1.1/4"		26.0	93.0	54.2	34.5			
M43640-20-16	31	- 20	1.1/4"	1"		25.0	106.5	47.7	33.5			
M43640-20-20	31	- 20	1.1/4"	1.1/4"		26.0	108.0	54.2	37.5			
M43640-20-24	31	- 20	1.1/4"	1.1/2"		32.1	116.0	63.7	42.5			
M43640-24-20	38	- 24	1.1/2"	1.1/4"		26.0	115.0	54.2	41.5			
M43640-24-24	38	- 24	1.1/2"	1.1/2"		32.0	125.0	63.7	44.0			
M43640-24-32	38	- 24	1.1/2"	2"		42.0	134.0	79.6	55.5			
M43640-32-32	51	- 32	2"	2"		42.0	152.0	79.6	58.5			
M43640-32-32056	51	- 32	2"	2"		42.0	149.5	79.6	56.0			

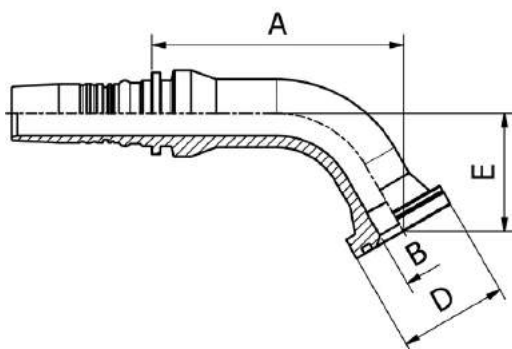
193 FITTINGS

193

SAE STANDARD CONNECTIONS

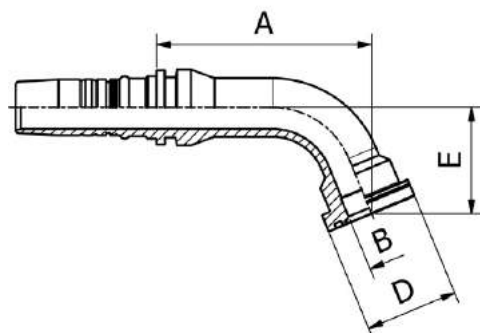
M43660

60° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43660-12-12	19	- 12	3/4"	3/4"		16.0	98.5	41.4	39.0			
M43660-12-16	19	- 12	3/4"	1"		20.0	101.0	47.7	44.0			
M43660-16-16	25	- 16	1"	1"		20.0	111.0	47.7	52.0			
M43660-20-20	31	- 20	1.1/4"	1.1/4"		26.1	133.0	54.2	58.0			
M43660-20-24	31	- 20	1.1/4"	1.1/2"		32.1	137.0	63.7	65.0			
M43660-24-24	38	- 24	1.1/2"	1.1/2"		32.0	155.0	63.7	59.0			
M43660-32-32	51	- 32	2"	2"		42.0	199.5	79.6	83.5			

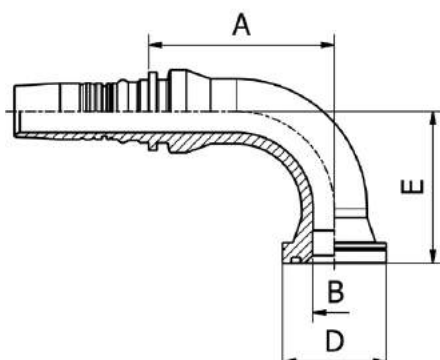
SAE STANDARD CONNECTIONS

**M43670**

**67.5° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

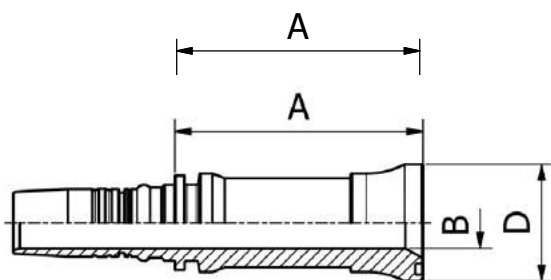
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43670-16-20	25	- 16	1"	1.1/4"		26.0	105.0	54.1	58.5			
M43670-20-16T34	31	- 20	1.1/4"	1"		26.0	125.3	47.7	58.2			
M43670-20-20	31	- 20	1.1/4"	1.1/4"		26.1	125.5	54.2	62.0			
M43670-24-16	38	- 24	1.1/2"	1"		19.0	125.5	47.7	51.0			
M43670-24-20	38	- 24	1.1/2"	1.1/4"		26.0	142.5	54.1	54.1			
M43670-24-20T40	38	- 24	1.1/2"	1.1/4"		31.0	145.0	54.2	71.0			

SAE STANDARD CONNECTIONS

**M43690**

**90° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M43690-10-12	16	- 10	5/8"	3/4"		16.0	56.5	41.4	60.5			
M43690-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.4	59.0			
M43690-12-16	19	- 12	3/4"	1"		20.0	72.5	47.7	65.0			
M43690-16-12	25	- 16	1"	3/4"		16.0	81.5	41.4	62.0			
M43690-16-16	25	- 16	1"	1"		20.0	85.5	47.7	70.0			
M43690-16-20	25	- 16	1"	1.1/4"		26.0	85.0	54.2	75.0			
M43690-20-16	31	- 20	1.1/4"	1"		25.0	105.0	47.7	79.0			
M43690-20-20	31	- 20	1.1/4"	1.1/4"		26.1	102.0	54.2	82.0			
M43690-20-20090	31	- 20	1.1/4"	1.1/4"		26.0	102.0	54.2	90.0			
M43690-20-24	31	- 20	1.1/4"	1.1/2"		32.1	105.0	63.7	92.0			
M43690-24-20	38	- 24	1.1/2"	1.1/4"		26.0	110.0	54.2	90.0			
M43690-24-24	38	- 24	1.1/2"	1.1/2"		32.1	114.5	63.7	96.0			
M43690-24-24104	38	- 24	1.1/2"	1.1/2"		32.1	114.5	63.7	104.0			
M43690-24-32	38	- 24	1.1/2"	2"		42.0	114.5	79.6	109.0			
M43690-32-32	51	- 32	2"	2"		42.0	142.5	79.6	132.0			
M43690-32-32138	51	- 32	2"	2"		42.0	140.5	79.6	142.5			

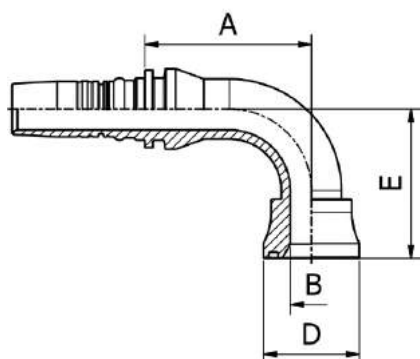


XTRAFLANGE

M48410

XTRAFLANGE/61
(ISO 6162-1/SAE J518 CODE 61
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
M48410-16-16	25	- 16	1"	1"		19.5	94.5	44.5				
M48410-20-20	31	- 20	1.1/4"	1.1/4"		25.0	103.5	50.5				
M48410-24-24	38	- 24	1.1/2"	1.1/2"		31.0	116.0	60.5				
M48410-32-32	51	- 32	2"	2"		41.0	101.0	71.6				
M48410-40-40	63	- 40	2.1/2"	2.1/2"		51.5	103.0	84.4				

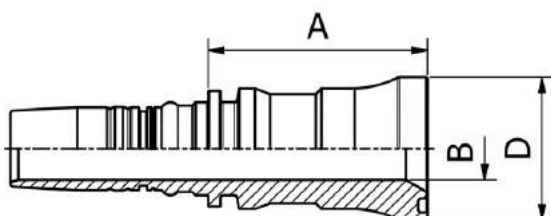


XTRAFLANGE

M48490

90° XTRAFLANGE/61
(ISO 6162-1/SAE J518 CODE 61
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M48490-16-16	25	- 16	1"	1"		19.5	77.5	44.5	69.5			
M48490-20-20	31	- 20	1.1/4"	1.1/4"		25.0	107.0	50.5	90.0			
M48490-24-24	38	- 24	1.1/2"	1.1/2"		31.0	112.0	60.5	104.0			
M48490-32-32	51	- 32	2"	2"		41.0	145.0	71.6	138.0			

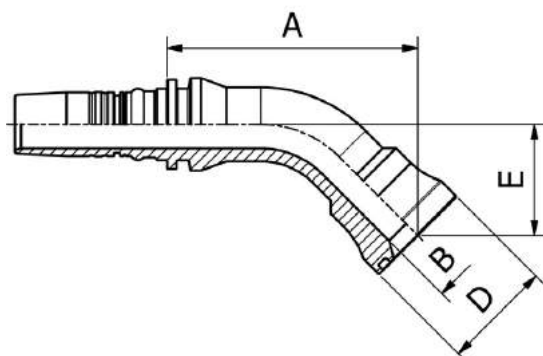


XTRAFLANGE

M48510

XTRAFLANGE/62
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
M48510-12-12	19	- 12	3/4"	3/4"		14.5	64.0	41.4				
M48510-16-16	25	- 16	1"	1"		19.5	68.5	47.7				
M48510-20-20	31	- 20	1.1/4"	1.1/4"		25.0	88.0	54.4				
M48510-24-24	38	- 24	1.1/2"	1.1/2"		31.0	102.0	63.7				
M48510-32-32	51	- 32	2"	2"		41.0	128.5	79.6				
M48510-40-40	63	- 40	2.1/2"	2.1/2"		51.5	148.5	99.2				

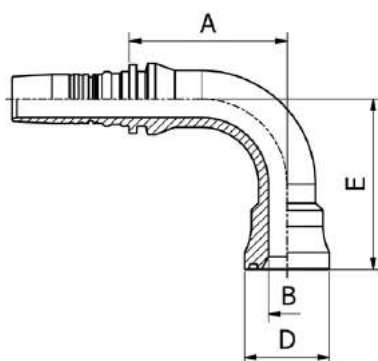


XTRAFLANGE

M48540

45° XTRAFLANGE/62
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M48540-12-12	19	- 12	3/4"	3/4"		14.5	92.5	41.4	38.0			
M48540-16-16	25	- 16	1"	1"		19.5	101.5	47.7	45.0			
M48540-20-20	31	- 20	1.1/4"	1.1/4"		25.0	138.0	54.4	62.5			
M48540-24-24	38	- 24	1.1/2"	1.1/2"		31.0	155.0	63.7	71.5			
M48540-32-32	51	- 32	2"	2"		39.0	193.5	79.6	92.5			

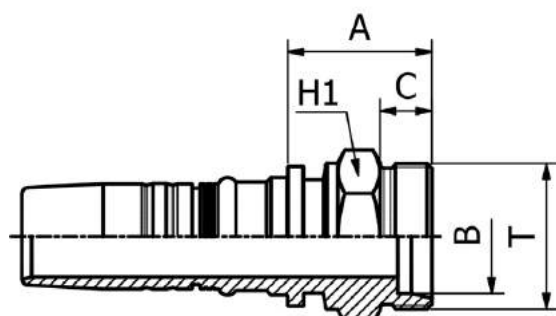


XTRAFLANGE

M48590

90° XTRAFLANGE/62
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M48590-12-12	19	- 12	3/4"	3/4"		14.5	75.5	41.4	75.0			
M48590-16-16	25	- 16	1"	1"		19.5	83.5	47.7	90.0			
M48590-20-20	31	- 20	1.1/4"	1.1/4"		25.0	107.0	54.4	120.0			
M48590-24-24	38	- 24	1.1/2"	1.1/2"		31.0	122.0	63.7	140.0			
M48590-32-32	51	- 32	2"	2"		39.0	147.5	79.6	178.0			



DIN STANDARD CONNECTIONS

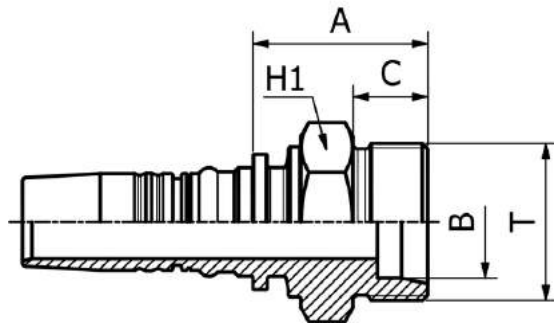
M31110

METRIC
MALE 24° CONE SEAT LIGHT DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M31110-20-45	31	- 20	1.1/4"	M 45X2	35.0	35.3	44.5	16.0	46.0			

DIN STANDARD CONNECTIONS

M31210

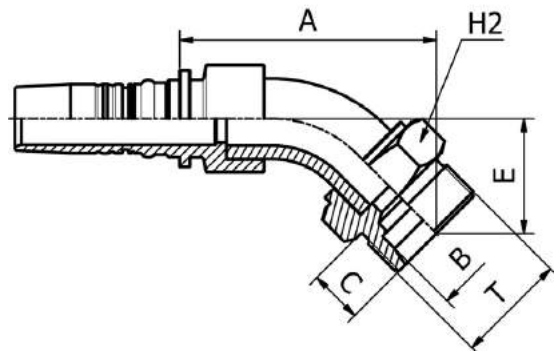


METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M31210-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	16.0	30.0			
M31210-12-30	19	- 12	3/4"	M 30X2	20.0	14.5	38.5	16.0	32.0			
M31210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	43.5	18.0	36.0			
M31210-16-36	25	- 16	1"	M 36X2	25.0	19.5	45.0	18.0	36.0			
M31210-16-42	25	- 16	1"	M 42X2	30.0	19.5	47.0	20.0	46.0			
M31210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0			
M31210-24-52	38	- 24	1.1/2"	M 52X2	38.0	31.0	55.5	22.0	55.0			

DIN STANDARD CONNECTIONS

M31240



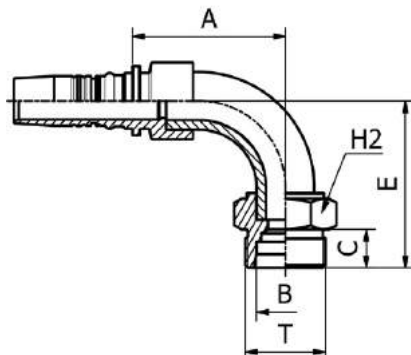
45° METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M31240-16-42	25	- 16	1"	M 42X2	30.0	25.0	96.0	20.0	43.0	46.0		
M31240-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	110.0	22.0	49.5	55.0		

*All items are made from brazing

DIN STANDARD CONNECTIONS

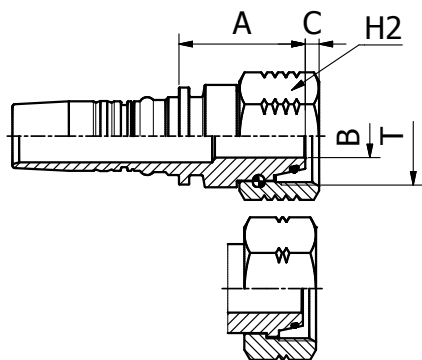
M31290



90° METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M31290-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	64.5	29.0	64.0	32.0		
M31290-16-42	25	- 16	1"	M 42X2	30.0	20.0	79.5	20.0	87.0	46.0		
M31290-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	96.0	22.0	105.0	55.0		

*All items are made from brazing

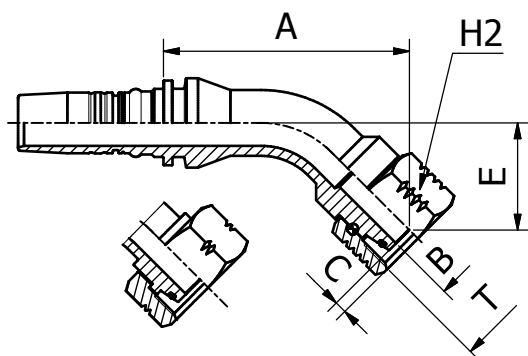


DIN STANDARD CONNECTIONS

M41612/M41613

METRIC
O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H2			
M41612-10-24	16	- 10	5/8"	M 24X1,5	16.0	9.3	31.0	4.0	30.0			
M41613-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	3.5	36.0			
M41612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	44.0	3.2	36.0			
M41613-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	42.0	3.4	41.0			
M41613-12-42	19	- 12	3/4"	M 42X2	30.0	19.0	36.0	6.3	50.0			
M41612-16-36	25	- 16	1"	M 36X2	25.0	16.0	47.0	4.1	41.0			
M41613-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.5	5.3	50.0			
M41613-16-52	25	- 16	1"	M 52X2	38.0	26.1	49.5	8.0	60.0			
M41612-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.0	47.5	6.0	50.0			
M41613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	41.5	8.0	60.0			
M41612-24-52	38	- 24	1.1/2"	M 52X2	38.0	29.0	52.5	8.8	60.0			

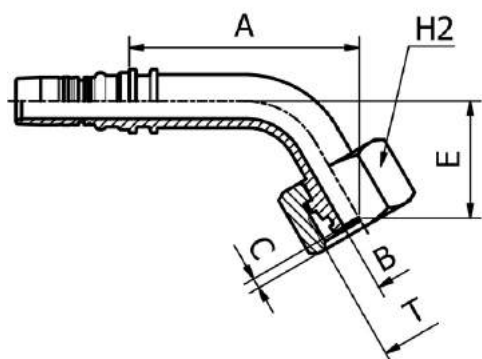


DIN STANDARD CONNECTIONS

M41642/M41643

45° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M41643-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	66.5	3.5	29.5	36.0		
M41642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	79.0	3.2	35.0	36.0		
M41643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	81.0	3.4	33.5	41.0		
M41642-16-36	25	- 16	1"	M 36X2	25.0	16.0	103.0	4.1	45.5	41.0		
M41643-16-42	25	- 16	1"	M 42X2	30.0	19.5	93.0	5.3	36.0	50.0		
M41642-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	116.5	6.0	44.5	50.0		
M41643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	110.0	8.0	40.0	60.0		
M41642-24-52	38	- 24	1.1/2"	M 52X2	38.0	29.0	128.0	8.8	51.5	60.0		

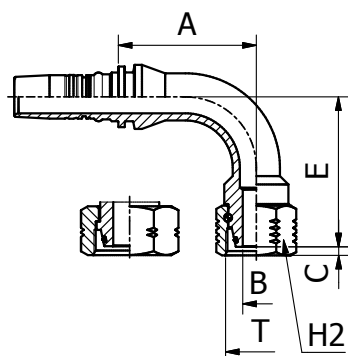


DIN STANDARD CONNECTIONS

M41663

**60° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M41663-10-30	16	- 10	5/8"	M30X2	20.0	12.0	78.4	3.5	40.0	36		

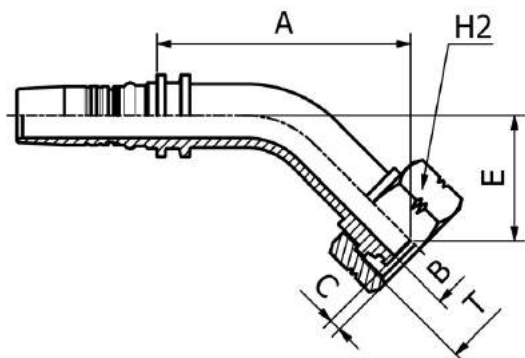


DIN STANDARD CONNECTIONS

M41692/M41693

**90° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M41693-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	52.5	3.5	57.5	36.0		
M41692-12-30	19	- 12	3/4"	M 30X2	25.0	12.5	64.0	3.2	68.5	36.0		
M41693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0		
M41692-16-36	25	- 16	1"	M 36X2	25.0	16.0	81.5	4.1	89.0	41.0		
M41693-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	75.5	50.0		
M41692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	103.5	6.0	90.0	50.0		
M41693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	100.0	8.0	86.5	60.0		

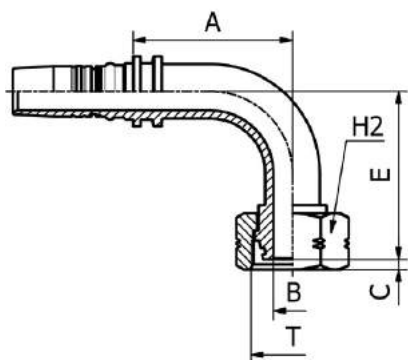


DIN STANDARD CONNECTIONS

M41243 LONG DROP

45° METRIC
O-RING FEMALE
MEDIUM/LONG DROP ELBOW 24° CONE
HEAVY DUTY
DIN 20066/ ISO 12151-2 (SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm							
	DN	Dash	inch			B	A	C	E	H2			
M41243-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	77.5	3.5	35.0	36.0			
M41243-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	101.0	3.4	45.0	41.0			
M41243-16-42	25	- 16	1"	M 42X2	30.0	19.5	112.0	5.3	55.0	50.0			
M41243-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	133.0	8.0	63.0	60.0			

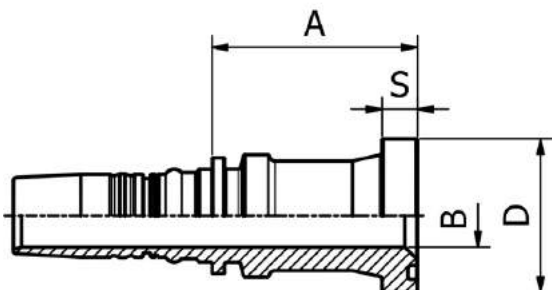


DIN STANDARD CONNECTIONS

M41293 LONG DROP

90° METRIC
O-RING FEMALE
MEDIUM/LONG DROP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2 (SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm							
	DN	Dash	inch			B	A	C	E	H2			
M41293-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	53.0	3.5	60.0	36.0			
M41293-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0			
M41293-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	86.0	50.0			
M41293-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	100.0	8.0	92.0	60.0			



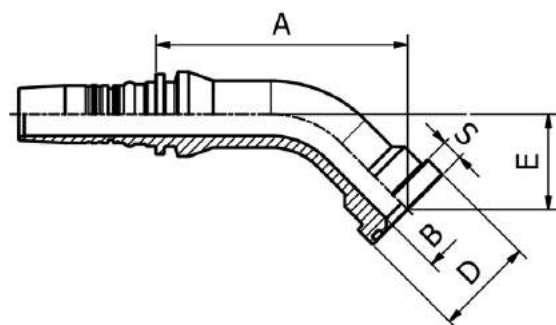
ORIGINAL EQUIPMENT CONNECTIONS

M43710

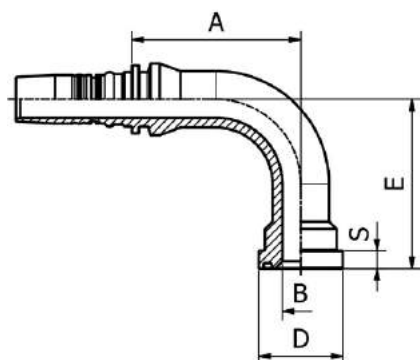
FLANGE PLUS
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D	S				
M43710-10-12	16	- 10	5/8"	3/4"		16.0	51.5	41.5	9.0				
M43710-12-12	19	- 12	3/4"	3/4"		14.5	71.5	41.4	10.0				
M43710-16-16	25	- 16	1"	1"		19.5	64.0	47.7	11.0				
M43710-20-20	31	- 20	1.1/4"	1.1/4"		25.0	81.0	54.2	12.0				

ORIGINAL EQUIPMENT CONNECTIONS


M43740
45° FLANGE PLUS
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43740-10-12	16	- 10	5/8"	3/4"		16.0	72.5	41.4	31.0	9.0		
M43740-12-12	19	- 12	3/4"	3/4"		14.5	113.0	41.4	40.0	10.0		
M43740-16-16	25	- 16	1"	1"		19.5	113.5	47.7	43.0	11.0		
M43740-20-20	31	- 20	1.1/4"	1.1/4"		25.0	133.5	54.2	50.0	12.0		

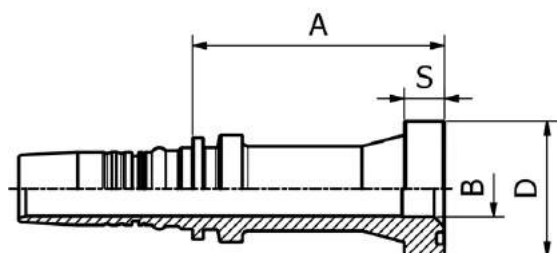


ORIGINAL EQUIPMENT CONNECTIONS

M43790
90° FLANGE PLUS
(SAE J518 CODE 62 - ISO 6162-2
PORT COMPATIBLE)

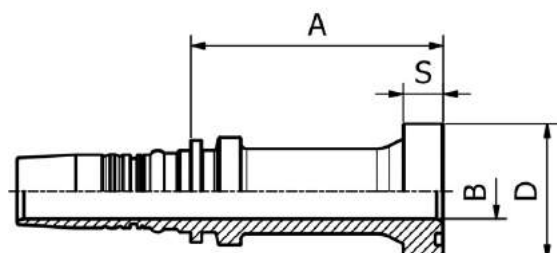
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43790-10-12	16	- 10	5/8"	3/4"		16.0	61.5	41.4	60.5	9.0		
M43790-12-12	19	- 12	3/4"	3/4"		14.5	93.0	41.4	75.0	10.0		
M43790-16-16	25	- 16	1"	1"		19.5	90.0	47.7	90.0	11.0		
M43790-20-20	31	- 20	1.1/4"	1.1/4"		25.0	115.0	54.2	110.0	12.0		

ORIGINAL EQUIPMENT CONNECTIONS

**M43910****STRAIGHT SUPERCAT SERIES FLANGE**

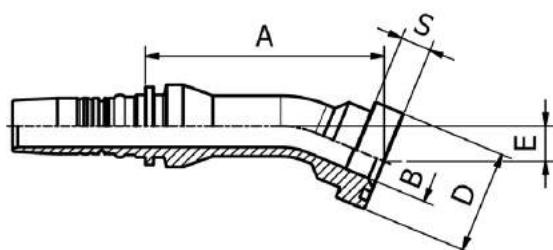
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	S			
M43910-12-12	19	- 12	3/4"	3/4"		16.0	77.0	41.5	14.3			
M43910-12-16	19	- 12	3/4"	1"		20.0	88.5	47.7	14.3			
M43910-16-16	25	- 16	1"	1"		20.0	89.5	47.7	14.3			
M43910-16-20	25	- 16	1"	1.1/4"		26.0	93.5	54.0	14.3			
M43910-20-20	31	- 20	1.1/4"	1.1/4"		26.1	95.0	54.0	14.3			
M43910-20-24	31	- 20	1.1/4"	1.1/2"		32.1	98.5	63.6	14.3			
M43910-24-24	38	- 24	1.1/2"	1.1/2"		32.1	99.0	63.6	14.3			
M43910-24-32	38	- 24	1.1/2"	2"		42.0	115.0	79.3	14.3			
M43910-32-24	51	- 32	2"	1.1/2"		32.1	119.5	63.6	14.3			
M43910-32-32	51	- 32	2"	2"		42.0	114.5	79.3	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

**M43910CT****STRAIGHT REALCAT FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	S			
M43910-16-16CT	25	- 16	1"	1"		19.5	89.5	47.7	14.3			
M43910-20-20CT	31	- 20	1.1/4"	1.1/4"		25.0	95.0	54.0	14.3			
M43910-20-24CT	31	- 20	1.1/4"	1.1/2"		31.0	98.0	63.6	14.3			
M43910-24-24CT	38	- 24	1.1/2"	1.1/2"		31.0	99.0	63.6	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

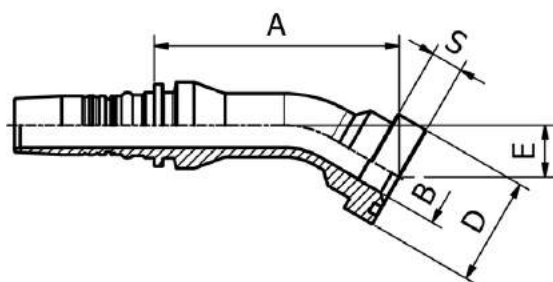


M43920

22,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch			B	A	D	E	S	
M43920-12-12	19	- 12	3/4"	3/4"		16.0	94.0	41.5	14.5	14.3	
M43920-12-16	19	- 12	3/4"	1"		20.0	101.5	47.7	16.5	14.3	
M43920-16-16	25	- 16	1"	1"		20.0	110.5	47.7	16.5	14.3	
M43920-16-20	25	- 16	1"	1.1/4"		26.1	115.5	54.0	19.0	14.3	
M43920-20-20	31	- 20	1.1/4"	1.1/4"		26.1	122.0	54.0	18.0	14.3	
M43920-20-24	31	- 20	1.1/4"	1.1/2"		32.0	139.0	63.7	23.0	14.3	
M43920-24-24	38	- 24	1.1/2"	1.1/2"		32.0	138.0	63.7	20.0	14.3	

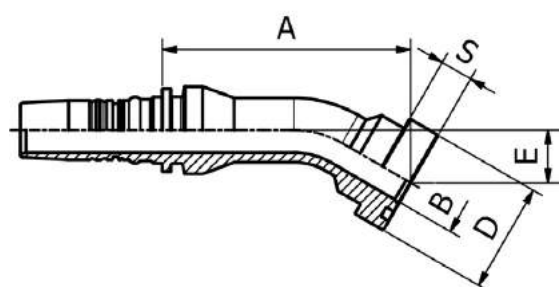
ORIGINAL EQUIPMENT CONNECTIONS



M43930

30° SUPERCAT SERIES FLANGE

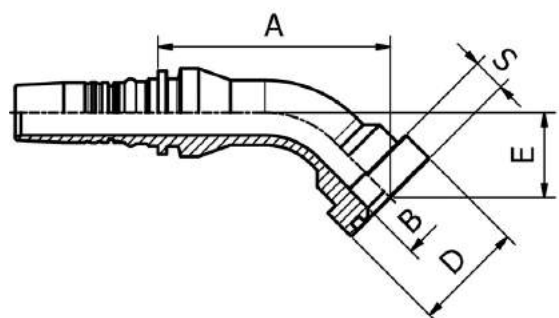
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch			B	A	D	E	S	
M43930-12-12	19	- 12	3/4"	3/4"		16.0	92.0	41.5	20.0	14.3	
M43930-12-16	19	- 12	3/4"	1"		20.0	99.0	47.7	22.5	14.3	
M43930-16-16	25	- 16	1"	1"		20.0	108.0	47.7	23.0	14.3	
M43930-16-20	25	- 16	1"	1.1/4"		26.1	112.5	54.0	26.0	14.3	
M43930-20-20	31	- 20	1.1/4"	1.1/4"		26.1	119.5	54.0	25.0	14.3	
M43930-20-24	31	- 20	1.1/4"	1.1/2"		32.0	135.5	63.7	32.0	14.3	
M43930-24-24	38	- 24	1.1/2"	1.1/2"		32.0	135.0	63.7	28.0	14.3	
M43930-24-32	38	- 24	1.1/2"	2"		42.0	151.5	79.3	36.0	14.3	
M43930-32-32	51	- 32	2"	2"		42.0	171.5	79.3	37.5	14.3	



ORIGINAL EQUIPMENT CONNECTIONS

M43930CT**30° REALCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43930-12-12CT	19	- 12	3/4"	3/4"		14.5	92.0	41.5	20.0	14.3		
M43930-16-16CT	25	- 16	1"	1"		19.5	108.0	47.7	23.0	14.3		
M43930-20-20CT	31	- 20	1.1/4"	1.1/4"		25.0	119.5	54.0	25.0	14.3		
M43930-24-24CT	38	- 24	1.1/2"	1.1/2"		31.0	135.0	63.7	28.0	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

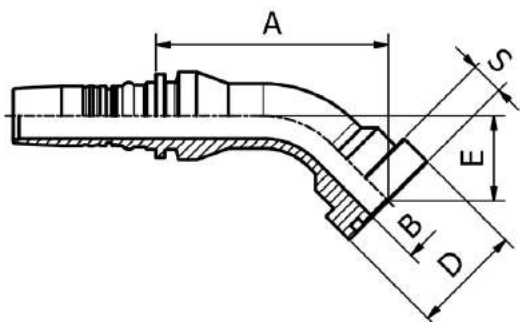
M43940**45° SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43940-12-12	19	- 12	3/4"	3/4"		16.0	85.0	41.5	32.0	14.3		
M43940-12-16	19	- 12	3/4"	1"		20.0	91.5	47.7	35.5	14.3		
M43940-16-16	25	- 16	1"	1"		20.0	100.5	47.7	36.5	14.3		
M43940-16-20	25	- 16	1"	1.1/4"		26.1	103.5	54.0	40.5	14.3		
M43940-20-20	31	- 20	1.1/4"	1.1/4"		26.1	110.5	54.0	40.5	14.3		
M43940-20-24	31	- 20	1.1/4"	1.1/2"		32.0	124.5	63.7	50.5	14.3		
M43940-24-24	38	- 24	1.1/2"	1.1/2"		32.0	125.5	63.7	45.5	14.3		
M43940-24-32	38	- 24	1.1/2"	2"		42.0	139.5	79.3	56.5	14.3		
M43940-32-32	51	- 32	2"	2"		42.0	158.5	79.3	61.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

M43940CT

45° REALCAT FLANGE

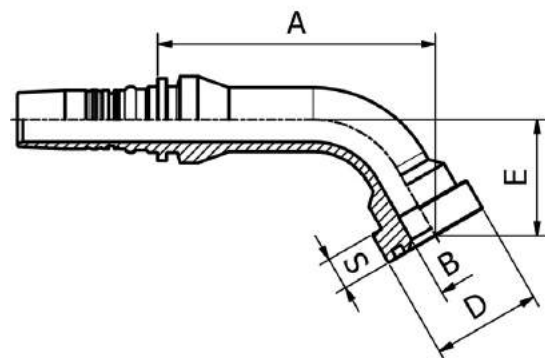


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43940-16-16CT	25	- 16	1"	1"		19.5	100.5	47.7	36.5	14.3		
M43940-16-20CT	25	- 16	1"	1.1/4"		25.0	103.5	54.0	40.5	14.3		
M43940-20-24CT	31	- 20	1.1/4"	1.1/2"		31.0	124.5	63.7	50.5	14.3		
M43940-20-20CT	31	- 20	1.1/4"	1.1/4"		25.0	110.5	54.0	40.5	14.3		
M43940-24-24CT	38	- 24	1.1/2"	1.1/2"		31.0	125.5	63.7	45.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

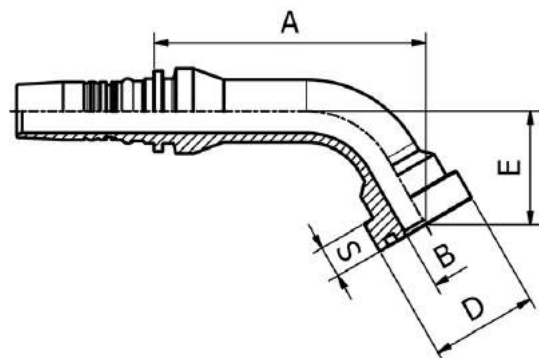
M43960

60° SUPERCAT SERIES FLANGE



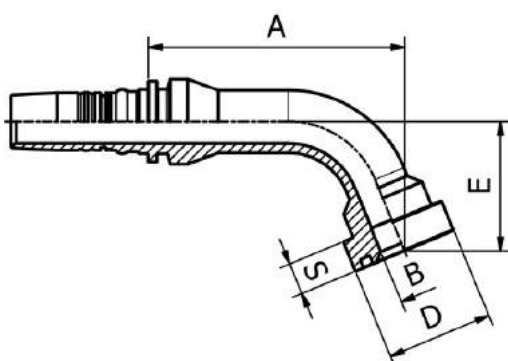
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43960-12-16	19	- 12	3/4"	1"		20.0	106.0	47.7	48.0	14.3		
M43960-12-12	19	- 12	3/4"	3/4"		16.0	101.0	41.5	44.0	14.3		
M43960-16-16	25	- 16	1"	1"		20.0	122.0	47.7	51.0	14.3		
M43960-16-16055	25	- 16	1"	1"		20.0	102.5	47.7	55.0	14.3		
M43960-16-20	25	- 16	1"	1.1/4"		26.1	122.0	54.0	55.0	14.3		
M43960-20-20	31	- 20	1.1/4"	1.1/4"		26.1	136.0	54.0	56.0	14.3		
M43960-20-24	31	- 20	1.1/4"	1.1/2"		32.0	149.0	63.7	69.0	14.3		
M43960-24-24	38	- 24	1.1/2"	1.1/2"		32.0	154.5	63.7	63.0	14.3		
M43960-32-32	51	- 32	2"	2"		42.0	202.0	79.3	86.5	14.3		
M43960-32-32150	51	- 32	2"	2"		42.0	196.5	79.3	150.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

M43960CT**60° REALCAT SERIES FLANGE**

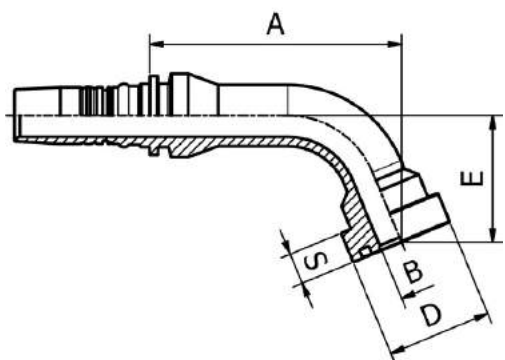
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43960-16-16CT	25	- 16	1"	1"		19.5	122.0	47.7	51.0	14.3		
M43960-16-20CT	25	- 16	1"	1.1/4"		25.0	122.0	54.0	55.0	14.3		
M43960-24-24CT	38	- 24	1.1/2"	1.1/2"		31.0	154.5	63.7	63.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

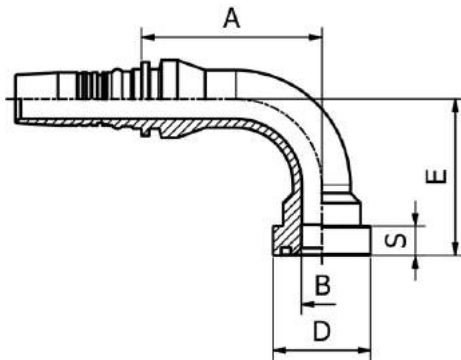
M43970**67,5° SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43970-12-12	19	- 12	3/4"	3/4"		16.0	95.0	41.5	49.5	14.3		
M43970-12-16	19	- 12	3/4"	1"		20.0	99.5	47.7	54.0	14.3		
M43970-16-16	25	- 16	1"	1"		20.0	115.0	47.7	58.0	14.3		
M43970-16-20	25	- 16	1"	1.1/4"		26.1	114.5	54.0	62.0	14.3		
M43970-20-20	31	- 20	1.1/4"	1.1/4"		26.1	128.0	54.0	64.0	14.3		
M43970-20-24	31	- 20	1.1/4"	1.1/2"		32.0	139.5	63.7	78.0	14.3		
M43970-24-24	38	- 24	1.1/2"	1.1/2"		32.0	146.0	63.7	72.0	14.3		
M43970-32-32	51	- 32	2"	2"		42.0	189.5	79.3	99.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

M43970CT**67,5° REALCAT SERIES FLANGE**

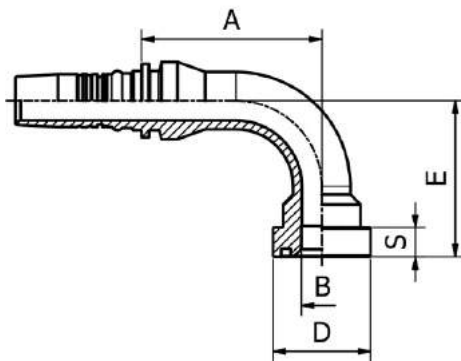
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43970-16-16CT	25	- 16	1"	1"		19.5	115.0	47.7	58.0	14.3		
M43970-16-20CT	25	- 16	1"	1.1/4"		25.0	114.5	64.0	62.0	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

M43990**90° SUPERCAT SERIES FLANGE**

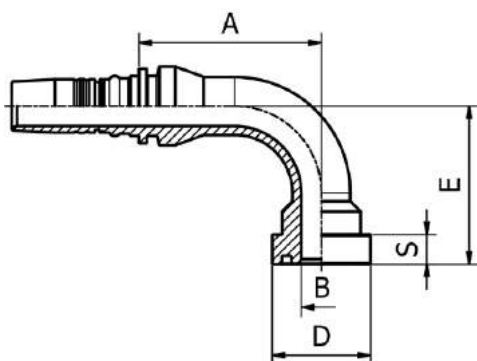
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M43990-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.5	64.5	14.3		
M43990-12-16	19	- 12	3/4"	1"		20.0	75.0	47.7	69.5	14.3		
M43990-16-16	25	- 16	1"	1"		20.0	88.5	47.7	76.5	14.3		
M43990-16-20	25	- 16	1"	1.1/4"		26.1	86.5	54.0	80.5	14.3		
M43990-20-20	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.0	85.0	14.3		
M43990-20-24	31	- 20	1.1/4"	1.1/2"		32.0	104.0	63.7	101.0	14.3		
M43990-24-24	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	96.0	14.3		
M43990-24-32	38	- 24	1.1/2"	2"		42.0	115.0	79.3	112.0	14.3		
M43990-32-32	51	- 32	2"	2"		42.0	144.0	79.3	133.5	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

M43990 LONG DROP**90° LONG DROP SUPERCAT SERIES FLANGE**

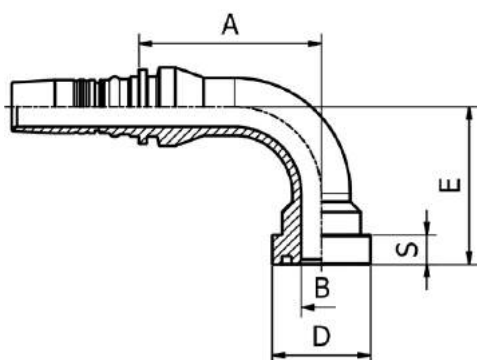
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M43990-16-16150	25	- 16	1"	1"		20.0	88.5	47.7	150.0	14.3		
M43990-16-16132	25	- 16	1"	1"		20.0	88.5	47.7	132.0	14.3		
M43990-16-20150	25	- 16	1"	1.1/4"		26.1	88.5	54.0	150.0	14.3		
M43990-20-24135	31	- 20	1.1/4"	1.1/2"		32.0	98.5	63.7	135.0	14.3		
M43990-20-20150	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.0	150.0	14.3		
M43990-20-20092	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.0	92.0	14.3		
M43990-24-24106	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	106.0	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

M43990CT**90° REALCAT FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43990-16-16CT	25	- 16	1"	1"		19.5	88.5	47.7	76.5	14.3		
M43990-16-20CT	25	- 16	1"	1.1/4"		25.0	86.5	54.0	80.5	14.3		
M43990-20-20CT	31	- 20	1.1/4"	1.1/4"		25.0	98.5	54.0	85.0	14.3		
M43990-24-24CT	38	- 24	1.1/2"	1.1/2"		31.0	112.5	63.7	96.0	14.3		

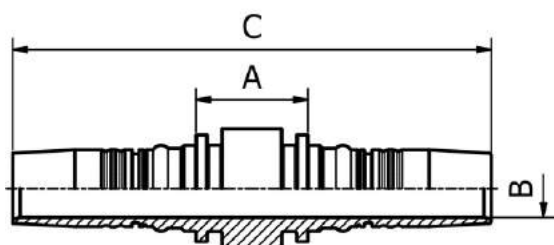


ORIGINAL EQUIPMENT CONNECTIONS

M43990CT LONG DROP**90° LONG DROP REALCAT FLANGE**

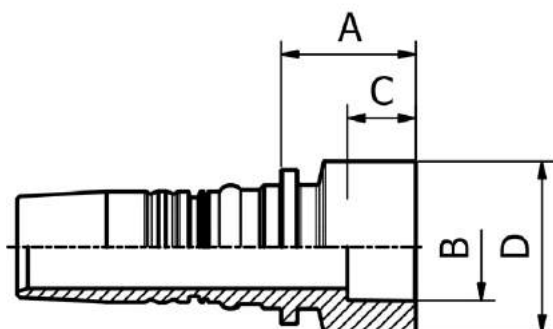
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M43990-16-16132CT	25	- 16	1"	1"		19.5	88.5	47.7	132.0	14.3		
M43990-20-20150CT	25	- 16	1"	1.1/4"		25.0	98.5	54.0	150.0	14.3		
M43990-24-24106CT	31	- 20	1.1/4"	1.1/2"		31.0	112.5	63.7	106.0	14.3		

DOUBLE CONNECTOR

**M30050****DOUBLE CONNECTOR**

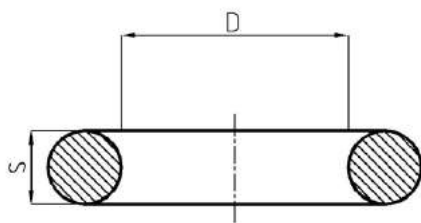
PART. REF.	HOSE BORE					DIMENSIONS mm						
	DN	Dash	inch			B	A	C				
M30050-20-20	31	- 20	1.1/4"			25.0	42.0	206.0				
M30050-24-24	38	- 24	1.1/2"			31.0	43.1	229.1				
M30050-32-32	51	- 32	2"			41.0	43.0	244.7				

TAIL

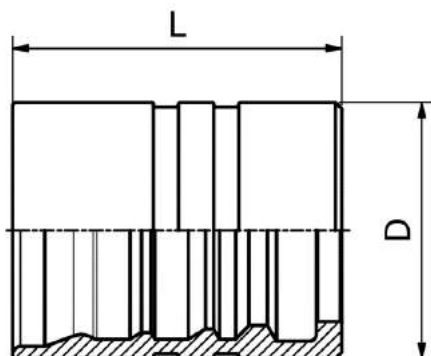
M49510WL**WELDING TAIL**

PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			B	A	C	D			
M49510-10-18WL	16	- 10	5/8"			18.1	20.5	10.0	26.0			
M49510-12-22WL	19	- 12	3/4"			22.1	27.5	12.0	34.0			
M49510-16-28WL	25	- 16	1"			28.1	31.5	14.0	40.0			
M49510-20-35WL	31	- 20	1.1/4"			35.1	33.0	14.0	49.0			

O-RING

JO29**OPTIONAL INTERLOCK PLUS O-RING**

PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			D	S					
JO29161218	16	- 10	5/8"			12.42	1.78					
JO29191618	19	- 12	3/4"			15.6	1.78					
JO29262218	25	- 16	1"			21.95	1.78					
JO29322818	31	- 20	1.1/4"			28.3	1.78					
JO29383518	38	- 24	1.1/2"			34.65	1.78					
JO29514718	51	- 32	2"			47.35	1.78					
JO29605718	63	- 40	2.1/2"			56.87	1.78					
JO29737018	76	- 48	3"			69.57	1.78					

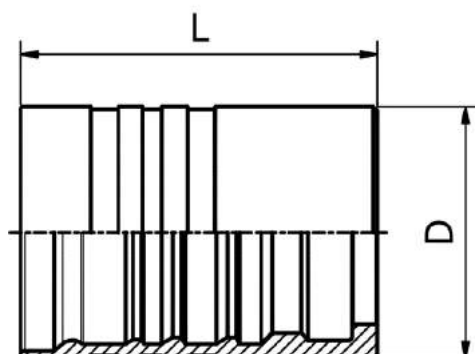


FERRULE

IM01500

**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01500-10	16	- 10	5/8"			35.0	40.9				
IM01500-12	19	- 12	3/4"			40.0	51.4				
IM01500-16	25	- 16	1"			48.0	64.5				
IM01500-20	31	- 20	1.1/4"			57.0	84.0				
IM01500-24	38	- 24	1.1/2"			64.3	94.0				
IM01500-32	51	- 32	2"			83.5	107.0				
IM01500-40	63	- 40	2.1/2"			100.0	135.0				
IM01500-48	76	- 48	3"			107.0	125.0				

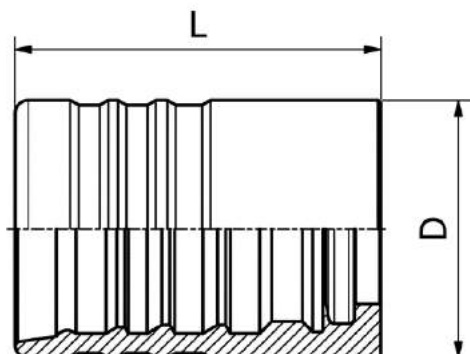


FERRULE

IM01600

**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (6 PLY)
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01600-20	31	- 20	1.1/4"			60.0	85.0				
IM01600-24	38	- 24	1.1/2"			69.0	96.0				

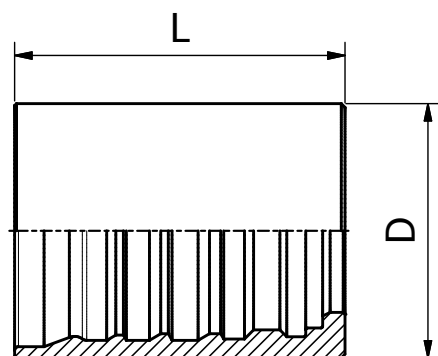


FERRULE

IM01800/IM01810

**DOUBLE SKIVE FERRULE
FOR EXTRA DUTY SPIRAL HOSES (6 PLY)
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01800-32	51	- 32	2"			86.5	108.0				
IM01810-40	63	- 40	2.1/2"			103.0	135.0				
IM01810-48	76	- 48	3"			113.5	125.0				

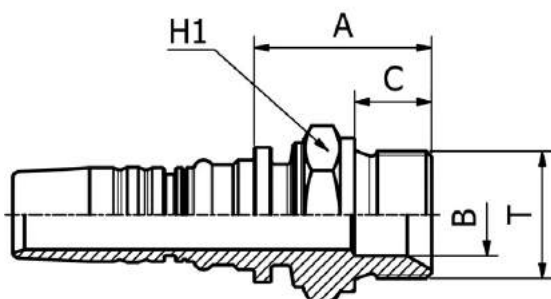


FERRULE

IM01900**DOUBLE SKIVE FERRULE**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01900-20	31	-20	1.1/4"			68	88,2				

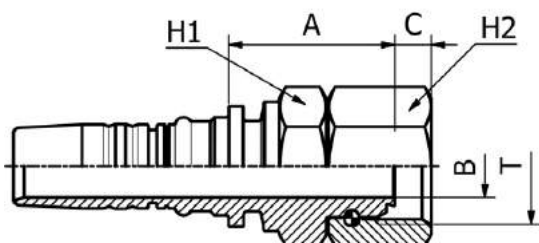
BS STANDARD CONNECTIONS

**IM30510**

BSP
MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6
(STAINLESS STEEL)

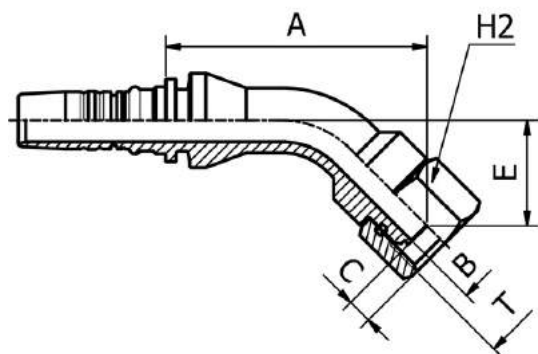
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	H1		
IM30510-12-12	19	- 12	3/4"	3/4" - 14		17.0	37.0	16.0	32.0		
IM30510-16-16	25	- 16	1"	1" - 11		22.5	43.0	19.0	41.0		
IM30510-20-20	31	- 20	1.1/4"	1.1/4" - 11		28.5	50.5	20.0	50.0		
IM30510-24-24	38	- 24	1.1/2"	1.1/2" - 11		33.5	54.5	22.0	55.0		
IM30510-32-32	51	- 32	2"	2" - 11		42.0	58.0	25.0	70.0		

BS STANDARD CONNECTIONS

**IM40812**

BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	H1	H2	
IM40812-12-12	19	- 12	3/4"	3/4" - 14		14.5	39.0	8.5	32.0	32.0	
IM40812-16-16	25	- 16	1"	1" - 11		19.5	44.5	10.6	41.0	41.0	
IM40812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	52.5	10.5	50.0	50.0	
IM40812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	51.5	12.5	60.0	60.0	
IM40812-32-32	38	- 24	1.1/2"	1.1/2" - 11		42.0	51.5	16.1	70.0	70.0	

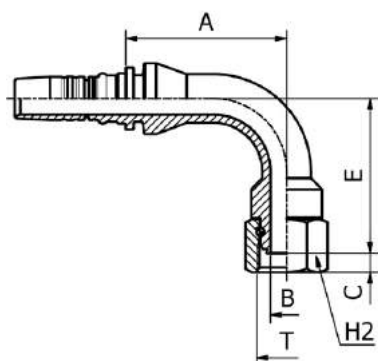


BS STANDARD CONNECTIONS

IM40842

45° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM40842-12-12	19	- 12	3/4"	3/4" - 14		14.5	88.0	8.5	35.0	32.0		
IM40842-16-16	25	- 16	1"	1" - 11		19.5	97.0	10.6	40.0	41.0		
IM40842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	120.0	10.5	49.5	50.0		
IM40842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	126.5	12.5	50.0	60.0		
IM40842-32-32	51	- 32	2"	2" - 11,5		42.0	162.5	16.1	66.5	70.0		

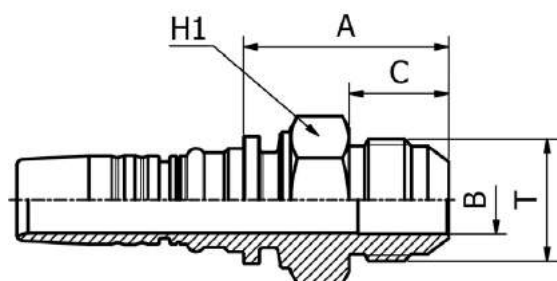


BS STANDARD CONNECTIONS

IM40892

90° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM40892-12-12	19	- 12	3/4"	3/4" - 14		14.5	72.5	8.5	70.0	32.0		
IM40892-16-16	25	- 16	1"	1" - 11		19.5	82.0	10.6	80.5	41.0		
IM40892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	98.5	10.5	98.0	50.0		
IM40892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	111.5	12.5	109.0	60.0		
IM40892-32-32	51	- 32	2"	2" - 11,5		42.0	143.0	16.1	140.5	70.0		



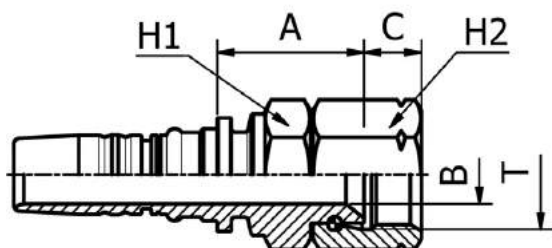
SAE STANDARD CONNECTIONS

IM32510

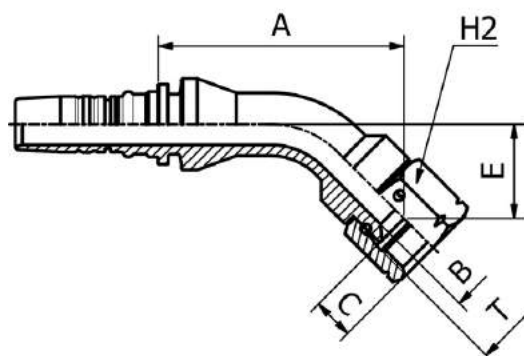
JIC
MALE 37° CONE
SAE J516 / ISO 12151-5
STAINLESS STEEL

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
IM32510-10-10	16	- 10	5/8"	7/8" - 14		12.0	41.0	19.5	27.0			
IM32510-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	45.5	22.0	32.0			
IM32510-16-16	25	- 16	1"	1.5/16" - 12		20.0	50.5	23.0	38.0			
IM32510-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	66.0	24.3	46.0			
IM32510-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	64.0	27.5	50.0			
IM32510-32-32	51	- 32	2"	2.1/2" - 12		42.0	81.0	34.0	70.0			

SAE STANDARD CONNECTIONS

**IM42512****JIC****FEMALE 37° CONE SEAT****SAE J516 / ISO 12151-5****(THRUST-WIRE NUT) STAINLESS STEEL**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
IM42512-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	36.0	16.0	32.0	32.0		
IM42512-16-16	25	- 16	1"	1.5/16" - 12		21.7	40.5	15.2	41.0	41.0		
IM42512-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	51.5	16.2	50.0	50.0		
IM42512-24-24	38	- 24	1.1/2"	1.7/8" - 12		31.0	54.5	18.8	55.0	60.0		
IM42512-32-32	51	- 32	2"	2.1/2" - 8		42.0	54.0	24.0	70.0	75.0		

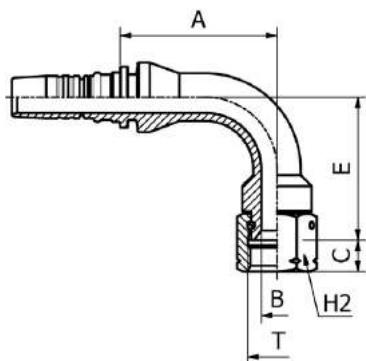


SAE STANDARD CONNECTIONS

IM42542**45° JIC****FEMALE SWEPT ELBOW 37° CONE SEAT****SAE J516 / ISO 12151-5****(THRUST-WIRE NUT) STAINLESS STEEL**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
IM42542-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	86.0	16.0	33.0	32.0		
IM42542-16-16	25	- 16	1"	1.5/16" - 12		21.7	95.0	15.2	37.0	41.0		
IM42542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	115.5	16.2	45.0	50.0		
IM42542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	126.5	18.8	50.0	60.0		

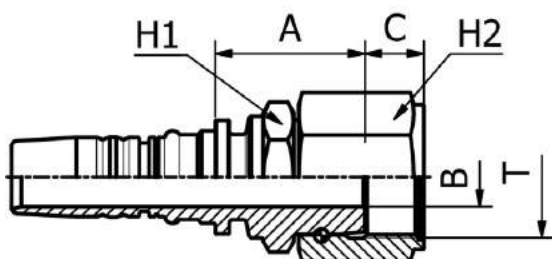
SAE STANDARD CONNECTIONS

**IM42592**

**90° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT) STAINLESS STEEL**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM42592-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	72.5	16.0	66.0	32.0		
IM42592-12-16	19	- 12	3/4"	1.5/16" - 12		21.7	72.5	15.2	71.5	41.0		
IM42592-16-16	25	- 16	1"	1.5/16" - 12		21.7	82.5	15.2	77.5	41.0		
IM42592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	98.5	16.2	92.0	50.0		
IM42592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	111.5	18.8	106.0	60.0		
IM42592-32-32	51	- 32	2"	2.1/2" - 8		42.0	144.5	24.0	137.0	75.0		

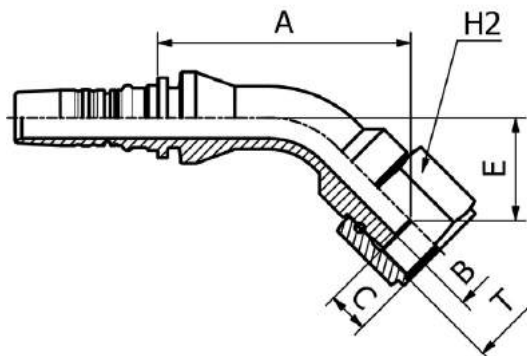
SAE STANDARD CONNECTIONS

**IM42412**

**ORFS
FEMALE
SAE J516 / ISO 12151-1 HEAVY TYPE
(THRUST-WIRE NUT) STAINLESS STEEL**

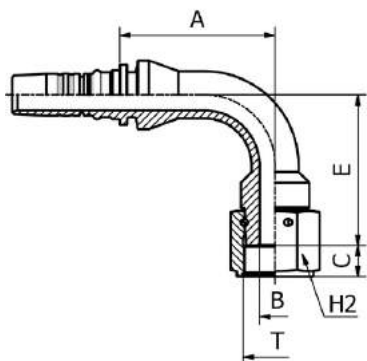
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	H1	H2			
IM42412-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	37.0	32.0	36.0			
IM42412-16-16	25	- 16	1"	1.7/16" - 12		19.5	42.0	15.0	41.0	46.0		
IM42412-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	52.0	15.1	50.0	55.0		
IM42412-24-24	38	- 24	1.1/2"	2" - 12		31.0	55.0	15.0	60.0	60.0		

SAE STANDARD CONNECTIONS

**IM42442**

**45° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1 HEAVY TYPE
(THRUST-WIRE-NUT) STAINLESS STEEL**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM42442-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	89.0	13.9	36.0	36.0		
IM42442-16-16	25	- 16	1"	1.7/16" - 12		19.5	100.0	15.0	42.5	46.0		
IM42442-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	119.5	15.1	49.5	55.0		
IM42442-24-24	38	- 24	1.1/2"	2" - 12		31.0	128.5	15.0	52.0	60.0		



SAE STANDARD CONNECTIONS

IM42492

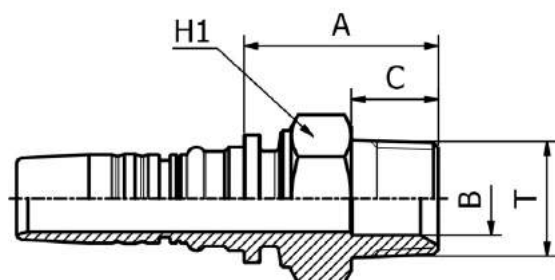
90° ORFS

FEMALE SWEPT ELBOW

SAE J516 / ISO 12151-1 HEAVY TYPE
(THRUST-WIRE-NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	H2			
IM42492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	72.5	13.9	70.5	36.0			
IM42492-16-16	25	- 16	1"	1.7/16" - 12	19.5	82.5	15.0	84.5	46.0			
IM42492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	98.5	15.1	98.0	55.0			
IM42492-24-24	38	- 24	1.1/2"	2" - 12	31.0	111.5	15.0	109.0	60.0			

SAE STANDARD CONNECTIONS



IM32810

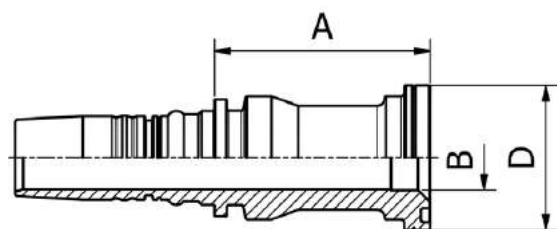
NPTF

MALE 60° CONE SEAT

SAE J516/J514
(STAINLESS STEEL)

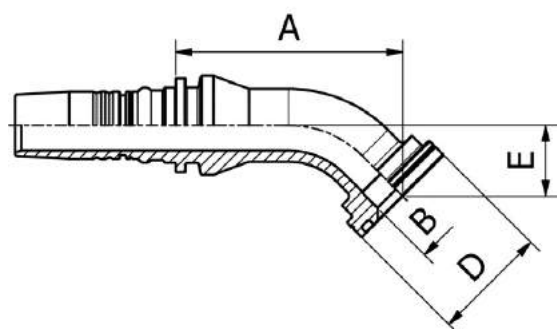
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
IM32810-10-08	16	- 10	5/8"	1/2" - 14	12.0	39.5	19.2	24.0				
IM32810-10-12	16	- 10	5/8"	3/4" - 14	16.0	40.5	19.2	27.0				
IM32810-12-12	19	- 12	3/4"	3/4" - 14	16.0	43.0	19.2	32.0				
IM32810-16-16	25	- 16	1"	1" - 11,5	19.5	50.5	24.2	38.0				
IM32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5	26.1	61.0	25.0	46.0				
IM32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5	32.1	62.5	26.0	50.0				
IM32810-32-32	51	- 32	2"	2" - 11	42.0	67.0	26.5	70.0				
IM32810-40-40	63	- 40	2.1/2"	2.1/2" - 8	51.5	94.5	43.0	80.0				
IM32810-48-48	76	- 48	3"	3" - 8	62.5	123.5	51.5	100.0				

SAE STANDARD CONNECTIONS

**IM43310**

ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D					
IM43310-12-12	19	- 12	3/4"	3/4"		16.0	60.0	38.0					
IM43310-16-16	25	- 16	1"	1"		20.0	66.5	44.6					
IM43310-20-20	31	- 20	1.1/4"	1.1/4"		26.1	75.0	51.0					
IM43310-24-24	38	- 24	1.1/2"	1.1/2"		32.1	80.5	60.5					
IM43310-32-32	51	- 32	2"	2"		42.0	83.0	71.6					

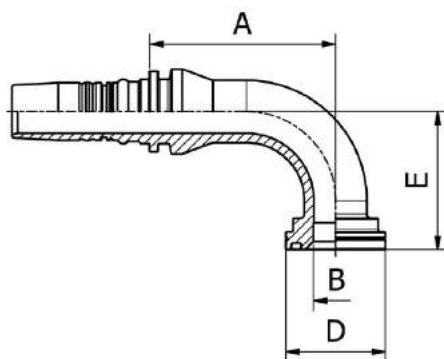


SAE STANDARD CONNECTIONS

IM43340

45° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D	E				
IM43340-12-12	19	- 12	3/4"	3/4"		16.0	75.5	38.0	23.0				
IM43340-16-16	25	- 16	1"	1"		20.0	87.0	44.6	27.3				
IM43340-20-20	31	- 20	1.1/4"	1.1/4"		26.1	100.5	51.0	29.5				
IM43340-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.0	60.5	34.5				
IM43340-32-32	51	- 32	2"	2"		42.0	128.5	71.6	39.0				



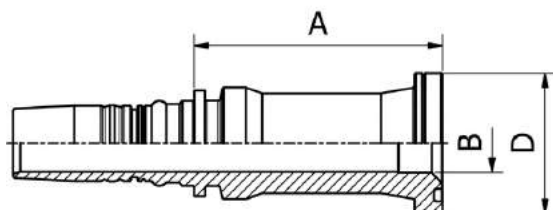
SAE STANDARD CONNECTIONS

IM43390

90° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D	E				
IM43390-12-12	19	- 12	3/4"	3/4"		16.0	72.0	38.0	52.0				
IM43390-16-16	25	- 16	1"	1"		20.0	83.5	44.6	62.0				
IM43390-20-20	31	- 20	1.1/4"	1.1/4"		26.1	99.0	51.0	70.0				
IM43390-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.5	60.5	84.0				
IM43390-32-32	51	- 32	2"	2"		42.0	133.5	71.6	99.0				

SAE STANDARD CONNECTIONS

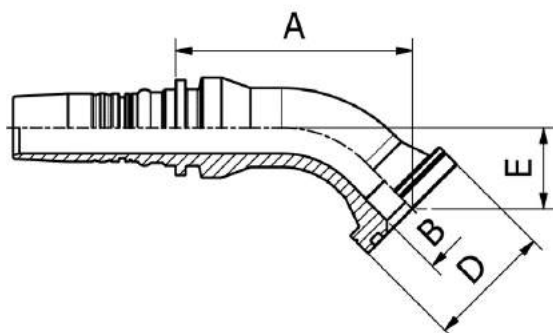


IM43610

ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
IM43610-10-12	16	- 10	5/8"	3/4"		16.0	65.0	41.5				
IM43610-10-16	16	- 10	5/8"	1"		20.0	81.5	47.7				
IM43610-12-12	19	- 12	3/4"	3/4"		16.0	71.5	41.4				
IM43610-12-16	19	- 12	3/4"	1"		20.0	83.5	47.7				
IM43610-16-12	25	- 16	1"	3/4"		16.0	80.3	41.4				
IM43610-16-16	25	- 16	1"	1"		20.0	84.5	47.7				
IM43610-16-20	25	- 16	1"	1 1/4"		26.0	89.0	54.2				
IM43610-20-16	31	- 20	1 1/4"	1"		20.0	87.0	47.7				
IM43610-20-20	31	- 20	1 1/4"	1 1/4"		26.1	91.0	54.2				
IM43610-20-24	31	- 20	1 1/4"	1 1/2"		32.1	97.0	63.7				
IM43610-24-20	38	- 24	1 1/2"	1 1/4"		26.0	101.0	54.2				
IM43610-24-24	38	- 24	1 1/2"	1 1/2"		32.1	97.5	63.7				
IM43610-24-32	38	- 24	1 1/2"	2"		42.0	113.0	79.6				
IM43610-32-24	51	- 32	2"	1 1/2"		32.1	117.0	63.7				
IM43610-32-32	51	- 32	2"	2"		42.0	113.0	79.6				
IM43610-40-40	63	- 40	2 1/2"	2 1/2"		51.5	126.5	107.9				
IM43610-48-48	76	- 48	3"	3"		62.5	167.0	131.9				

SAE STANDARD CONNECTIONS



IM43640

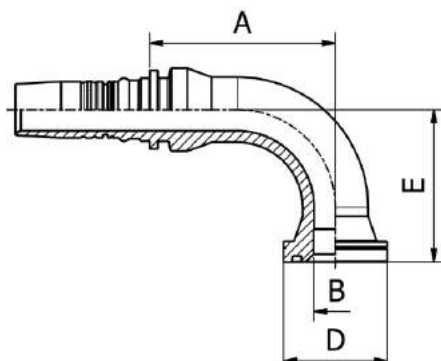
45° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
IM43640-12-12	19	- 12	3/4"	3/4"		16.0	81.0	41.4	28.0			
IM43640-16-16	25	- 16	1"	1"		20.0	91.5	47.7	32.5			
IM43640-20-20	31	- 20	1 1/4"	1 1/4"		26.0	108.0	54.2	37.5			
IM43640-24-24	38	- 24	1 1/2"	1 1/2"		32.0	124.5	63.7	44.0			
IM43640-32-32	51	- 32	2"	2"		42.0	154.0	79.6	60.5			

SAE STANDARD CONNECTIONS

IM43690

90° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

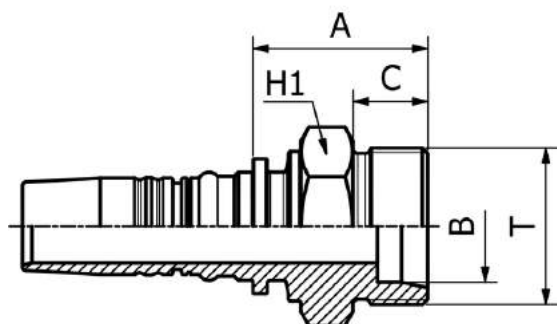


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
IM43690-10-12	16	- 10	5/8"	3/4"		16.0	57.5	41.4	60.5			
IM43690-12-12	19	- 12	3/4"	3/4"		16.0	72.4	41.4	59.0			
IM43690-16-16	25	- 16	1"	1"		20.0	81.0	47.7	68.0			
IM43690-20-20	31	- 20	1.1/4"	1.1/4"		26.0	98.5	54.2	81.0			
IM43690-24-24	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	94.5			
IM43690-32-32	51	- 32	2"	2"		42.0	140.5	79.6	132.0			

DIN STANDARD CONNECTIONS

IM31210

METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2
(STAINLESS STEEL)

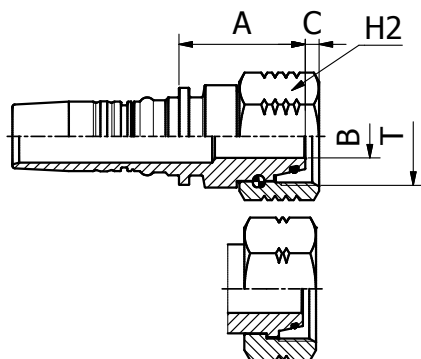


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
IM31210-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	16.0	30.0			
IM31210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	43.5	18.0	36.0			
IM31210-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.8	20.0	46.0			
IM31210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0			

DIN STANDARD CONNECTIONS

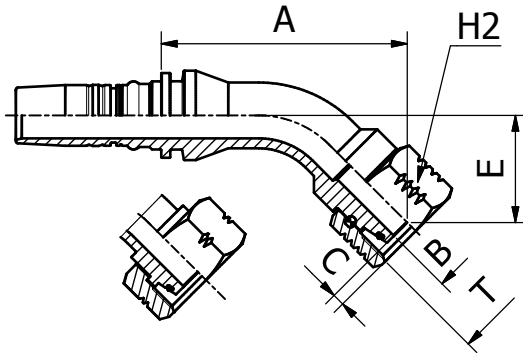
IM41612/IM41613

METRIC
O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2
(STAINLESS STEEL)



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H2			
IM41613-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	3.5	36.0			
IM41613-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	42.0	3.4	41.0			
IM41613-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.5	5.3	50.0			
IM41613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	41.5	8.0	60.0			

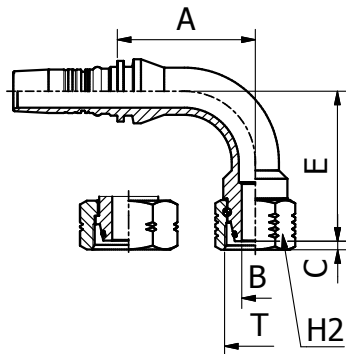
DIN STANDARD CONNECTIONS



IM41642/IM41643

45° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2 (STAINLESS STEEL)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM41643-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	66.5	3.5	29.5	36.0		
IM41643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	81.0	3.4	33.5	41.0		
IM41643-16-42	25	- 16	1"	M 42X2	30.0	19.5	93.0	5.3	36.0	50.0		
IM41643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	110.0	8.0	40.0	60.0		



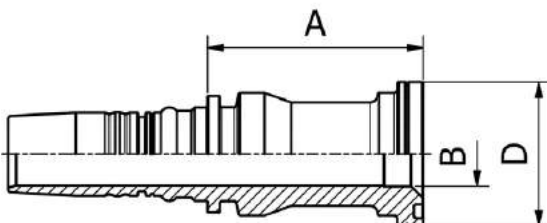
DIN STANDARD CONNECTIONS

IM41692/IM41693

90° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2 (STAINLESS STEEL)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
IM41693-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	52.5	3.5	57.5	36.0		
IM41693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0		
IM41693-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	75.5	50.0		
IM41692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	103.5	6.1	90.0	50.0		
IM41693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	100.0	8.0	86.5	60.0		

SAE STANDARD CONNECTIONS

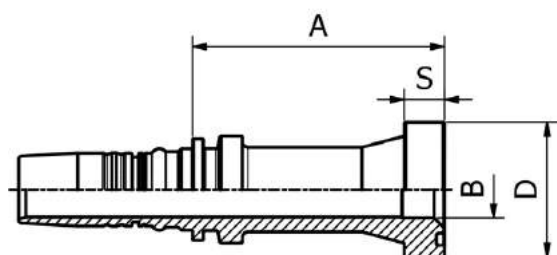


IM43310

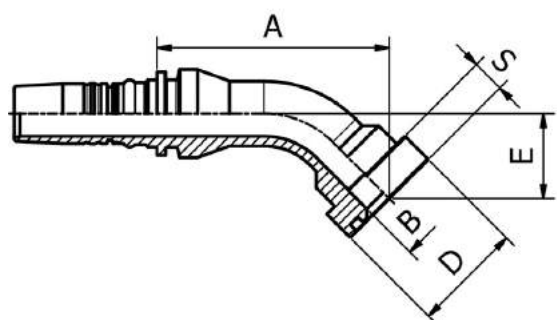
ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
IM43310-12-12	19	- 12	3/4"	3/4"		16.0	60.0	38.0				
IM43310-16-16	25	- 16	1"	1"		20.0	66.5	44.6				
IM43310-20-20	31	- 20	1.1/4"	1.1/4"		26.1	75.0	51.0				
IM43310-24-24	38	- 24	1.1/2"	1.1/2"		32.1	80.5	60.5				
IM43310-32-32	51	- 32	2"	2"		42.0	83.0	71.6				

ORIGINAL EQUIPMENT CONNECTIONS

**IM43910****STRAIGHT SUPERCAT SERIES FLANGE
(STAINLESS STEEL)**

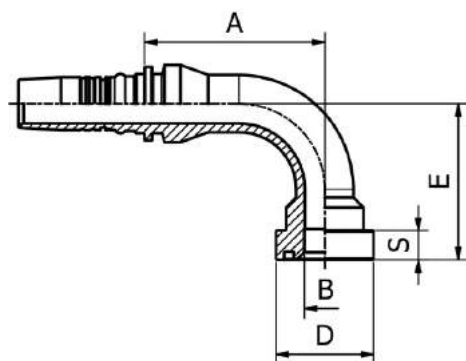
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	S			
IM43910-12-12	19	- 12	3/4"	3/4"		16.0	77.0	41.5	14.3			
IM43910-16-16	25	- 16	1"	1"		20.0	89.5	47.7	14.3			
IM43910-20-20	31	- 20	1.1/4"	1.1/4"		26.0	95.0	54.0	14.3			
IM43910-24-24	38	- 24	1.1/2"	1.1/2"		32.1	99.0	63.6	14.3			
IM43910-32-32	51	- 32	2"	2"		42.0	114.0	79.3	14.3			



ORIGINAL EQUIPMENT CONNECTIONS

IM43940**45° SUPERCAT SERIES FLANGE
(STAINLESS STEEL)**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
IM43940-12-12	19	- 12	3/4"	3/4"		16.0	85.0	41.5	32.0	14.3		
IM43940-16-16	25	- 16	1"	1"		20.0	100.5	47.7	36.5	14.3		
IM43940-20-20	31	- 20	1.1/4"	1.1/4"		26.1	110.5	54.0	40.5	14.3		
IM43940-24-24	38	- 24	1.1/2"	1.1/2"		32.0	125.5	63.7	45.5	14.3		
IM43940-32-32	51	- 32	2"	2"		42.0	158.5	79.3	61.5	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

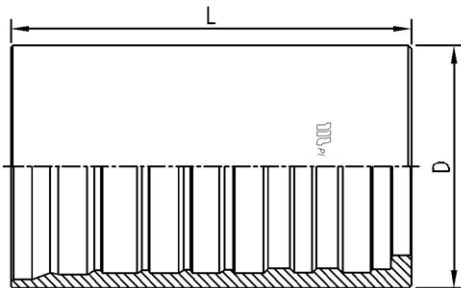
IM43990**90° SUPERCAT SERIES FLANGE
(STAINLESS STEEL)**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
IM43990-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.5	64.5	14.3		
IM43990-16-16	25	- 16	1"	1"		20.0	88.5	47.7	76.5	14.3		
IM43990-20-20	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.0	85.0	14.3		
IM43990-24-24	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	96.0	14.3		
IM43990-32-32	51	- 32	2"	2"		42.0	144.0	79.3	133.5	14.3		

FERRULE

M02610

**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (8 PLY)**

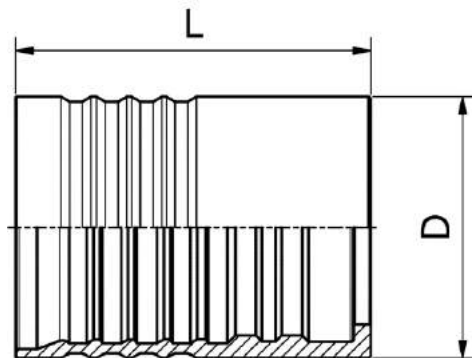


PART. REF.	HOSE BORE			DIMENSIONS mm									
	DN	Dash	inch			D	L						
M02610-56	89	-56	3.1/2"			143.2	236.7						

FERRULE

M02700

**DOUBLE SKIVE FERRULE
EXD.8WS**

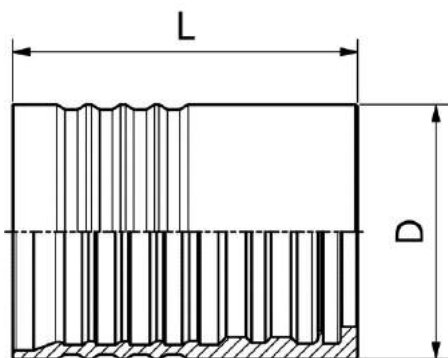


PART. REF.	HOSE BORE			DIMENSIONS mm									
	DN	Dash	inch			D	L						
M02700-24	38	- 24	1.1/2"			74.0	104.2						
M02700-32	51	- 32	2"			89.0	122.0						
M02700-48	76	- 48	3"			122.0	165.0						

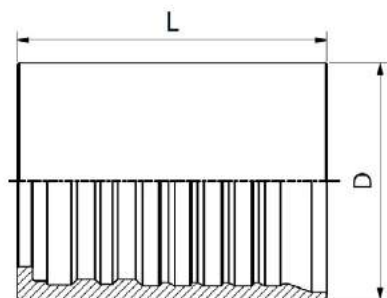
FERRULE

M02800

**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (8 PLY)**



PART. REF.	HOSE BORE			DIMENSIONS mm									
	DN	Dash	inch			D	L						
M02800-48	76	- 48	3"			122.0	165.0						

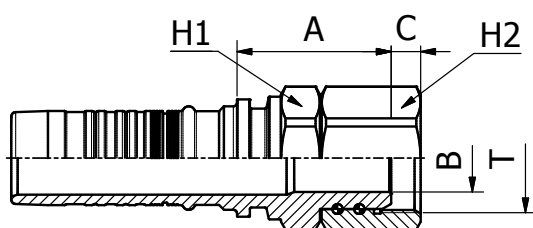


FERRULE

M02900
**DOUBLE SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES**

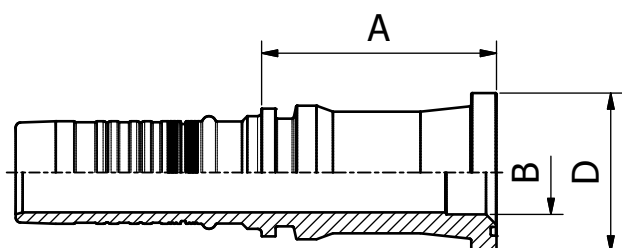
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M02900-24	38	- 24	1.1/2"			82.0	104.2				

BS STANDARD CONNECTIONS

**MB0514**
**BSP FEMALE 60° CONE
BS5200 / ISO 12151-6**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H1	H2		
MB0514-24-24	38	-24	1.1/2"	1.1/2" - 11		27	86	12,5	55	60		
MB0514-32-32	51	-32	2"	2" - 11		37	84	16,1	70	70		

SAE STANDARD CONNECTIONS

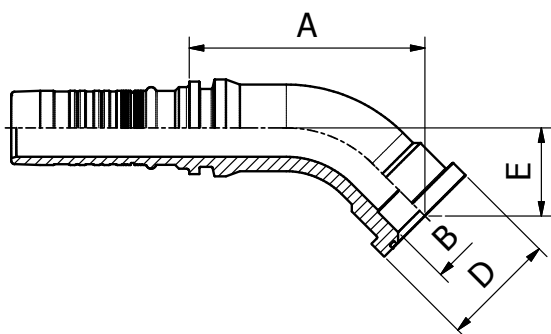
**MB3610**
**ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D				
MB3610-24-24	38	-24	1.1/2"	1.1/2"		32,1	102,5	63,7				
MB3610-32-32	51	-32	2"	2"		42	117,5	79,6				
MB3610-48-48	76	-48	3"	3"		62,5	169	131,9				

SAE STANDARD CONNECTIONS

MB3640

ISO / SAE
45° CODE 62 FLANGE
SAE J516 / ISO 12151-3

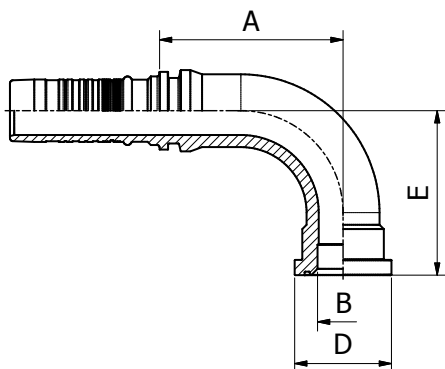


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
MB3640-24-24	38	-24	1.1/2"	1.1/2"		32,1	126,5	63,7	46			
MB3640-32-32	51	-32	2"	2"		42	163	79,6	61			

SAE STANDARD CONNECTIONS

MB3690

ISO / SAE
90° CODE 62 FLANGE
SAE J516 / ISO 12151-3

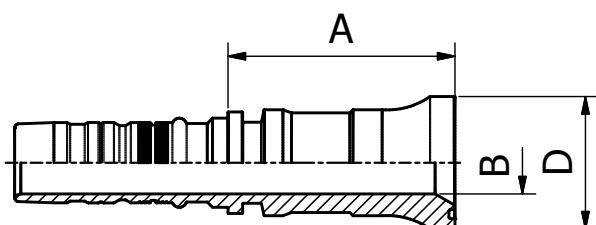


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
MB3690-24-24	38	-24	1.1/2"	1.1/2"		32,1	119	63,7	104			
MB3690-32-32	51	-32	2"	2"		42	151	79,6	135,5			

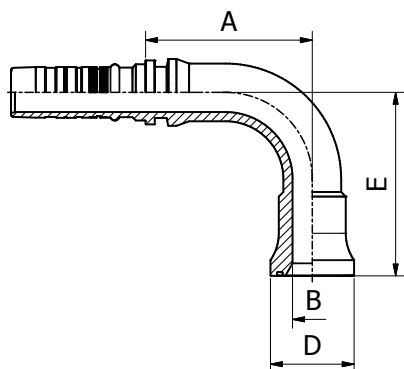
XTRAFRANGE

MB8510

XTRAFRANGE/62
(SAE J518 CODE 62 ISO 6162-2
PORT COMPATIBLE)



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D				
MB8510-24-24	38	-24	1.1/2"	1.1/2"		30	109	63,7				
MB8510-32-32	51	-32	2"	2"		40	123	79,6				
MB8510-48-48	76	-48	3"	3"		62,5	152	128				



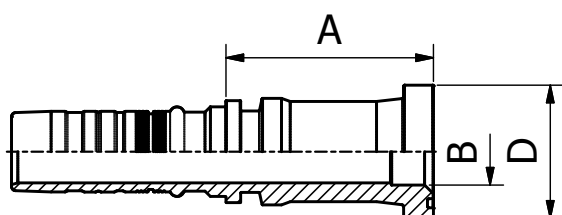
XTRAFLANGE

MB8590

90° XTRAFLANGE/62
(SAE J518 CODE 62 ISO 6162-2
PORT COMPATIBLE)

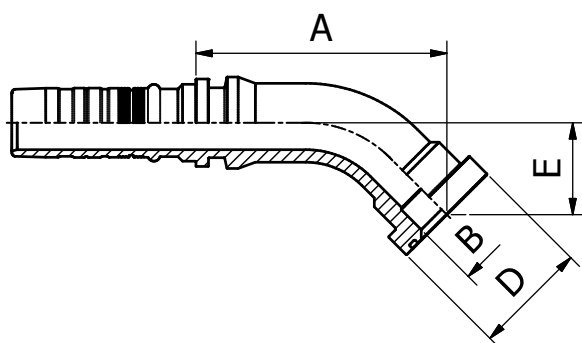
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch	inch		B	A	D	E		
MB8590-24-24	38	-24	1.1/2"	1.1/2"		30	127	63,7	140		
MB8590-32-32	51	-32	2"	2"		39	152	79,6	178		

ORIGINAL EQUIPMENT CONNECTIONS

**MB3910****STRAIGHT SUPERCAT FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch	inch		B	A	D	S		
MB3910-24-24	38	-24	1.1/2"	1.1/2"		32.0	99.0	63.7	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

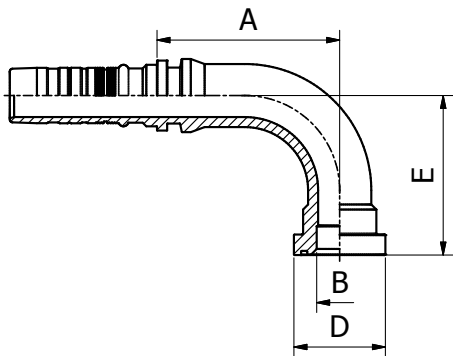
**MB3940****45° SUPERCAT FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch	inch		B	A	D	E	S	
MB3940-24-24	38	-24	1.1/2"	1.1/2"		32.0	140.0	63.7	51.5	14.3	

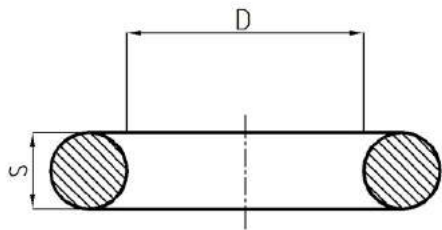
ORIGINAL EQUIPMENT CONNECTIONS

MB3990

90° SUPERCAT FLANGE



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
MB3990-24-24	38	-24	1.1/2"	1.1/2"		32.0	127.0	63.7	111.0	14.3		



O-RING

JO29

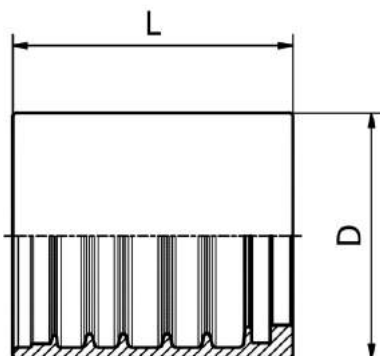
INTERLOCK SUPER O-RING

PART. REF.	HOSE BORE					DIMENSIONS mm						
	DN	Dash	inch			D	S					
JO29757026	76	- 48	3"			69.5	2.6					
JO29878226	89	- 56	3.1/2"			82.2	2.6					
JO291029535	102	-64	4"			94.8	3.5					

FERRULE

M05400

NO-SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)

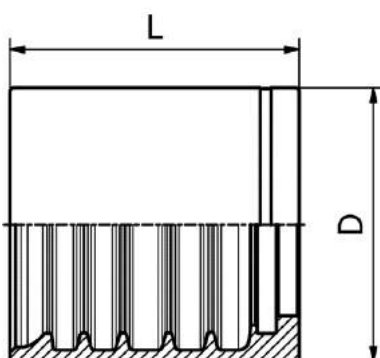


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05400-10	16	- 10	5/8"			40.0	44.3				
M05400-12	19	- 12	3/4"			43.8	53.3				
M05400-16	25	- 16	1"			52.0	64.3				
M05400-20	31	- 20	1.1/4"			59.3	72.0				
M05400-24	38	- 24	1.1/2"			68.5	78.0				
M05400-32	51	- 32	2"			84.6	97.1				
M05400-40	63	- 40	2.1/2"			97.0	116.0				
M05400-48	76	- 48	3"			109.8	124.0				
M05400-56	89	- 56	3.1/2"			127.7	123.5				
M05400-64	102	- 64	4"			145.0	126.5				

FERRULE

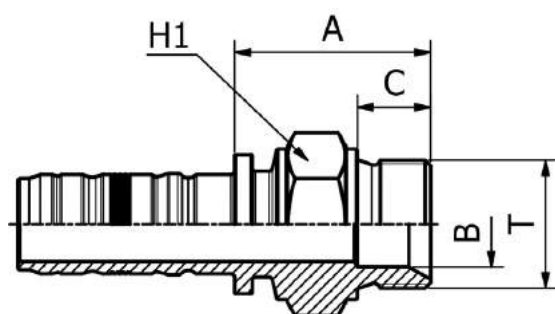
M05500

NO-SKIVE FERRULE
FOR HEAVY DUTY SPIRAL HOSES (4-6 PLY)



PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05500-24	38	- 24	1.1/2"			75.0	79.0				
M05500-20	31	- 20	1.1/4"			66.0	70.0				
M05500-32	51	- 32	2"			90.0	98.1				

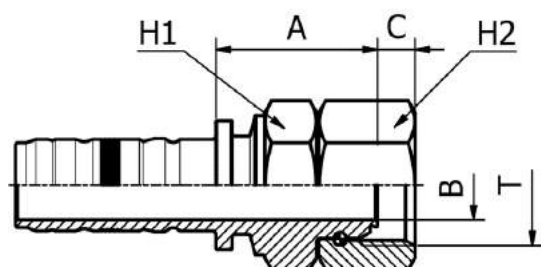
BS STANDARD CONNECTIONS

**M70510**

BSP
MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 12151-6

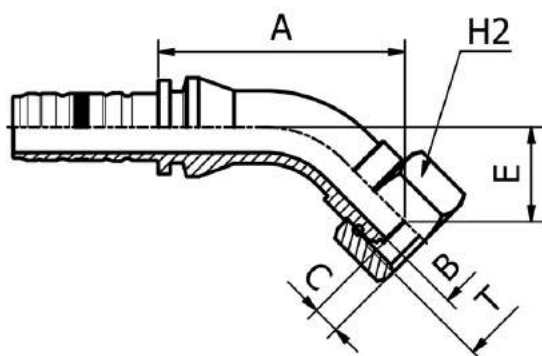
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M70510-12-12	19	- 12	3/4"	3/4" - 14		16.8	43.5	16.0	32.0			
M70510-12-16	19	- 12	3/4"	1" - 11		22.2	49.5	19.0	41.0			
M70510-16-16	25	- 16	1"	1" - 11		22.2	51.0	19.0	41.0			
M70510-16-20	25	- 16	1"	1.1/4" - 11		28.5	56.0	20.0	50.0			
M70510-20-20	31	- 20	1.1/4"	1.1/4" - 11		28.5	56.5	20.0	50.0			
M70510-24-24	38	- 24	1.1/2"	1.1/2" - 11		33.5	60.5	22.0	55.0			
M70510-32-32	51	- 32	2"	2" - 11		42.0	64.0	25.0	70.0			

BS STANDARD CONNECTIONS

**M80812**

BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M80812-12-12	19	- 12	3/4"	3/4" - 14		14.5	39.5	8.5	32.0	32.0		
M80812-12-16	19	- 12	3/4"	1" - 11		19.5	44.0	10.6	41.0	41.0		
M80812-16-12	25	- 16	1"	3/4" - 14		15.0	44.5	8.5	41.0	32.0		
M80812-16-16	25	- 16	1"	1" - 11		19.5	45.5	10.6	41.0	41.0		
M80812-16-20	25	- 16	1"	1.1/4" - 11		26.1	50.5	10.5	50.0	50.0		
M80812-20-16	31	- 20	1.1/4"	1" - 11		19.0	48.0	10.6	50.0	41.0		
M80812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.1	50.5	10.5	50.0	50.0		
M80812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.1	50.0	12.5	50.0	60.0		
M80812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.1	52.0	12.5	60.0	60.0		
M80812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26.1	52.0	10.5	55.0	50.0		
M80812-32-32	51	- 32	2"	2" - 11		42.0	53.5	16.1	70.0	70.0		

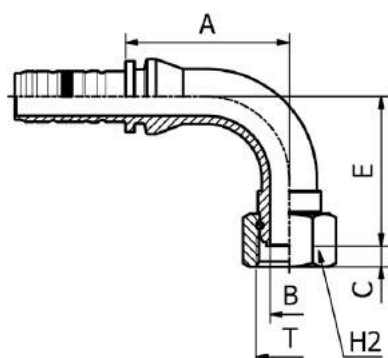


BS STANDARD CONNECTIONS

M80842

**45° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M80842-12-12	19	- 12	3/4"	3/4" - 14		14.5	82.5	8.5	29.0	32.0		
M80842-12-16	19	- 12	3/4"	1" - 11		19.5	84.0	10.6	30.0	41.0		
M80842-16-12	25	- 16	1"	3/4" - 14		15.0	106.5	8.5	36.0	32.0		
M80842-16-16	25	- 16	1"	1" - 11		19.5	95.0	10.6	36.5	41.0		
M80842-16-16028	25	- 16	1"	1" - 11		19.5	84.0	10.6	28.0	41.0		
M80842-16-20	25	- 16	1"	1.1/4" - 11		26.1	109.5	10.5	38.0	50.0		
M80842-20-16	31	- 20	1.1/4"	1" - 11		19.5	102.0	10.6	36.5	41.0		
M80842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	99.0	10.5	39.0	50.0		
M80842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.0	114.0	12.5	54.0	60.0		
M80842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	122.5	12.5	45.0	60.0		
M80842-32-32	51	- 32	2"	2" - 11		42.0	155.0	16.1	66.0	70.0		



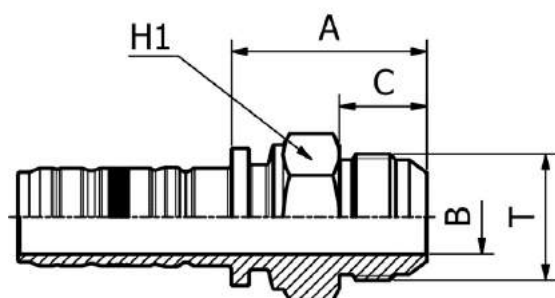
BS STANDARD CONNECTIONS

M80892

**90° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M80892-12-12	19	- 12	3/4"	3/4" - 14		14.5	73.5	8.5	60.0	32.0		
M80892-12-12050	19	- 12	3/4"	3/4" - 14		14.5	67.5	8.5	50.0	32.0		
M80892-12-16	19	- 12	3/4"	1" - 11		19.5	73.5	10.6	62.0	41.0		
M80892-16-12	25	- 16	1"	3/4" - 14		15.0	90.0	8.5	70.0	32.0		
M80892-16-16	25	- 16	1"	1" - 11		19.5	83.0	10.6	76.0	41.0		
M80892-16-16058	25	- 16	1"	1" - 11		19.5	74.5	10.6	58.5	41.0		
M80892-16-20	25	- 16	1"	1.1/4" - 11		26.1	96.0	10.5	78.5	50.0		
M80892-20-16	31	- 20	1.1/4"	1" - 11		19.5	90.0	10.6	76.0	41.0		
M80892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26.0	88.0	10.5	83.5	50.0		
M80892-20-24	31	- 20	1.1/4"	1.1/2" - 11		32.0	88.0	12.5	92.0	60.0		
M80892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32.0	103.0	12.5	98.5	60.0		
M80892-32-32	51	- 32	2"	2" - 11		42.0	135.9	16.1	140.5	70.0		

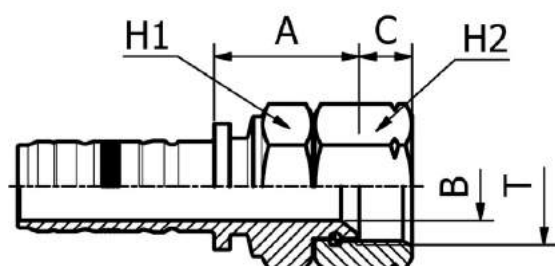
SAE STANDARD CONNECTIONS

**M72510**

JIC
MALE 37° CONE
SAE J516 / ISO 12151-5

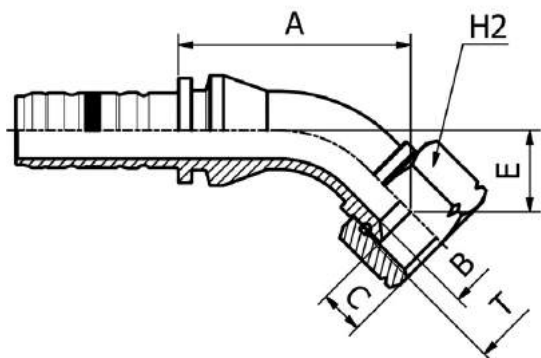
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M72510-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	44.5	22.0	30.0				
M72510-16-16	25	- 16	1"	1.5/16" - 12	19.5	51.5	23.0	38.0				
M72510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	56.0	24.3	46.0				
M72510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	60.0	27.5	50.0				
M72510-32-32	51	- 32	2"	2.1/2" - 12	42.0	75.5	34.0	65.0				

SAE STANDARD CONNECTIONS

**M82712**

JIC
FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1	H2			
M82712-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	36.5	14.2	32.0	32.0			
M82712-12-16	19	- 12	3/4"	1.5/16" - 12	19.5	36.5	15.2	32.0	41.0			
M82712-16-16	25	- 16	1"	1.5/16" - 12	19.5	41.5	15.2	41.0	41.0			
M82712-16-20	25	- 16	1"	1.5/8" - 12	26.1	46.5	16.2	41.0	50.0			
M82712-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	51.5	16.2	50.0	50.0			
M82712-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	54.5	18.8	55.0	60.0			
M82712-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	54.5	18.8	55.0	60.0			
M82712-32-32	51	- 32	2"	2.1/2" - 12	42.0	56.0	24.0	65.0	75.0			

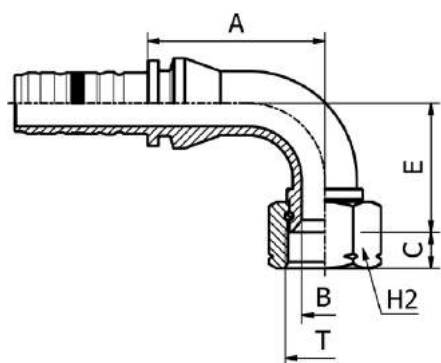


SAE STANDARD CONNECTIONS

M82542

45° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M82542-12-12	19	- 12	3/4"	1.1/16" - 12		14.5	75.0	14.2	22.5	32.0		
M82542-16-16	25	- 16	1"	1.5/16" - 12		19.5	81.5	15.2	26.0	41.0		
M82542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	101.0	16.2	41.5	50.0		
M82542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	121.5	18.8	48.5	60.0		
M82542-32-32	51	- 32	2"	2.1/2" - 12		42.0	162.0	24.0	63.5	75.0		



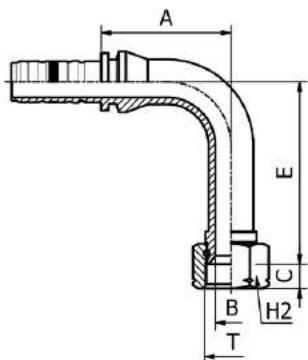
SAE STANDARD CONNECTIONS

M82592

90° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

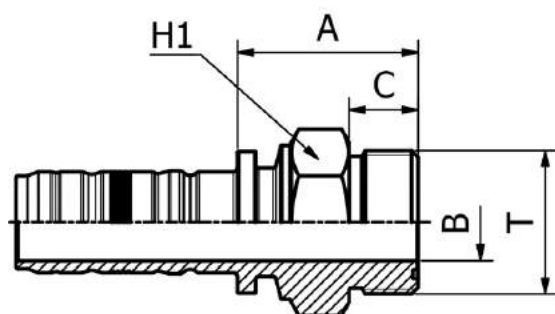
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M82592-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	73.5	15.2	57.5	41.0		
M82592-12-12	19	- 12	3/4"	1.1/16" - 12		14.5	67.5	14.2	47.5	32.0		
M82592-16-12	25	- 16	1"	1.1/16" - 12		14.5	76.5	14.2	47.5	32.0		
M82592-16-16	25	- 16	1"	1.5/16" - 12		19.5	74.5	15.2	55.5	41.0		
M82592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	88.0	16.2	86.5	50.0		
M82592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32.0	88.0	18.8	90.5	60.0		
M82592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	105.0	18.8	101.0	60.0		
M82592-32-32	51	- 32	2"	2.1/2" - 12		42.0	145.0	24.0	139.0	75.0		

SAE STANDARD CONNECTIONS

**M84792****90° JIC****FEMALE LONG DROP ELBOW 37° CONE SEAT****SAE J516 / ISO 12151-5**

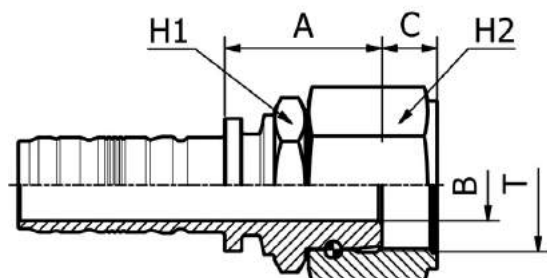
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	H2			
M84792-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	73.5	14.2	94.5	32.0			
M84792-16-16	25	- 16	1"	1.5/16" - 12	19.5	81.0	15.2	114.0	41.0			
M84792-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	88.0	16.2	129.0	50.0			
M84792-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	105.0	18.8	141.0	60.0			
M84792-32-32	38	- 24	1.1/2"	2.1/2" - 12	42.0	145.0	24.0	222.0	75.0			

SAE STANDARD CONNECTIONS

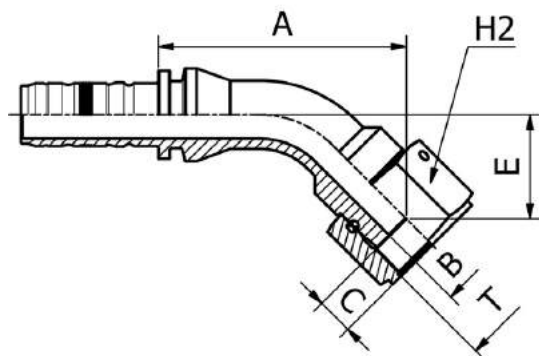
**M72410****ORFS
MALE****SAE J516 / ISO 12151-1**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M72410-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	41.0	17.0	32.0				
M72410-16-16	25	- 16	1"	1.7/16" - 12	19.5	46.0	17.5	41.0				
M72410-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	50.5	17.5	46.0				
M72410-24-24	38	- 24	1.1/2"	2" - 12	32.0	53.0	17.5	55.0				

SAE STANDARD CONNECTIONS

**M82412****ORFS
FEMALE****SAE J516/ISO 12151.1**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1	H2			
M82412-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	38.0	14.1	32.0	36.0			
M82412-12-16	19	- 12	3/4"	1.7/16" - 12	19.5	42.0	15.0	41.0	46.0			
M82412-16-16	25	- 16	1"	1.7/16" - 12	19.5	43.0	15.0	41.0	46.0			
M82412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	52.5	15.1	50.0	55.0			
M82412-24-24	38	- 24	1.1/2"	2" - 12	30.5	55.0	15.0	60.0	60.0			

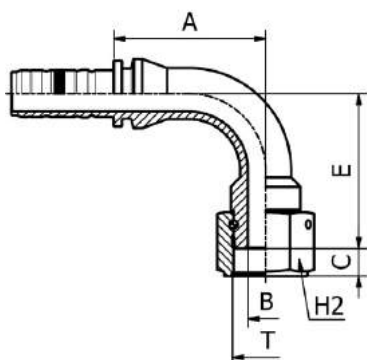


SAE STANDARD CONNECTIONS

M82442

45° ORFS
FEMALE SWEPT ELBOW SAE
J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M82442-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	90.0	14.1	36.0	36.0		
M82442-12-16	19	- 12	3/4"	1.7/16" - 12		19.5	90.5	15.0	36.5	46.0		
M82442-16-16	25	- 16	1"	1.7/16" - 12		19.5	101.0	15.0	42.5	46.0		
M82442-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	120.0	15.1	49.5	55.0		
M82442-24-24	38	- 24	1.1/2"	2" - 12		32.0	123.5	15.0	50.5	60.0		

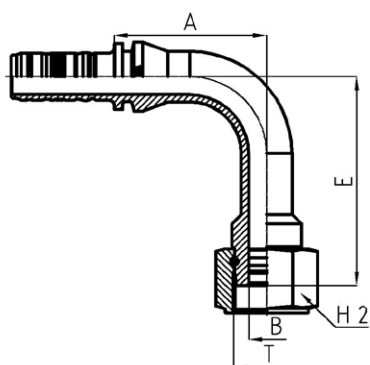


SAE STANDARD CONNECTIONS

M82492

90° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M82492-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	73.5	14.1	70.5	36.0		
M82492-12-16	19	- 12	3/4"	1.7/16" - 12		19.5	86.0	15.0	71.0	46.0		
M82492-16-12	25	- 16	1"	1.3/16" - 12		14.5	89.5	14.1	70.5	36.0		
M82492-16-16	25	- 16	1"	1.7/16" - 12		19.5	83.0	15.0	84.5	46.0		
M82492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	99.0	15.1	98.0	55.0		
M82492-24-24	38	- 24	1.1/2"	2" - 12		32.0	105.0	15.0	104.0	60.0		



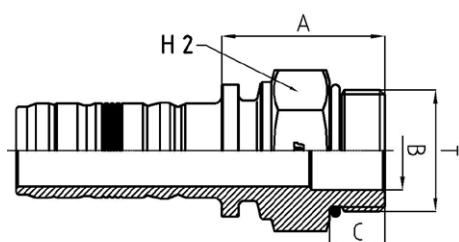
SAE STANDARD CONNECTIONS

M84492

90° ORFS
FEMALE LONG DROP ELBOW
SAE J516 / ISO 12151-1
(THURST- WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M84492-12-12	19	- 12	3/4"	1.3/16" - 12		14.5	73.5	14.1	96.0	36.0		
M84492-16-16	25	- 16	1"	1.7/16" - 12		19.5	83.0	15.0	114.0	46.0		
M84492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25.0	99.0	15.1	129.0	55.0		

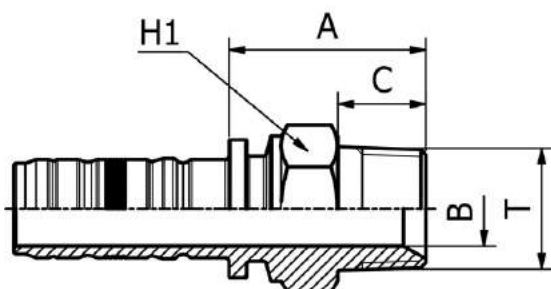
SAE STANDARD CONNECTIONS

**M73010**

SAE
MALE O-RING BOSS TYPE
SAE J516 / ISO 11926

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M73010-12-12	19	- 12	3/4"	1.1/16" - 12		15.5	42.5	15.1	32.0			
M73010-16-16	25	- 16	1"	1.5/16" - 12		21.5	44.5	15.1	38.0			
M73010-20-20	31	- 20	1.1/4"	1.5/8" - 12		27.5	47.5	15.1	46.0			

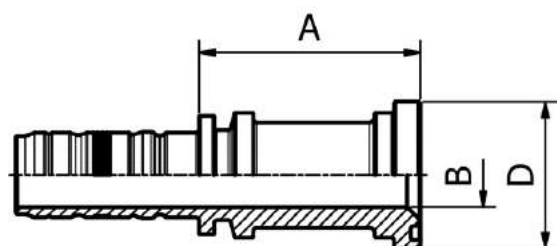
SAE STANDARD CONNECTIONS

**M72810**

NPTF
MALE 60° CONE SEAT
SAE J516/J514

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1			
M72810-12-12	19	- 12	3/4"	3/4" - 14		16.0	41.5	19.2	30.0			
M72810-16-16	25	- 16	1"	1" - 11,5		19.5	52.0	24.2	38.0			
M72810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5		25.0	61.5	25.0	46.0			
M72810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5		30.5	60.5	26.0	50.0			
M72810-32-32	51	- 32	2"	2" - 11,5		41.0	67.5	26.5	65.0			
M72810-48-48	76	- 48	3"	3" - 8		62.5	121.5	51.5	100.0			

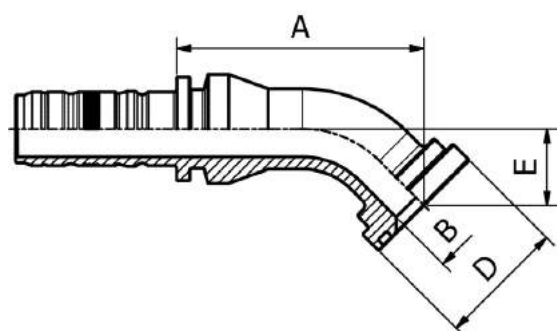
SAE STANDARD CONNECTIONS



M83311

ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D					
M83311-12-12	19	- 12	3/4"	3/4"		14.5	66.5	38.0					
M83311-12-16	19	- 12	3/4"	1"		19.5	52.5	44.6					
M83311-16-12	25	- 16	1"	3/4"		14.5	67.5	38.0					
M83311-16-16	25	- 16	1"	1"		19.5	67.5	44.6					
M83311-16-20	25	- 16	1"	1.1/4"		26.0	53.5	51.0					
M83311-20-16	31	- 20	1.1/4"	1"		19.5	69.0	44.6					
M83311-20-20	31	- 20	1.1/4"	1.1/4"		26.0	75.0	51.0					
M83311-20-24	31	- 20	1.1/4"	1.1/2"		32.0	60.0	60.5					
M83311-24-24	38	- 24	1.1/2"	1.1/2"		32.0	78.5	60.5					
M83311-24-32	38	- 24	1.1/2"	2"		42.0	60.5	71.6					
M83311-32-32	51	- 32	2"	2"		42.0	82.5	71.6					
M83311-40-40	63	- 40	2.1/2"	2.1/2"		51.5	93.0	84.3					
M83311-48-48	76	- 48	3"	3"		62.5	88.5	101.6					
M83311-56-56	89	- 56	3.1/2"	3.1/2"		76.0	98.5	114.3					
M83311-64-64	102	- 64	4"	4"		89.0	105.0	127.0					

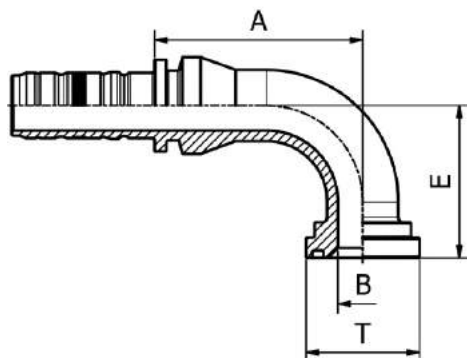


SAE STANDARD CONNECTIONS

M83341

45° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch			B	A	D	E				
M83341-12-12	19	- 12	3/4"	3/4"		16.0	78.0	38.0	24.5				
M83341-12-16	19	- 12	3/4"	1"		19.5	78.0	44.6	24.5				
M83341-16-12	25	- 16	1"	3/4"		16.0	90.5	38.0	24.5				
M83341-16-16	25	- 16	1"	1"		19.5	86.5	44.6	26.5				
M83341-16-20	25	- 16	1"	1.1/4"		26.0	92.0	51.0	32.0				
M83341-20-16	31	- 20	1.1/4"	1"		19.5	90.5	44.6	26.5				
M83341-20-20	31	- 20	1.1/4"	1.1/4"		26.0	87.5	51.0	29.0				
M83341-20-24	31	- 20	1.1/4"	1.1/2"		32.0	88.5	60.5	30.0				
M83341-24-24	38	- 24	1.1/2"	1.1/2"		32.0	102.5	60.5	38.0				
M83341-24-32	38	- 24	1.1/2"	2"		42.0	102.5	71.6	38.0				
M83341-32-32	51	- 32	2"	2"		42.0	143.5	71.6	52.0				
M83341-40-40	63	- 40	2.1/2"	2.1/2"		49.2	131.0	84.3	44.5				
M83341-48-48	76	- 48	3"	3"		59.0	147.0	101.6	53.0				



SAE STANDARD CONNECTIONS

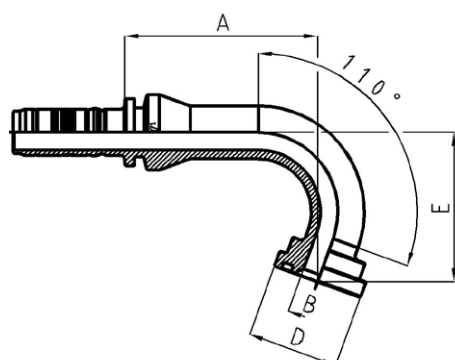
M83391

**90° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83391-12-12	19	- 12	3/4"	3/4"		16.0	72.5	38.0	58.0			
M83391-12-16	19	- 12	3/4"	1"		19.5	72.5	44.6	70.0			
M83391-12-16054	19	- 12	3/4"	1"		19.5	72.5	44.6	54.0			
M83391-16-12	25	- 16	1"	3/4"		16.0	85.0	38.0	58.0			
M83391-16-16	25	- 16	1"	1"		19.5	82.0	44.6	60.0			
M83391-16-20	25	- 16	1"	1.1/4"		26.0	82.0	51.0	68.0			
M83391-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	60.5	69.0			
M83391-20-16	31	- 20	1.1/4"	1"		19.5	86.0	44.6	60.0			
M83391-20-20	31	- 20	1.1/4"	1.1/4"		26.0	85.0	51.0	67.0			
M83391-24-24	38	- 24	1.1/2"	1.1/2"		32.0	96.5	60.5	81.0			
M83391-24-32	38	- 24	1.1/2"	2"		42.0	101.5	71.6	84.0			
M83391-32-32	51	- 32	2"	2"		42.0	135.5	71.6	120.0			
M83391-40-40	63	- 40	2.1/2"	2.1/2"		49.2	128.0	84.3	118.0			
M83391-48-48	76	- 48	3"	3"		59.0	144.5	101.6	140.0			
M83391-56-56	89	- 56	3.1/2"	3.1/2"		73.7	164.0	114.3	160.0			

FITTINGS

235



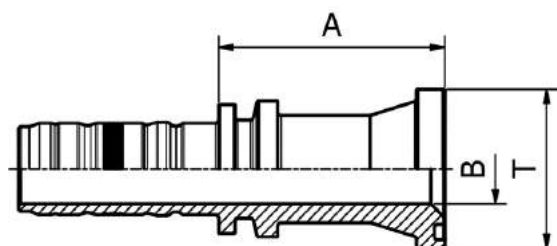
SAE STANDARD CONNECTIONS

M83301...P

**110° ISO / SAE
CODE 61 FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83301-12-12P	19	- 12	3/4"	3/4"		16.0	80.0	38.0	62.0			
M83301-16-16P	25	- 16	1"	1"		19.5	91.5	44.6	79.0			
M83301-20-20P	31	- 20	1.1/4"	1.1/4"		26.0	121.5	51.0	91.0			
M83301-24-24P	38	- 24	1.1/2"	1.1/2"		32.0	124.8	60.5	109.0			
M83301-32-32P	51	- 32	2"	2"		42.0	146.5	71.6	140.0			

SAE STANDARD CONNECTIONS

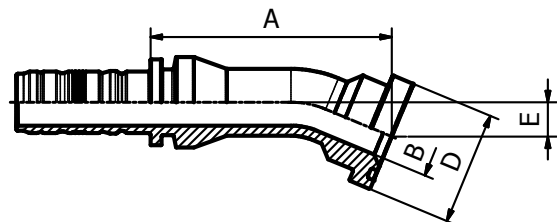


M83611

ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D					
M83611-10-12	16	- 10	5/8"	3/4"		16.0	52.5	41.1					
M83611-12-12	19	- 12	3/4"	3/4"		14.5	53.5	41.4					
M83611-12-16	19	- 12	3/4"	1"		19.5	59.5	47.7					
M83611-16-12	25	- 16	1"	3/4"		16.0	62.5	41.4					
M83611-16-16	25	- 16	1"	1"		19.5	63.5	47.7					
M83611-16-20	25	- 16	1"	1.1/4"		26.0	70.0	54.2					
M83611-20-16	31	- 20	1.1/4"	1"		19.5	62.0	47.7					
M83611-20-20	31	- 20	1.1/4"	1.1/4"		26.0	66.0	54.2					
M83611-20-24	31	- 20	1.1/4"	1.1/2"		32.0	74.5	63.7					
M83611-24-24	38	- 24	1.1/2"	1.1/2"		32.0	74.5	63.7					
M83611-24-32	38	- 24	1.1/2"	2"		42.0	88.5	79.6					
M83611-24-20	38	- 24	1.1/2"	1.1/4"		26.0	66.5	54.2					
M83611-32-24	51	- 32	2"	1.1/2"		32.0	91.5	63.7					

SAE STANDARD CONNECTIONS

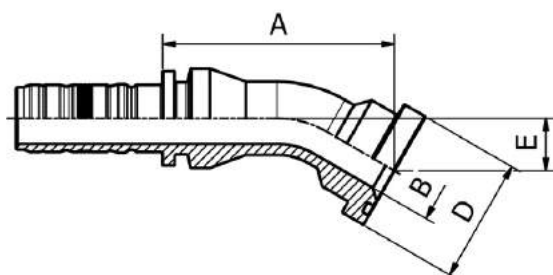


M83621

22.5° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M83621-12-12	19	-12	3/4"	3/4"		16.0	89.5	41.4	12.0				
M83621-16-16	25	-16	1"	1"		19.5	101.0	47.7	14.5				
M83621-20-20	31	-20	1.1/4"	1.1/4"		26.0	107.0	54.2	17.0				
M83621-24-24	38	-24	1.1/2"	1.1/2"		32.0	122.0	63.7	19.5				
M83621-32-32	51	-32	2"	2"		42.0	164.0	79.5	25.0				

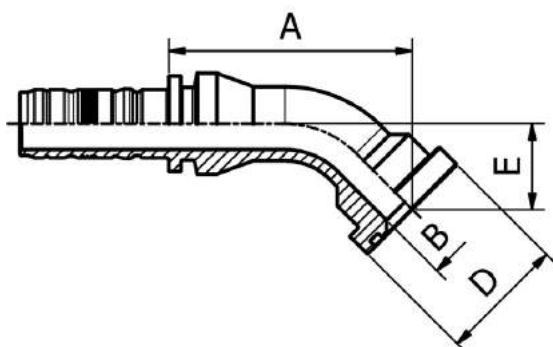
SAE STANDARD CONNECTIONS

**M83631**

**30° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

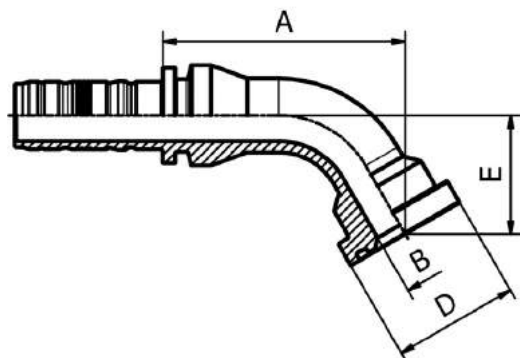
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M83631-12-12	19	- 12	3/4"	3/4"		16.0	78.5	41.4	17.5			
M83631-16-16	25	- 16	1"	1"		19.5	89.0	47.7	20.0			
M83631-20-20	31	- 20	1.1/4"	1.1/4"		26.0	90.5	54.2	22.5			
M83631-24-24	38	- 24	1.1/2"	1.1/2"		32.0	104.5	63.7	27.0			

SAE STANDARD CONNECTIONS

**M83641**

**45° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M83641-12-12	19	- 12	3/4"	3/4"		16.0	81.5	41.4	28.0			
M83641-12-16	19	- 12	3/4"	1"		19.5	85.5	47.7	32.5			
M83641-16-12	25	- 16	1"	3/4"		16.0	87.5	41.4	28.0			
M83641-16-16	25	- 16	1"	1"		19.5	92.0	47.7	32.5			
M83641-16-20	25	- 16	1"	1.1/4"		26.0	97.0	54.2	37.0			
M83641-20-16	31	- 20	1.1/4"	1"		19.5	95.5	47.7	31.5			
M83641-20-20	31	- 20	1.1/4"	1.1/4"		26.0	96.5	54.2	38.0			
M83641-20-24	31	- 20	1.1/4"	1.1/2"		32.0	104.5	63.7	44.5			
M83641-24-20	38	- 24	1.1/2"	1.1/4"		26.0	110.5	54.2	38.0			
M83641-24-24	38	- 24	1.1/2"	1.1/2"		32.0	109.5	63.7	44.0			
M83641-24-32	38	- 24	1.1/2"	2"		42.0	121.5	79.6	56.0			
M83641-32-32	51	- 32	2"	2"		42.0	148.0	79.6	59.0			

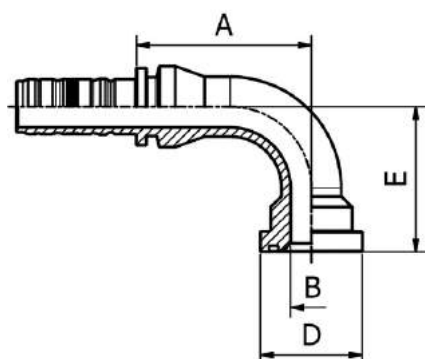


SAE STANDARD CONNECTIONS

M83661

**60° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M83661-12-12	19	- 12	3/4"	3/4"		16.0	81.0	41.4	39.0			
M83661-12-16	19	- 12	3/4"	1"		19.5	84.0	47.7	44.0			
M83661-16-16	25	- 16	1"	1"		19.5	92.0	47.7	45.0			
M83661-20-20	31	- 20	1.1/4"	1.1/4"		26.0	97.5	54.2	55.0			
M83661-20-24	31	- 20	1.1/4"	1.1/2"		32.0	101.5	63.7	62.0			
M83661-24-24	38	- 24	1.1/2"	1.1/2"		32.0	110.5	63.7	61.5			
M83661-32-32	51	- 32	2"	2"		42.0	151.0	79.6	85.0			



SAE STANDARD CONNECTIONS

M83691

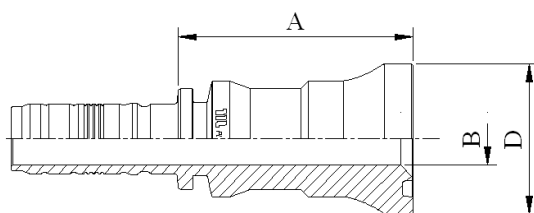
**90° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M83691-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.4	59.0			
M83691-12-16	19	- 12	3/4"	1"		19.5	72.6	47.7	65.0			
M83691-16-12	25	- 16	1"	3/4"		16.0	82.0	41.4	62.0			
M83691-16-16	25	- 16	1"	1"		19.5	82.0	47.7	68.0			
M83691-16-20	25	- 16	1"	1.1/4"		26.0	82.0	54.2	90.0			
M83691-16-20075	25	- 16	1"	1.1/4"		26.0	82.0	54.2	75.0			
M83691-20-16	31	- 20	1.1/4"	1"		19.5	86.0	47.7	68.0			
M83691-20-20	31	- 20	1.1/4"	1.1/4"		26.0	85.0	54.2	90.0			
M83691-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	63.7	104.0			
M83691-24-20	38	- 24	1.1/2"	1.1/4"		26.0	99.0	54.2	90.0			
M83691-24-24	38	- 24	1.1/2"	1.1/2"		32.0	98.0	63.7	104.0			
M83691-24-32	38	- 24	1.1/2"	2"		42.0	98.0	79.6	138.0			
M83691-32-32	51	- 32	2"	2"		42.0	136.0	79.6	138.0			

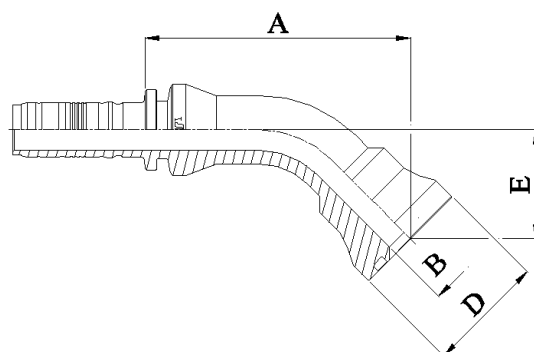
XTRAFRANGE

M88511

XTRAFRANGE/62
(SAE J518 -2/ ISO 6162-2
PORT COMPATIBLE)



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D					
M88511-12-12	19	- 12	3/4"	3/4"		14.5	65.5	41.4					
M88511-16-16	25	- 16	1"	1"		19.5	69.0	47.7					
M88511-20-20	31	- 20	1.1/4"	1.1/4"		25.0	88.0	54.4					
M88511-24-24	38	- 24	1.1/2"	1.1/2"		30.5	102.0	63.7					
M88511-32-32	51	- 32	2"	2"		41.0	129.5	79.6					

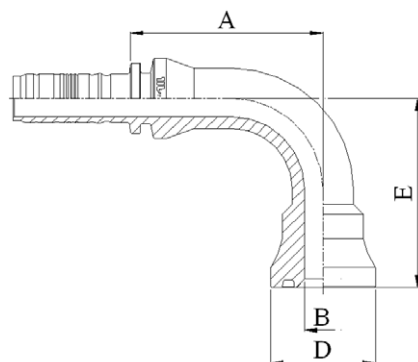


XTRAFRANGE

M88541

45° XTRAFRANGE/62
(SAE J518 -2/ ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M88541-12-12	19	- 12	3/4"	3/4"		14.5	93.5	41.4	38.0				
M88541-16-16	25	- 16	1"	1"		19.5	103.5	47.7	45.0				
M88541-20-20	31	- 20	1.1/4"	1.1/4"		25.0	138.0	54.4	62.5				
M88541-24-24	38	- 24	1.1/2"	1.1/2"		30.5	155.0	63.7	71.5				
M88541-32-32	51	- 32	2"	2"		39.0	194.5	79.6	92.5				



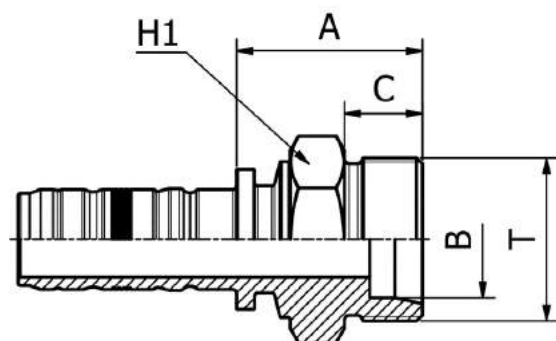
XTRAFRANGE

M88591

90° XTRAFRANGE/62
(SAE J518 -2/ ISO 6162-2
PORT COMPATIBLE)

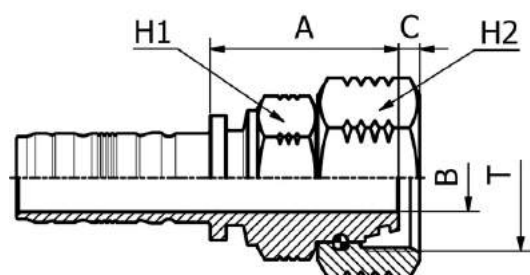
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E				
M88591-12-12	19	- 12	3/4"	3/4"		14.5	76.5	41.4	75.0				
M88591-16-16	25	- 16	1"	1"		19.5	84.5	47.7	90.0				
M88591-20-20	31	- 20	1.1/4"	1.1/4"		25.0	107.0	54.4	120.0				
M88591-24-24	38	- 24	1.1/2"	1.1/2"		30.5	122.0	63.7	140.0				
M88591-32-32	51	- 32	2"	2"		39.0	148.5	79.6	178.0				

DIN STANDARD CONNECTIONS

**M71210**

METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M71210-12-30	19	- 12	3/4"	M 30X2	20.0	14.5	39.5	16.0	32.0			
M71210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	44.5	18.0	36.0			
M71210-16-36	25	- 16	1"	M 36X2	25.0	19.5	46.0	18.0	36.0			
M71210-16-42	25	- 16	1"	M 42X2	30.0	19.5	47.5	20.0	46.0			
M71210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0			
M71210-24-52	38	- 24	1.1/2"	M 52X2	38.0	30.5	55.5	22.0	55.0			



DIN STANDARD CONNECTIONS

M81612

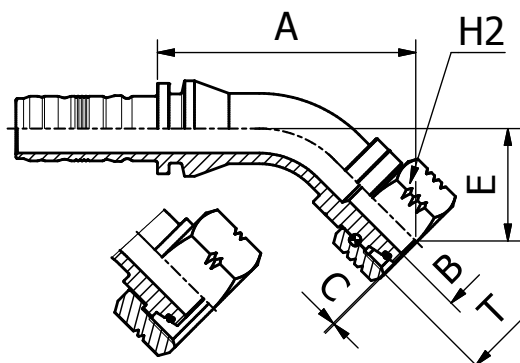
METRIC
O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1	H2		
M81612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	49.5	3.2	32.0	36.0		
M81612-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	52.0	4.1	36.0	41.0		
M81612-12-42	19	- 12	3/4"	M 42X2	30.0	19.5	52.5	6.0	41.0	50.0		
M81612-16-36	25	- 16	1"	M 36X2	25.0	16.0	56.0	4.1	41.0	41.0		
M81612-16-42	25	- 16	1"	M 42X2	30.0	19.5	54.5	6.0	41.0	50.0		
M81612-16-52	25	- 16	1"	M 52X2	38.0	25.0	56.0	8.8	50.0	60.0		
M81612-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.5	56.0	6.1	46.0	50.0		
M81612-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	57.0	8.8	50.0	60.0		
M81612-24-52	38	- 24	1.1/2"	M 52X2	38.0	26.1	58.0	8.8	55.0	60.0		

DIN STANDARD CONNECTIONS

M81642/M81643

**45° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M81642-10-24	16	- 10	5/8"	M24X1.5	16.0	9.3	70.0	4.0	29.5	30.0		
M81642-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	74.0	3.2	33.5	36.0		
M81643-10-36	16	- 10	5/8"	M 36X2	25.0	16.0	74.5	3.4	30.5	41.0		
M81642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	80.0	3.2	35.0	36.0		
M81643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	82.0	3.4	33.5	41.0		
M81642-16-36	25	- 16	1"	M 36X2	25.0	15.0	103.0	4.1	44.5	41.0		
M81643-16-42	25	- 16	1"	M 42X2	30.0	19.5	94.0	5.3	36.0	50.0		
M81642-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	117.5	6.0	44.0	50.0		
M81643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	111.0	8.0	40.0	60.0		

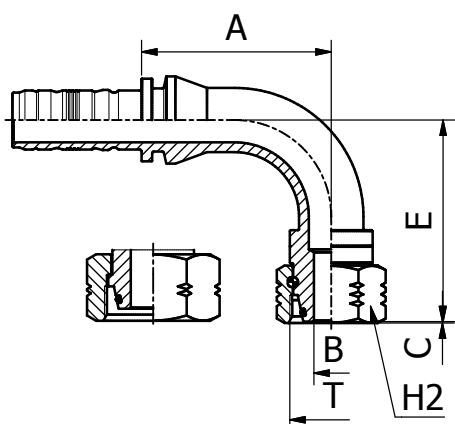
FITTINGS

241

DIN STANDARD CONNECTIONS

M81692/M81693

**90° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2**

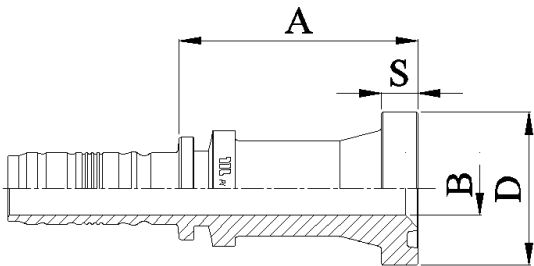


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M81692-10-24	16	- 10	5/8"	M24X1.5	16.0	9.3	57.0	4.0	58.5	30.0		
M81692-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	57.0	3.2	64.0	36.0		
M81693-10-36	16	- 10	5/8"	M 36X2	25.0	16.0	60.5	3.4	60.0	41.0		
M81692-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	64.5	3.2	68.5	36.0		
M81693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	68.0	3.4	67.5	41.0		
M81692-16-36	25	- 16	1"	M 36X2	25.0	15.0	83.0	4.1	87.5	41.0		
M81693-16-42	25	- 16	1"	M 42X2	30.0	19.5	82.5	5.3	75.5	50.0		
M81692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	102.0	6.0	90.0	50.0		
M81693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	101.0	8.0	86.5	60.0		

ORIGINAL EQUIPMENT CONNECTIONS

M83711

FLANGE PLUS
 (SAE J518 -2 /ISO 6162-2 P
 ORT COMPATIBLE)

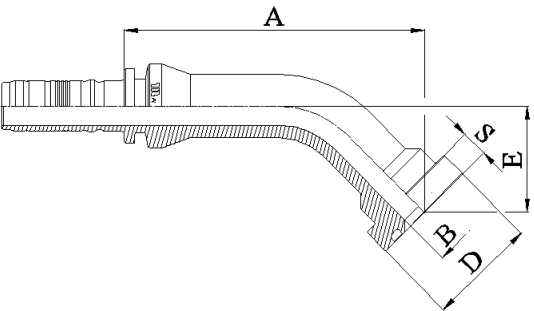


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	S			
M83711-12-12	19	- 12	3/4"	3/4"		14.5	65.0	41.4	10.0			
M83711-16-16	25	- 16	1"	1"		19.5	65.0	47.7	11.0			
M83711-20-20	31	- 20	1.1/4"	1.1/4"		25.0	81.0	54.2	12.0			

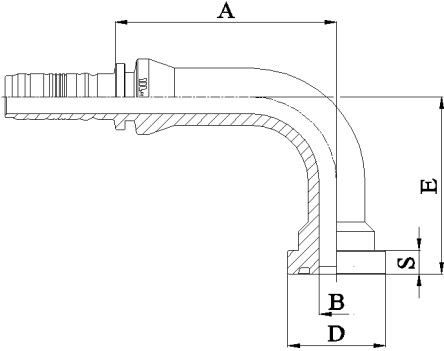
ORIGINAL EQUIPMENT CONNECTIONS

M83741

45° FLANGE PLUS
 (SAE J518-2/ISO 6162-2
 PORT COMPATIBLE)



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M83741-12-12	19	- 12	3/4"	3/4"		14.5	114.0	41.4	40.0	10.0		
M83741-16-16	25	- 16	1"	1"		19.5	107.5	47.7	43.0	11.0		
M83741-20-20	31	- 20	1.1/4"	1.1/4"		25.0	133.5	54.2	50.0	12.0		

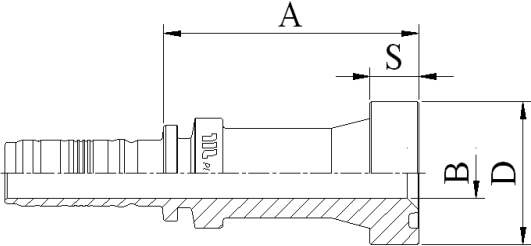


ORIGINAL EQUIPMENT CONNECTIONS

M83791

90° FLANGE PLUS
(SAE J518 -2/ ISO 6162-2
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M83791-12-12	19	- 12	3/4"	3/4"		14.5	93.5	41.4	75.0	10.0		
M83791-16-16	25	- 16	1"	1"		19.5	91.0	47.7	90.0	11.0		
M83791-20-20	31	- 20	1.1/4"	1.1/4"		25.0	115.0	54.2	110.0	12.0		



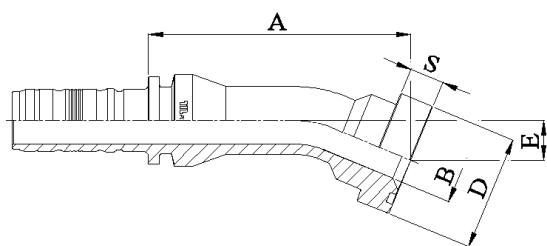
ORIGINAL EQUIPMENT CONNECTIONS

M83911

STRAIGHT SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	S			
M83911-12-12	19	- 12	3/4"	3/4"		14.5	75.0	41.5	14.3			
M83911-12-16	19	- 12	3/4"	1"		19.5	80.5	47.7	14.3			
M83911-16-16	25	- 16	1"	1"		19.5	80.0	47.7	14.3			
M83911-16-20	25	- 16	1"	1.1/4"		26.0	84.0	54.0	14.3			
M83911-20-20	31	- 20	1.1/4"	1.1/4"		26.0	80.5	54.0	14.3			
M83911-20-24	31	- 20	1.1/4"	1.1/2"		32.0	84.0	63.6	14.3			
M83911-24-24	38	- 24	1.1/2"	1.1/2"		32.0	84.5	63.6	14.3			
M83911-24-32	38	- 24	1.1/2"	2"		42.0	107.5	79.3	14.3			
M83911-32-24	51	- 32	2"	1.1/2"		32.0	95.5	63.6	14.3			
M83911-32-32	51	- 32	2"	2"		42.0	110.5	79.3	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

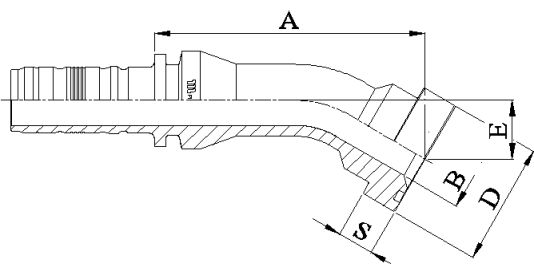


M83921

22,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M83921-12-12	19	- 12	3/4"	3/4"		16.0	101.5	41.5	16.0	14.3		
M83921-12-16	19	- 12	3/4"	1"		19.5	98.0	47.7	16.5	14.3		
M83921-16-16	25	- 16	1"	1"		19.5	108.5	47.7	16.5	14.3		
M83921-16-20	25	- 16	1"	1.1/4"		26.0	113.0	54.0	18.5	14.3		
M83921-20-20	31	- 20	1.1/4"	1.1/4"		26.0	120.5	54.0	18.0	14.3		
M83921-20-24	31	- 20	1.1/4"	1.1/2"		32.0	119.0	63.7	21.0	14.3		
M83921-24-24	38	- 24	1.1/2"	1.1/2"		32.0	123.5	63.7	20.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

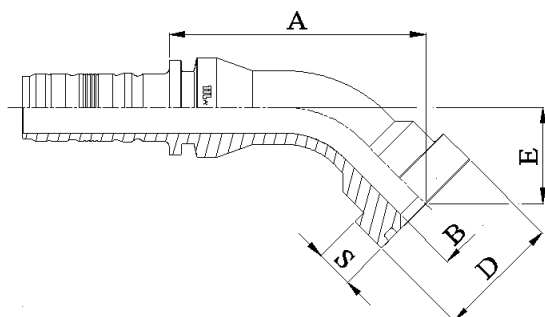


M83931

30° SUPERCAT SERIES FLANGE

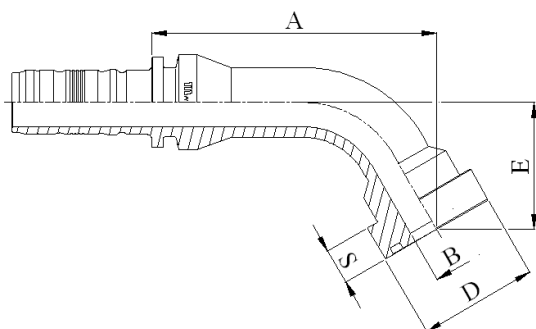
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	S		
M83931-12-12	19	- 12	3/4"	3/4"		16.0	99.0	41.5	22.0	14.3		
M83931-12-16	19	- 12	3/4"	1"		19.5	99.5	47.7	22.5	14.3		
M83931-16-16	25	- 16	1"	1"		19.5	106.0	47.7	23.0	14.3		
M83931-16-20	25	- 16	1"	1.1/4"		26.0	110.0	54.0	26.0	14.3		
M83931-20-20	31	- 20	1.1/4"	1.1/4"		26.0	117.5	54.0	25.0	14.3		
M83931-20-24	31	- 20	1.1/4"	1.1/2"		32.0	115.5	63.7	29.0	14.3		
M83931-24-24	38	- 24	1.1/2"	1.1/2"		32.0	120.5	63.7	28.0	14.3		
M83931-24-32	38	- 24	1.1/2"	2"		42.0	134.5	79.3	36.0	14.3		
M83931-32-32	51	- 32	2"	2"		42.0	163.5	79.3	37.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

M83941**45° SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E	S		
M83941-12-12	19	- 12	3/4"	3/4"		16.0	91.5	41.5	34.5	14.3		
M83941-12-16	19	- 12	3/4"	1"		19.5	92.0	47.7	35.5	14.3		
M83941-16-16	25	- 16	1"	1"		19.5	98.0	47.7	36.5	14.3		
M83941-16-20	25	- 16	1"	1.1/4"		26.0	101.0	54.0	40.5	14.3		
M83941-20-20	31	- 20	1.1/4"	1.1/4"		26.0	109.0	54.0	40.0	14.3		
M83941-20-24	31	- 20	1.1/4"	1.1/2"		32.0	106.0	63.7	46.0	14.3		
M83941-24-24	38	- 24	1.1/2"	1.1/2"		32.0	111.0	63.7	45.5	14.3		
M83941-24-32	38	- 24	1.1/2"	2"		42.0	122.0	79.3	56.5	14.3		
M83941-32-32	51	- 32	2"	2"		42.0	150.5	79.3	61.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

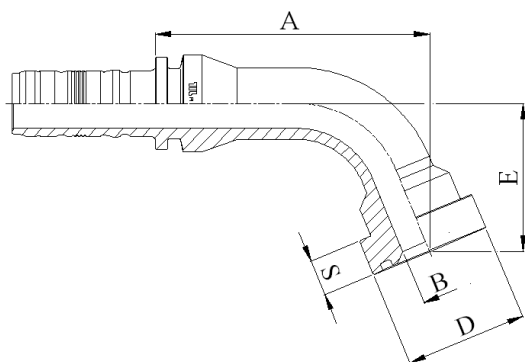
M83961**60° SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E	S		
M83961-12-12	19	- 12	3/4"	3/4"		16.0	106.5	41.5	47.0	14.3		
M83961-12-16	19	- 12	3/4"	1"		19.5	107.0	47.7	48.0	14.3		
M83961-16-16	25	- 16	1"	1"		19.5	114.0	47.7	51.0	14.3		
M83961-16-16055	25	- 16	1"	1"		19.5	100.0	47.7	55.0	14.3		
M83961-16-20	25	- 16	1"	1.1/4"		26.0	116.5	54.0	54.0	14.3		
M83961-20-20	31	- 20	1.1/4"	1.1/4"		26.0	130.0	54.0	54.5	14.3		
M83961-20-24	31	- 20	1.1/4"	1.1/2"		32.0	126.0	63.7	63.5	14.3		
M83961-24-24	38	- 24	1.1/2"	1.1/2"		32.0	140.0	63.7	63.0	14.3		
M83961-32-32	51	- 32	2"	2"		42.0	194.0	79.3	86.5	14.3		
M83961-32-32150	51	- 32	2"	2"		42.0	198.0	79.3	150.0	14.3		

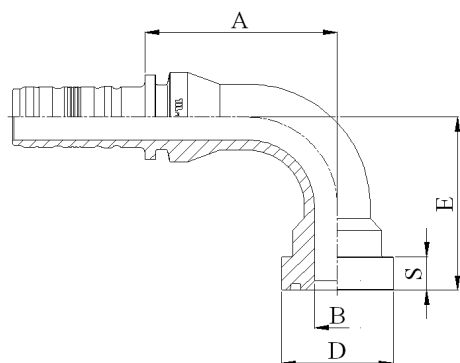
ORIGINAL EQUIPMENT CONNECTIONS

M83971

67,5° SUPERCAT SERIES FLANGE



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M83971-12-12	19	- 12	3/4"	3/4"		16.0	100.0	41.5	53.0	14.3		
M83971-12-16	19	- 12	3/4"	1"		19.5	100.5	47.7	54.0	14.3		
M83971-16-16	25	- 16	1"	1"		19.5	107.0	47.7	58.0	14.3		
M83971-16-20	25	- 16	1"	1.1/4"		26.0	109.0	54.0	62.0	14.3		
M83971-20-20	31	- 20	1.1/4"	1.1/4"		26.0	123.0	54.0	62.0	14.3		
M83971-20-24	31	- 20	1.1/4"	1.1/2"		32.0	117.5	63.7	71.5	14.3		
M83971-24-24	38	- 24	1.1/2"	1.1/2"		32.0	131.0	63.7	72.0	14.3		
M83971-32-32	51	- 32	2"	2"		42.0	181.5	79.3	99.0	14.3		

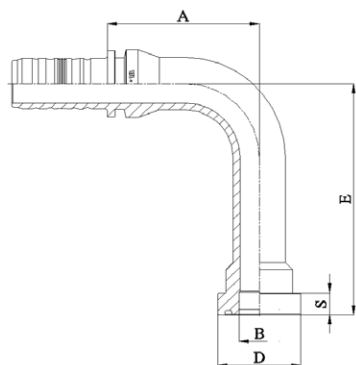


ORIGINAL EQUIPMENT CONNECTIONS

M83991

90° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M83991-12-12	19	- 12	3/4"	3/4"		16.0	76.0	41.5	68.5	14.3		
M83991-12-16	19	- 12	3/4"	1"		19.5	76.0	47.7	69.5	14.3		
M83991-16-16	25	- 16	1"	1"		19.5	82.0	47.7	73.5	14.3		
M83991-16-20	25	- 16	1"	1.1/4"		26.0	82.0	54.0	78.5	14.3		
M83991-20-20	31	- 20	1.1/4"	1.1/4"		26.0	94.0	54.0	82.0	14.3		
M83991-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	63.7	92.0	14.3		
M83991-24-24	38	- 24	1.1/2"	1.1/2"		32.0	98.0	63.7	96.0	14.3		
M83991-24-32	38	- 24	1.1/2"	2"		42.0	98.0	79.3	112.0	14.3		
M83991-32-32	51	- 32	2"	2"		42.0	136.0	79.3	133.5	14.3		

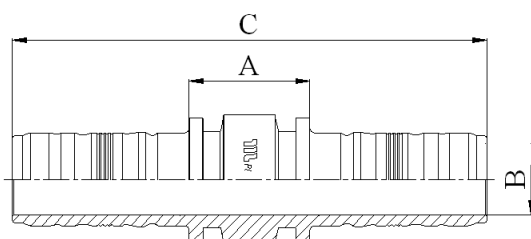


ORIGINAL EQUIPMENT CONNECTIONS

M83991 LONG DROP**90° LONG DROP SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	S		
M83991-16-16132	25	- 16	1"	1"		19.5	86.0	47.7	132.0	14.3		
M83991-16-16150	25	- 16	1"	1"		19.5	86.0	47.7	150.0	14.3		
M83991-16-20150	25	- 16	1"	1.1/4"		26.0	82.0	54.0	150.0	14.3		
M83991-20-20092	31	- 20	1.1/4"	1.1/4"		26.1	99.0	54.0	92.0	14.3		
M83991-20-20150	31	- 20	1.1/4"	1.1/4"		26.1	99.0	54.0	150.0	14.3		
M83991-20-24135	31	- 20	1.1/4"	1.1/2"		32.0	98.5	63.7	135.0	14.3		
M83991-24-24106	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	106.0	14.3		

DOUBLE CONNECTOR

**M70050**

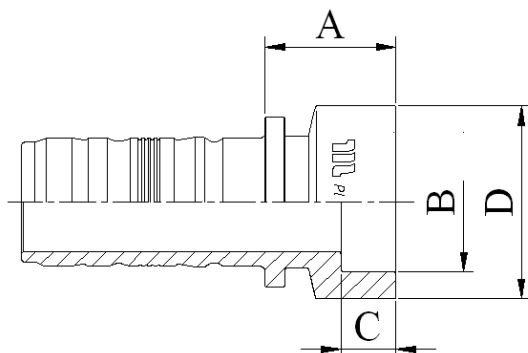
DOUBLE CONNECTOR

PART. REF.	HOSE BORE					DIMENSIONS mm						
	DN	Dash	inch			B	A	C				
M70050-20-20	31	- 20	1.1/4"			25.0	42.5	166.2				
M70050-24-24	38	- 24	1.1/2"			30.5	43.0	178.9				
M70050-32-32	51	- 32	2"			41.0	45.5	220.8				

TAIL

M89510WL

WELDING TAIL

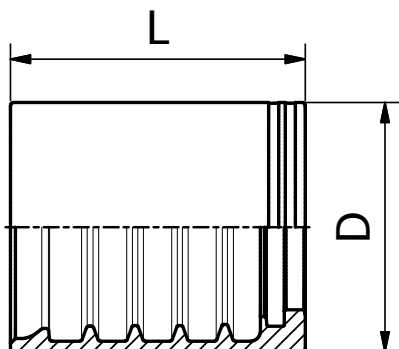


PART. REF.	HOSE BORE					DIMENSIONS mm						
	DN	Dash	inch			B	A	C	D			
M89510-12-22WL	19	- 12	3/4"			22.1	28.5	12.0	34.0			
M89510-16-28WL	25	- 16	1"			28.1	32.5	14.0	40.0			
M89510-20-35WL	31	- 20	1.1/4"			35.1	33.0	14.0	49.0			

FERRULE

M05500-GX

**NO-SKIVE FERRULE FOR
HEAVY DUTY SPIRAL HOSES
(4-6 PLY)**

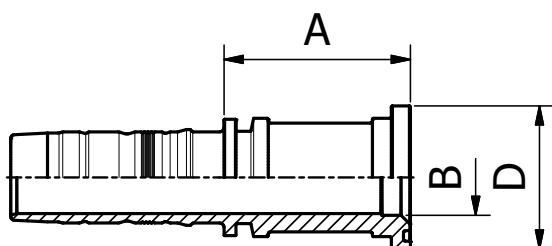


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05500-24GX	38	- 24	1.1/2"			75.0	88.5				
M05500-32GX	51	- 32	2"			98.0	120.3				

SAE STANDARD CONNECTIONS

M83611-GX

**ISO/SAE CODE 62 FLANGE
(ISO 6162-2 / SAE J518 CODE 62)**

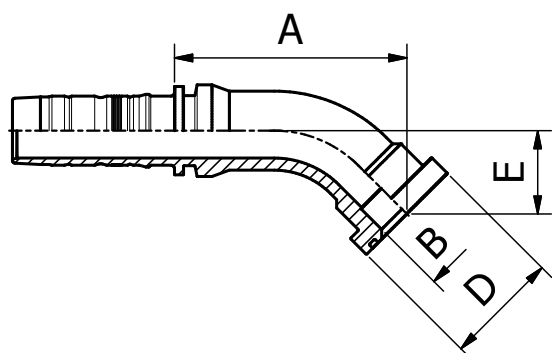


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D			
M83611-24-24GX	38	- 24	1.1/2"	1.1/2"		32.0	79.0	63.7			
M83611-24-32GX	38	- 24	1.1/2"	2"		42.0	95.0	79.6			
M83611-32-32GX	51	- 32	2"	2"		42.0	98.5	79.6			

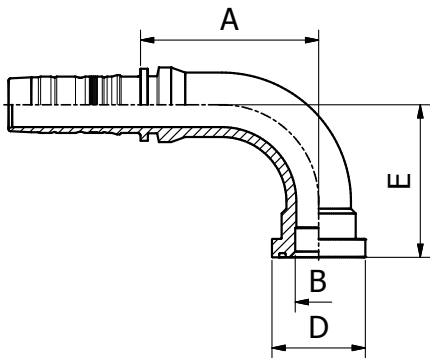
SAE STANDARD CONNECTIONS

M83641-GX

**45° ISO/SAE CODE 62 FLANGE
(ISO 6162-2 / SAE J518 CODE 62)**



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E		
M83641-24-24GX	38	- 24	1.1/2"	1.1/2"		32.0	129.0	63.7	46.5		
M83641-24-32GX	38	- 24	1.1/2"	2"		32.0	138.0	79.6	57.5		
M83641-32-32GX	51	- 32	2"	2"		42.0	149.0	79.6	59.0		



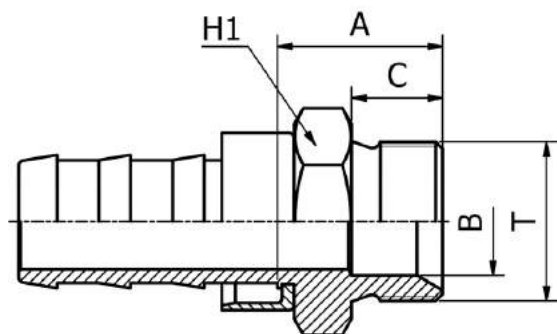
SAE STANDARD CONNECTIONS

M83691-GX

90° ISO/SAE CODE 62 FLANGE
(ISO 6162-2 / SAE J518 CODE 62)

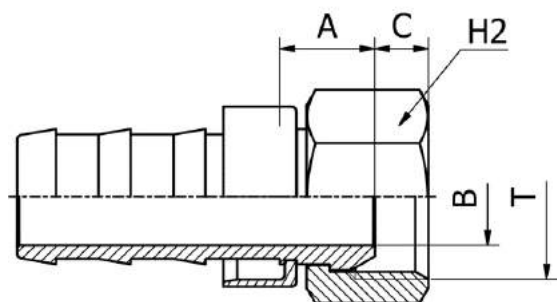
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch			B	A	D	E		
M83691-24-24GX	38	- 24	1.1/2"	1.1/2"		32.0	121.5	63.7	104.5		
M83691-32-32GX	51	- 32	2"	2"		42.0	136.5	79.6	138.0		

BS STANDARD CONNECTIONS

**L10510**

BSP
MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
L10510-04-04	6	- 4	1/4"	1/4" - 19		5.0	20.5	11.0	19.0			
L10510-04-06	6	- 4	1/4"	3/8" - 19		8.0	22.5	12.0	22.0			
L10510-06-06	10	- 6	3/8"	3/8" - 19		8.0	23.0	12.0	22.0			
L10510-08-08	12	- 8	1/2"	1/2" - 14		11.0	27.0	14.0	27.0			
L10510-10-10	16	- 10	5/8"	5/8" - 14		14.5	28.5	16.0	30.0			
L10510-12-12	19	- 12	3/4"	3/4" - 14		17.0	30.5	16.0	32.0			
L10510-16-16	25	- 16	1"	1" - 11		22.5	34.5	19.0	41.0			



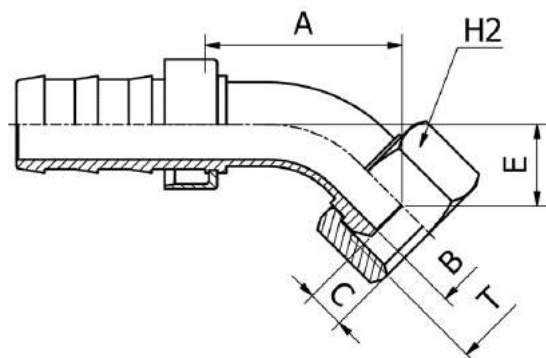
BS STANDARD CONNECTIONS

L20513

BSP
FEMALE 60° CONE
BS5200 / ISO 12151-6
(SLIP-ON NUT)

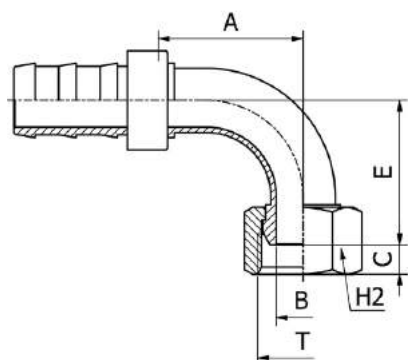
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
L20513-04-04	6	- 4	1/4"	1/4" - 19		4.0	12.5	5.8	19.0			
L20513-04-06	6	- 4	1/4"	3/8" - 19		7.0	14.6	6.2	22.0			
L20513-06-06	10	- 6	3/8"	3/8" - 19		7.0	15.0	6.2	22.0			
L20513-08-08	12	- 8	1/2"	1/2" - 14		9.5	16.5	6.5	27.0			
L20513-10-10	16	- 10	5/8"	5/8" - 14		12.0	16.0	9.0	28.0			
L20513-12-12	19	- 12	3/4"	3/4" - 14		16.0	18.0	9.0	32.0			
L20513-12-16	19	- 12	3/4"	1" - 11		19.0	19.5	11.0	38.0			
L20513-16-16	25	- 16	1"	1" - 11		19.0	19.5	11.0	38.0			

BS STANDARD CONNECTIONS

**L20543**

45° BSP
FEMALE SWEPT ELBOW 60° CONE
BS5200/ISO 12151-6
(SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		B	A	C	E	H2		
L20543-04-04	6	- 4	1/4"	1/4" - 19	4.0	31.0	5.8	12.0	19.0		
L20543-06-06	10	- 6	3/8"	3/8" - 19	7.0	38.5	6.2	14.5	22.0		
L20543-08-08	12	- 8	1/2"	1/2" - 14	9.5	44.0	6.5	18.5	27.0		
L20543-10-10	16	- 10	5/8"	5/8" - 14	12.0	50.5	9.0	19.0	28.0		
L20543-12-12	19	- 12	3/4"	3/4" - 14	16.0	53.0	9.0	21.0	32.0		
L20543-16-16	25	- 16	1"	1" - 11	19.0	56.0	11.0	23.5	38.0		

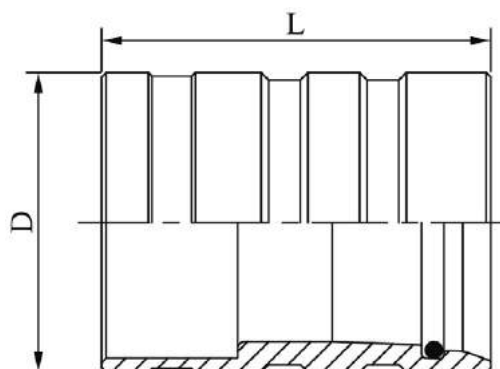


BS STANDARD CONNECTIONS

L20593

90° BSP
FEMALE SWEPT ELBOW 60° CONE
BS5200/ISO 12151-6
(SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		B	A	C	E	H2		
L20593-04-04	6	- 4	1/4"	1/4" - 19	4.0	26.0	5.8	24.0	19.0		
L20593-06-06	10	- 6	3/8"	3/8" - 19	7.0	35.0	6.2	30.5	22.0		
L20593-08-08	12	- 8	1/2"	1/2" - 14	9.5	38.0	6.5	38.5	27.0		
L20593-10-10	16	- 10	5/8"	5/8" - 14	12.0	45.5	9.0	41.0	28.0		
L20593-12-16	19	- 12	3/4"	1" - 11	19.0	48.5	11.0	48.5	38.0		
L20593-12-12	19	- 12	3/4"	3/4" - 14	16.0	48.5	9.0	46.5	32.0		
L20593-16-16	25	- 16	1"	1" - 11	19.0	54.0	11.0	54.0	38.0		

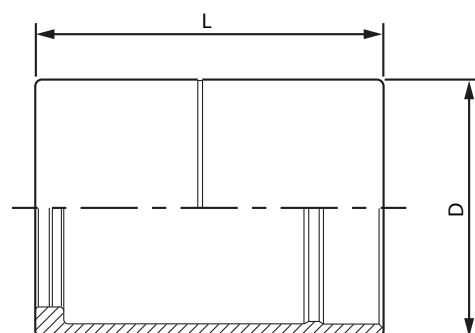


ACCESSORIES

0820

ANTI-KINK SLEEVE

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
O82040-12	19	- 12	3/4"			45.0	67.0				
O82040-16	25	- 16	1"			52.0	81.0				
O82068-16	25	- 16	1"			55.0	75.0				
O82062-20	31	- 20	1.1/4"			64.0	83.0				
O82060-20	31	- 20	1.1/4"			64.0	84.0				
O82068-20	31	- 20	1.1/4"			65.5	83.0				
O82060-24	38	- 24	1.1/2"			72.0	102.0				
O82068-24	38	- 24	1.1/2"			73.0	99.0				
O82068-32	51	- 32	2"			86.5	116.0				
O82068-40	63	- 40	2.1/2"			100.5	148.5				
O82068-48	76	- 48	3"			112.0	158.0				



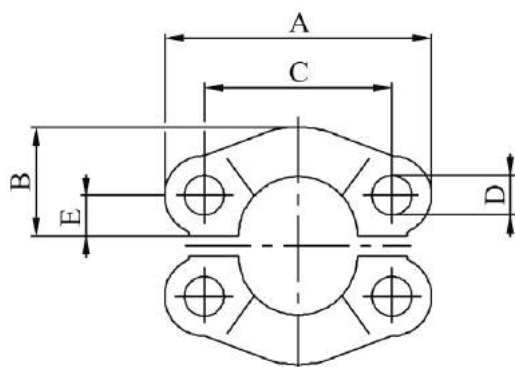
ACCESSORIES

0821 / IO821

METAL SLEEVE / STAINLESS STEEL SLEEVE

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
O82110-06	10	- 6	3/8"			36.1	51.0				
O82110-08	12	- 8	1/2"			44.5	59.0				
O82110-10	16	- 10	5/8"			48.0	65.0				
O82110-12	19	- 12	3/4"			55.5	75.0				
O82110-16	25	- 16	1"			64.5	90.0				
O82110-20	31	- 20	1.1/4"			75.0	112.0				
O82110-24	38	- 24	1.1/2"			83.3	117.0				
O82110-32	51	- 32	2"			95.4	128.0				
IO82110-06	10	- 6	3/8"			36.1	51.0				
IO82110-08	12	- 8	1/2"			44.5	59.0				
IO82110-10	16	- 10	5/8"			48.0	65.0				
IO82110-12	19	- 12	3/4"			55.5	75.0				
IO82110-16	25	- 16	1"			64.5	90.0				
IO82110-20	31	- 20	1.1/4"			75.0	112.0				
IO82110-24	38	- 24	1.1/2"			83.3	117.0				
IO82110-32	51	- 32	2"			95.4	128.0				

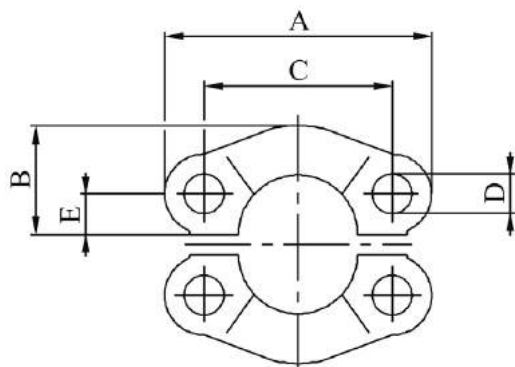
ACCESSORIES

083308

ISO/SAE
CODE 61 SPLIT FLANGE CLAMPS
SAE J518 / ISO 6162-1

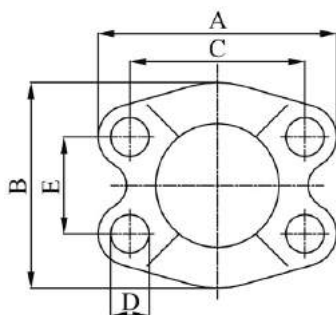
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D	E	
O83308-08						22.8	54.0	38.1	8.75	8.7	
O83308-12						25.9	65.0	47.6	10.75	11.1	
O83308-16						29.2	70.0	52.4	10.75	13.1	
O83308-20						36.3	79.0	58.7	12.0	15.1	
O83308-24						41.1	94.0	69.8	13.5	17.9	
O83308-32						48.2	102.0	77.8	13.5	21.4	
O83308-40						54.1	114.0	88.9	13.5	25.4	
O83308-48						65.3	135.0	106.4	16.75	31.0	
O83308-56						70.0	152.0	120.65	17.0	34.85	
O83308-64						75.0	160.0	130.18	17.0	38.9	

ACCESSORIES

083609

ISO/SAE
CODE 62 SPLIT FLANGE CLAMPS
SAE J518 / ISO 6162-2

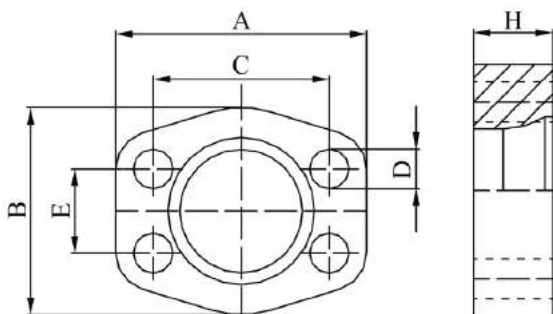
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D	E	
O83609-08						23.6	56.0	40.5	8.75	9.1	
O83609-12						30.0	71.0	50.8	11.0	11.9	
O83609-16						34.8	81.0	57.1	13.0	13.9	
O83609-20						38.6	95.0	66.7	15.0	15.9	
O83609-24						47.5	113.0	79.4	17.0	18.3	
O83609-32						56.9	133.0	96.8	21.0	22.2	



ACCESSORIES

083607
CODE 62 ONE-PIECE FLANGE CLAMP
ISO 6162-2 / SAE J518

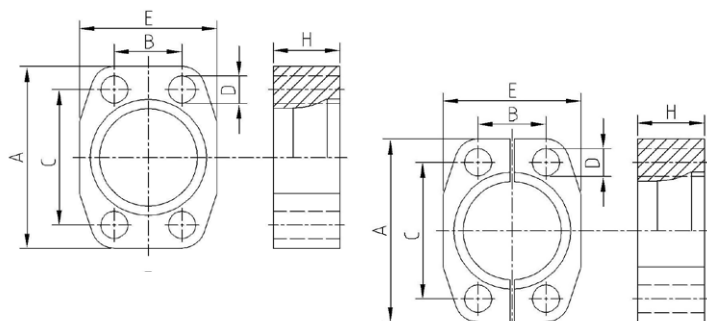
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D	E	
O83607-12	19	- 12	3/4"			60.0	72.0	50.8	10.5	23.8	
O83607-16	25	- 16	1"			70.0	81.0	57.2	13.0	27.8	
O83607-20	31	- 20	1.1/4"			78.0	96.0	66.7	15.0	31.8	
O83607-24	38	- 24	1.1/2"			96.0	113.0	79.4	17.0	36.5	
O83607-32	51	- 32	2"			114.0	134.0	96.8	21.0	44.4	
O83607-40	63	- 40	2.1/2"			150.0	175.0	123.8	25.0	58.7	
O83607-48	76	- 48	3"			178.0	210.0	152.4	32.0	71.4	



ACCESSORIES

088507
ONE-PIECE CODE 62 XTRAFRANGE CLAMP
ISO 6162-2 / SAE J518
PORT COMPATIBLE

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D	E	H
O88507-12						60.0	71.5	50.8	11.0	23.8	21.5
O88507-16						66.7	80.0	57.2	13.0	27.8	24.0
O88507-20						78.0	95.0	66.7	15.0	31.7	30.0
O88507-24						94.0	112.0	79.4	17.0	36.5	36.0
O88507-32						114.0	133.0	96.8	21.0	44.5	47.0
O88507-40						150.0	180.0	123.8	26.0	58.8	55.0
O88507-48						176.0	210.3	152.4	31.0	71.4	60.0



ACCESSORIES

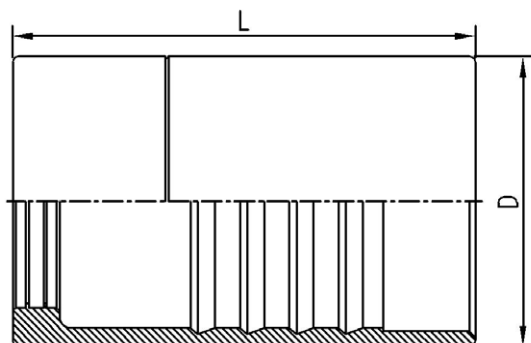
088407
ONE-PIECE XTRAFRANGE 61 CLAMP /
SPLIT XTRAFRANGE/61 CLAMP

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	C	D	E	H
O88407-16				1"		26.2	70.5	52.4	10.6	53.0	25.7
O88407-20				1.1/4"		30.2	80.0	58.7	12.0	64.0	26.8
O88407-24				1.1/2"		35.7	94.0	69.9	13.3	77.0	33.6
O88407-32				2"		42.9	102.0	77.8	13.3	88.0	35.0
O88407-40				2.1/2"		50.8	114.0	88.9	13.3	102.0	44.3

O88407-32 and O88407-40: Split XtraFlange/61 Clamp

ACCESSORIES

IO821GA

**METAL SLEEVE FOR ARMOUR
(STAINLESS STEEL)**


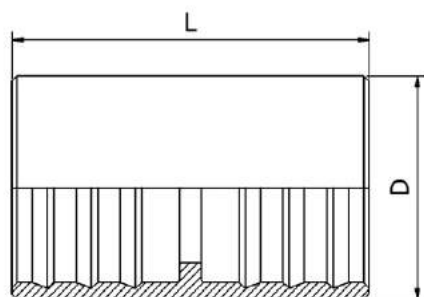
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IO82110-06GA	10	- 6	3/8"			40.5	60.0				
IO82110-08GA	12	- 8	1/2"			46.8	75.0				
IO82110-10GA	16	- 10	5/8"			53.2	90.0				
IO82110-12GA	19	- 12	3/4"			59.5	105.0				
IO82110-16GA	25	- 16	1"			66.0	120.0				
IO82110-20GA	31	- 20	1.1/4"			78.6	135.0				
IO82110-24GA	38	- 24	1.1/2"			91.5	150.0				
IO82110-32GA	51	- 32	2"			106.5	165.0				

FITTINGS

255

ACCESSORIES

IO84210

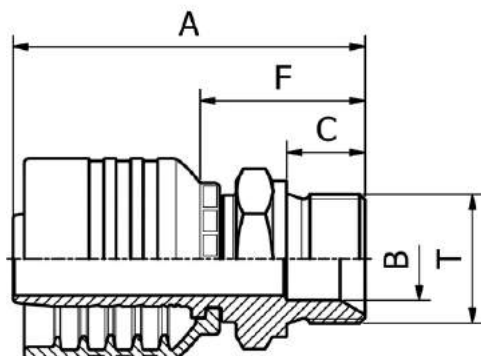
ARMOUR-JOINT


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IO84210-06	10	- 6	3/8"			40.5	65.0				
IO84210-08	12	- 8	1/2"			46.8	65.0				
IO84210-10	16	- 10	5/8"			53.2	65.0				
IO84210-12	19	- 12	3/4"			59.5	70.0				
IO84210-16	25	- 16	1"			66.0	75.0				
IO84210-20	31	- 20	1.1/4"			78.6	95.0				
IO84210-24	38	- 24	1.1/2"			91.5	105.0				
IO84210-32	51	- 32	2"			106.5	115.0				

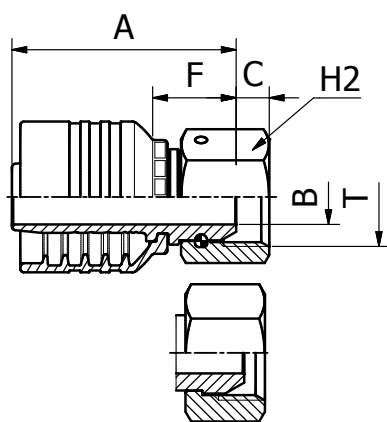
BS STANDARD CONNECTIONS

OPK10510

BSP
MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H1	
OPK10510-06A04	10	- 6	3/8"	1/4" - 19		5.0	55.5	11.0	26.0	19.0	
OPK10510-06A06	10	- 6	3/8"	3/8" - 19		8.0	57.5	12.0	28.0	22.0	
OPK10510-06A08	10	- 6	3/8"	1/2" - 14		11.0	60.0	14.0	30.5	27.0	
OPK10510-08A06	12	- 8	1/2"	3/8" - 19		8.0	59.0	12.0	28.0	22.0	
OPK10510-08A08	12	- 8	1/2"	1/2" - 14		11.0	62.0	14.0	31.0	27.0	
OPK10510-08A10	12	- 8	1/2"	5/8" - 14		14.5	64.0	16.0	33.0	30.0	
OPK10510-08A12	12	- 8	1/2"	3/4" - 14		17.0	65.0	16.0	34.0	32.0	
OPK10510-10A10	16	- 10	5/8"	5/8" - 14		14.5	67.5	16.0	33.0	30.0	
OPK10510-10A12	16	- 10	5/8"	3/4" - 14		17.0	68.5	16.0	35.5	32.0	
OPK10510-12A12	19	- 12	3/4"	3/4" - 14		17.0	72.0	16.0	35.5	32.0	
OPK10510-12A16	19	- 12	3/4"	1" - 11		22.5	76.0	19.0	39.5	41.0	
OPK10510-16A16	25	- 16	1"	1" - 11		22.5	89.0	19.0	41.0	41.0	
OPK10510-16A20	25	- 16	1"	1.1/4" - 11		28.5	93.0	20.0	45.0	50.0	
OPK10510-20A20	31	- 20	1.1/4"	1.1/4" - 11		28.5	99.0	20.0	46.5	50.0	
OPK10510-24A24	38	- 24	1.1/2"	1.1/2" - 11		33.5	111.5	22.0	49.5	55.0	
OPK10510-32A32	51	- 32	2"	2" - 11		46.0	120.0	25.0	54.0	70.0	



BS STANDARD CONNECTIONS

OPK20512/OPK20513

BSP
FEMALE 60° CONE
BS5200 / ISO 12151-6

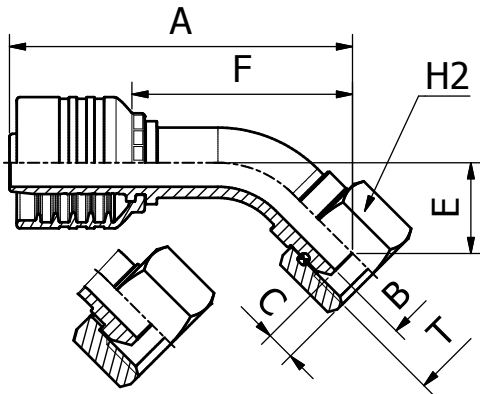
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H2	
OPK20512-06A04	10	- 6	3/8"	1/4" - 19		4.1	47.5	4.2	18.0	19.0	
OPK20513-06A06	10	- 6	3/8"	3/8" - 19		7.0	49.0	6.0	19.5	22.0	
OPK20513-06A08	10	- 6	3/8"	1/2" - 14		9.3	49.5	6.3	20.0	27.0	
OPK20512-08A06	12	- 8	1/2"	3/8" - 19		7.1	52.0	6.0	21.0	22.0	
OPK20513-08A08	12	- 8	1/2"	1/2" - 14		9.3	51.5	6.3	20.5	27.0	
OPK20512-08A10	12	- 8	1/2"	5/8" - 14		12.1	53.0	10.2	22.0	28.0	
OPK20512-08A12	12	- 8	1/2"	3/4" - 14		15.0	56.0	9.0	24.5	32.0	
OPK20512-10A10	16	- 10	5/8"	5/8" - 14		12.5	56.0	10.2	21.5	28.0	
OPK20512-10A12	16	- 10	5/8"	3/4" - 14		15.0	57.5	9.0	23.0	32.0	
OPK20512-12A16	19	- 12	3/4"	1" - 11		19.8	62.5	10.5	26.0	38.0	
OPK20512-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.0	9.0	24.5	32.0	
OPK20512-16A16	25	- 16	1"	1" - 11		19.8	75.5	10.5	27.5	38.0	

OPK20512: THRUST WIRE NUT / OPK20513: SLIP-ON NUT

BS STANDARD CONNECTIONS

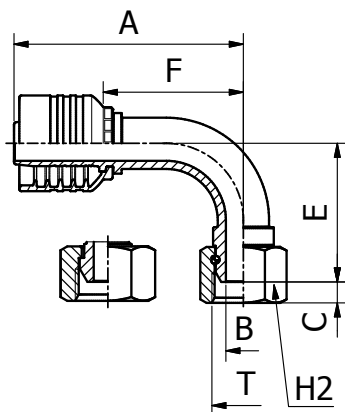
OPK20542/OPK20543

45° BSP
FEMALE ELBOW 60° CONE
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPK20543-06A06	10	- 6	3/8"	3/8" - 19		7.0	71.5	6.0	15.5	42.0	22.0	
OPK20543-06A08	10	- 6	3/8"	1/2" - 14		9.3	72.0	6.3	16.0	42.5	27.0	
OPK20543-08A08	12	- 8	1/2"	1/2" - 14		9.3	81.0	6.3	17.0	49.5	27.0	
OPK20542-08A10	12	- 8	1/2"	5/8" - 14		12.1	85.5	10.2	22.5	54.5	28.0	
OPK20542-10A10	16	- 10	5/8"	5/8" - 14		12.5	97.5	10.2	26.0	63.0	28.0	
OPK20542-10A12	16	- 10	5/8"	3/4" - 14		15.0	98.0	9.0	27.0	64.0	32.0	
OPK20542-12A12	19	- 12	3/4"	3/4" - 14		15.0	107.0	9.0	28.5	70.5	32.0	
OPK20542-12A16	19	- 12	3/4"	1" - 11		19.8	109.0	10.5	30.0	72.5	38.0	
OPK20542-16A16	25	- 16	1"	1" - 11		19.8	139.5	10.5	36.5	91.0	38.0	

OPK20542: THRUST WIRE NUT / OPK20543: SLIP-ON NUT



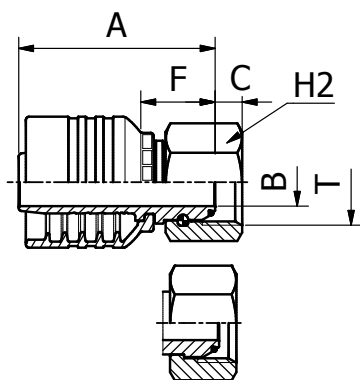
BS STANDARD CONNECTIONS

OPK20592/OPK20593

90° BSP
FEMALE ELBOW 60° CONE
BS5200

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPK20593-06A06	10	- 6	3/8"	3/8" - 19		7.0	66.0	6.0	31.5	36.5	22.0	
OPK20593-06A08	10	- 6	3/8"	1/2" - 14		9.3	66.0	6.3	32.0	36.5	27.0	
OPK20592-08A06	12	- 8	1/2"	3/8" - 19		7.1	76.0	6.0	41.0	45.0	22.0	
OPK20593-08A08	12	- 8	1/2"	1/2" - 14		9.3	76.0	6.3	36.5	45.0	27.0	
OPK20592-08A10	12	- 8	1/2"	5/8" - 14		12.1	75.5	10.2	44.0	44.0	28.0	
OPK20592-08A12	12	- 8	1/2"	3/4" - 14		15.0	75.5	9.0	45.5	44.0	32.0	
OPK20592-10A10	16	- 10	5/8"	5/8" - 14		12.5	88.0	10.2	53.5	53.5	28.0	
OPK20592-10A12	16	- 10	5/8"	3/4" - 14		15.0	88.0	9.0	55.0	53.5	32.0	
OPK20592-12A12	19	- 12	3/4"	3/4" - 14		15.0	98.0	9.0	59.5	61.5	32.0	
OPK20592-12A16	19	- 12	3/4"	1" - 11		19.8	98.0	10.5	62.0	61.5	38.0	
OPK20592-16A16	25	- 16	1"	1" - 11		19.8	127.5	10.5	76.0	79.5	38.0	

OPK20592: THRUST WIRE NUT / OPK20593: SLIP-ON NUT



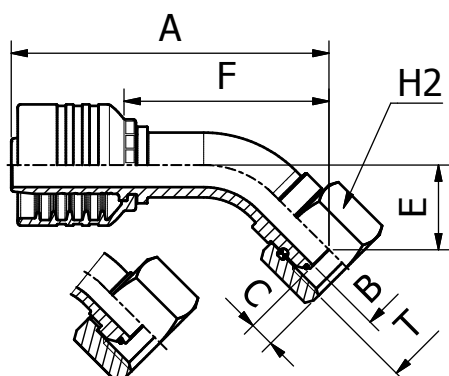
BS STANDARD CONNECTIONS

OPK20812/OPK20813

BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H2	
OPK20812-06A04	10	- 6	3/8"	1/4" - 19		4.1	47.5	4.1	18.0	19.0	
OPK20813-06A06	10	- 6	3/8"	3/8" - 19		7.0	49.0	6.0	19.5	22.0	
OPK20813-08A08	12	- 8	1/2"	1/2" - 14		9.3	51.5	6.3	20.5	27.0	
OPK20812-10A10	16	- 10	5/8"	5/8" - 14		12.5	56.5	9.7	22.0	28.0	
OPK20812-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.5	8.5	25.0	32.0	
OPK20812-16A16	25	- 16	1"	1" - 11		19.8	75.5	10.6	27.5	38.0	
OPK20812-16A20	25	- 16	1"	1.1/4" - 11		26.1	79.0	10.5	31.0	50.0	
OPK20812-20A20	31	- 20	1.1/4"	1.1/4" - 11		26.0	84.0	10.5	31.5	50.0	
OPK20812-20A24	31	- 20	1.1/4"	1.1/2" - 11		32.1	82.0	12.5	29.5	60.0	
OPK20812-24A24	38	- 24	1.1/2"	1.1/2" - 11		32.0	92.5	12.5	30.5	60.0	
OPK20812-24A32	38	- 24	1.1/2"	2"		42.1	92.0	16.1	30.0	70.0	
OPK20812-32A32	51	- 32	2"	2"		42.0	98.0	16.1	32.0	70.0	

OPK20812: THRUST WIRE NUT / OPK20813: SLIP-ON NUT



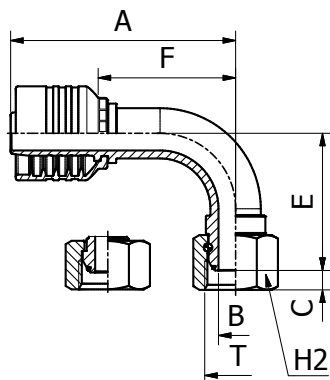
BS STANDARD CONNECTIONS

OPK20842/OPK20843

45° BSP
O-RING FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	F	H2
OPK20843-06A06	10	- 6	3/8"	3/8" - 19		7.0	71.5	6.0	15.5	42.0	22.0
OPK20843-08A08	12	- 8	1/2"	1/2" - 14		9.3	81.0	6.3	17.0	49.5	27.0
OPK20842-10A10	16	- 10	5/8"	5/8" - 14		12.5	98.0	9.7	27.5	63.5	28.0
OPK20842-12A12	19	- 12	3/4"	3/4" - 14		15.0	107.5	8.5	29.0	71.0	32.0
OPK20842-20A20	31	- 20	1.1/4"	1.1/4" - 11		26.0	154.0	10.5	39.0	101.5	50.0
OPK20842-24A24	38	- 24	1.1/2"	1.1/2" - 11		32.0	180.0	12.5	45.0	118.0	60.0
OPK20842-16A16	25	- 16	1"	1" - 11		19.8	138.5	10.6	35.5	90.5	38.0
OPK20842-32A32	51	- 32	2"	2" - 11		42.0	200.0	16.1	47.0	134.0	70.0

OPK20842: THRUST WIRE NUT / OPK20843: SLIP-ON NUT



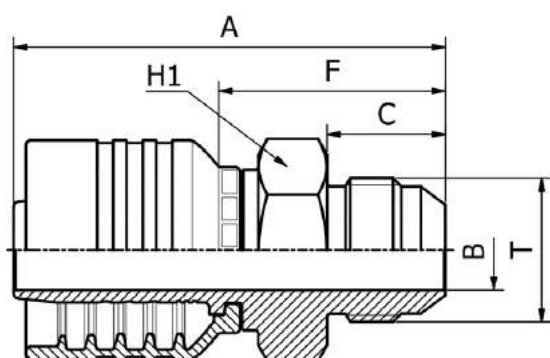
BS STANDARD CONNECTIONS

OPK20892/OPK20893

90° BSP
O-RING FEMALE SWEEP ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK20892-06A04	10	- 6	3/8"	1/4" - 19		4.1	65.0	4.1	33.0	35.5	19.0
OPK20893-06A06	10	- 6	3/8"	3/8" - 19		7.0	66.0	6.0	31.5	36.5	22.0
OPK20893-08A08	12	- 8	1/2"	1/2" - 14		9.3	76.0	6.3	36.5	45.0	27.0
OPK20892-10A10	16	- 10	5/8"	5/8" - 14		12.5	87.5	9.7	55.0	53.0	28.0
OPK20892-12A12	19	- 12	3/4"	3/4" - 14		15.0	98.0	8.5	60.0	61.5	32.0
OPK20892-16A20	25	- 16	1"	1.1/4" - 11		26.1	127.5	10.5	78.5	79.5	50.0
OPK20892-16A16	25	- 16	1"	1" - 11		19.8	127.5	10.6	76.0	79.5	38.0
OPK20892-20A20	31	- 20	1.1/4"	1.1/4" - 11		26.0	143.0	10.5	83.5	90.5	50.0
OPK20892-20A24	31	- 20	1.1/4"	1.1/2" - 11		32.1	143.0	12.5	84.5	90.5	60.0
OPK20892-24A24	38	- 24	1.1/2"	1.1/2" - 11		32.0	170.0	12.5	98.5	108.0	60.0
OPK20892-32A32	51	- 32	2"	2" - 11		42.0	197.0	16.1	110.5	131.0	70.0

OPK20892: THRUST WIRE NUT / OPK20893: SLIP-ON NUT



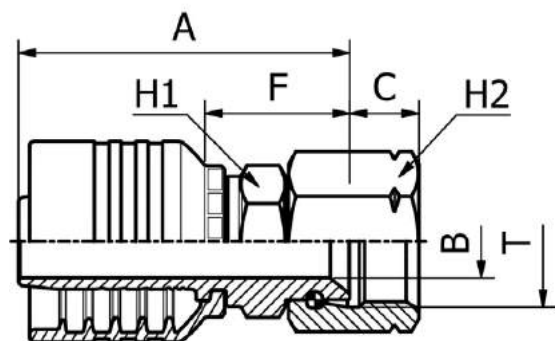
SAE STANDARD CONNECTIONS

OPK12510

JIC
MALE 37° CONE
SAE J516 / ISO 12151-5

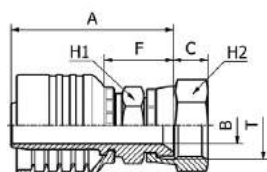
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPK12510-06A06	10	- 6	3/8"	9/16" - 18		7.0	59.0	14.0	29.5	17.0	
OPK12510-06A08	10	- 6	3/8"	3/4" - 16		9.3	63.5	16.5	34.0	19.0	
OPK12510-06A10	10	- 6	3/8"	7/8" - 14		12.5	68.0	19.5	38.5	24.0	
OPK12510-08A06	12	- 8	1/2"	9/16" - 18		7.0	63.0	14.0	32.0	19.0	
OPK12510-08A08	12	- 8	1/2"	3/4" - 16		9.3	65.5	16.5	34.5	19.0	
OPK12510-08A10	12	- 8	1/2"	7/8" - 14		12.5	70.0	19.5	39.0	24.0	
OPK12510-08A12	12	- 8	1/2"	1.1/16" - 12		15.0	74.0	22.0	43.0	27.0	
OPK12510-10A10	16	- 10	5/8"	7/8" - 14		12.5	73.5	19.5	39.0	24.0	
OPK12510-10A12	16	- 10	5/8"	1.1/16" - 12		15.0	77.0	22.0	42.5	27.0	
OPK12510-12A10	19	- 12	3/4"	7/8" - 14		12.5	78.0	19.5	41.5	27.0	
OPK12510-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	80.5	22.0	44.0	27.0	
OPK12510-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	81.0	22.5	44.5	32.0	
OPK12510-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	83.5	23.0	47.0	34.0	
OPK12510-16A12	25	- 16	1"	1.1/16" - 12		15.0	93.0	22.0	45.0	32.0	
OPK12510-16A16	25	- 16	1"	1.5/16" - 12		19.8	96.0	23.0	48.0	34.0	
OPK12510-16A20	25	- 16	1"	1.5/8" - 12		26.0	101.0	24.3	53.0	42.0	
OPK12510-20A20	31	- 20	1.1/4"	1.5/8" - 12		26.0	106.0	24.3	53.5	42.0	
OPK12510-20A24	31	- 20	1.1/4"	1.7/8" - 12		32.0	113.0	27.5	60.5	50.0	
OPK12510-24A24	38	- 24	1.1/2"	1.7/8" - 12		32.0	122.5	27.5	60.5	50.0	
OPK12510-32A32	51	- 32	2"	2.1/2" - 12		42.0	138.0	34.0	72.0	65.0	

SAE STANDARD CONNECTIONS

**OPK22712****JIC**

FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

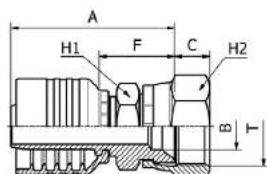
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPK22712-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	69.0	15.0	32.5	32.0	38.0	
OPK22712-16A20	25	- 16	1"	1.5/8" - 12		26.0	91.0	16.2	43.0	41.0	50.0	
OPK22712-20A20	31	- 20	1.1/4"	1.5/8" - 12		26.0	96.0	16.2	43.5	41.0	50.0	



SAE STANDARD CONNECTIONS

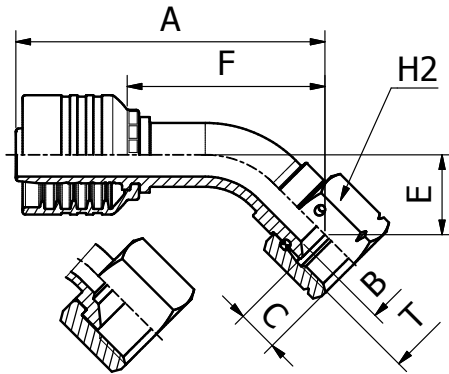
OPK22711/OPK22711KR**JIC**

FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPK22711-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	51.5	9.5	22.0	17.0	17.0	
OPK22711-06A08KR	10	- 6	3/8"	3/4" - 16		9.3	56.0	10.7	26.5	19.0	22.0	
OPK22711-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	58.0	10.7	27.0	19.0	22.0	
OPK22711-08A10KR	12	- 8	1/2"	7/8" - 14		9.3	60.5	12.5	29.5	22.0	25.0	
OPK22711-08A12KR	12	- 8	1/2"	1.1/16" - 12		15.0	60.0	14.1	28.5	27.0	32.0	
OPK22711-10A08KR	16	- 10	5/8"	3/4" - 16		9.3	62.5	10.7	28.5	22.0	22.0	
OPK22711-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	64.0	12.5	29.5	22.0	25.0	
OPK22711-16A12KR	25	- 16	1"	1.1/16" - 12		15.0	80.5	14.1	32.5	32.0	32.0	
OPK22711-12A08KR	19	- 12	3/4"	3/4" - 16		9.3	66.0	10.7	29.5	27.0	22.0	
OPK22711-12A10KR	19	- 12	3/4"	7/8" - 14		12.5	67.0	12.5	30.5	27.0	25.0	
OPK22711-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	66.5	14.1	30.0	27.0	32.0	
OPK22711-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	71.0	15.3	34.5	32.0	38.0	
OPK22711-16A16	25	- 16	1"	1.5/16" - 12		19.8	83.5	15.3	35.5	32.0	38.0	

KR: CRIMPED BACK COMPACT ROBUST NUT



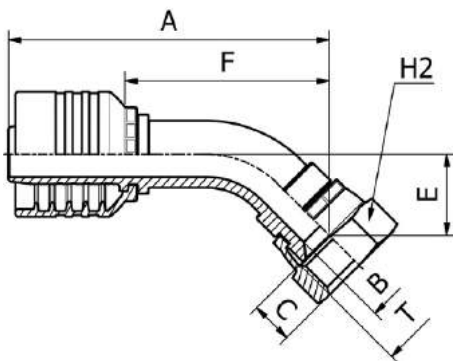
SAE STANDARD CONNECTIONS

OPK22542/OPK22543

45° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22542-06A06	10	- 6	3/8"	9/16" - 18		7.0	71.5	9.2	16.5	42.0	19.0
OPK22543-06A08	10	- 6	3/8"	3/4" - 16		7.0	70.5	10.1	14.0	41.0	22.0
OPK22543-06A10	10	- 6	3/8"	7/8" - 14		9.3	72.0	12.4	15.5	42.5	27.0
OPK22542-08A08	12	- 8	1/2"	3/4" - 16		9.3	83.0	10.2	20.0	52.0	22.0
OPK22543-08A10	12	- 8	1/2"	7/8" - 14		9.3	80.5	12.4	17.0	49.5	27.0
OPK22543-08A12	12	- 8	1/2"	1.1/16" - 12		12.5	80.5	14.1	17.0	49.5	32.0
OPK22542-10A10	16	- 10	5/8"	7/8" - 14		12.5	96.5	12.3	25.5	62.0	27.0
OPK22543-10A12	16	- 10	5/8"	1.1/16" - 12		12.5	94.5	14.1	24.0	60.0	32.0
OPK22542-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	106.0	14.2	27.5	70.0	32.0
OPK22542-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	106.0	14.3	27.5	69.5	36.0
OPK22542-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	106.5	15.0	27.5	70.0	38.0
OPK22542-16A16	25	- 16	1"	1.5/16" - 12		19.8	132.5	15.0	32.0	84.0	38.0
OPK22542-16A20	25	- 16	1"	1.5/16" - 12		26.0	138.0	16.2	36.0	90.0	50.0
OPK22542-20A20	31	- 20	1.1/4"	1.5/8" - 12		26.0	156.0	16.2	41.5	103.5	50.0
OPK22542-20A24	31	- 20	1.1/4"	1.7/8" - 12		32.0	159.0	18.8	44.5	106.5	60.0
OPK22542-24A24	38	- 24	1.1/2"	1.7/8" - 12		32.0	181.0	18.8	46.5	119.0	60.0
OPK22542-32A32	51	- 32	2"	2.1/2" - 12		44.0	229.0	24.0	68.0	163.0	75.0

OPK22542: THRUST WIRE NUT / OPK22543: SLIP-ON NUT

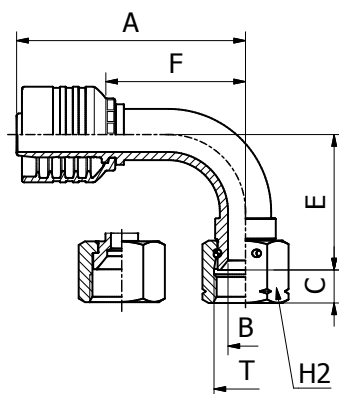


SAE STANDARD CONNECTIONS

OPK22541KR

45° ELBOW JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22541-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	71.5	9.5	16.0	42.0	17.0
OPK22541-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	83.0	10.7	20.0	52.0	22.0
OPK22541-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	95.5	12.5	22.5	61.0	25.0
OPK22541-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	105.5	14.1	26.5	69.0	32.0



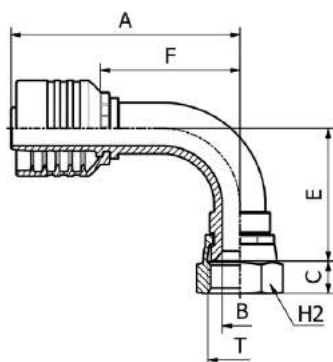
SAE STANDARD CONNECTIONS

OPK22592/OPK22593

90° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	F	H2	
OPK22592-06A05	10	- 6	3/8"	1/2" - 20		5.5	59.5	9.1	26.5	30.0	17.0	
OPK22592-06A06	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.2	32.5	35.5	19.0	
OPK22593-06A08	10	- 6	3/8"	3/4" - 16		7.0	66.0	10.1	29.5	36.5	22.0	
OPK22593-06A10	10	- 6	3/8"	7/8" - 14		9.3	66.0	12.4	31.5	36.5	27.0	
OPK22592-08A06	12	- 8	1/2"	9/16" - 18		7.0	68.0	9.2	33.0	37.0	19.0	
OPK22592-08A08	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.2	41.0	44.0	22.0	
OPK22593-08A10	12	- 8	1/2"	7/8" - 14		9.3	76.0	12.4	36.0	45.0	27.0	
OPK22593-08A12	12	- 8	1/2"	1.1/16" - 12		12.5	76.0	14.1	36.0	45.0	32.0	
OPK22592-10A10	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.3	52.5	53.5	27.0	
OPK22593-10A12	16	- 10	5/8"	1.1/16" - 12		12.5	86.0	14.1	50.0	51.5	32.0	
OPK22592-12A10	19	- 12	3/4"	7/8" - 14		12.5	91.5	12.3	52.5	55.0	27.0	
OPK22592-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.2	58.0	62.0	32.0	
OPK22592-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	99.0	14.3	58.0	63.0	36.0	
OPK22592-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	99.0	15.0	57.5	63.0	38.0	
OPK22592-16A16	25	- 16	1"	1.5/16" - 12		19.8	124.0	15.0	68.5	76.0	38.0	
OPK22592-16A20	25	- 16	1"	1.5/8" - 12		26.0	125.5	16.2	74.5	77.5	50.0	
OPK22592-20A20	31	- 20	1.1/4"	1.5/8" - 12		26.0	143.0	16.2	86.5	90.5	50.0	
OPK22592-20A24	31	- 20	1.1/4"	1.7/8" - 12		32.0	143.0	18.8	90.5	90.5	60.0	
OPK22592-24A24	38	- 24	1.1/2"	1.7/8" - 12		32.0	170.0	18.8	100.5	108.0	60.0	
OPK22592-32A32	51	- 32	2"	2.1/2" - 12		44.0	208.0	24.0	137.0	142.0	75.0	

OPK22592: THRUST WIRE NUT / OPK22593: SLIP-ON NUT

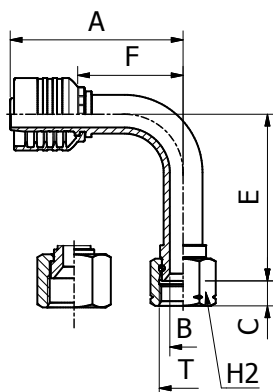


SAE STANDARD CONNECTIONS

OPK22591KR

90° ELBOW JIC
FEMALE 37° CONE SEAT SAE
J516 / ISO 12151-5
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	F	H2	
OPK22591-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.5	32.0	35.5	17.0	
OPK22591-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.7	40.5	44.0	22.0	
OPK22591-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.5	47.0	53.5	25.0	
OPK22591-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.1	57.0	62.0	32.0	



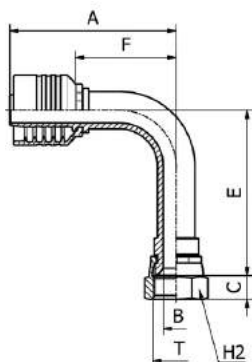
SAE STANDARD CONNECTIONS

OPK24792/OPK24793

90° JIC
FEMALE LONG DROP ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPK24792-06A06	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.2	55.0	35.5	19.0	
OPK24793-06A08	10	- 6	3/8"	3/4" - 16		7.0	66.0	10.1	61.5	36.5	22.0	
OPK24793-08A10	12	- 8	1/2"	7/8" - 14		9.3	76.0	12.4	65.0	45.0	27.0	
OPK24792-08A08	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.2	61.0	44.0	22.0	
OPK24792-10A10	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.3	65.5	53.5	27.0	
OPK24792-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.2	94.5	62.0	32.0	
OPK24792-16A16	25	- 16	1"	1.5/16" - 12		19.8	125.5	15.0	110.0	77.5	38.0	

OPK24792: THRUST WIRE NUT / OPK24793: SLIP-ON NUT

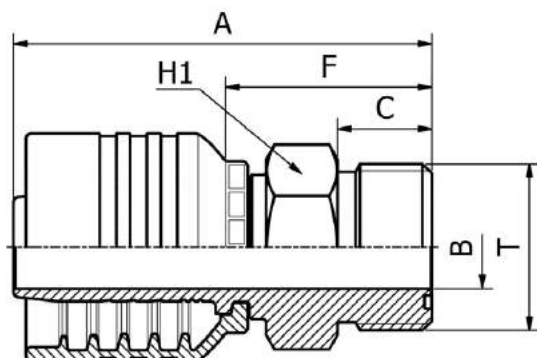


SAE STANDARD CONNECTIONS

OPK24791KR

90° LONG DROP ELBOW JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)

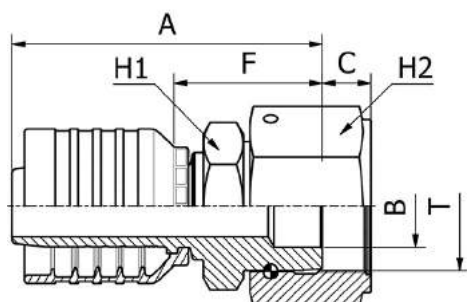
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPK24791-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.5	55.0	35.5	17.0	
OPK24791-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.7	64.0	44.0	22.0	
OPK24791-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.5	70.0	53.5	25.0	
OPK24791-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.1	96.0	62.0	32.0	



SAE STANDARD CONNECTIONS

OPK12410**ORFS
MALE****SAE J516 / ISO 12151-1**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	F	H1			
OPK12410-06A06	10	- 6	3/8"	11/16" - 16	6.7	57.0	11.2	27.5	19.0			
OPK12410-06A08	10	- 6	3/8"	13/16" - 16	9.3	59.5	12.8	30.0	22.0			
OPK12410-08A08	12	- 8	1/2"	13/16" - 16	9.3	61.5	12.8	30.5	22.0			
OPK12410-08A10	12	- 8	1/2"	1" - 14	12.5	66.0	15.5	35.0	27.0			
OPK12410-10A10	16	- 10	5/8"	1" - 14	12.5	69.0	15.5	34.5	27.0			
OPK12410-10A12	16	- 10	5/8"	1.3/16" - 12	15.0	72.0	17.0	37.5	32.0			
OPK12410-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	75.5	17.0	39.0	32.0			
OPK12410-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	77.0	17.5	40.5	38.0			
OPK12410-16A16	25	- 16	1"	1.7/16" - 12	19.8	90.0	17.5	42.0	38.0			
OPK12410-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	99.0	17.5	46.5	46.0			
OPK12410-24A24	38	- 24	1.1/2"	2" - 12	32.0	110.5	17.5	48.5	55.0			

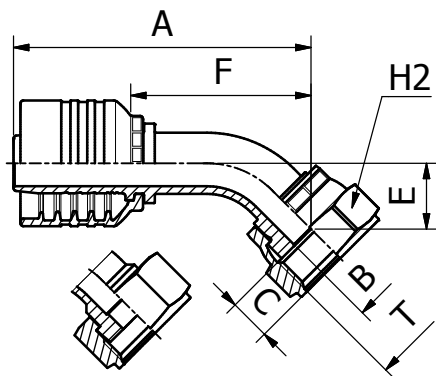


SAE STANDARD CONNECTIONS

OPK22411**ORFS
FEMALE****SAE J516 / ISO 12151-1
PULLBACK TYPE**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	F	H1	H2		
OPK22411-06A06	10	- 6	3/8"	11/16" - 16	7.0	60.5	9.5	31.0	16.0	22.0		
OPK22411-06A08	10	- 6	3/8"	13/16" - 16	9.3	65.0	11.0	35.5	19.0	24.0		
OPK22411-08A06	12	- 8	1/2"	11/16" - 16	7.0	63.0	9.5	32.0	19.0	22.0		
OPK22411-08A08	12	- 8	1/2"	13/16" - 16	9.3	67.0	11.0	36.0	19.0	24.0		
OPK22411-08A10	12	- 8	1/2"	1" - 14	11.5	69.5	13.5	38.5	24.0	30.0		
OPK22411-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	73.0	14.5	42.0	28.0	36.0		
OPK22411-10A10	16	- 10	5/8"	1" - 14	11.5	73.0	13.5	38.5	24.0	30.0		
OPK22411-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	76.5	14.5	42.0	28.0	36.0		
OPK22411-12A10	19	- 12	3/4"	1" - 14	11.5	77.5	13.5	41.0	28.0	30.0		
OPK22411-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	80.0	14.5	43.5	28.0	36.0		
OPK22411-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	82.0	15.0	45.5	36.0	41.0		
OPK22411-16A12	25	- 16	1"	1.3/16" - 12	13.9	94.0	13.5	48.0	36.0	36.0		
OPK22411-16A16	25	- 16	1"	1.7/16" - 12	19.8	94.5	15.0	46.5	36.0	41.0		
OPK22411-16A20	25	- 16	1"	1.11/16" - 12	26.0	97.5	14.8	49.5	41.0	50.0		
OPK22411-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	101.5	14.8	49.0	41.0	50.0		
OPK22411-24A24	38	- 24	1.1/2"	2" - 12	32.0	116.0	15.8	54.0	50.0	60.0		

SAE STANDARD CONNECTIONS

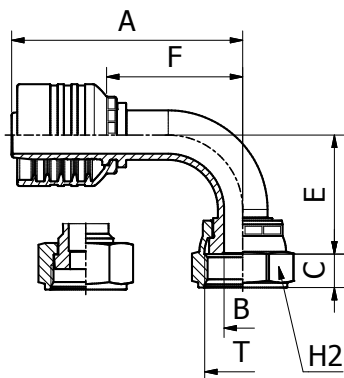


OPK22441/OPK22443

45° ORFS
FEMALE ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22443-06A06	10	- 6	3/8"	11/16" - 16		6.0	61.5	9.5	11.0	32.5	22.0
OPK22443-06A08	10	- 6	3/8"	13/16" - 16		9.3	63.0	11.0	12.5	34.0	24.0
OPK22441-08A06	12	- 8	1/2"	11/16" - 16		7.0	63.5	9.5	11.0	32.5	22.0
OPK22443-08A08	12	- 8	1/2"	13/16" - 16		9.0	73.0	11.0	13.0	42.0	24.0
OPK22443-08A10	12	- 8	1/2"	1" - 14		11.5	73.0	13.5	13.5	42.0	30.0
OPK22443-08A12	12	- 8	1/2"	1.3/16" - 12		13.9	78.0	14.5	18.5	46.5	36.0
OPK22443-10A10	16	- 10	5/8"	1" - 14		11.5	83.5	13.5	16.0	49.0	30.0
OPK22443-10A12	16	- 10	5/8"	1.3/16" - 12		13.9	86.0	14.5	18.5	51.5	36.0
OPK22441-12A10	19	- 12	3/4"	1" - 14		11.5	87.0	13.5	16.5	50.5	30.0
OPK22443-12A12	19	- 12	3/4"	1.3/16" - 12		13.9	97.0	14.5	21.5	60.5	36.0
OPK22443-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	96.5	14.8	21.0	60.0	41.0
OPK22443-16A16	25	- 16	1"	1.7/16" - 12		19.8	120.0	14.8	23.5	72.0	41.0
OPK22443-16A20	25	- 16	1"	1.11/16" - 12		26.0	122.0	14.8	25.0	74.0	50.0
OPK22443-20A20	31	- 20	1.1/4"	1.11/16" - 12		26.0	134.5	14.8	27.0	82.0	50.0

OPK22442: THRUST WIRE NUT / OPK22443: SLIP-ON NUT



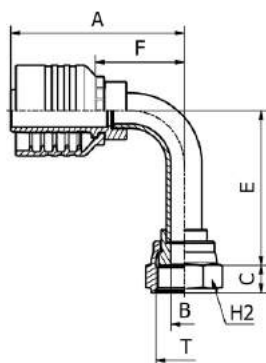
SAE STANDARD CONNECTIONS

OPK22491/OPK22493

90° ORFS
FEMALE ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22493-06A06	10	- 6	3/8"	11/16" - 16		6.0	59.5	9.5	24.0	30.0	22.0
OPK22493-06A08	10	- 6	3/8"	13/16" - 16		9.3	59.5	11.0	26.5	30.0	24.0
OPK22491-08A06	12	- 8	1/2"	11/16" - 16		7.0	61.5	9.5	24.5	30.0	22.0
OPK22493-08A08	12	- 8	1/2"	13/16" - 16		9.0	71.5	11.0	30.0	40.5	24.0
OPK22493-08A10	12	- 8	1/2"	1" - 14		11.5	71.0	13.5	30.5	40.0	30.0
OPK22493-08A12	12	- 8	1/2"	1.3/16" - 12		13.9	71.0	14.5	37.5	39.5	36.0
OPK22493-10A10	16	- 10	5/8"	1" - 14		11.5	82.5	13.5	37.5	48.0	30.0
OPK22493-10A12	16	- 10	5/8"	1.3/16" - 12		13.9	82.5	14.5	41.0	48.0	36.0
OPK22491-12A10	19	- 12	3/4"	1" - 14		11.5	85.5	13.5	38.0	49.0	30.0
OPK22493-12A12	19	- 12	3/4"	1.3/16" - 12		13.9	93.0	14.5	48.0	56.5	36.0
OPK22493-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	93.0	14.8	47.5	56.5	41.0
OPK22491-16A12	25	- 16	1"	1.3/16" - 12		13.9	106.0	13.5	48.0	57.5	36.0
OPK22493-16A16	25	- 16	1"	1.7/16" - 12		19.8	119.5	14.8	56.0	71.5	41.0
OPK22493-16A20	25	- 16	1"	1.11/16" - 12		26.0	119.5	14.8	58.5	71.5	50.0
OPK22493-20A20	31	- 20	1.1/4"	1.11/16" - 12		26.0	135.5	14.8	66.0	83.0	50.0
OPK22493-24A24	38	- 24	1.1/2"	2" - 12		32.0	164.0	14.8	79.5	102.0	60.0

OPK22492: THRUST WIRE NUT / OPK22493: SLIP-ON NUT



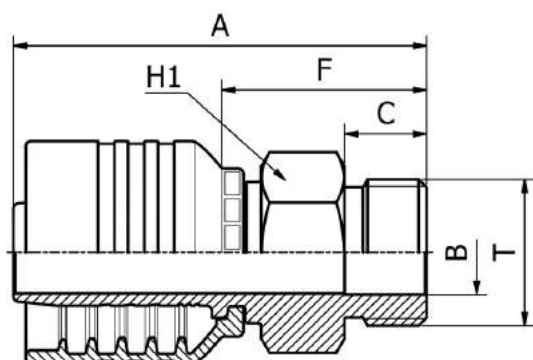
SAE STANDARD CONNECTIONS

OPK24491

**90° ORFS
FEMALE LONG DROP ELBOW
SAE J516 / ISO 12151-1
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	F	H2		
OPK24491-06A06	10	- 6	3/8"	11/16" - 16	6.7	61.5	9.5	54.0	32.0	22.0		
OPK24491-06A08	10	- 6	3/8"	13/16" - 16	6.7	61.5	11.0	54.0	32.0	24.0		
OPK24491-08A08	12	- 8	1/2"	13/16" - 16	9.6	68.0	11.0	64.0	37.0	24.0		
OPK24491-08A10	12	- 8	1/2"	1" - 14	9.6	68.0	12.5	64.5	37.0	30.0		
OPK24491-10A10	16	- 10	5/8"	1" - 14	12.0	75.5	13.0	70.0	41.0	30.0		
OPK24491-10A12	16	- 10	5/8"	1.3/16" - 12	12.7	75.5	13.5	73.0	41.0	36.0		
OPK24491-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	95.0	13.5	96.0	58.5	36.0		
OPK24491-16A16	25	- 16	1"	1.7/16" - 12	19.8	119.5	13.5	114.0	71.5	41.0		

All items made by brazing with the exception of OPK24491-12-12 and OPK24491-16-16

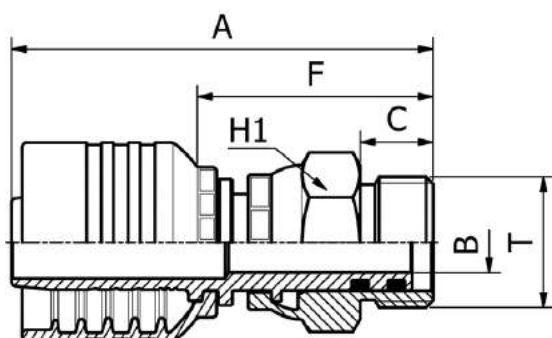


SAE STANDARD CONNECTIONS

OPK13010

**SAE
MALE O'RING BOSS TYPE**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	F	H1			
OPK13010-08A08	12	- 8	1/2"	3/4" - 16	9.9	60.0	11.1	29.0	22.0			
OPK13010-12A12	19	- 12	3/4"	1.1/16" - 12	15.5	76.0	15.1	39.5	32.0			
OPK13010-16A16	25	- 16	1"	1.5/16" - 12	21.5	89.5	15.1	41.0	38.0			



SAE STANDARD CONNECTIONS

OPK14310

**SAE
SWIVEL MALE O'RING BOSS TYPE**

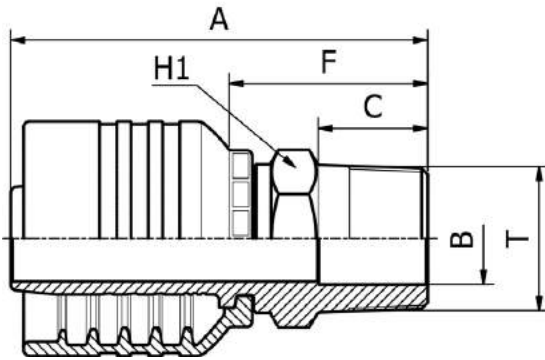
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	F	H2			
OPK14310-08A08	12	- 8	1/2"	3/4" - 16	9.3	84.0	11.1	53.0	27.0			

Not to be used as a live swivel

SAE STANDARD CONNECTIONS

OPK12810

NPTF
MALE 60° CONE SEAT
SAE J516/J514

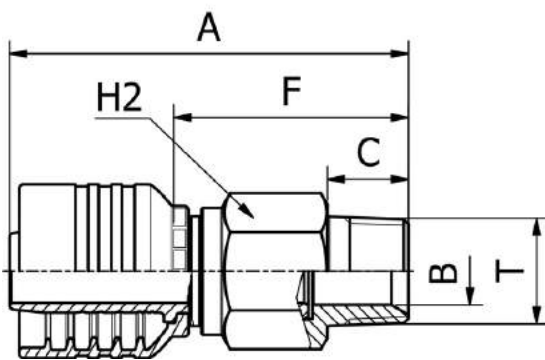


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	F	H1		
OPK12810-06A04	10	- 6	3/8"	1/4" - 18		5.5	59.5	14.5	30.0	14.0		
OPK12810-06A06	10	- 6	3/8"	3/8" - 18		9.3	58.0	14.5	28.5	19.0		
OPK12810-06A08	10	- 6	3/8"	1/2" - 14		12.5	64.0	19.2	34.5	24.0		
OPK12810-08A06	12	- 8	1/2"	3/8" - 18		9.3	60.0	14.5	29.0	19.0		
OPK12810-08A08	12	- 8	1/2"	1/2" - 14		12.5	66.0	19.2	35.0	24.0		
OPK12810-08A12	12	- 8	1/2"	3/4" - 14		15.5	66.5	19.2	35.5	27.0		
OPK12810-10A08	16	- 10	5/8"	1/2" - 14		12.5	73.0	19.2	38.5	24.0		
OPK12810-10A12	16	- 10	5/8"	3/4" - 14		16.0	74.5	19.2	40.0	27.0		
OPK12810-12A08	19	- 12	3/4"	1/2" - 14		12.5	73.0	19.2	36.5	27.0		
OPK12810-12A12	19	- 12	3/4"	3/4" - 14		16.0	73.0	19.2	36.5	27.0		
OPK12810-12A16	19	- 12	3/4"	1" - 11.5		19.8	82.5	24.2	46.0	36.0		
OPK12810-16A20	25	- 16	1"	1.1/4" - 11.5		26.0	104.5	25.0	56.5	46.0		
OPK12810-16A12	25	- 16	1"	3/4" - 14		15.5	87.0	19.2	39.0	32.0		
OPK12810-16A16	25	- 16	1"	1" - 11.5		19.8	92.0	24.2	44.0	36.0		
OPK12810-20A20	31	- 20	1.1/4"	1.1/4" - 11.5		26.0	109.0	25.0	56.5	46.0		
OPK12810-24A24	38	- 24	1.1/2"	1.1/2" - 11.5		32.0	119.5	26.0	57.5	50.0		
OPK12810-32A32	51	- 32	2"	2" - 11.5		45.0	130.5	26.5	64.5	65.0		

SAE STANDARD CONNECTIONS

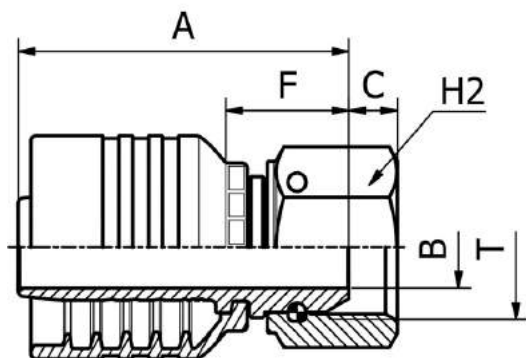
OPK14110R

NPTF
SWIVEL MALE 60° CONE SEAT
SAE J516/J514



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	F	H2		
OPK14110-06A04R	10	- 6	3/8"	1/4" - 18		4.0	80.0	14.5	50.5	22.0		
OPK14110-06A06R	10	- 6	3/8"	3/8" - 18		7.0	80.0	14.5	50.5	22.0		
OPK14110-08A08R	12	- 8	1/2"	1/2" - 14		9.3	90.0	19.2	59.0	27.0		
OPK14110-12A12R	19	- 12	3/4"	3/4" - 14		16.0	94.5	19.2	58.0	32.0		
OPK14110-16A16R	25	- 16	1"	1" - 11.5		19.8	114	24.2	66.0	38.0		

Not to be used as a live swivel

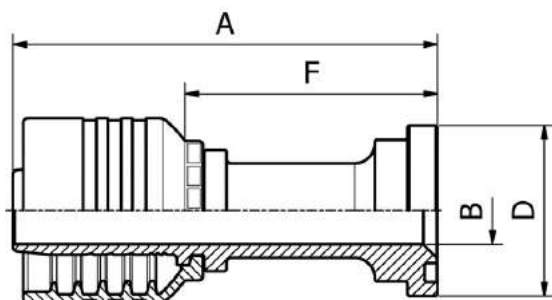


SAE STANDARD CONNECTIONS

OPK22812

**NPSM
FEMALE 60° CONE
SAE J516/J514
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	F	H2		
OPK22812-06A06	10	- 6	3/8"	3/8" - 18		7.0	50.5	6.0	21.0	22.0		
OPK22812-08A08	12	- 8	1/2"	1/2" - 14		9.3	54.0	6.5	23.0	27.0		
OPK22812-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.0	9.0	24.5	32.0		
OPK22812-16A16	25	- 16	1"	1" - 11,5		19.8	75.5	10.5	27.5	38.0		



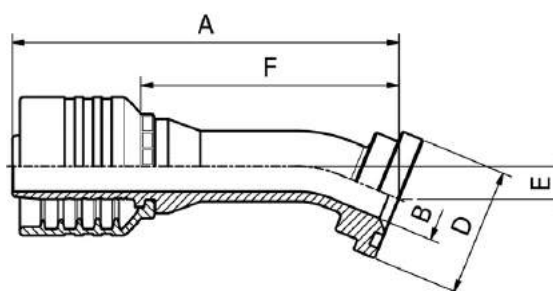
SAE STANDARD CONNECTIONS

OPK23311

**ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	F			
OPK23311-08A08	12	- 8	1/2"	1/2"		9.3	82.0	30.3	51.0			
OPK23311-08A12	12	- 8	1/2"	3/4"		15.1	89.0	38.0	58.0			
OPK23311-10A12	16	- 10	5/8"	3/4"		15.0	100.0	38.0	65.5			
OPK23311-12A12	19	- 12	3/4"	3/4"		15.0	94.5	38.0	58.0			
OPK23311-12A16	19	- 12	3/4"	1"		20.0	94.5	44.6	58.0			
OPK23311-16A16	25	- 16	1"	1"		19.8	112.5	44.6	64.5			
OPK23311-16A20	25	- 16	1"	1.1/4"		26.0	118.5	51.0	70.5			
OPK23311-20A20	31	- 20	1.1/4"	1.1/4"		26.0	123.0	51.0	70.5			
OPK23311-20A24	31	- 20	1.1/4"	1.1/2"		32.0	125.0	60.5	72.5			
OPK23311-24A24	38	- 24	1.1/2"	1.1/2"		32.0	137.5	60.5	75.5			
OPK23311-24A32	38	- 24	1.1/2"	2"		42.0	137.5	71.6	75.5			
OPK23311-32A32	51	- 32	2"	2"		42.0	145.0	71.6	79.0			
OPK23311-32A40	51	- 32	2"	2.1/2"		56.0	147.0	84.3	81.0			

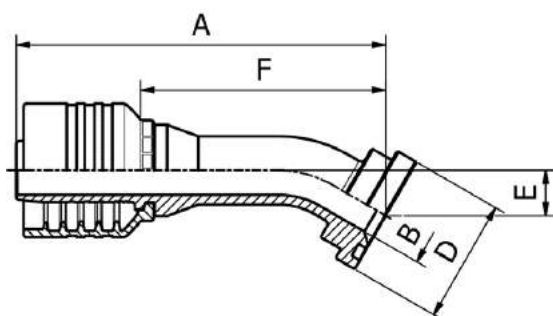
SAE STANDARD CONNECTIONS

**OPK23321**

**22,5° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23321-08A08	12	- 8	1/2"	1/2"		9.3	95.0	30.3	8.0	64.0		
OPK23321-12A12	19	- 12	3/4"	3/4"		15.0	111.0	38.0	10.0	74.5		
OPK23321-12A16	19	- 12	3/4"	1"		20.0	111.0	44.6	10.0	74.5		
OPK23321-16A16	25	- 16	1"	1"		19.8	137.0	44.6	11.5	89.0		
OPK23321-20A20	31	- 20	1.1/4"	1.1/4"		26.0	152.5	51.0	12.0	100.0		
OPK23321-20A24	31	- 20	1.1/4"	1.1/2"		32.0	154.5	60.5	13.0	102.0		

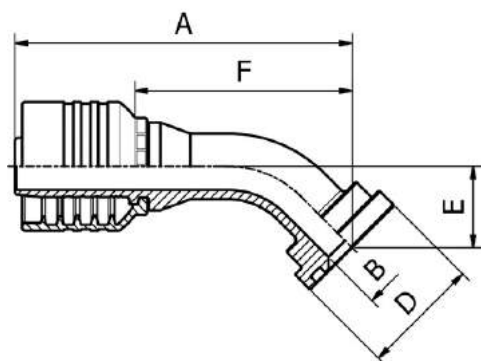
SAE STANDARD CONNECTIONS

**OPK23331**

**30° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23331-08A08	12	- 8	1/2"	1/2"		9.3	93.5	30.3	11.0	62.5		
OPK23331-12A12	19	- 12	3/4"	3/4"		15.0	109.5	38.0	14.0	73.0		
OPK23331-12A16	19	- 12	3/4"	1"		20.0	109.5	44.6	14.0	73.0		
OPK23331-16A16	25	- 16	1"	1"		19.8	135.0	44.6	16.5	87.0		
OPK23331-20A20	31	- 20	1.1/4"	1.1/4"		26.0	150.5	51.0	17.5	98.0		
OPK23331-24A24	38	- 24	1.1/2"	1.1/2"		32.0	176.5	60.5	20.0	114.5		

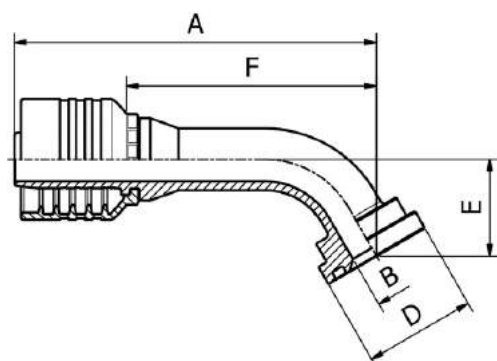
SAE STANDARD CONNECTIONS

**OPK23341**

45° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

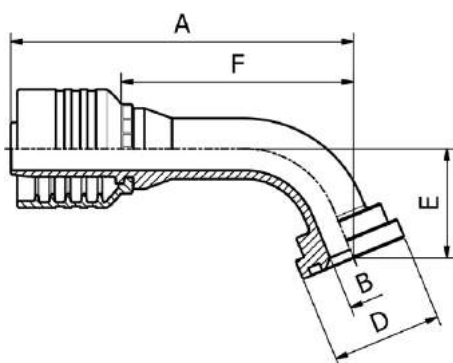
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23341-08A08	12	- 8	1/2"	1/2"		9.3	90.0	30.3	18.5	58.5		
OPK23341-08A12	12	- 8	1/2"	3/4"		15.0	90.5	38.0	19.0	59.5		
OPK23341-10A12	16	- 10	5/8"	3/4"		15.0	95.0	38.0	22.0	61.0		
OPK23341-12A12	19	- 12	3/4"	3/4"		15.0	104.5	38.0	23.0	68.5		
OPK23341-12A16	19	- 12	3/4"	1"		20.0	104.5	44.6	23.0	68.5		
OPK23341-16A16	25	- 16	1"	1"		19.8	129.5	44.6	27.5	81.5		
OPK23341-16A20	25	- 16	1"	1.1/4"		26.0	129.5	51.0	27.5	81.5		
OPK23341-20A20	31	- 20	1.1/4"	1.1/4"		26.0	144.5	51.0	29.5	92.0		
OPK23341-20A24	31	- 20	1.1/4"	1.1/2"		32.0	146.0	60.5	31.0	93.5		
OPK23341-24A24	38	- 24	1.1/2"	1.1/2"		32.0	169.5	60.5	34.5	107.5		
OPK23341-24A32	38	- 24	1.1/2"	2"		42.0	169.5	71.6	34.5	107.5		
OPK23341-32A32	51	- 32	2"	2"		42.0	190.0	71.6	39.0	124.0		

SAE STANDARD CONNECTIONS

**OPK23361**

60° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23361-08A08	12	- 8	1/2"	1/2"		9.3	102.5	30.3	26.0	71.5		
OPK23361-12A12	19	- 12	3/4"	3/4"		15.0	123.5	38.0	33.0	87.0		
OPK23361-16A16	25	- 16	1"	1"		19.8	152.0	44.6	39.0	104.0		
OPK23361-16A20	25	- 16	1"	1.1/4"		26.0	152.0	51.0	39.0	104.0		
OPK23361-20A24	31	- 20	1.1/4"	1.1/2"		32.0	173.5	60.5	44.5	121.0		
OPK23361-20A20	31	- 20	1.1/4"	1.1/4"		26.0	172.5	51.0	43.0	120.0		
OPK23361-24A24	38	- 24	1.1/2"	1.1/2"		32.0	205.5	60.5	50.5	143.5		

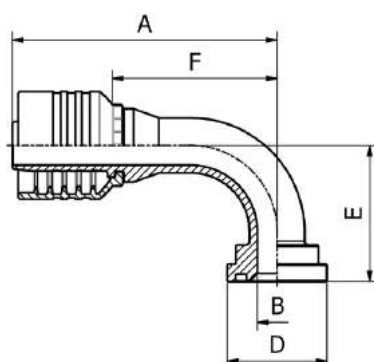


SAE STANDARD CONNECTIONS

OPK23371

67,5° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23371-08A08	12	- 8	1/2"	1/2"		9.3	99.0	30.3	29.5	68.0		
OPK23371-12A12	19	- 12	3/4"	3/4"		15.0	118.5	38.0	38.0	82.0		
OPK23371-12A16	19	- 12	3/4"	1"		20.0	118.5	44.6	38.0	82.0		
OPK23371-16A16	25	- 16	1"	1"		19.8	147.0	44.6	45.0	98.5		
OPK23371-20A20	31	- 20	1.1/4"	1.1/4"		26.0	166.5	51.0	50.0	114.0		
OPK23371-24A24	38	- 24	1.1/2"	1.1/2"		32.0	198.5	60.5	59.0	136.5		



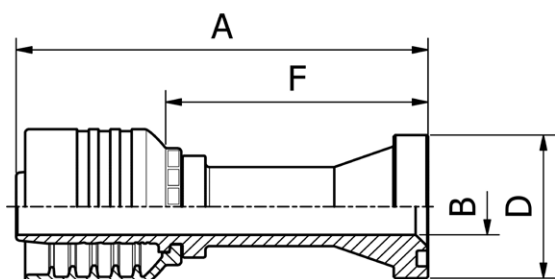
SAE STANDARD CONNECTIONS

OPK23391

90° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23391-08A08	12	- 8	1/2"	1/2"		9.3	85.5	30.3	40.0	54.5		
OPK23391-08A12	12	- 8	1/2"	3/4"		15.0	85.5	38.0	41.0	54.5		
OPK23391-10A12	16	- 10	5/8"	3/4"		15.0	90.0	38.0	47.5	56.0		
OPK23391-12A12	19	- 12	3/4"	3/4"		15.0	101.0	38.0	52.0	64.5		
OPK23391-12A16	19	- 12	3/4"	1"		20.0	101.0	44.6	52.0	64.5		
OPK23391-16A16	25	- 16	1"	1"		19.8	125.5	44.6	62.0	77.5		
OPK23391-16A20	25	- 16	1"	1.1/4"		26.0	125.5	51.0	62.0	77.5		
OPK23391-20A20	31	- 20	1.1/4"	1.1/4"		26.0	143.0	51.0	70.0	90.5		
OPK23391-20A24	31	- 20	1.1/4"	1.1/2"		32.0	143.0	60.5	72.0	90.5		
OPK23391-24A24	38	- 24	1.1/2"	1.1/2"		32.0	170.0	60.5	84.0	108.0		
OPK23391-24A32	38	- 24	1.1/2"	2"		42.0	170.0	71.6	84.0	108.0		
OPK23391-32A32	51	- 32	2"	2"		42.0	195.0	71.6	99.0	129.0		

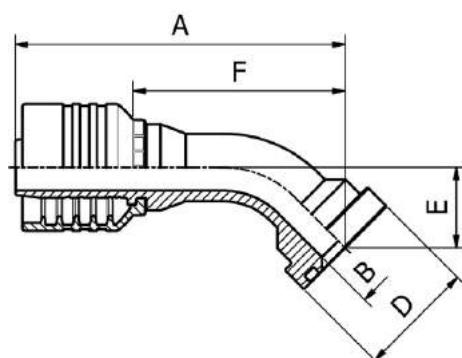
SAE STANDARD CONNECTIONS

**OPK23611**

ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3

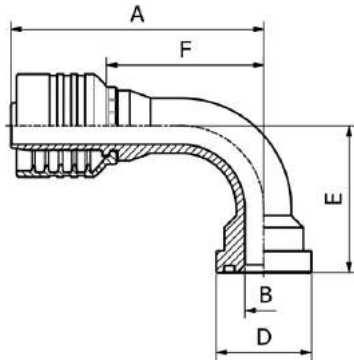
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch			B	A	D	F		
OPK23611-08A08	12	- 8	1/2"	1/2"		9.3	83.0	31.8	52.0		
OPK23611-08A12	12	- 8	1/2"	3/4"		15.0	99.5	41.5	68.5		
OPK23611-10A08	16	- 10	5/8"	1/2"		9.3	86.5	31.8	52.0		
OPK23611-10A12	16	- 10	5/8"	3/4"		15.0	104.5	41.5	70.0		
OPK23611-12A12	19	- 12	3/4"	3/4"		15.0	105.5	41.5	69.0		
OPK23611-12A16	19	- 12	3/4"	1"		20.0	117.5	47.7	81.0		
OPK23611-16A16	25	- 16	1"	1"		19.8	130.5	47.7	82.5		
OPK23611-16A20	25	- 16	1"	1.1/4"		26.0	138.0	54.2	90.0		
OPK23611-20A20	31	- 20	1.1/4"	1.1/4"		26.0	137.0	54.2	84.5		
OPK23611-20A24	31	- 20	1.1/4"	1.1/2"		32.0	143.0	63.7	90.5		
OPK23611-24A24	38	- 24	1.1/2"	1.1/2"		32.0	154.5	63.6	92.5		
OPK23611-32A32	51	- 32	2"	2"		42.0	175.0	79.5	109.0		

SAE STANDARD CONNECTIONS

**OPK23641**

45° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm					
	DN	Dash	inch			B	A	D	E	F	
OPK23641-08A08	12	- 8	1/2"	1/2"		9.3	93.5	31.8	22.0	62.0	
OPK23641-08A12	12	- 8	1/2"	3/4"		15.0	99.0	41.5	27.5	68.0	
OPK23641-10A12	16	- 10	5/8"	3/4"		15.0	102.0	41.5	31.0	67.5	
OPK23641-12A12	19	- 12	3/4"	3/4"		15.0	109.0	41.5	28.0	72.5	
OPK23641-12A16	19	- 12	3/4"	1"		20.0	114.0	47.7	32.5	77.0	
OPK23641-16A12	25	- 16	1"	3/4"		15.0	128.0	41.5	30.0	80.0	
OPK23641-16A16	25	- 16	1"	1"		19.8	132.0	47.7	32.5	83.5	
OPK23641-16A20	25	- 16	1"	1.1/4"		26.0	136.5	54.2	37.5	88.5	
OPK23641-20A20	31	- 20	1.1/4"	1.1/4"		26.0	147.5	54.2	37.5	95.0	
OPK23641-20A24	31	- 20	1.1/4"	1.1/2"		32.0	155.0	63.7	45.0	102.5	
OPK23641-24A24	38	- 24	1.1/2"	1.1/2"		32.0	180.0	63.7	44.0	118.0	
OPK23641-32A32	51	- 32	2"	2"		42.0	217.5	79.6	60.5	151.5	

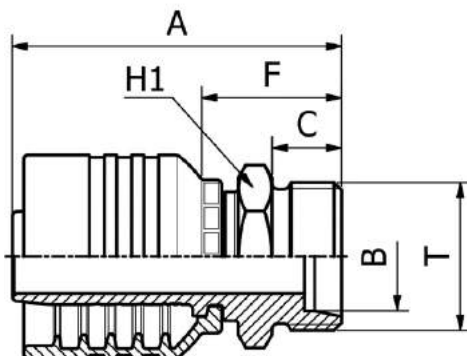


SAE STANDARD CONNECTIONS

OPK23691

**90° ISO / SAE
CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23691-08A08	12	- 8	1/2"	1/2"		9.3	85.5	31.8	45.0	54.5		
OPK23691-08A12	12	- 8	1/2"	3/4"		15.0	85.5	41.5	53.0	54.5		
OPK23691-10A12	16	- 10	5/8"	3/4"		15.0	87.5	41.5	60.5	53.5		
OPK23691-10A16	16	- 10	5/8"	1"		19.8	90.0	47.7	64.0	56.0		
OPK23691-12A12	19	- 12	3/4"	3/4"		15.0	100.5	41.5	59.0	64.0		
OPK23691-12A16	19	- 12	3/4"	1"		20.0	101.0	47.7	65.0	64.5		
OPK23691-16A16	25	- 16	1"	1"		19.8	121.5	47.7	68.0	73.5		
OPK23691-16A20	25	- 16	1"	1.1/4"		26.0	121.5	54.2	75.0	73.5		
OPK23691-20A20	31	- 20	1.1/4"	1.1/4"		26.0	138.0	54.2	81.0	85.5		
OPK23691-20A24	31	- 20	1.1/4"	1.1/2"		32.0	138.0	63.7	91.5	85.5		
OPK23691-24A24	38	- 24	1.1/2"	1.1/2"		32.0	168.0	63.7	94.5	106.0		
OPK23691-32A32	51	- 32	2"	2"		42.0	204.0	79.6	132.0	138.0		

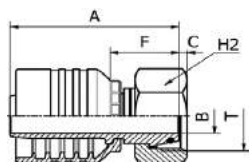


DIN STANDARD CONNECTIONS

OPK11110

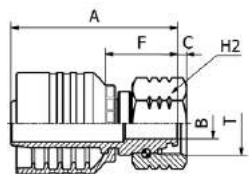
**METRIC
MALE 24° CONE SEAT LIGHT DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread		Pipe	DIMENSIONS mm					
	DN	Dash	inch	T		mm	B	A	C	F	H1	
OPK11110-06A16	10	- 6	3/8"	M 16X1,5		10.0	7.0	53.5	11.0	24.0	17.0	
OPK11110-06A18	10	- 6	3/8"	M 18X1,5		12.0	9.0	54.0	11.0	24.5	19.0	
OPK11110-06A22	10	- 6	3/8"	M 22X1,5		15.0	10.0	55.0	12.0	25.5	22.0	
OPK11110-08A22	12	- 8	1/2"	M 22X1,5		15.0	10.0	56.5	12.0	25.5	22.0	
OPK11110-08A26	12	- 8	1/2"	M 26X1,5		18.0	12.5	57.5	12.0	26.5	27.0	
OPK11110-10A22	16	- 10	5/8"	M 22X1,5		15.0	10.0	60.0	12.0	25.5	22.0	
OPK11110-10A26	16	- 10	5/8"	M 26X1,5		18.0	12.5	61.0	12.0	26.5	27.0	
OPK11110-12A30	19	- 12	3/4"	M 30X2		22.0	15.0	66.5	14.0	30.0	30.0	
OPK11110-16A36	25	- 16	1"	M 36X2		28.0	19.8	80.5	14.0	32.5	36.0	
OPK11110-20A45	31	- 20	1.1/4"	M 45X2		35.0	26.0	93.0	16.0	40.5	46.0	
OPK11110-24A52	38	- 24	1.1/2"	M 52X2		42.0	32.0	105.0	16.0	43.0	55.0	



DIN STANDARD CONNECTIONS

OPK21512/OPK21513



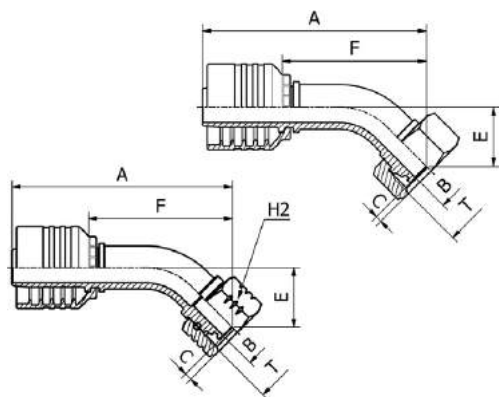
METRIC

O-RING FEMALE 24° CONE LIGHT DUTY

DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H2		
OPK21512-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	52.5	3.0	23.0	19.0		
OPK21513-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	52.0	2.0	22.5	22.0		
OPK21513-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	54.5	1.5	25.0	27.0		
OPK21512-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	60.0	2.9	29.0	22.0		
OPK21513-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	56.5	1.5	25.5	27.0		
OPK21513-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.0	2.0	26.0	32.0		
OPK21513-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	60.5	2.0	26.0	32.0		
OPK21513-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	68.5	3.0	34.0	36.0		
OPK21512-12A26	19	- 12	3/4"	M 26X1,5	18.0	12.5	67.5	2.3	31.0	32.0		
OPK21513-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	64.5	3.0	28.0	36.0		
OPK21513-12A36	19	- 12	3/4"	M 36X2	28.0	20.0	65.0	3.7	28.5	41.0		
OPK21513-16A36	25	- 16	1"	M 36X2	28.0	19.8	77.5	3.7	29.5	41.0		
OPK21513-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	85.5	4.0	33.0	50.0		
OPK21513-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	95.0	4.5	33.0	60.0		

OPK21512: THRUST WIRE NUT / OPK21513: SLIP-ON NUT



DIN STANDARD CONNECTIONS

OPK21542/OPK21543

45° METRIC

O-RING FEMALE SWEPT ELBOW 24° CONE

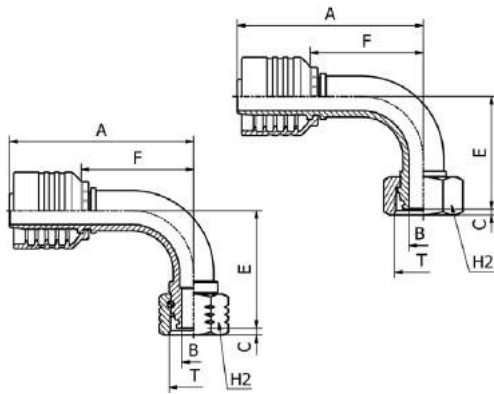
LIGHT DUTY

DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPK21542-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	77.0	3.0	21.5	47.5	19.0	
OPK21543-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	73.0	2.0	16.5	43.5	22.0	
OPK21543-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	74.0	1.5	18.0	45.0	27.0	
OPK21543-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	83.0	1.5	19.0	52.0	27.0	
OPK21543-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	96.5	2.0	26.5	62.0	32.0	
OPK21543-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	107.5	3.0	28.5	71.0	36.0	
OPK21543-16A36	25	- 16	1"	M 36X2	28.0	19.8	133.0	3.7	32.0	85.0	41.0	
OPK21543-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	152.5	4.0	36.0	100.0	50.0	
OPK21543-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	179.0	4.5	44.5	117.0	60.0	

OPK21542: THRUST WIRE NUT / OPK21543: SLIP-ON NUT

DIN STANDARD CONNECTIONS

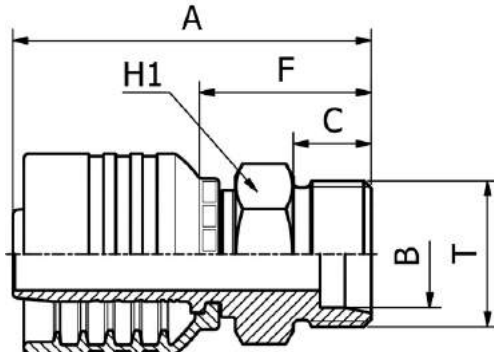


OPK21592/OPK21593

**90° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
LIGHT DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPK21592-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	65.0	3.0	40.0	35.5	19.0	
OPK21593-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	2.0	33.5	36.5	22.0	
OPK21593-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	66.0	1.5	35.0	36.5	27.0	
OPK21592-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	75.0	2.9	48.0	44.0	22.0	
OPK21593-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	76.0	1.5	39.5	45.0	27.0	
OPK21593-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	76.0	2.0	40.0	45.0	32.0	
OPK21593-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	86.0	2.0	53.0	51.5	32.0	
OPK21593-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	86.0	3.0	54.0	51.5	36.0	
OPK21593-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	97.5	3.0	59.5	61.5	36.0	
OPK21593-16A36	25	- 16	1"	M 36X2	28.0	19.8	125.0	3.7	69.5	76.5	41.0	
OPK21593-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	146.0	4.0	81.0	93.5	50.0	
OPK21593-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	169.5	4.5	98.0	107.5	60.0	

OPK21592: THRUST WIRE NUT / OPK21593: SLIP-ON NUT

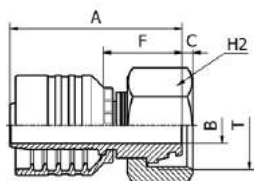


DIN STANDARD CONNECTIONS

OPK11210

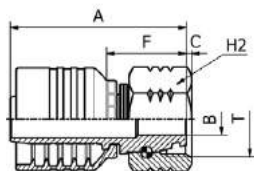
**METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H1		
OPK11210-06A18	10	- 6	3/8"	M 18X1,5	10.0	7.0	56.5	12.0	27.0	19.0		
OPK11210-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	58.5	12.0	29.0	22.0		
OPK11210-06A22	10	- 6	3/8"	M 22X1,5	14.0	8.0	60.5	14.0	31.0	22.0		
OPK11210-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	62.5	14.0	31.5	24.0		
OPK11210-10A30	16	- 10	5/8"	M 30X2	20.0	15.0	70.0	16.0	35.5	30.0		
OPK11210-12A30	19	- 12	3/4"	M 30X2	20.0	15.0	73.5	16.0	37.0	30.0		
OPK11210-12A36	19	- 12	3/4"	M 36X2	25.0	19.8	77.5	18.0	41.0	36.0		
OPK11210-16A36	25	- 16	1"	M 36X2	25.0	19.8	90.5	18.0	42.5	36.0		
OPK11210-16A42	25	- 16	1"	M 42X2	30.0	25.0	92.5	20.0	44.5	46.0		
OPK11210-20A52	31	- 20	1.1/4"	M 52X2	38.0	30.0	103.5	22.0	51.0	55.0		



DIN STANDARD CONNECTIONS

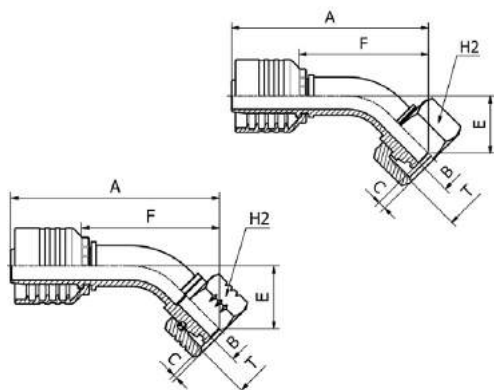
OPK21612/OPK21613



METRIC
O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H2		
OPK21613-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	54.5	2.0	25.5	24.0		
OPK21613-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	62.0	3.0	32.5	27.0		
OPK21613-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	58.0	4.0	26.5	30.0		
OPK21613-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	65.0	3.5	30.5	36.0		
OPK21612-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	70.0	2.2	33.5	36.0		
OPK21613-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	70.5	4.5	34.0	41.0		
OPK21612-16A36	25	- 16	1"	M 36X2	25.0	15.0	83.5	1.7	35.5	41.0		
OPK21613-16A42	25	- 16	1"	M 42X2	30.0	19.8	83.5	6.3	35.5	50.0		
OPK21613-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	90.0	8.0	37.5	60.0		
OPK21613-24A52	38	- 24	1.1/2"	M 52X2	38.0	26.0	111.5	8.0	49.5	60.0		

OPK21612: THRUST WIRE NUT / OPK21613: SLIP-ON NUT



DIN STANDARD CONNECTIONS

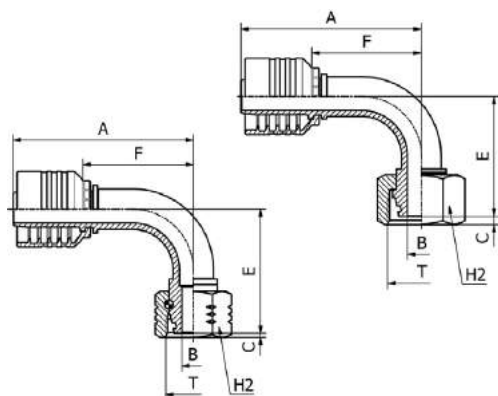
OPK21642/OPK21643

45° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPK21643-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	73.5	2.0	17.0	44.0	24.0	
OPK21643-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	75.0	3.0	18.5	45.5	27.0	
OPK21643-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	83.5	4.0	20.0	52.5	30.0	
OPK21643-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	99.5	3.5	29.5	65.5	36.0	
OPK21642-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	113.0	2.2	34.0	76.5	36.0	
OPK21643-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	111.5	4.5	32.5	75.0	41.0	
OPK21643-16A42	25	- 16	1"	M 42X2	30.0	19.8	138.0	6.3	35.5	90.0	50.0	
OPK21643-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	155.5	8.0	39.5	103.0	60.0	

OPK21642: THRUST WIRE NUT / OPK21643: SLIP-ON NUT

DIN STANDARD CONNECTIONS

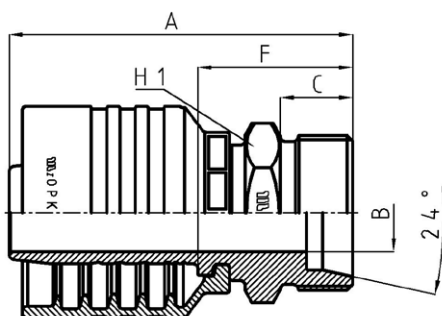


OPK21692/OPK21693

90° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPK21693-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	66.0	2.0	35.0	36.5	24.0	
OPK21693-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	66.0	3.0	37.0	36.5	27.0	
OPK21693-06A24	10	- 6	3/8"	M 24X1,5	16.0	9.3	66.0	4.0	36.0	36.5	30.0	
OPK21693-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	76.0	4.0	40.5	45.0	30.0	
OPK21693-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	86.0	3.5	57.5	51.5	36.0	
OPK21692-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	98.0	2.2	67.5	61.5	36.0	
OPK21693-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	97.5	4.5	64.5	61.5	41.0	
OPK21692-16A36	25	- 16	1"	M 36X2	25.0	15.0	127.5	1.7	86.0	79.5	41.0	
OPK21693-16A42	25	- 16	1"	M 42X2	30.0	19.8	127.5	6.3	74.5	79.0	50.0	
OPK21693-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	146.0	8.0	85.5	93.5	60.0	

OPK21692: THRUST WIRE NUT / OPK21693: SLIP-ON NUT

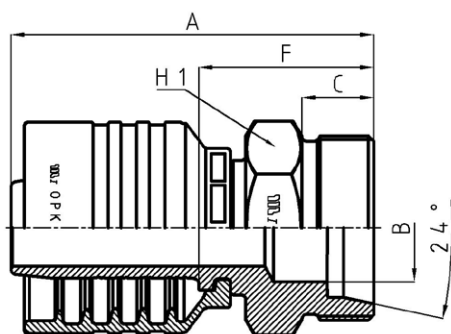


NF STANDARD CONNECTIONS

OPK11710

FRENCH METRIC
MALE 24° CONE SEAT
MILLIMETRIC TYPE

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	F	H1
OPK11710-12A30	19	- 12	3/4"	M 30X1,5	22.0	15.0	66.5	14.0	30.0	30.0

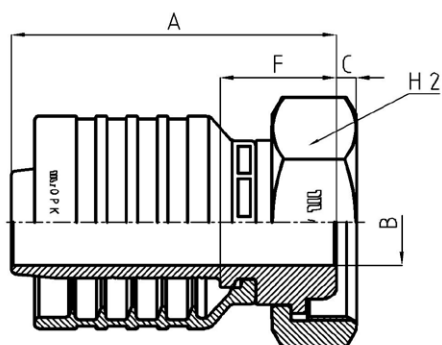


NF STANDARD CONNECTIONS

OPK11810

FRENCH METRIC
MALE 24° CONE SEAT
GAZ TYPE

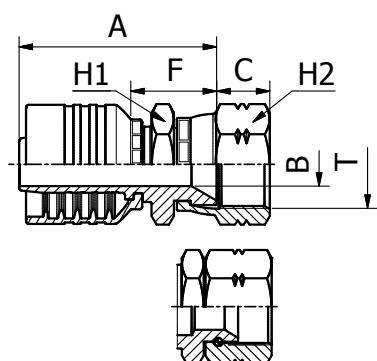
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	F	H1
OPK11810-12A36	19	- 12	3/4"	M 36X1,5	26.8	21.0	70.5	14.0	34.0	36.0



NF STANDARD CONNECTIONS

OPK21813
**FRENCH METRIC
FEMALE
GAZ TYPE**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H2		
OPK21813-16A45	25	- 16	1"	M 45X1,5	33.5	19.8	75.0	4.5	27.0	50.0		



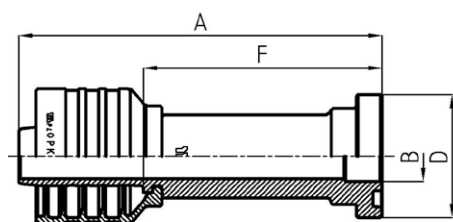
JIS STANDARD CONNECTIONS

OPK24011/OPK24012
**JIS METRIC
FEMALE (KOMATSU)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	F	H1	H2	
OPK24011-06A18	10	- 6	3/8"	M 18X1,5		7.0	53.0	11.5	23.5	24.0	24.0	
OPK24011-08A22	12	- 8	1/2"	M 22X1,5		9.3	56.0	13.0	25.0	27.0	27.0	
OPK24011-10A24	16	- 10	5/8"	M 24X1,5		12.5	61.0	15.1	26.5	32.0	32.0	
OPK24011-12A30	19	- 12	3/4"	M 30X1,5		15.0	68.0	18.3	31.5	36.0	36.0	
OPK24011-16A33	25	- 16	1"	M 33X1,5		19.8	81.5	21.3	33.5	41.0	41.0	
OPK24012-24A42	38	- 24	1.1/2"	M 42X1,5		26.0	106.0	18.8	44.0	55.0	55.0	

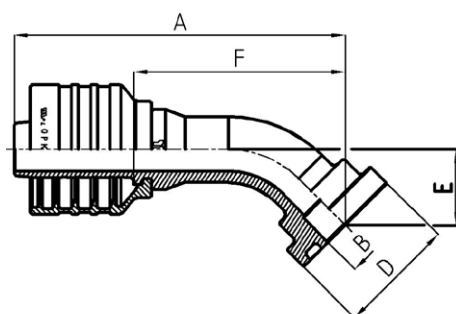
OPK24011: CRIMPED BACK-NUT / OPK24012: THRUST WIRE NUT

ORIGINAL EQUIPMENT CONNECTIONS

OPK24111**STRAIGHT KOMATSU FLANGE**

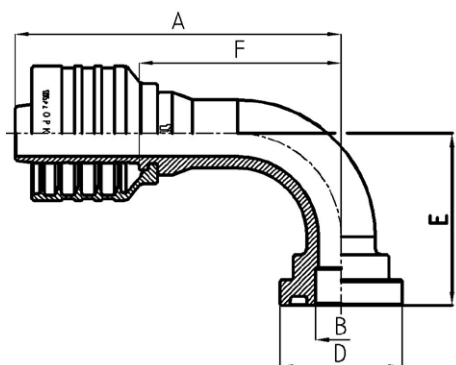
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	F			
OPK24111-10A10	16	- 10	5/8"	5/8"		14.0	100.0	34.0	65.5			

ORIGINAL EQUIPMENT CONNECTIONS

**OPK24141****45° KOMATSU FLANGE**

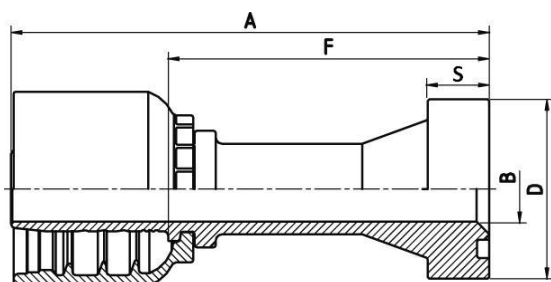
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPK24141-10A10	16	- 10	5/8"	5/8"		14.0	95.0	34.0	22.0	61.0		

ORIGINAL EQUIPMENT CONNECTIONS

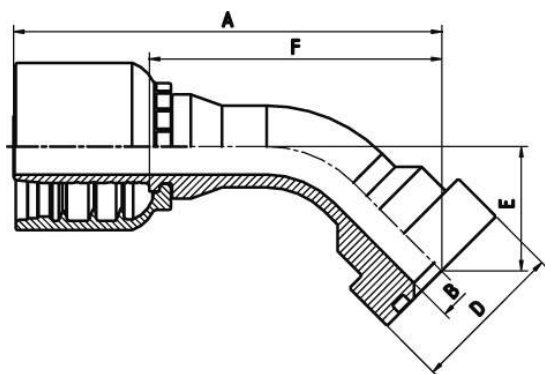
**OPK24191****90° KOMATSU FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPK24191-10A10	16	- 10	5/8"	5/8"		14.0	90.0	34.0	47.5	56.0		

ORIGINAL EQUIPMENT CONNECTIONS

**OPK23911****STRAIGHT SUPERCAT FLANGE**

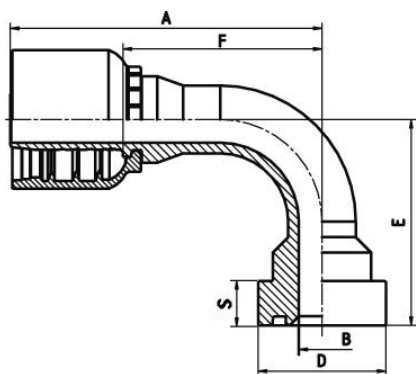
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	F	S		
OPK23911-12A12	19	- 12	3/4"	3/4"		15.0	111.0	41.5	74.5	14.3		
OPK23911-16A16	25	- 16	1"	1"		19.8	135.0	47.7	87.0	14.3		
OPK23911-16A20	25	- 16	1"	1.1/4"		26.0	140.5	54.0	92.5	14.3		
OPK23911-20A20	31	- 20	1.1/4"	1.1/4"		26.0	138.5	54.0	86.0	14.3		
OPK23911-24A24	38	- 24	1.1/2"	1.1/2"		32.0	156.0	63.6	94.0	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

OPK23941**45° SUPERCAT FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F	S	
OPK23941-12A12	19	- 12	3/4"	3/4"		15.0	114.0	41.5	32.0	77.0	14.3	
OPK23941-16A16	25	- 16	1"	1"		19.8	138.0	47.7	36.5	89.5	14.3	
OPK23941-16A20	25	- 16	1"	1.1/4"		26.0	140.5	54.0	40.5	92.5	14.3	
OPK23941-20A20	31	- 20	1.1/4"	1.1/4"		26.0	151.5	54.0	41.5	99.0	14.3	

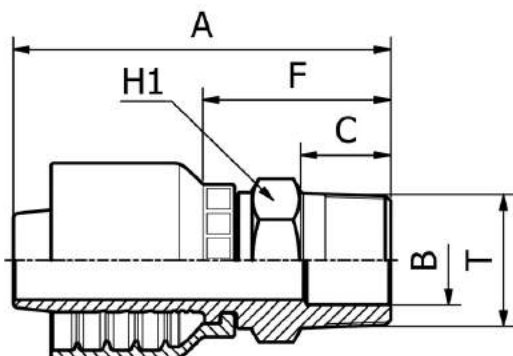


ORIGINAL EQUIPMENT CONNECTIONS

OPK23991**90° SUPERCAT FLANGE**

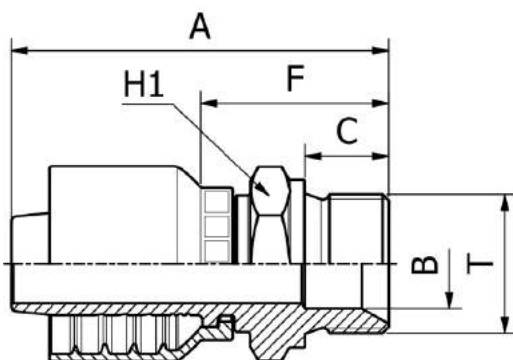
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F	S	
OPK23991-12A12	19	- 12	3/4"	3/4"		15.0	101.0	41.5	64.5	64.5	14.3	
OPK23991-16A16	25	- 16	1"	1"		19.8	125.5	47.7	76.5	77.5	14.3	
OPK23991-16A20	25	- 16	1"	1.1/4"		26.0	123.5	54.0	80.5	75.5	14.3	
OPK23991-20A20	31	- 20	1.1/4"	1.1/4"		26.0	138.0	54.0	87.0	85.5	14.3	

BS STANDARD CONNECTIONS

OPF10710
**BSP
MALE TAPERED**


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1		
OPF10710-08A08	12	- 8	1/2"	1/2" - 14		10.0	62.0	15.0	31.0	22.0		
OPF10710-10A12	16	- 10	5/8"	3/4" - 14		17.0	68.5	17.0	34.0	27.0		

BS STANDARD CONNECTIONS

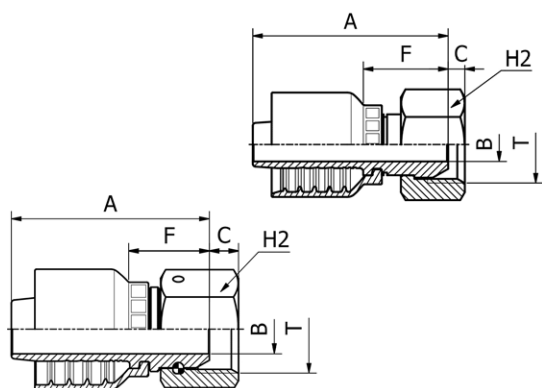
OPF10510
**BSP
MALE PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6**


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1		
OPF10510-03A02	5	- 3	3/16"	1/8" - 28		3.5	44.0	10.0	22.5	14.0		
OPF10510-04A02	6	- 4	1/4"	1/8" - 28		3.5	50.0	10.0	22.5	14.0		
OPF10510-04A04	6	- 4	1/4"	1/4" - 19		5.0	53.0	11.0	25.5	19.0		
OPF10510-04A06	6	- 4	1/4"	3/8" - 19		8.0	54.5	12.0	27.0	22.0		
OPF10510-05A04	8	- 5	5/16"	1/4" - 19		5.0	54.0	11.0	26.0	19.0		
OPF10510-05A06	8	- 5	5/16"	3/8" - 19		8.0	55.5	12.0	27.5	22.0		
OPF10510-06A04	10	- 6	3/8"	1/4" - 19		5.0	55.5	11.0	26.0	19.0		
OPF10510-06A06	10	- 6	3/8"	3/8" - 19		8.0	57.5	12.0	28.0	22.0		
OPF10510-06A08	10	- 6	3/8"	1/2" - 14		11.0	60.0	14.0	30.5	27.0		
OPF10510-08A06	12	- 8	1/2"	3/8" - 19		8.0	59.0	12.0	28.0	22.0		
OPF10510-08A08	12	- 8	1/2"	1/2" - 14		11.0	62.0	14.0	31.0	27.0		
OPF10510-08A10	12	- 8	1/2"	5/8" - 14		14.5	64.0	16.0	33.0	30.0		
OPF10510-08A12	12	- 8	1/2"	3/4" - 14		17.0	65.0	16.0	34.0	32.0		
OPF10510-10A10	16	- 10	5/8"	5/8" - 14		14.5	67.5	16.0	33.0	30.0		
OPF10510-10A12	16	- 10	5/8"	3/4" - 14		17.0	68.5	16.0	34.0	32.0		
OPF10510-12A12	19	- 12	3/4"	3/4" - 14		17.0	72.0	16.0	35.5	32.0		
OPF10510-12A16	19	- 12	3/4"	1" - 11		22.5	76.0	19.0	39.5	41.0		
OPF10510-16A16	25	- 16	1"	1" - 11		22.5	89.0	19.0	41.0	41.0		
OPF10510-16A20	25	- 16	1"	1.1/4" - 11		28.5	93.0	20.0	45.0	50.0		

BS STANDARD CONNECTIONS

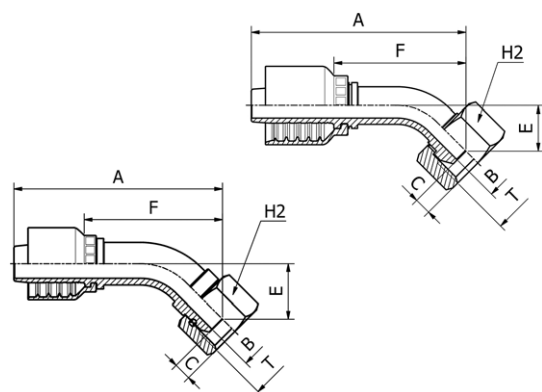
OPF20512/OPF20513

BSP
FEMALE 60° CONE
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H2	
OPF20512-03A02	5	- 3	3/16"	1/8" - 28		3.0	37.0	4.4	16.0	14.0	
OPF20513-03A04	5	- 3	3/16"	1/4" - 19		4.0	38.0	5.4	16.5	19.0	
OPF20512-04A02	6	- 4	1/4"	1/8" - 28		3.1	44.0	4.4	16.5	14.0	
OPF20513-04A04	6	- 4	1/4"	1/4" - 19		4.0	44.5	5.4	17.0	19.0	
OPF20513-04A06	6	- 4	1/4"	3/8" - 19		7.0	45.5	6.0	19.0	22.0	
OPF20512-05A04	8	- 5	5/16"	1/4" - 19		4.1	45.5	4.2	17.5	19.0	
OPF20513-05A06	8	- 5	5/16"	3/8" - 19		7.0	47.0	6.0	19.0	22.0	
OPF20512-06A04	10	- 6	3/8"	1/4" - 19		4.1	47.5	4.2	18.0	19.0	
OPF20513-06A06	10	- 6	3/8"	3/8" - 19		7.0	49.0	6.0	19.5	22.0	
OPF20513-06A08	10	- 6	3/8"	1/2" - 14		9.3	49.5	6.3	20.0	27.0	
OPF20512-08A06	12	- 8	1/2"	3/8" - 19		7.1	52.0	6.0	21.0	22.0	
OPF20513-08A08	12	- 8	1/2"	1/2" - 14		9.3	51.5	6.3	20.5	27.0	
OPF20512-08A10	12	- 8	1/2"	5/8" - 14		12.1	53.0	10.2	22.0	28.0	
OPF20512-08A12	12	- 8	1/2"	3/4" - 14		15.0	56.0	9.0	24.5	32.0	
OPF20512-10A10	16	- 10	5/8"	5/8" - 14		12.5	56.0	10.2	21.5	28.0	
OPF20512-10A12	16	- 10	5/8"	3/4" - 14		15.0	57.5	9.0	23.0	32.0	
OPF20512-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.0	9.0	24.5	32.0	
OPF20512-12A16	19	- 12	3/4"	1" - 11		19.8	62.5	10.5	26.0	38.0	
OPF20512-16A16	25	- 16	1"	1" - 11		19.8	75.5	10.5	27.5	38.0	

OPF20512: THRUST WIRE NUT / OPF20513: SLIP-ON NUT



BS STANDARD CONNECTIONS

OPF20542/OPF20543

45° BSP
FEMALE ELBOW 60° CONE
BS5200 / ISO 12151-6

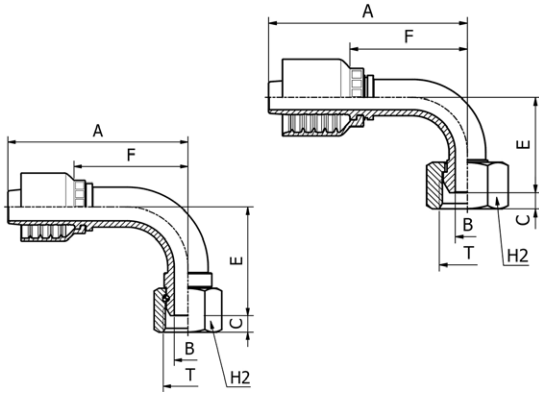
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF20543-04A04	6	- 4	1/4"	1/4" - 19		4.0	63.5	5.4	15.0	36.0	19.0
OPF20543-04A06	6	- 4	1/4"	3/8" - 19		7.0	65.0	6.0	16.0	37.5	22.0
OPF20543-05A06	8	- 5	5/16"	3/8" - 19		7.0	66.0	6.0	13.5	38.0	22.0
OPF20543-06A06	10	- 6	3/8"	3/8" - 19		7.0	71.5	6.0	15.5	42.0	22.0
OPF20543-06A08	10	- 6	3/8"	1/2" - 14		9.3	72.0	6.3	16.0	42.5	27.0
OPF20543-08A08	12	- 8	1/2"	1/2" - 14		9.3	81.0	6.3	17.0	49.5	27.0
OPF20542-08A10	12	- 8	1/2"	5/8" - 14		12.1	85.5	10.2	22.5	54.5	28.0
OPF20542-10A10	16	- 10	5/8"	5/8" - 14		12.5	97.5	10.2	26.0	63.0	28.0
OPF20542-10A12	16	- 10	5/8"	3/4" - 14		15.0	98.0	9.0	27.0	64.0	32.0
OPF20542-12A12	19	- 12	3/4"	3/4" - 14		15.0	107.0	9.0	28.5	70.5	32.0
OPF20542-12A16	19	- 12	3/4"	1" - 11		19.8	109.0	10.5	30.0	72.5	38.0
OPF20542-16A16	25	- 16	1"	1" - 11		19.8	139.5	10.5	36.5	91.0	38.0

OPF20542: THRUST WIRE NUT / OPF20543: SLIP-ON NUT

BS STANDARD CONNECTIONS

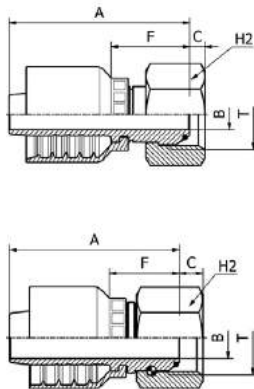
OPF20592/OPF20593

90° BSP
FEMALE ELBOW 60° CONE
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	F	H2	
OPF20592-03A02	5	- 3	3/16"	1/8" - 28		3.0	43.0	4.4	26.0	21.5	14.0	
OPF20592-04A02	6	- 4	1/4"	1/8" - 28		3.1	56.0	4.4	27.0	28.5	14.0	
OPF20593-04A04	6	- 4	1/4"	1/4" - 19		4.0	57.0	5.4	29.0	29.5	19.0	
OPF20593-04A06	6	- 4	1/4"	3/8" - 19		7.0	57.0	6.0	31.0	29.5	22.0	
OPF20593-05A06	8	- 5	5/16"	3/8" - 19		7.0	60.0	6.0	27.5	32.0	22.0	
OPF20592-05A04	8	- 5	5/16"	1/4" - 19		4.0	54.5	4.1	29.5	26.5	19.0	
OPF20593-06A08	10	- 6	3/8"	1/2" - 14		9.3	66.0	6.3	32.0	36.5	27.0	
OPF20593-06A06	10	- 6	3/8"	3/8" - 19		7.0	66.0	6.0	31.5	36.5	22.0	
OPF20592-08A06	12	- 8	1/2"	3/8" - 19		7.1	76.0	6.0	41.0	45.0	22.0	
OPF20593-08A08	12	- 8	1/2"	1/2" - 14		9.3	76.0	6.3	36.5	45.0	27.0	
OPF20592-08A10	12	- 8	1/2"	5/8" - 14		12.1	75.5	10.2	44.0	44.0	28.0	
OPF20592-08A12	12	- 8	1/2"	3/4" - 14		15.0	75.5	9.0	45.5	44.0	32.0	
OPF20592-10A10	16	- 10	5/8"	5/8" - 14		12.5	88.0	10.2	53.5	53.5	28.0	
OPF20592-10A12	16	- 10	5/8"	3/4" - 14		15.0	88.0	9.0	55.0	53.5	32.0	
OPF20592-12A12	19	- 12	3/4"	3/4" - 14		15.0	98.0	9.0	59.5	61.5	32.0	
OPF20592-12A16	19	- 12	3/4"	1" - 11		19.8	98.0	10.5	62.0	61.5	38.0	
OPF20592-16A16	25	- 16	1"	1" - 11		19.8	127.5	10.5	76.0	79.5	38.0	

OPF20592: THRUST WIRE NUT / OPF20593: SLIP-ON NUT



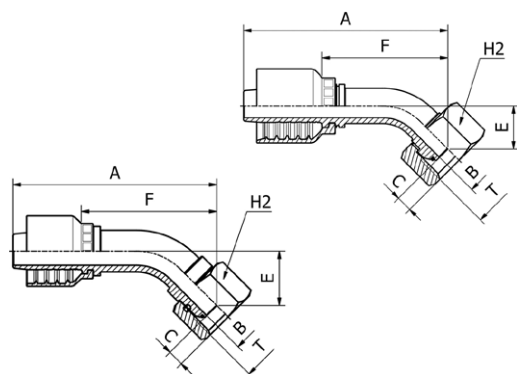
BS STANDARD CONNECTIONS

OPF20812/OPF20813

BSP
O-RING FEMALE 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	F	H2		
OPF20813-04A04	6	- 4	1/4"	1/4" - 19		4.0	44.5	5.4	17.0	19.0		
OPF20812-06A04	10	- 6	3/8"	1/4" - 19		4.1	47.5	4.1	18.0	19.0		
OPF20813-06A06	10	- 6	3/8"	3/8" - 19		7.0	49.0	6.0	19.5	22.0		
OPF20813-08A08	12	- 8	1/2"	1/2" - 14		9.3	51.5	6.3	20.5	27.0		
OPF20812-10A10	16	- 10	5/8"	5/8" - 14		12.5	56.5	9.7	22.0	28.0		
OPF20812-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.5	8.5	25.0	32.0		
OPF20812-16A16	25	- 16	1"	1" - 11		19.8	75.5	10.6	27.5	38.0		
OPF20812-16A20	25	- 16	1"	1.1/4" - 11		26.1	79.0	10.5	31.0	50.0		

OPF20812: THRUST WIRE NUT / OPF20813: SLIP-ON NUT



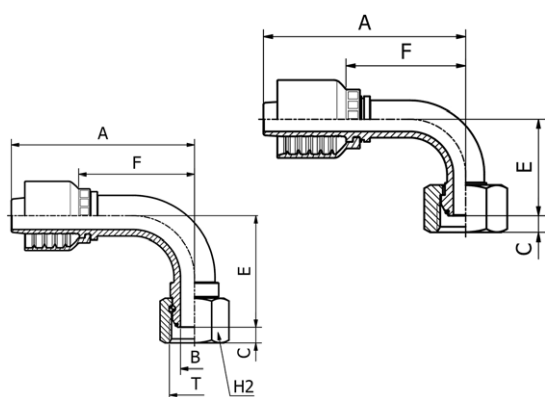
BS STANDARD CONNECTIONS

OPF20842/OPF20843

45° BSP
O-RING FEMALE ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF20843-04A04	6	- 4	1/4"	1/4" - 19		4.0	63.5	5.4	14.5	36.0	19.0	
OPF20843-06A06	10	- 6	3/8"	3/8" - 19		7.0	71.5	6.0	15.5	42.0	22.0	
OPF20843-08A08	12	- 8	1/2"	1/2" - 14		9.3	81.0	6.3	17.0	49.5	27.0	
OPF20842-10A10	16	- 10	5/8"	5/8" - 14		12.5	98.0	9.7	27.5	63.5	28.0	
OPF20842-12A12	19	- 12	3/4"	3/4" - 14		15.0	107.5	8.5	29.0	71.0	32.0	
OPF20842-16A16	25	- 16	1"	1" - 11		19.8	138.5	10.6	35.5	90.5	38.0	

OPF20842: THRUST WIRE NUT / OPF20843: SLIP-ON NUT



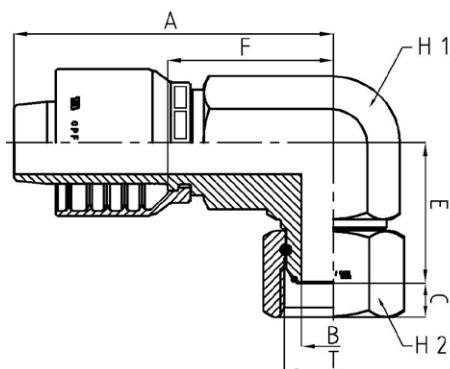
BS STANDARD CONNECTIONS

OPF20892/OPF20893

90° BSP
O-RING FEMALE SWEPT ELBOW 60° CONE
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF20893-04A04	6	- 4	1/4"	1/4" - 19		4.0	57.0	5.4	29.0	29.5	19.0	
OPF20892-06A04	10	- 6	3/8"	1/4" - 19		4.1	65.0	4.1	33.0	35.5	19.0	
OPF20893-06A06	10	- 6	3/8"	3/8" - 19		7.0	66.0	6.0	31.5	36.5	22.0	
OPF20893-08A08	12	- 8	1/2"	1/2" - 14		9.3	76.0	6.3	36.5	45.0	27.0	
OPF20892-10A10	16	- 10	5/8"	5/8" - 14		12.5	87.5	9.7	55.0	53.0	28.0	
OPF20892-12A12	19	- 12	3/4"	3/4" - 14		15.0	98.0	8.5	60.0	61.5	32.0	
OPF20892-16A16	25	- 16	1"	1" - 11		19.8	127.5	10.6	76.0	79.5	38.0	
OPF20892-16A20	25	- 16	1"	1.1/4" - 11		26.1	127.5	10.5	78.5	79.5	50.0	

OPF20892: THRUST WIRE NUT / OPF20893: SLIP-ON NUT

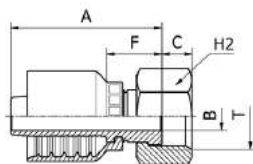


BS STANDARD CONNECTIONS

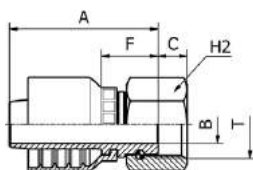
OPF20882F

**90° BSP
O-RING FEMALE COMPACT ELBOW 60° CONE
BS5200 / ISO 12151-6
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	F	H1	H2
OPF20882-04A04F	6	- 4	1/4"	1/4" - 19		4.0	47.5	4.1	22.0	20.0	14.0	19.0
OPF20882-06A06F	10	- 6	3/8"	3/8" - 19		7.0	52.5	6.0	27.5	23.0	19.0	22.0
OPF20882-08A08F	12	- 8	1/2"	1/2" - 14		9.3	56.0	6.5	31.0	25.0	22.0	27.0
OPF20882-10A10F	16	- 10	5/8"	5/8" - 14		12.5	59.0	9.7	32.5	24.5	24.0	28.0
OPF20882-12A12F	19	- 12	3/4"	3/4" - 14		15.0	74.0	8.5	36.0	37.5	27.0	32.0
OPF20882-16A16F	25	- 16	1"	1" - 11		20.0	100.0	10.6	44.0	52.0	36.0	38.0

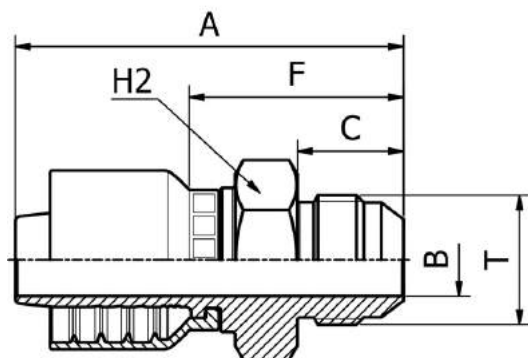


BS STANDARD CONNECTIONS

OPF20612/OPF20613

**BSP
FEMALE FLAT SEAT
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	F	H2		
OPF20613-06A06	10	- 6	3/8"	3/8" - 19		7.0	46.0	9.0	16.5	22.0		
OPF20613-06A08	10	- 6	3/8"	1/2" - 14		9.3	47.0	9.8	17.5	27.0		
OPF20613-08A08	12	- 8	1/2"	1/2" - 14		9.3	49.0	9.8	18.0	27.0		
OPF20612-08A12	12	- 8	1/2"	3/4" - 14		15.0	52.0	11.5	21.0	32.0		

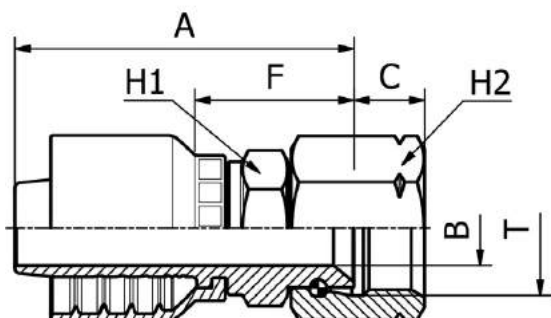


SAE STANDARD CONNECTIONS

OPF12510

JIC
MALE 37° CONE
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1		
OPF12510-04A04	6	- 4	1/4"	7/16" - 20		4.0	55.5	14.0	28.0	12.0		
OPF12510-04A05	6	- 4	1/4"	1/2" - 20		5.5	56.5	14.0	29.0	14.0		
OPF12510-04A06	6	- 4	1/4"	9/16" - 18		7.0	56.5	14.0	29.0	17.0		
OPF12510-05A05	8	- 5	5/16"	1/2" - 20		5.5	57.0	14.0	29.0	14.0		
OPF12510-05A06	8	- 5	5/16"	9/16" - 18		7.0	57.0	14.0	29.0	17.0		
OPF12510-06A06	10	- 6	3/8"	9/16" - 18		7.0	59.0	14.0	29.5	17.0		
OPF12510-06A08	10	- 6	3/8"	3/4" - 16		9.3	63.5	16.5	34.0	19.0		
OPF12510-06A10	10	- 6	3/8"	7/8" - 14		12.5	68.0	19.5	38.5	24.0		
OPF12510-08A06	12	- 8	1/2"	9/16" - 18		7.0	63.0	14.0	32.0	19.0		
OPF12510-08A08	12	- 8	1/2"	3/4" - 16		9.3	65.5	16.5	34.5	19.0		
OPF12510-08A10	12	- 8	1/2"	7/8" - 14		12.5	70.0	19.5	39.0	24.0		
OPF12510-08A12	12	- 8	1/2"	1.1/16" - 12		15.0	74.0	22.0	43.0	27.0		
OPF12510-10A10	16	- 10	5/8"	7/8" - 14		12.5	73.5	19.5	39.0	24.0		
OPF12510-10A12	16	- 10	5/8"	1.1/16" - 12		15.0	77.0	22.0	42.5	27.0		
OPF12510-12A10	19	- 12	3/4"	7/8" - 14		12.5	78.0	19.5	41.5	27.0		
OPF12510-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	80.5	22.0	44.0	27.0		
OPF12510-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	81.0	22.5	44.5	32.0		
OPF12510-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	83.5	23.0	47.0	34.0		
OPF12510-16A12	25	- 16	1"	1.1/16" - 12		15.0	93.0	22.0	45.0	32.0		
OPF12510-16A16	25	- 16	1"	1.5/16" - 12		19.8	96.0	23.0	48.0	34.0		
OPF12510-16A20	25	- 16	1"	1.5/8" - 12		26.0	101.0	24.3	53.0	42.0		

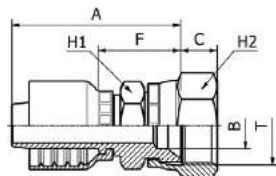
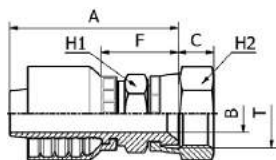


SAE STANDARD CONNECTIONS

OPF22712

JIC
FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPF22712-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	69.5	14.3	33.0	30.0	36.0	
OPF22712-16A20	25	- 16	1"	1.5/8" - 12		26.0	91.0	16.2	43.0	41.0	50.0	



SAE STANDARD CONNECTIONS

OPF22711/OPF22711KR/ OPF22711K

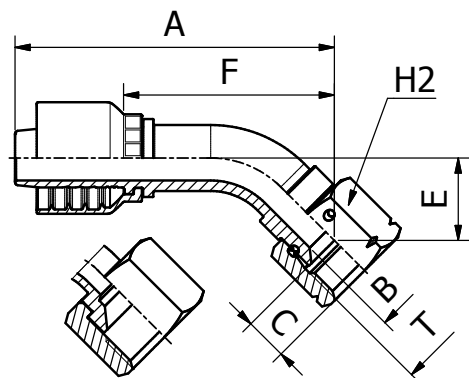
JIC

FEMALE 37° CONE SEAT DOUBLE HEXAGON
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPF22711-03A04K	5	- 3	3/16"	7/16" - 20		4.0	41.5	8.9	20.0	12.0	15.0	
OPF22711-04A04KR	6	- 4	1/4"	7/16" - 20		4.0	48.0	8.9	20.5	12.0	15.0	
OPF22711-04A05KR	6	- 4	1/4"	1/2" - 20		4.0	48.5	9.4	21.0	14.0	17.0	
OPF22711-04A06KR	6	- 4	1/4"	9/16" - 18		7.0	49.0	9.5	21.5	14.0	17.0	
OPF22711-05A05KR	8	- 5	5/16"	1/2" - 20		4.0	49.5	9.4	21.5	17.0	17.0	
OPF22711-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	51.5	9.5	22.0	17.0	17.0	
OPF22711-06A08KR	10	- 6	3/8"	3/4" - 16		9.3	56.0	10.7	26.5	19.0	22.0	
OPF22711-08A12KR	12	- 8	1/2"	1.1/16" - 12		15.0	60.0	14.1	28.5	27.0	32.0	
OPF22711-08A06KR	12	- 8	1/2"	9/16" - 18		7.0	55.5	9.5	24.0	19.0	17.0	
OPF22711-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	58.0	10.7	27.0	19.0	22.0	
OPF22711-08A10KR	12	- 8	1/2"	7/8" - 14		9.3	60.5	12.5	29.5	22.0	25.0	
OPF22711-10A08KR	16	- 10	5/8"	3/4" - 16		9.3	62.5	10.7	28.5	22.0	22.0	
OPF22711-10A10KR	16	- 10	5/8"	7/8" - 14		9.3	64.0	12.5	29.5	22.0	25.0	
OPF22711-10A12KR	16	- 10	5/8"	1.1/16" - 12		15.0	63.5	14.1	29.0	27.0	32.0	
OPF22711-12A08KR	19	- 12	3/4"	3/4" - 16		9.3	66.0	10.7	29.5	27.0	22.0	
OPF22711-12A10KR	19	- 12	3/4"	7/8" - 14		12.5	67.0	12.5	30.5	27.0	25.0	
OPF22711-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	66.5	14.1	30.0	27.0	32.0	
OPF22711-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	71.0	15.3	34.5	32.0	38.0	
OPF22711-16A12KR	25	- 16	1"	1.1/16" - 12		15.0	80.5	14.1	32.5	32.0	32.0	
OPF22711-16A16	25	- 16	1"	1.5/16" - 12		19.8	83.5	15.3	35.5	32.0	38.0	

KR: CRIMPED KOMPACT ROBUST BACK-NUT

SAE STANDARD CONNECTIONS

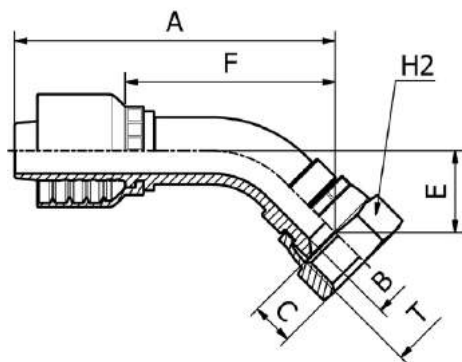


OPF22542/OPF22543

45° JIC
FEMALE SWEPT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	F	H2	
OPF22542-04A04	6	- 4	1/4"	7/16" - 20		4.0	63.0	8.7	14.5	35.5	17.0	
OPF22542-04A05	6	- 4	1/4"	1/2" - 20		4.0	63.0	9.1	14.5	35.5	17.0	
OPF22543-04A06	6	- 4	1/4"	9/16" - 18		4.0	63.0	9.8	14.0	35.5	19.0	
OPF22542-05A05	8	- 5	5/16"	1/2" - 20		5.5	65.5	9.1	14.0	37.5	17.0	
OPF22542-05A06	8	- 5	5/16"	9/16" - 18		7.0	66.0	9.2	14.5	38.0	19.0	
OPF22542-06A06	10	- 6	3/8"	9/16" - 18		7.0	71.5	9.2	16.5	42.0	19.0	
OPF22543-06A08	10	- 6	3/8"	3/4" - 16		7.0	70.5	10.1	14.0	41.0	22.0	
OPF22543-06A10	10	- 6	3/8"	7/8" - 14		9.3	72.0	12.4	15.5	42.5	27.0	
OPF22542-08A08	12	- 8	1/2"	3/4" - 16		9.3	83.0	10.2	20.0	52.0	22.0	
OPF22543-08A10	12	- 8	1/2"	7/8" - 14		9.3	80.5	12.4	17.0	49.5	27.0	
OPF22543-08A12	12	- 8	1/2"	1.1/16" - 12		12.5	80.5	14.1	17.0	49.5	32.0	
OPF22542-10A10	16	- 10	5/8"	7/8" - 14		12.5	96.5	12.3	25.5	62.0	27.0	
OPF22543-10A12	16	- 10	5/8"	1.1/16" - 12		12.5	94.5	14.1	24.0	60.0	32.0	
OPF22542-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	106.0	14.2	27.5	70.0	32.0	
OPF22542-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	106.0	14.3	27.5	69.5	36.0	
OPF22542-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	106.5	15.0	27.5	70.0	38.0	
OPF22542-16A12	25	- 16	1"	1.1/16" - 12		15.0	120.5	14.2	27.5	72.5	32.0	
OPF22542-16A16	25	- 16	1"	1.5/16" - 12		19.8	132.5	15.0	32.0	84.0	38.0	
OPF22542-16A20	25	- 16	1"	1.5/8" - 12		26.0	138.0	16.2	36.0	90.0	50.0	

OPF22542: THRUST WIRE NUT / OPF22543: SLIP-ON NUT

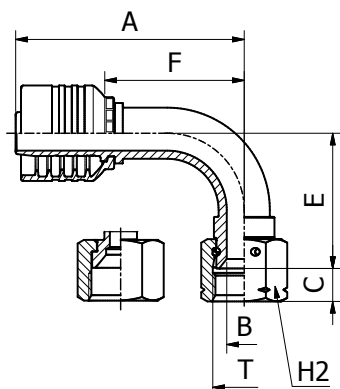


SAE STANDARD CONNECTIONS

OPF22541KR

45° ELBOW JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	E	F	H2	
OPF22541-04A04KR	6	- 4	1/4"	7/16" - 20		4.2	62.0	8.9	13.5	34.5	15.0	
OPF22541-04A05KR	6	- 4	1/4"	1/2" - 20		4.0	62.5	9.4	14.0	35.0	17.0	
OPF22541-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	71.5	9.5	16.0	42.0	17.0	
OPF22541-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	83.0	10.7	20.0	52.0	22.0	
OPF22541-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	95.5	12.5	22.5	61.0	25.0	
OPF22541-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	105.5	14.1	26.5	69.0	32.0	



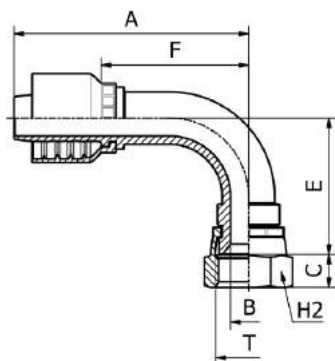
SAE STANDARD CONNECTIONS

OPF22592/OPF22593

90° JIC
FEMALE ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPF22593-03A04	5	- 3	3/16"	7/16" - 20		3.0	47.5	8.5	23.5	26.0	15.0	
OPF22592-04A04	6	- 4	1/4"	7/16" - 20		4.0	56.0	8.7	27.0	28.5	17.0	
OPF22592-04A05	6	- 4	1/4"	1/2" - 20		4.0	56.0	9.1	27.5	28.5	17.0	
OPF22593-04A06	6	- 4	1/4"	9/16" - 18		4.0	57.0	9.8	28.0	29.5	19.0	
OPF22593-04A08	6	- 4	1/4"	3/4" - 16		7.0	57.0	10.0	30.5	29.5	22.0	
OPF22592-05A05	8	- 5	5/16"	1/2" - 20		5.5	59.0	9.1	28.0	31.0	17.0	
OPF22592-05A06	8	- 5	5/16"	9/16" - 18		7.0	59.0	9.2	28.5	31.0	19.0	
OPF22592-06A05	10	- 6	3/8"	1/2" - 20		5.5	59.5	9.1	26.5	30.0	17.0	
OPF22592-06A06	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.2	32.5	35.5	19.0	
OPF22593-06A08	10	- 6	3/8"	3/4" - 16		7.0	66.0	10.1	29.5	36.5	22.0	
OPF22593-06A10	10	- 6	3/8"	7/8" - 14		9.3	66.0	12.4	31.5	36.5	27.0	
OPF22592-08A06	12	- 8	1/2"	9/16" - 18		7.0	68.0	9.2	33.0	37.0	19.0	
OPF22592-08A08	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.2	41.0	44.0	22.0	
OPF22593-08A10	12	- 8	1/2"	7/8" - 14		9.3	76.0	12.4	36.0	45.0	27.0	
OPF22593-08A12	12	- 8	1/2"	1.1/16" - 12		12.5	76.0	14.1	36.0	45.0	32.0	
OPF22592-10A10	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.3	52.5	53.5	27.0	
OPF22593-10A12	16	- 10	5/8"	1.1/16" - 12		12.5	86.0	14.1	50.0	51.5	32.0	
OPF22592-12A10	19	- 12	3/4"	7/8" - 14		12.5	91.5	12.3	52.5	55.0	27.0	
OPF22592-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.2	58.0	62.0	32.0	
OPF22592-12A14	19	- 12	3/4"	1.3/16" - 12		15.0	99.0	14.3	58.0	63.0	36.0	
OPF22592-12A16	19	- 12	3/4"	1.5/16" - 12		19.8	99.0	15.0	57.5	63.0	38.0	
OPF22592-16A16	25	- 16	1"	1.5/16" - 12		19.8	124.0	15.0	68.5	76.0	38.0	
OPF22592-16A20	25	- 16	1"	1.5/8" - 12		26.0	125.5	16.2	74.5	77.5	50.0	

OPF22592: THRUST WIRE NUT / OPF22593: SLIP-ON NUT



SAE STANDARD CONNECTIONS

OPF22591KR

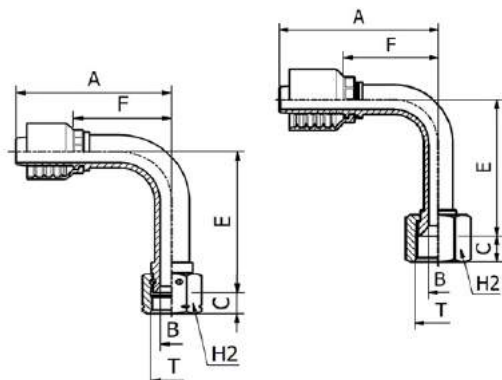
**90° ELBOW JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF22591-04A04KR	6	- 4	1/4"	7/16" - 20		4.2	56.0	8.9	26.0	28.5	15.0	
OPF22591-04A05KR	6	- 4	1/4"	1/2" - 20		4.0	56.0	9.4	26.5	28.5	17.0	
OPF22591-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.5	32.0	35.5	17.0	
OPF22591-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.7	40.5	44.0	22.0	
OPF22591-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.5	47.0	53.5	25.0	
OPF22591-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.1	57.0	62.0	32.0	

SAE STANDARD CONNECTIONS

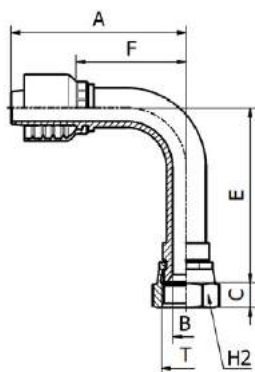
OPF24792/OPF24793

**90° JIC
FEMALE LONG DROP ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5**



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF24792-04A04	6	- 4	1/4"	7/16" - 20		4.0	56.0	8.7	45.0	28.5	17.0	
OPF24792-04A05	6	- 4	1/4"	1/2" - 20		4.0	56.0	9.1	45.0	28.5	17.0	
OPF24793-04A06	6	- 4	1/4"	9/16" - 18		4.0	57.0	9.8	55.5	29.5	19.0	
OPF24792-08A08	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.2	61.0	44.0	22.0	
OPF24792-06A06	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.2	55.0	35.5	19.0	
OPF24793-06A08	10	- 6	3/8"	3/4" - 16		7.0	66.0	10.1	61.5	36.5	22.0	
OPF24793-08A10	12	- 8	1/2"	7/8" - 14		9.3	76.0	12.4	65.0	45.0	27.0	
OPF24792-10A10	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.3	65.5	53.5	27.0	
OPF24792-12A12	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.2	94.5	62.0	32.0	
OPF24792-16A16	25	- 16	1"	1.5/16" - 12		19.8	125.5	15.0	110.0	77.5	38.0	

OPF24792: THRUST WIRE NUT / OPF24793: SLIP-ON NUT

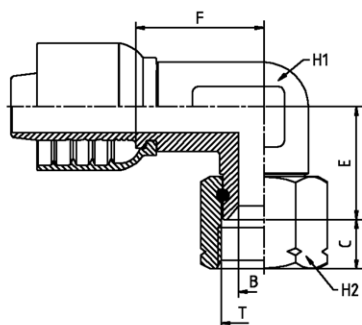


SAE STANDARD CONNECTIONS

OPF24791KR

**90° LONG DROP ELBOW JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF24791-04A04KR	6	- 4	1/4"	7/16" - 20		4.2	56.0	8.9	45.0	28.5	15.0	
OPF24791-06A06KR	10	- 6	3/8"	9/16" - 18		7.0	65.0	9.5	55.0	35.5	17.0	
OPF24791-08A08KR	12	- 8	1/2"	3/4" - 16		9.3	75.5	10.7	64.0	44.0	22.0	
OPF24791-10A10KR	16	- 10	5/8"	7/8" - 14		12.5	88.0	12.5	70.0	53.5	25.0	
OPF24791-12A12KR	19	- 12	3/4"	1.1/16" - 12		15.0	98.0	14.1	96.0	62.0	32.0	

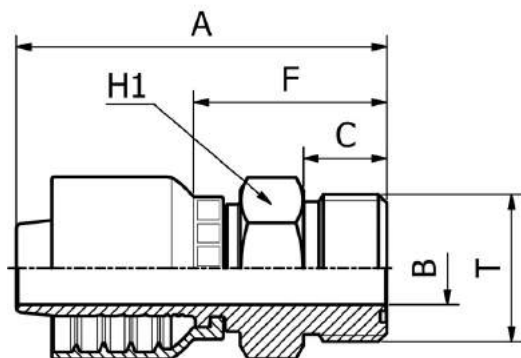


SAE STANDARD CONNECTIONS

OPF22582F

**90° JIC
FEMALE COMPACT ELBOW 37° CONE SEAT
SAE J516 / ISO 12151-5
(THRUST-WIRE NUT)**

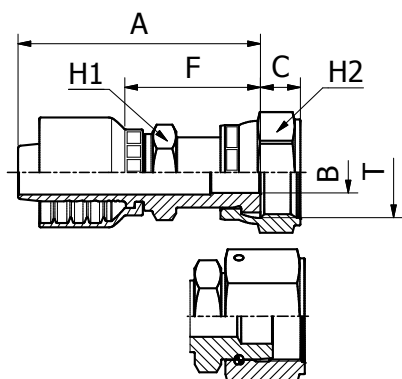
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H1	H2
OPF22582-04A04F	6	- 4	1/4"	7/16" - 20		4.0	47.5	8.7	20.5	20.0	14.0	17.0
OPF22582-04A06F	6	- 4	1/4"	9/16" - 18		7.0	47.5	9.2	21.5	20.0	14.0	19.0
OPF22582-06A06F	10	- 6	3/8"	9/16" - 18		7.0	52.5	9.2	24.0	23.0	19.0	19.0
OPF22582-06A08F	10	- 6	3/8"	3/4" - 16		9.3	56.0	10.2	28.0	26.5	22.0	22.0
OPF22582-08A08F	12	- 8	1/2"	3/4" - 16		9.3	56.0	10.2	28.0	25.0	22.0	22.0
OPF22582-08A10F	12	- 8	1/2"	7/8" - 14		12.5	56.0	12.3	29.0	25.0	22.0	27.0
OPF22582-12A12F	19	- 12	3/4"	1.1/16" - 12		15.0	74.0	14.2	33.0	37.5	27.0	32.0
OPF22582-16A16F	25	- 16	1"	1.5/16" - 12		20.0	100.0	15.0	40.0	52.0	36.0	38.0



SAE STANDARD CONNECTIONS

OPF12410**ORFS
MALE****SAE J516 / ISO 12151-1**

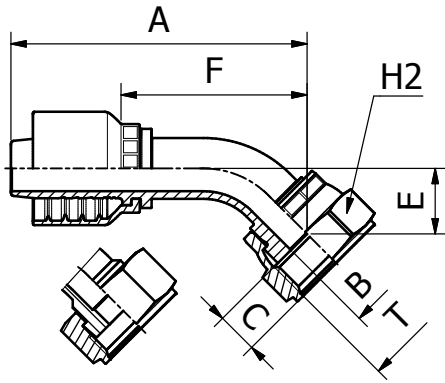
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H1	
OPF12410-04A04	6	- 4	1/4"	9/16" - 18		4.0	51.5	9.8	24.0	16.0	
OPF12410-04A06	6	- 4	1/4"	11/16" - 16		6.7	54.0	11.2	26.5	19.0	
OPF12410-05A06	8	- 5	5/16"	11/16" - 16		6.7	55.0	11.2	27.0	19.0	
OPF12410-06A06	10	- 6	3/8"	11/16" - 16		6.7	57.0	11.2	27.5	19.0	
OPF12410-06A08	10	- 6	3/8"	13/16" - 16		9.3	59.5	12.8	30.0	22.0	
OPF12410-08A08	12	- 8	1/2"	13/16" - 16		9.3	61.5	12.8	30.5	22.0	
OPF12410-08A10	12	- 8	1/2"	1" - 14		12.5	66.0	15.5	35.0	27.0	
OPF12410-10A10	16	- 10	5/8"	1" - 14		12.5	69.0	15.5	34.5	27.0	
OPF12410-10A12	16	- 10	5/8"	1.3/16" - 12		15.0	72.0	17.0	37.5	32.0	
OPF12410-12A12	19	- 12	3/4"	1.3/16" - 12		15.0	75.5	17.0	39.0	32.0	
OPF12410-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	77.0	17.5	40.5	38.0	
OPF12410-16A16	25	- 16	1"	1.7/16" - 12		19.8	90.0	17.5	42.0	38.0	



SAE STANDARD CONNECTIONS

OPF22411 / OPF22412**ORFS
FEMALE****SAE J516 / ISO 12151-1
PULL-BACK TYPE**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H1	H2
OPF22411-04A04	6	- 4	1/4"	9/16" - 18		4.0	55.0	8.0	27.5	13.0	19.0
OPF22411-04A06	6	- 4	1/4"	11/16" - 16		7.0	57.5	9.5	30.0	16.0	22.0
OPF22411-05A06	8	- 5	5/16"	11/16" - 16		7.0	58.5	9.5	30.5	16.0	22.0
OPF22411-06A06	10	- 6	3/8"	11/16" - 16		7.0	60.5	9.5	31.0	16.0	22.0
OPF22411-06A08	10	- 6	3/8"	13/16" - 16		9.3	65.0	11.0	35.5	19.0	24.0
OPF22411-08A06	12	- 8	1/2"	11/16" - 16		7.0	63.0	9.5	32.0	19.0	22.0
OPF22411-08A08	12	- 8	1/2"	13/16" - 16		9.3	67.0	11.0	36.0	19.0	24.0
OPF22411-08A10	12	- 8	1/2"	1" - 14		11.5	69.5	13.5	38.5	24.0	30.0
OPF22411-08A12	12	- 8	1/2"	1.3/16" - 12		13.9	73.0	14.5	42.0	28.0	36.0
OPF22411-10A10	16	- 10	5/8"	1" - 14		11.5	73.0	13.5	38.5	24.0	30.0
OPF22411-10A12	16	- 10	5/8"	1.3/16" - 12		13.9	76.5	14.5	42.0	28.0	36.0
OPF22411-12A10	19	- 12	3/4"	1" - 14		11.5	77.5	13.5	41.0	28.0	30.0
OPF22411-12A12	19	- 12	3/4"	1.3/16" - 12		13.9	80.0	14.5	43.5	28.0	36.0
OPF22411-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	82.0	15.0	45.5	36.0	41.0
OPF22411-16A12	25	- 16	1"	1.3/16" - 12		13.9	94.0	13.5	48.0	36.0	36.0
OPF22411-16A16	25	- 16	1"	1.7/16" - 12		19.8	94.5	15.0	46.5	36.0	41.0



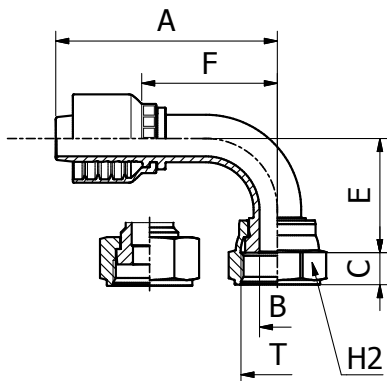
SAE STANDARD CONNECTIONS

OPF22441/OPF22443

45° ORFS
FEMALE ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF22443-04A04	6	- 4	1/4"	9/16" - 18		4.0	58.5	8.2	10.5	31.0	17.0	
OPF22443-04A06	6	- 4	1/4"	11/16" - 16		7.0	58.5	9.5	10.5	31.0	22.0	
OPF22443-05A06	8	- 5	5/16"	11/16" - 16		7.0	62.0	9.5	10.5	34.0	22.0	
OPF22443-06A06	10	- 6	3/8"	11/16" - 16		6.0	61.5	9.5	11.0	32.5	22.0	
OPF22443-06A08	10	- 6	3/8"	13/16" - 16		9.3	63.0	11.0	12.5	34.0	24.0	
OPF22441-08A06	12	- 8	1/2"	11/16" - 16		7.0	63.5	9.5	11.0	32.5	22.0	
OPF22443-08A08	12	- 8	1/2"	13/16" - 16		9.0	73.0	11.0	13.0	42.0	24.0	
OPF22443-08A10	12	- 8	1/2"	1" - 14		11.5	73.0	13.5	13.5	42.0	30.0	
OPF22443-08A12	12	- 8	1/2"	1.3/16" - 12		13.9	78.0	14.5	18.5	46.5	36.0	
OPF22443-10A10	16	- 10	5/8"	1" - 14		11.5	83.5	13.5	16.0	49.0	30.0	
OPF22443-10A12	16	- 10	5/8"	1.3/16" - 12		13.9	86.0	14.5	18.5	51.5	36.0	
OPF22441-12A10	19	- 12	3/4"	1" - 14		11.5	87.0	13.5	16.5	50.5	30.0	
OPF22443-12A12	19	- 12	3/4"	1.3/16" - 12		13.9	97.0	14.5	21.5	60.5	36.0	
OPF22443-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	96.5	14.8	21.0	60.0	41.0	
OPF22443-16A16	25	- 16	1"	1.7/16" - 12		19.8	120.0	14.8	23.5	72.0	41.0	
OPF22443-16A20	25	- 16	1"	1.11/16" - 12		26.0	122.0	14.8	25.0	74.0	50.0	

OPF22441: CRIMPED BACK-NUT / OPF22443: SLIP-ON NUT



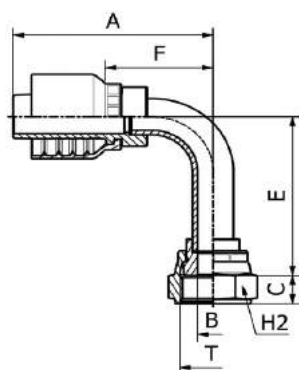
SAE STANDARD CONNECTIONS

OPF22491/OPF22493

90° ORFS
FEMALE SWEPT ELBOW
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF22493-04A04	6	- 4	1/4"	9/16" - 18		4.0	55.0	8.2	22.0	27.5	17.0	
OPF22493-04A06	6	- 4	1/4"	11/16" - 16		7.0	55.0	9.5	22.0	27.5	22.0	
OPF22493-05A06	8	- 5	5/16"	11/16" - 16		7.0	60.0	9.5	23.0	32.0	22.0	
OPF22493-06A06	10	- 6	3/8"	11/16" - 16		6.0	59.5	9.5	24.0	30.0	22.0	
OPF22493-06A08	10	- 6	3/8"	13/16" - 16		9.3	59.5	11.0	26.5	30.0	24.0	
OPF22491-08A06	12	- 8	1/2"	11/16" - 16		7.0	61.5	9.5	24.5	30.0	22.0	
OPF22493-08A08	12	- 8	1/2"	13/16" - 16		9.0	71.5	11.0	30.0	40.5	24.0	
OPF22493-08A10	12	- 8	1/2"	1" - 14		11.5	71.0	13.5	30.5	40.0	30.0	
OPF22493-08A12	12	- 8	1/2"	1.3/16" - 12		13.9	71.0	14.5	37.5	39.5	36.0	
OPF22493-10A10	16	- 10	5/8"	1" - 14		11.5	82.5	13.5	37.5	48.0	30.0	
OPF22493-10A12	16	- 10	5/8"	1.3/16" - 12		13.9	82.5	14.5	41.0	48.0	36.0	
OPF22491-12A10	19	- 12	3/4"	1" - 14		11.5	85.5	13.5	38.0	49.0	30.0	
OPF22493-12A12	19	- 12	3/4"	1.3/16" - 12		13.9	93.0	14.5	48.0	56.5	36.0	
OPF22493-12A16	19	- 12	3/4"	1.7/16" - 12		19.8	93.0	14.8	47.5	56.5	41.0	
OPF22491-16A12	25	- 16	1"	1.3/16" - 12		13.9	106.0	13.5	48.0	57.5	36.0	
OPF22493-16A16	25	- 16	1"	1.7/16" - 12		19.8	119.5	14.8	56.0	71.5	41.0	
OPF22493-16A20	25	- 16	1"	1.11/16" - 12		26.0	119.5	14.8	58.5	71.5	50.0	

OPF22491: CRIMPED BACK-NUT / OPF22493: SLIP-ON NUT



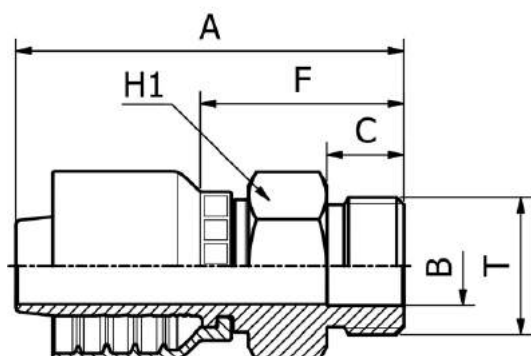
SAE STANDARD CONNECTIONS

OPF24491

90° ORFS
FEMALE LONG DROP ELBOW
SAE J516 / ISO 12151-1
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF24491-04A04	6	- 4	1/4"	9/16" - 18		4.4	52.5	8.0	46.0	25.0	17.0	
OPF24491-06A06	10	- 6	3/8"	11/16" - 16		6.7	61.5	9.5	54.0	32.0	22.0	
OPF24491-06A08	10	- 6	3/8"	13/16" - 16		6.7	61.5	11.0	54.0	32.0	24.0	
OPF24491-08A08	12	- 8	1/2"	13/16" - 16		9.6	68.0	11.0	64.0	37.0	24.0	
OPF24491-08A10	12	- 8	1/2"	1" - 14		9.6	68.0	12.5	64.5	37.0	30.0	
OPF24491-10A10	16	- 10	5/8"	1" - 14		12.0	75.5	13.0	70.0	41.0	30.0	
OPF24491-10A12	16	- 10	5/8"	1.3/16" - 12		12.7	75.5	13.5	73.0	41.0	36.0	
OPF24491-12A12	19	- 12	3/4"	1.3/16" - 12		15.0	95.0	13.5	96.0	58.5	36.0	
OPF24491-16A16	25	- 16	1"	1.7/16" - 12		19.8	119.5	13.5	114.0	71.5	41.0	

All items made by brazing with the exception of OPF24491-12A12 and OPF24491-16A16



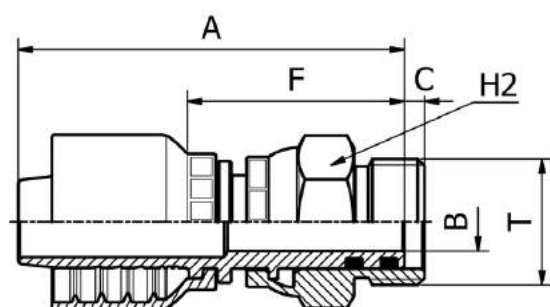
SAE STANDARD CONNECTIONS

OPF13010

SAE MALE
O-RING BOSS TYPE
SAE J516 / ISO 11926

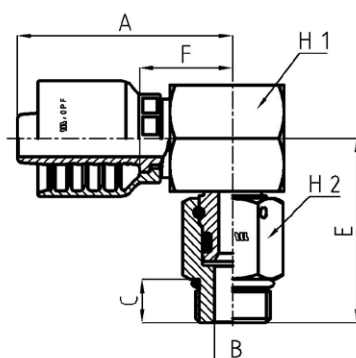
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1		
OPF13010-04A04	6	- 4	1/4"	7/16" - 20		4.4	51.5	9.1	24.0	14.0		
OPF13010-04A06	6	- 4	1/4"	9/16" - 18		7.5	52.0	9.9	24.5	17.0		
OPF13010-06A06	10	- 6	3/8"	9/16" - 18		7.5	55.0	9.9	25.5	17.0		
OPF13010-06A08	10	- 6	3/8"	3/4" - 16		9.9	58.0	11.1	28.5	22.0		
OPF13010-08A08	12	- 8	1/2"	3/4" - 16		9.9	60.0	11.1	29.0	22.0		
OPF13010-08A10	12	- 8	1/2"	7/8" - 14		12.3	63.0	12.7	32.0	25.0		
OPF13010-10A10	16	- 10	5/8"	7/8" - 14		12.5	63.0	12.7	32.0	25.0		
OPF13010-10A12	16	- 10	5/8"	1.1/16" - 12		15.5	72.0	15.1	37.5	32.0		
OPF13010-12A12	19	- 12	3/4"	1.1/16" - 12		15.5	76.0	15.1	39.5	32.0		
OPF13010-12A16	19	- 12	3/4"	1.5/16" - 12		21.5	76.5	15.1	40.0	38.0		
OPF13010-16A16	25	- 16	1"	1.5/16" - 12		21.5	89.5	15.1	41.0	38.0		

SAE STANDARD CONNECTIONS

**OPF14310**
**SAE
SWIVEL MALE OR. BOSS TYPE**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	F	H2		
OPF14310-04A04	6	- 4	1/4"	7/16" - 20		4.0	70.5	9.1	43.0	17.0		
OPF14310-04A06	6	- 4	1/4"	9/16" - 18		7.0	71.5	9.9	44.0	22.0		
OPF14310-06A06	10	- 6	3/8"	9/16" - 18		7.0	77.5	9.9	48.0	22.0		
OPF14310-06A08	10	- 6	3/8"	3/4" - 16		9.3	76.5	11.1	47.0	22.0		
OPF14310-08A08	12	- 8	1/2"	3/4" - 16		9.3	84.0	11.1	53.0	27.0		
OPF14310-08A10	12	- 8	1/2"	7/8" - 14		9.3	72.4	13.0	41.5	27.0		
OPF14310-12A12	19	- 12	3/4"	1.1/16" - 12		12.5	87.0	15.0	50.5	32.0		

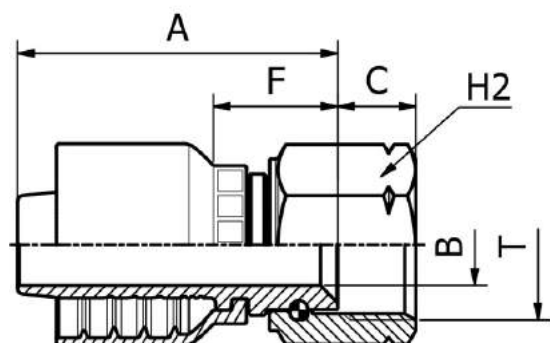
Not to be used as a live swivel



SAE STANDARD CONNECTIONS

OPF14390
**90° SAE
SWIVEL MALE OR. BOSS**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	E	F	H1	H2
OPF14390-06A06	10	- 6	3/8"	9/16" - 18		5.7	49.5	9.9	40.0	20.0	22.0	17.0
OPF14390-06A08	10	- 6	3/8"	3/4" - 16		9.3	49.5	11.1	44.5	20.0	22.0	22.0
OPF14390-08A08	12	- 8	1/2"	3/4" - 16		9.3	54.5	11.1	47.0	23.5	27.0	22.0
OPF14390-08A10	12	- 8	1/2"	7/8" - 14		9.8	54.5	13.0	47.0	23.5	27.0	27.0
OPF14390-10A10	16	- 10	5/8"	7/8" - 14		9.8	58.0	13.0	47.0	23.5	27.0	27.0
OPF14390-12A12	19	- 12	3/4"	1.1/16" - 12		13.0	64.5	15.0	58.5	28.0	34.0	32.0

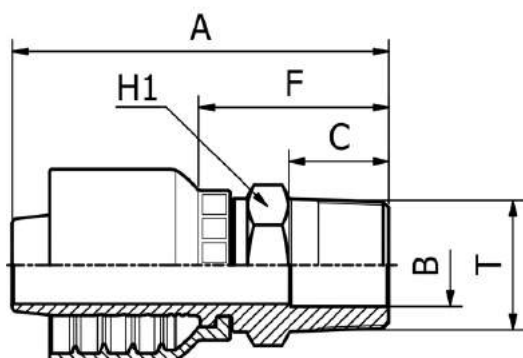


SAE STANDARD CONNECTIONS

OPF22612

**SAE FEMALE
45° CONE SEAT
SAE J516 / J512
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H2		
OPF22612-06A06	10	- 6	3/8"	9/16" - 18		7.0	46.0	10.8	16.5	22.0		



SAE STANDARD CONNECTIONS

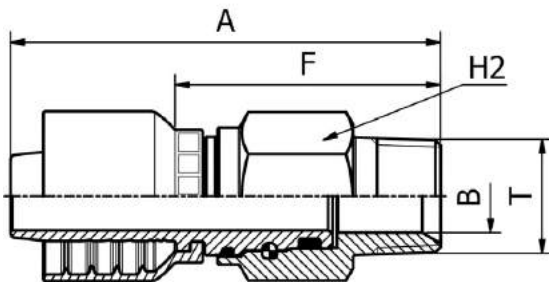
OPF12810

**NPTF
MALE 60° CONE SEAT
SAE J516 / J514**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1		
OPF12810-03A02	5	- 3	3/16"	1/8" - 27		3.0	45.0	10.0	23.5	12.0		
OPF12810-03A04	5	- 3	3/16"	1/4" - 18		5.5	50.5	14.5	29.0	14.0		
OPF12810-04A02	6	- 4	1/4"	1/8" - 27		4.0	51.5	10.0	24.0	12.0		
OPF12810-04A04	6	- 4	1/4"	1/4" - 18		5.5	56.5	14.5	29.0	14.0		
OPF12810-04A06	6	- 4	1/4"	3/8" - 18		9.3	55.0	14.5	27.5	19.0		
OPF12810-04A08	6	- 4	1/4"	1/2" - 14		9.3	61.0	19.2	33.5	24.0		
OPF12810-05A04	8	- 5	5/16"	1/4" - 18		5.5	57.5	14.5	29.5	14.0		
OPF12810-05A06	8	- 5	5/16"	3/8" - 18		9.3	60.0	14.5	32.0	19.0		
OPF12810-06A04	10	- 6	3/8"	1/4" - 18		5.5	59.5	14.5	30.0	14.0		
OPF12810-06A06	10	- 6	3/8"	3/8" - 18		9.3	58.0	14.5	28.5	19.0		
OPF12810-06A08	10	- 6	3/8"	1/2" - 14		12.5	64.0	19.2	34.5	24.0		
OPF12810-08A06	12	- 8	1/2"	3/8" - 18		9.3	60.0	14.5	29.0	19.0		
OPF12810-08A08	12	- 8	1/2"	1/2" - 14		12.5	66.0	19.2	35.0	24.0		
OPF12810-08A12	12	- 8	1/2"	3/4" - 14		15.5	66.5	19.2	35.5	27.0		
OPF12810-10A08	16	- 10	5/8"	1/2" - 14		12.5	73.0	19.2	38.5	24.0		
OPF12810-10A12	16	- 10	5/8"	3/4" - 14		16.0	74.5	19.2	40.0	27.0		
OPF12810-12A08	19	- 12	3/4"	1/2" - 14		12.5	73.0	19.2	36.5	27.0		
OPF12810-12A12	19	- 12	3/4"	3/4" - 14		16.0	73.0	19.2	36.5	27.0		
OPF12810-12A16	19	- 12	3/4"	1" - 11,5		19.8	82.5	24.2	46.0	36.0		
OPF12810-16A12	25	- 16	1"	3/4" - 14		15.5	87.0	19.2	39.0	32.0		
OPF12810-16A16	25	- 16	1"	1" - 11,5		19.8	92.0	24.2	44.0	36.0		
OPF12810-16A20	25	- 16	1"	1.1/4" - 11,5		26.0	104.5	25.0	56.5	46.0		

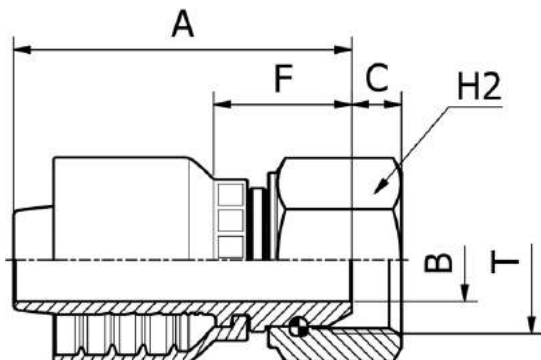
SAE STANDARD CONNECTIONS

OPF14110R

**NPTF
SWIVEL MALE**


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	F	H1		
OPF14110-04A02R	6	- 4	1/4"	1/8" - 28		3.0	69.5	10.0	42.0	17.0		
OPF14110-04A04R	6	- 4	1/4"	1/4" - 18		4.0	74.0	14.5	46.5	17.0		
OPF14110-04A06R	6	- 4	1/4"	3/8" - 18		7.0	74.0	14.5	46.5	19.0		
OPF14110-06A04R	10	- 6	3/8"	1/4" - 18		4.0	80.0	14.5	50.5	22.0		
OPF14110-06A06R	10	- 6	3/8"	3/8" - 18		7.0	80.0	14.5	50.5	22.0		
OPF14110-06A08R	10	- 6	3/8"	1/2" - 14		9.3	84.5	19.2	55.0	24.0		
OPF14110-08A08R	12	- 8	1/2"	1/2" - 14		9.3	90.0	19.2	59.0	27.0		
OPF14110-12A12R	19	- 12	3/4"	3/4" - 14		16.0	94.5	19.2	58.0	32.0		
OPF14110-16A16R	25	- 16	1"	1" - 11		19.8	114.0	24.2	66.0	38.0		

Not to be used as a live swivel



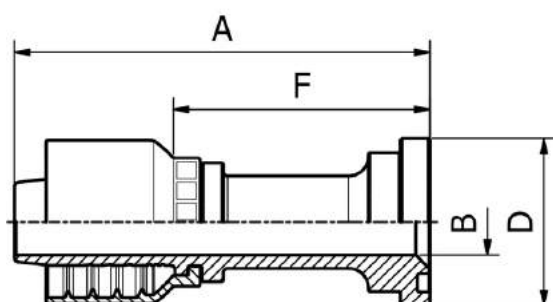
SAE STANDARD CONNECTIONS

OPF22812

**NPSM
FEMALE 60° CONE
SAE J516 / J514
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	F	H2		
OPF22812-04A04	6	- 4	1/4"	1/4" - 18		4.0	45.0	4.2	17.5	19.0		
OPF22812-06A06	10	- 6	3/8"	3/8" - 18		7.0	50.5	6.0	21.0	22.0		
OPF22812-08A08	12	- 8	1/2"	1/2" - 14		9.3	54.0	6.5	23.0	27.0		
OPF22812-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.0	9.0	24.5	32.0		
OPF22812-16A16	25	- 16	1"	1" - 11,5		19.8	75.5	10.5	27.5	38.0		

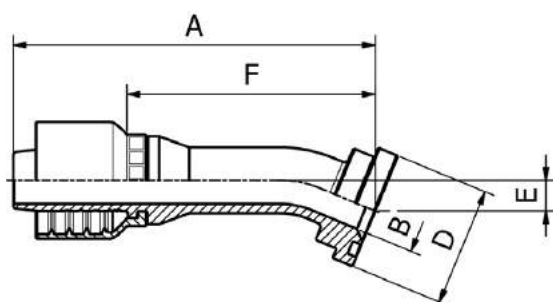
SAE STANDARD CONNECTIONS

**OPF23311**

ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	F			
OPF23311-08A08	12	- 8	1/2"	1/2"		9.3	82.0	30.3	51.0			
OPF23311-08A12	12	- 8	1/2"	3/4"		15.1	89.0	38.0	58.0			
OPF23311-10A12	16	- 10	5/8"	3/4"		15.0	100.0	38.0	65.5			
OPF23311-12A12	19	- 12	3/4"	3/4"		15.0	94.5	38.0	58.0			
OPF23311-12A16	19	- 12	3/4"	1"		20.0	94.5	44.6	58.0			
OPF23311-16A16	25	- 16	1"	1"		19.8	112.5	44.6	64.5			
OPF23311-16A20	25	- 16	1"	1.1/4"		26.0	118.5	51.0	70.5			

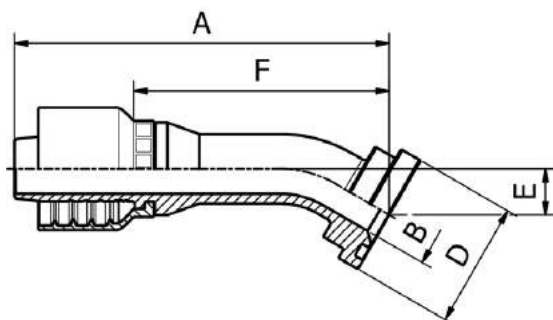
SAE STANDARD CONNECTIONS

**OPF23321**

22,5° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPF23321-08A08	12	- 8	1/2"	1/2"		9.3	95.0	30.3	8.0	64.0		
OPF23321-12A12	19	- 12	3/4"	3/4"		15.0	111.0	38.0	10.0	74.5		
OPF23321-12A16	19	- 12	3/4"	1"		20.0	111.0	44.6	10.0	74.5		
OPF23321-16A16	25	- 16	1"	1"		19.8	137.0	44.6	11.5	89.0		

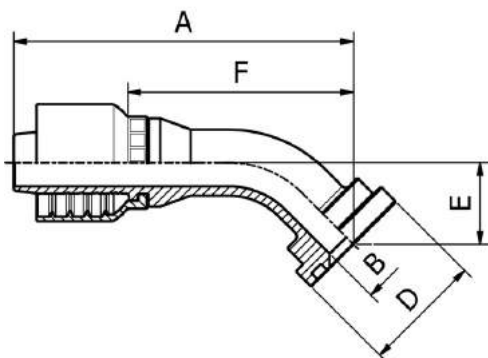
SAE STANDARD CONNECTIONS

**OPF23331**

30° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPF23331-08A08	12	- 8	1/2"	1/2"		9.3	93.5	30.3	11.0	62.5		
OPF23331-12A12	19	- 12	3/4"	3/4"		15.0	109.5	38.0	14.0	73.0		
OPF23331-12A16	19	- 12	3/4"	1"		20.0	109.5	44.6	14.0	73.0		
OPF23331-16A16	25	- 16	1"	1"		19.8	135.0	44.6	16.5	87.0		

SAE STANDARD CONNECTIONS

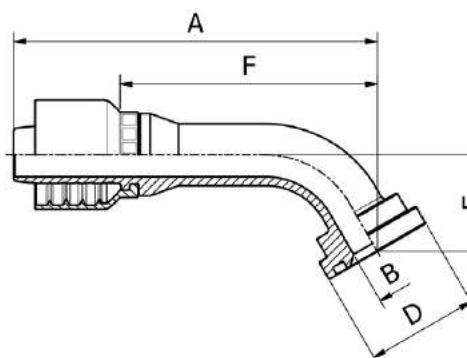
**OPF23341**

45° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23341-08A08	12	- 8	1/2"	1/2"		9.3	90.0	30.3	18.5	58.5		
OPF23341-08A12	12	- 8	1/2"	3/4"		15.0	90.5	38.0	19.0	59.5		
OPF23341-10A12	16	- 10	5/8"	3/4"		15.0	95.0	38.0	22.0	61.0		
OPF23341-12A12	19	- 12	3/4"	3/4"		15.0	104.5	38.0	23.0	68.5		
OPF23341-12A16	19	- 12	3/4"	1"		20.0	104.5	44.6	23.0	68.5		
OPF23341-16A16	25	- 16	1"	1"		19.8	129.5	44.6	27.5	81.5		
OPF23341-16A20	25	- 16	1"	1.1/4"		26.0	129.5	51.0	27.5	81.5		

FITTINGS

299

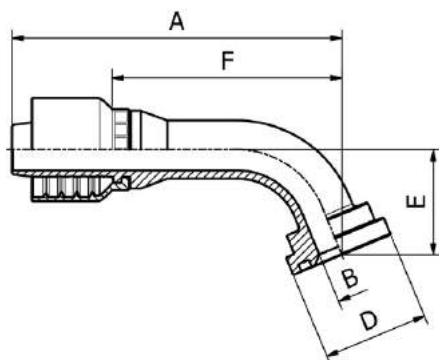


SAE STANDARD CONNECTIONS

OPF23361

60° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23361-08A08	12	- 8	1/2"	1/2"		9.3	102.5	30.3	26.0	71.5		
OPF23361-12A12	19	- 12	3/4"	3/4"		15.0	123.5	38.0	33.0	87.0		
OPF23361-16A16	25	- 16	1"	1"		19.8	152.0	44.6	39.0	104.0		
OPF23361-16A20	25	- 16	1"	1.1/4"		26.0	152.0	51.0	39.0	104.0		

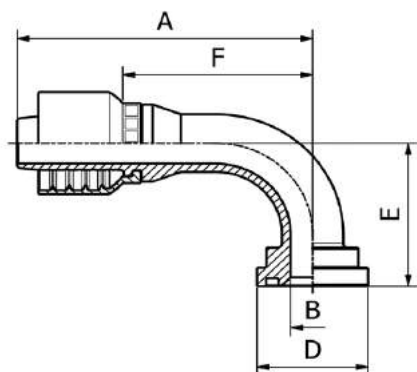


SAE STANDARD CONNECTIONS

OPF23371

67,5° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23371-08A08	12	- 8	1/2"	1/2"		9.3	99.0	30.3	29.5	68.0		
OPF23371-12A12	19	- 12	3/4"	3/4"		15.0	118.5	38.0	38.0	82.0		
OPF23371-12A16	19	- 12	3/4"	1"		20.0	118.5	44.6	38.0	82.0		
OPF23371-16A16	25	- 16	1"	1"		19.8	147.0	44.6	45.0	98.5		



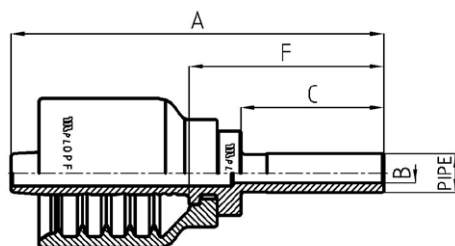
SAE STANDARD CONNECTIONS

OPF23391

90° ISO / SAE
CODE 61 FLANGE
SAE J516 / ISO 12151-3

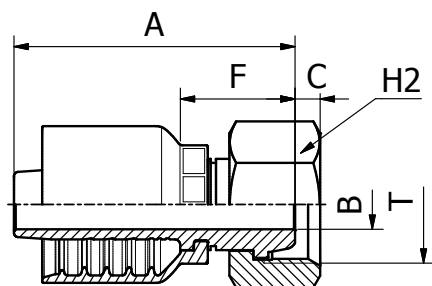
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPF23391-08A08	12	- 8	1/2"	1/2"		9.3	85.5	30.3	40.0	54.5		
OPF23391-08A12	12	- 8	1/2"	3/4"		15.0	85.5	38.0	41.0	54.5		
OPF23391-10A12	16	- 10	5/8"	3/4"		15.0	90.0	38.0	47.5	56.0		
OPF23391-12A12	19	- 12	3/4"	3/4"		15.0	101.0	38.0	52.0	64.5		
OPF23391-12A16	19	- 12	3/4"	1"		20.0	101.0	44.6	52.0	64.5		
OPF23391-16A16	25	- 16	1"	1"		19.8	125.5	44.6	62.0	77.5		
OPF23391-16A20	25	- 16	1"	1.1/4"		26.0	125.5	51.0	62.0	77.5		

DIN STANDARD CONNECTIONS

OPF22010

METRIC
STANDPIPE STRAIGHT L.T.

PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F			
OPF22010-04A06	6	- 4	1/4"	6.0		3.0	57.5	22.0	30.0			
OPF22010-06A10	10	- 6	3/8"	10.0		7.0	61.0	23.0	31.5			



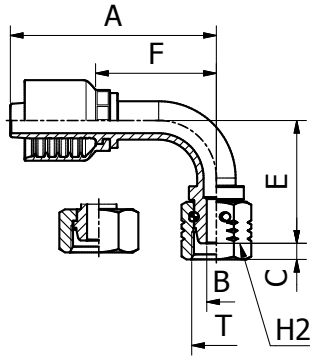
DIN STANDARD CONNECTIONS

OPF21312/OPF21313

METRIC
FEMALE
MULTISEAL

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H2		
OPF21312-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	51.0	5.0	21.5	19.0		
OPF21313-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	49.5	4.0	20.0	22.0		
OPF21313-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	52.5	4.7	21.5	27.0		

OPF21312: THRUST WIRE NUT / OPF21313: SLIP-ON NUT



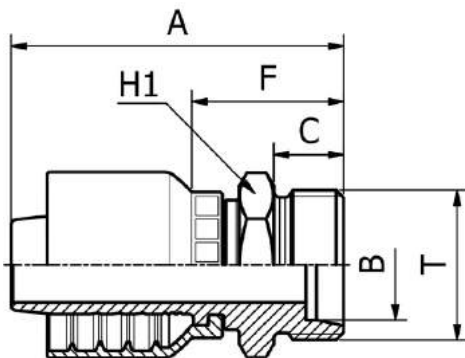
DIN STANDARD CONNECTIONS

OPF21392/OPF21393

**90° METRIC
FEMALE
MULTISEAL**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPF21392-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	65.0	5.0	38.0	35.5	19.0	
OPF21393-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	4.0	31.5	36.5	22.0	

OPF21392: THRUST WIRE NUT / OPF21393: SLIP-ON NUT

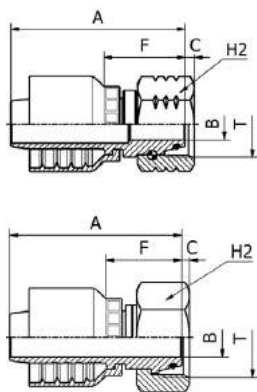


DIN STANDARD CONNECTIONS

OPF11110

**METRIC
MALE 24° CONE SEAT LIGHT DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H1		
OPF11110-04A12	6	- 4	1/4"	M 12X1,5	6.0	4.0	49.0	10.0	21.5	14.0		
OPF11110-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	49.0	10.0	21.5	14.0		
OPF11110-04A16	6	- 4	1/4"	M 16X1,5	10.0	7.0	51.0	11.0	23.5	17.0		
OPF11110-04A18	6	- 4	1/4"	M 18X1,5	12.0	9.0	51.0	11.0	23.5	19.0		
OPF11110-05A16	8	- 5	5/16"	M 16X1,5	10.0	7.0	52.0	11.0	24.0	17.0		
OPF11110-05A18	8	- 5	5/16"	M 18X1,5	12.0	9.0	52.0	11.0	24.0	19.0		
OPF11110-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	53.5	11.0	24.0	17.0		
OPF11110-06A18	10	- 6	3/8"	M 18X1,5	12.0	9.0	54.0	11.0	24.5	19.0		
OPF11110-06A22	10	- 6	3/8"	M 22X1,5	15.0	10.0	55.0	12.0	25.5	22.0		
OPF11110-08A22	12	- 8	1/2"	M 22X1,5	15.0	10.0	56.5	12.0	25.5	22.0		
OPF11110-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.5	12.0	26.5	27.0		
OPF11110-10A22	16	- 10	5/8"	M 22X1,5	15.0	10.0	60.0	12.0	25.5	22.0		
OPF11110-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	61.0	12.0	26.5	27.0		
OPF11110-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	66.5	14.0	30.0	30.0		



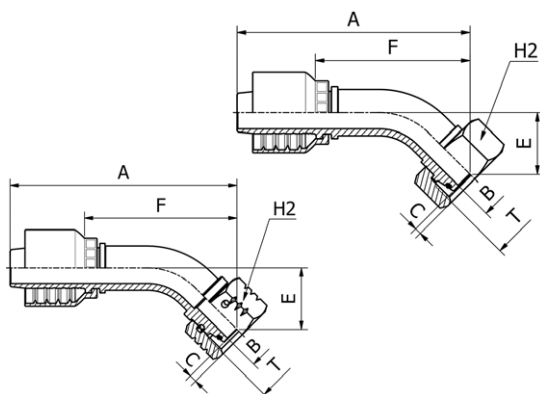
DIN STANDARD CONNECTIONS

OPF21512/OPF21513

METRIC
O-RING FEMALE 24° CONE LIGHT DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H2		
OPF21512-04A12	6	- 4	1/4"	M 12X1,5	6.0	3.0	48.5	2.2	21.0	17.0		
OPF21513-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	49.5	1.3	22.0	17.0		
OPF21513-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	50.0	1.8	22.5	19.0		
OPF21513-04A18	6	- 4	1/4"	M 18X1,5	12.0	7.0	49.5	2.0	22.0	22.0		
OPF21512-05A14	8	- 5	5/16"	M 14X1,5	8.0	4.0	48.0	2.9	20.0	17.0		
OPF21513-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	50.5	1.8	22.5	19.0		
OPF21513-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	50.0	2.0	22.0	22.0		
OPF21512-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	52.5	3.0	23.0	19.0		
OPF21513-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	52.0	2.0	22.5	22.0		
OPF21513-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	54.5	1.5	25.0	27.0		
OPF21512-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	60.0	2.9	29.0	22.0		
OPF21513-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	56.5	1.5	25.5	27.0		
OPF21513-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.0	2.0	26.0	32.0		
OPF21513-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	60.5	2.0	26.0	32.0		
OPF21513-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	68.5	3.0	34.0	36.0		
OPF21512-12A26	19	- 12	3/4"	M 26X1,5	18.0	12.5	67.5	2.3	31.0	32.0		
OPF21513-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	64.5	3.0	28.0	36.0		
OPF21513-12A36	19	- 12	3/4"	M 36X2	28.0	20.0	65.0	3.7	28.5	41.0		
OPF21513-16A36	25	- 16	1"	M 36X2	28.0	19.8	77.5	3.7	29.5	41.0		

OPF21512: THRUST WIRE NUT / OPF21513: SLIP-ON NUT



DIN STANDARD CONNECTIONS

OPF21542/OPF21543

45° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
LIGHT DUTY
DIN 20066 / ISO 12151-2

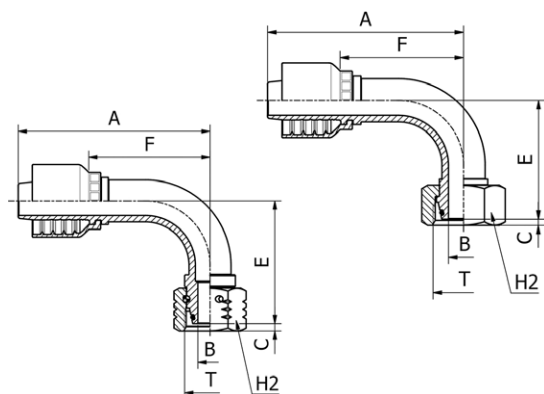
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF21543-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	65.5	1.3	16.5	38.0	17.0	
OPF21543-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	65.5	1.8	17.0	38.0	19.0	
OPF21543-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	69.5	1.8	17.5	41.5	19.0	
OPF21543-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	69.5	2.0	17.0	41.5	22.0	
OPF21542-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	77.0	3.0	21.5	47.5	19.0	
OPF21543-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	73.0	2.0	16.5	43.5	22.0	
OPF21543-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	74.0	1.5	18.0	45.0	27.0	
OPF21543-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	83.0	1.5	19.0	52.0	27.0	
OPF21543-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	96.5	2.0	26.5	62.0	32.0	
OPF21543-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	107.5	3.0	28.5	71.0	36.0	
OPF21543-16A36	25	- 16	1"	M 36X2	28.0	19.8	133.0	3.7	32.0	85.0	41.0	

OPF21542: THRUST WIRE NUT / OPF21543: SLIP-ON NUT

DIN STANDARD CONNECTIONS

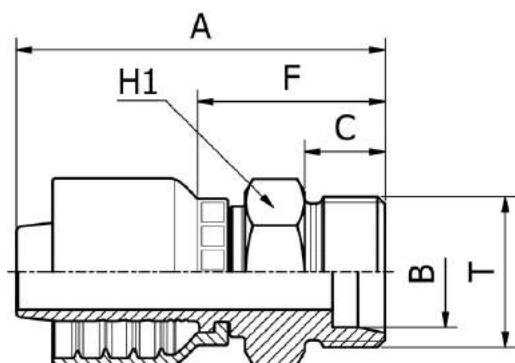
OPF21592/OPF21593

**90° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
LIGHT DUTY
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF21593-03A12	5	- 3	3/16"	M 12X1,5	6.0	3.0	47.5	0.7	30.0	26.0	14.0	
OPF21592-04A12	6	- 4	1/4"	M 12X1,5	6.0	3.0	56.0	2.2	32.5	28.5	17.0	
OPF21593-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	57.0	1.3	31.5	29.5	17.0	
OPF21593-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	57.0	1.8	32.0	29.5	19.0	
OPF21593-04A18	6	- 4	1/4"	M 18X1,5	12.0	7.0	57.0	2.0	33.0	29.5	22.0	
OPF21593-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	60.0	1.8	32.5	32.0	19.0	
OPF21593-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	60.0	2.0	32.5	32.0	22.0	
OPF21592-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	65.0	3.0	40.0	35.5	19.0	
OPF21593-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	2.0	33.5	36.5	22.0	
OPF21593-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	66.0	1.5	35.0	36.5	27.0	
OPF21592-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	75.0	2.9	48.0	44.0	22.0	
OPF21593-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	76.0	2.0	40.0	45.0	32.0	
OPF21593-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	76.0	1.5	39.5	45.0	27.0	
OPF21593-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	86.0	2.0	53.0	51.5	32.0	
OPF21593-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	86.0	3.0	54.0	51.5	36.0	
OPF21593-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	97.5	3.0	59.5	61.5	36.0	
OPF21593-16A36	25	- 16	1"	M 36X2	28.0	19.8	125.0	3.7	69.5	76.5	41.0	

OPF21592: THRUST WIRE NUT / OPF21593: SLIP-ON NUT

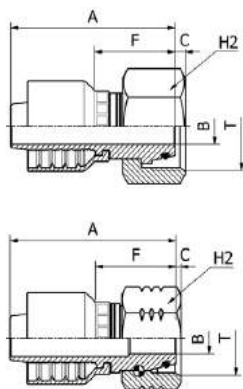


DIN STANDARD CONNECTIONS

OPF11210

**METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H1	
OPF11210-04A16	6	- 4	1/4"	M 16X1,5	8.0	5.5	53.0	12.0	25.5	17.0	
OPF11210-04A18	6	- 4	1/4"	M 18X1,5	10.0	6.0	54.0	12.0	26.5	19.0	
OPF11210-04A20	6	- 4	1/4"	M 20X1,5	12.0	7.0	56.5	12.0	29.0	22.0	
OPF11210-05A20	8	- 5	5/16"	M 20X1,5	12.0	7.0	57.0	12.0	29.0	22.0	
OPF11210-06A18	10	- 6	3/8"	M 18X1,5	10.0	7.0	56.5	12.0	27.0	19.0	
OPF11210-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	58.5	12.0	29.0	22.0	
OPF11210-06A22	10	- 6	3/8"	M 22X1,5	14.0	8.0	60.5	14.0	31.0	22.0	
OPF11210-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	62.5	14.0	31.5	24.0	
OPF11210-10A30	16	- 10	5/8"	M 30X2	20.0	15.0	70.0	16.0	35.5	30.0	
OPF11210-12A30	19	- 12	3/4"	M 30X2	20.0	15.0	73.5	16.0	37.0	30.0	
OPF11210-12A36	19	- 12	3/4"	M 36X2	25.0	19.8	77.5	18.0	41.0	36.0	
OPF11210-16A36	25	- 16	1"	M 36X2	25.0	19.8	90.5	18.0	42.5	36.0	
OPF11210-16A42	25	- 16	1"	M 42X2	30.0	25.0	92.5	20.0	44.5	46.0	



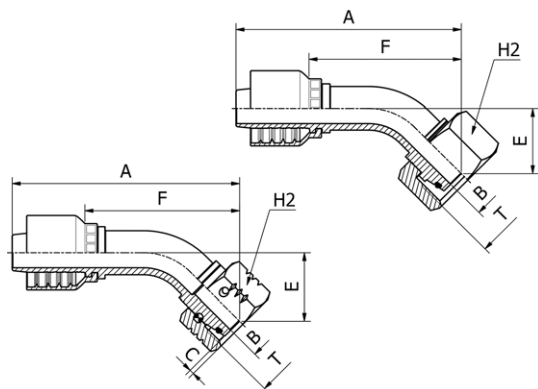
DIN STANDARD CONNECTIONS

OPF21612/OPF21613

METRIC
O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H2		
OPF21613-03A16	5	- 3	3/16"	M 16X1,5	8.0	3.0	43.0	3.4	21.5	19.0		
OPF21613-04A14	6	- 4	1/4"	M 14X1,5	6.0	3.0	51.0	1.9	23.5	17.0		
OPF21613-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	49.5	3.4	22.0	19.0		
OPF21613-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	55.5	2.5	28.0	22.0		
OPF21613-04A20	6	- 4	1/4"	M 20X1,5	12.0	7.0	53.5	2.0	26.0	24.0		
OPF21613-05A18	8	- 5	5/16"	M 18X1,5	10.0	5.5	56.0	2.5	28.0	22.0		
OPF21613-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	53.0	2.0	25.0	24.0		
OPF21613-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	54.5	2.0	25.5	24.0		
OPF21613-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	62.0	3.0	32.5	27.0		
OPF21613-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	58.0	4.0	26.5	30.0		
OPF21613-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	65.0	3.5	30.5	36.0		
OPF21612-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	70.0	2.2	33.5	36.0		
OPF21613-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	70.5	4.5	34.0	41.0		
OPF21612-16A36	25	- 16	1"	M 36X2	25.0	15.0	83.5	1.7	35.5	41.0		
OPF21613-16A42	25	- 16	1"	M 42X2	30.0	19.8	83.5	6.3	35.5	50.0		

OPF21612: THRUST WIRE NUT / OPF21613: SLIP-ON NUT



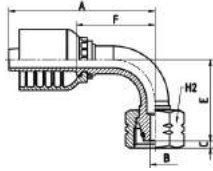
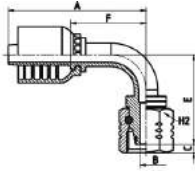
DIN STANDARD CONNECTIONS

OPF21642/OPF21643

45° METRIC
O-RING FEMALE SWEPT ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	F	H2	
OPF21643-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	64.0	3.4	15.0	36.5	19.0	
OPF21643-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	65.0	2.5	16.5	37.5	22.0	
OPF21643-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	70.0	2.0	18.5	42.0	24.0	
OPF21643-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	73.5	2.0	17.0	44.0	24.0	
OPF21643-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	75.0	3.0	18.5	45.5	27.0	
OPF21643-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	83.5	4.0	20.0	52.5	30.0	
OPF21643-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	99.5	3.5	29.5	65.5	36.0	
OPF21642-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	113.0	2.2	34.0	76.5	36.0	
OPF21643-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	111.5	4.5	32.5	75.0	41.0	
OPF21643-16A42	25	- 16	1"	M 42X2	30.0	19.8	138.0	6.3	35.5	90.0	50.0	

OPF21642: THRUST WIRE NUT / OPF21643: SLIP-ON NUT



DIN STANDARD CONNECTIONS

OPF21692/OPF21693

**90° METRIC
O-RING FEMALE SWEEP ELBOW 24° CONE
HEAVY DUTY
DIN 20066 / ISO 12151-2**

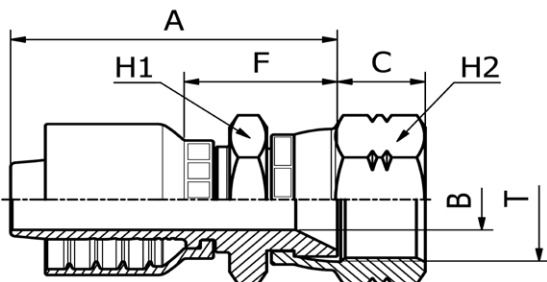
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPF21693-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	57.0	3.4	29.5	29.5	19.0	
OPF21693-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	57.0	2.5	31.0	29.5	22.0	
OPF21693-04A20	6	- 4	1/4"	M 20X1,5	12.0	5.5	57.0	2.0	34.5	29.5	24.0	
OPF21693-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	60.0	2.0	34.0	32.0	24.0	
OPF21693-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	66.0	2.0	35.0	36.5	24.0	
OPF21693-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	66.0	3.0	37.0	36.5	27.0	
OPF21693-06A24	10	- 6	3/8"	M 24X1,5	16.0	9.3	66.0	4.0	36.0	36.5	30.0	
OPF21693-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	76.0	4.0	40.5	45.0	30.0	
OPF21693-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	86.0	3.5	57.5	51.5	36.0	
OPF21692-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	98.0	2.2	67.5	61.5	36.0	
OPF21693-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	97.5	4.5	64.5	61.5	41.0	
OPF21692-16A36	25	- 16	1"	M 36X2	25.0	15.0	127.5	1.7	86.0	79.5	41.0	
OPF21693-16A42	25	- 16	1"	M 42X2	30.0	19.8	127.5	6.3	74.5	79.0	50.0	

OPF21692: THRUST WIRE NUT / OPF21693: SLIP-ON NUT

JIS STANDARD CONNECTIONS

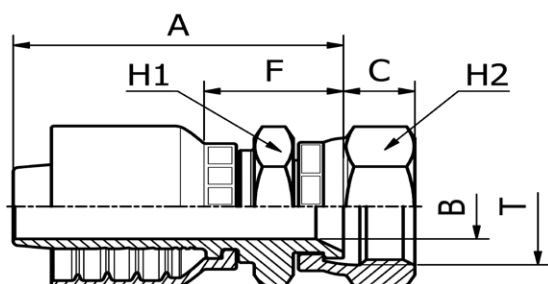
OPF24011

**JIS METRIC
FEMALE (KOMATSU)**



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch	T		B	A	C	F	H1	H2	
OPF24011-04A14	6	- 4	1/4"	M 14X1,5		4.0	50.5	10.5	23.0	19.0	19.0	
OPF24011-06A14	10	- 6	3/8"	M 14X1,5		4.0	53.0	10.5	23.5	19.0	19.0	
OPF24011-06A18	10	- 6	3/8"	M 18X1,5		7.0	53.0	11.5	23.5	24.0	24.0	
OPF24011-08A22	12	- 8	1/2"	M 22X1,5		9.3	56.0	13.0	25.0	27.0	27.0	
OPF24011-10A24	16	- 10	5/8"	M 24X1,5		12.5	61.0	15.1	26.5	32.0	32.0	
OPF24011-12A30	19	- 12	3/4"	M 30X1,5		15.0	68.0	18.3	31.5	36.0	36.0	
OPF24011-16A33	25	- 16	1"	M 33X1,5		19.8	81.5	21.3	33.5	41.0	41.0	

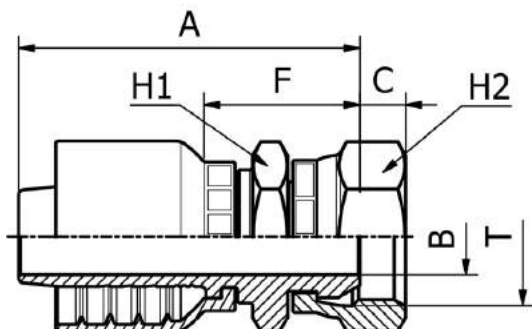
JIS STANDARD CONNECTIONS

**OPF23811**

**JIS BSP
FEMALE 60° CONE SEAT (TOYOTA)
JIS B 8363
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPF23811-04A04	6	- 4	1/4"	1/4" - 19		4.0	46.0	8.3	18.5	19.0	19.0	
OPF23811-06A06	10	- 6	3/8"	3/8" - 19		7.0	52.5	10.0	23.0	22.0	22.0	
OPF23811-08A08	12	- 8	1/2"	1/2" - 14		9.3	53.0	11.5	22.0	27.0	27.0	
OPF23811-12A12	19	- 12	3/4"	3/4" - 14		15.0	62.5	13.5	26.0	32.0	32.0	
OPF23811-16A16	25	- 16	1"	1" - 11		19.8	78.5	14.5	30.5	38.0	38.0	

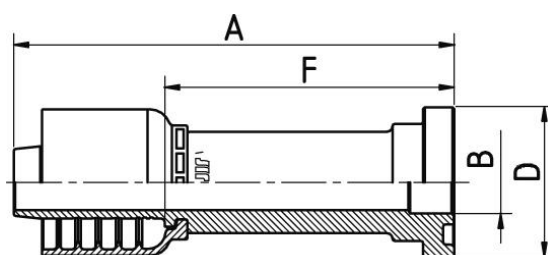
JIS STANDARD CONNECTIONS

**OPF20711**

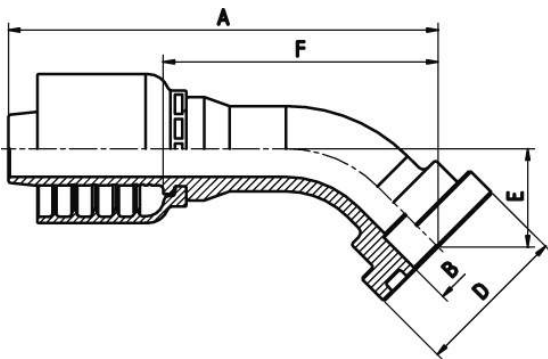
**JIS BSP
FEMALE 60° CONE (NISSAN)
JIS B 8363**

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			B	A	C	F	H1	H2	
OPF20711-12A12	19	- 12	3/4"	3/4" - 14		15.0	66.5	8.9	30.0	32.0	32.0	

ORIGINAL EQUIPMENT CONNECTIONS

**OPF24111****STRAIGHT KOMATSU FLANGE**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	F			
OPF24111-10A10	16	- 10	5/8"	5/8"		14.0	100.0	34.0	65.5			

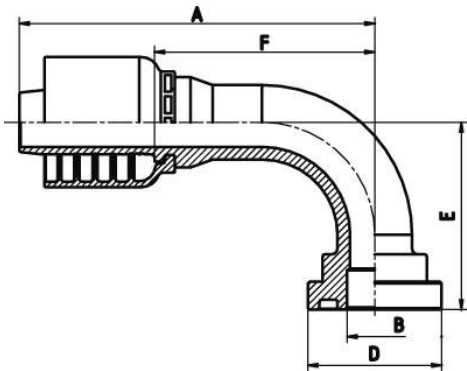


ORIGINAL EQUIPMENT CONNECTIONS

OPF24141

45° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
		DN	Dash	inch	inch		B	A	D	E	F		
OPF24141-10A10		16	- 10	5/8"	5/8"		14.0	95.0	34.0	22.0	61.0		



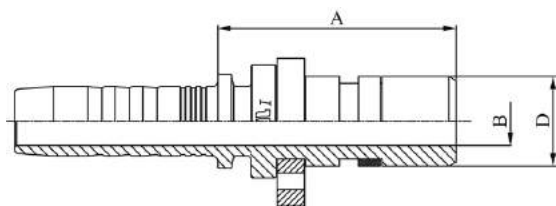
ORIGINAL EQUIPMENT CONNECTIONS

OPF24191

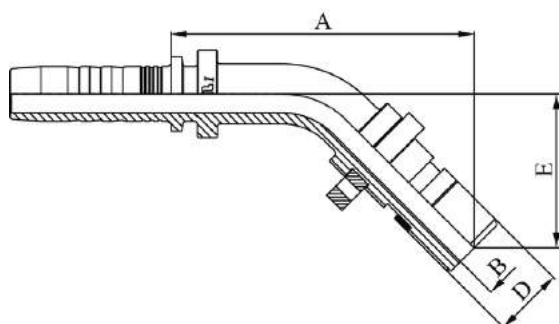
90° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm							
		DN	Dash	inch	inch		B	A	D	E	F		
OPF24191-10A10		16	- 10	5/8"	5/8"		14.0	90.0	34.0	47.5	56.0		

MULTIFIT INSERT

M12H10**EF STRAIGHT
MALE INSERT**

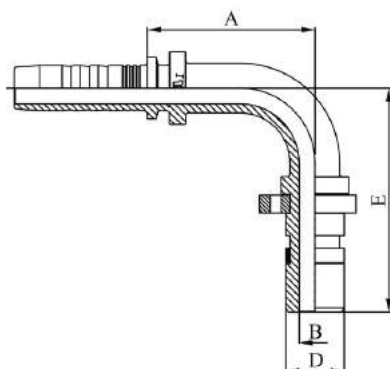
PART. REF.	HOSE BORE			Bar		DIMENSIONS mm						
	DN	Dash	inch			B	A	D				
M12H10-04-04	6	- 4	1/4"	350.0		4.0	30.0	10.0				
M12H10-04-06	6	- 4	1/4"	350.0		7.0	34.0	13.0				
M12H10-05-06	8	- 5	5/16"	350.0		7.0	34.0	13.0				
M12H10-06-04	10	- 6	3/8"	350.0		4.0	30.5	10.0				
M12H10-06-06	10	- 6	3/8"	350.0		7.0	34.5	13.0				
M12H10-06-08	10	- 6	3/8"	350.0		9.3	34.5	16.0				
M12H10-08-06	12	- 8	1/2"	350.0		7.0	35.0	13.0				
M12H10-08-08	12	- 8	1/2"	350.0		9.3	35.0	16.0				
M12H10-10-08	16	- 10	5/8"	350.0		9.3	35.0	16.0				
M12H10-10-12	16	- 10	5/8"	280.0		15.0	44.5	23.0				
M12H10-12-12	19	- 12	3/4"	280.0		15.0	44.5	23.0				



MULTIFIT INSERT

M12H40**EF 45° ELBOW
MALE INSERT**

PART. REF.	HOSE BORE			Bar		DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E			
M12H40-04-04	6	- 4	1/4"	350.0		4.0	46.0	10.0	23.5			
M12H40-04-06	6	- 4	1/4"	350.0		7.0	52.0	13.0	27.0			
M12H40-05-06	8	- 5	5/16"	350.0		7.0	53.0	13.0	27.5			
M12H40-06-04	10	- 6	3/8"	350.0		4.0	47.0	10.0	23.5			
M12H40-06-06	10	- 6	3/8"	350.0		7.0	55.5	13.0	28.0			
M12H40-08-08	12	- 8	1/2"	350.0		9.3	61.5	16.0	30.0			
M12H40-10-12	16	- 10	5/8"	280.0		15.0	79.0	23.0	41.0			
M12H40-10-08	16	- 10	5/8"	350.0		9.3	65.0	16.0	30.0			
M12H40-12-12	19	- 12	3/4"	280.0		15.0	85.5	23.0	42.5			

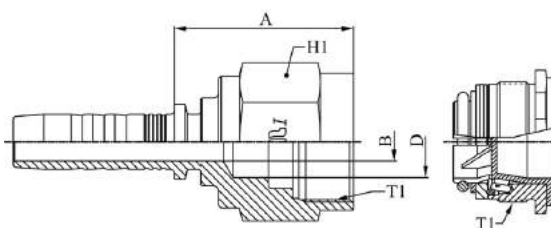


MULTIFIT INSERT

M12H90**EF 90° ELBOW
MALE INSERT**

PART. REF.	HOSE BORE				DIMENSIONS mm							
	DN	Dash	inch	Bar		B	A	D	E			
M12H90-04-04	6	- 4	1/4"	350.0		4.0	30.0	10.0	40.0			
M12H90-04-06	6	- 4	1/4"	350.0		7.0	32.0	13.0	45.0			
M12H90-05-06	8	- 5	5/16"	350.0		7.0	33.5	13.0	46.5			
M12H90-06-04	10	- 6	3/8"	350.0		4.0	30.5	10.0	40.0			
M12H90-06-06	10	- 6	3/8"	350.0		7.0	37.0	13.0	49.5			
M12H90-08-06	12	- 8	1/2"	350.0		7.0	37.5	13.0	49.5			
M12H90-08-08	12	- 8	1/2"	350.0		9.3	44.0	16.0	55.0			
M12H90-10-08	16	- 10	5/8"	350.0		9.3	47.0	16.0	55.0			
M12H90-10-12	16	- 10	5/8"	280.0		15.0	55.0	23.0	74.5			
M12H90-12-12	19	- 12	3/4"	280.0		15.0	62.5	23.0	79.0			

MULTIFIT INSERT

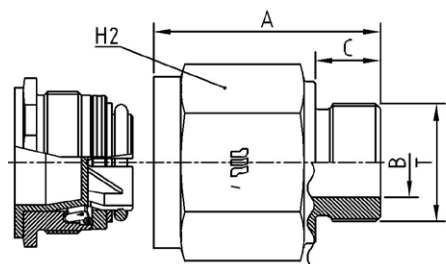
M22H10**EF STRAIGHT
FEMALE INSERT**

PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	Bar	B	A	D	H1			
M22H10-04-04	6	- 4	1/4"	M 18X1	350.0	4.0	30.0	10.0	22.0			
M22H10-06-06	10	- 6	3/8"	M 22X1	350.0	7.0	33.5	13.0	25.0			
M22H10-08-08	12	- 8	1/2"	M 25X1	350.0	9.3	34.0	16.0	28.0			
M22H10-10-08	16	- 10	5/8"	M 25X1	350.0	12.5	34.0	23.0	28.0			
M22H10-10-12	16	- 10	5/8"	M 33X1,5	280.0	12.5	45.5	23.0	38.0			
M22H10-12-12	19	- 12	3/4"	M 33X1,5	280.0	15.0	46.5	23.0	38.0			

ADAPTORS

A52032H

**ADAPTOR BSP
MALE O-RING BOSS TYPE
ISO 1179
EF FEMALE**

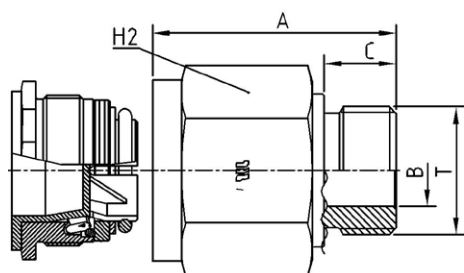


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	Bar	B	A	C	D	H2		
A52032H-04-04	6	- 4	1/4"	1/4" - 19	350.0	7.5	34.0	11.2	10.0	22.0		
A52032H-06-04	6	- 4	1/4"	3/8" - 19	350.0	9.0	34.0	11.2	10.0	22.0		
A52032H-06-06	10	- 6	3/8"	3/8" - 19	350.0	9.9	36.5	11.2	13.0	25.0		
A52032H-08-06	10	- 6	3/8"	1/2" - 14	350.0	12.3	39.5	14.5	13.0	27.0		
A52032H-08-08	12	- 8	1/2"	1/2" - 14	350.0	12.3	40.0	14.5	16.0	28.0		
A52032H-12-12	19	- 12	3/4"	3/4" - 14	280.0	15.5	50.5	14.5	23.0	38.0		
A52032H-16-12	19	- 12	3/4"	1" - 11	280.0	20.0	53.5	18.6	23.0	46.0		

ADAPTORS

A52302H

**ADAPTOR SAE
O-RING BOSS MALE
ISO 11926
EF FEMALE**

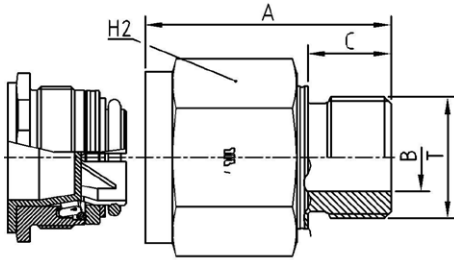


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	Bar	B	A	C	D	H2		
A52302H-06-04	6	- 4	1/4"	9/16" - 18	350.0	7.0	32.5	9.9	10.0	22.0		
A52302H-06-06	10	- 6	3/8"	9/16" - 18	350.0	7.0	36.0	9.9	13.0	25.0		
A52302H-08-06	10	- 6	3/8"	3/4" - 16	350.0	9.3	37.0	11.1	13.0	25.0		
A52302H-08-08	12	- 8	1/2"	3/4" - 16	350.0	9.3	37.0	11.1	16.0	28.0		
A52302H-10-08	12	- 8	1/2"	7/8" - 14	350.0	12.5	38.5	12.7	16.0	28.0		
A52302H-10-12	19	- 12	3/4"	7/8" - 14	280.0	12.5	49.5	12.7	23.0	38.0		
A52302H-12-12	19	- 12	3/4"	1.1/16" - 12	280.0	15.0	51.0	15.1	23.0	38.0		

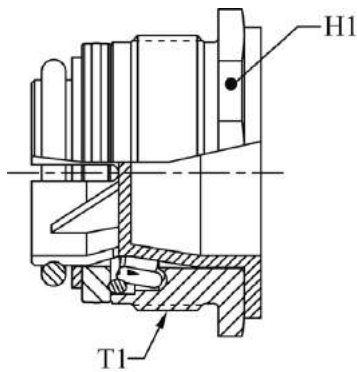
ADAPTORS

A52192H

**ADAPTOR METRIC
MALE
ISO 6149
EF FEMALE**



PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	Bar	B	A	C	D	H2		
A52192H-14-04	6	- 4	1/4"	M 14X1,5	350.0	6.0	34.0	11.0	10.0	22.0		
A52192H-16-04	6	- 4	1/4"	M 16X1,5	350.0	7.0	35.0	12.5	10.0	22.0		
A52192H-18-06	10	- 6	3/8"	M 18X1,5	350.0	9.0	40.0	14.0	13.0	25.0		
A52192H-22-06	10	- 6	3/8"	M 22X1,5	350.0	12.0	40.0	15.0	13.0	27.0		
A52192H-22-08	12	- 8	1/2"	M 22X1,5	350.0	12.0	40.0	15.0	16.0	28.0		
A52192H-27-08	12	- 8	1/2"	M 27X2	350.0	15.0	43.0	18.5	16.0	32.0		
A52192H-27-12	19	- 12	3/4"	M 27X2	280.0	15.0	55.0	18.5	23.0	38.0		
A52192H-33-12	19	- 12	3/4"	M 33X2	280.0	20.0	54.0	18.5	23.0	41.0		



ADAPTORS

O82H10

**CARTRIDGE
EF**

PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	Bar	D	H1					
O82H10-04	6	- 4	1/4"	M 18X1	350.0	10.0	19.0					
O82H10-06	10	- 6	3/8"	M 22X1	350.0	13.0	23.0					
O82H10-08	12	- 8	1/2"	M 25X1	350.0	16.0	26.0					
O82H10-12	19	- 12	3/4"	M 33X1,5	280.0	23.0	34.0					



FASTFIT TYPE PUSH-TO-CONNECT

TECHNICAL DATA

				
SIZE			WORKING PRESSURE (Dynamic)	
DN	Dash	inch	MPa	PSI
10	-06	3/8"	42	6,090
12	-08	1/2"	42	6,090
16	-10	5/8"	42	6,090
19	-12	3/4"	42	6,090
25	-16	1"	42	6,090
31	-20	1.1/4"	42	6,090

PRODUCT DESCRIPTION

- Push-to-connect design
- No assembly tools required
- Low connection effort
- Reduced assembly time even in hard-to-reach areas
- Disconnection by unscrewing adaptor

MATERIAL

Adaptor and Insert in steel, with some hardened areas in correspondence to the most stressed points. Seals in NBR. Other materials (VITON, EPDM or any others) on request

WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

For different temperature range, the coupling can be assembled with specific seals

SAFETY FACTOR

4:1 for dynamic pressures

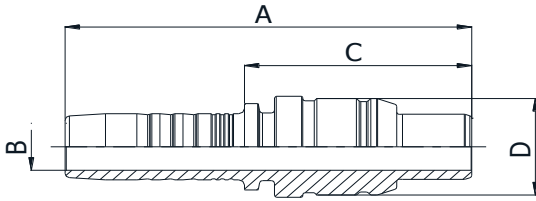
IMPULSE PRESSURES

500,000 cycles at 120% of the rated one (freq. 1Hz)

TEST SPECIFICATIONS

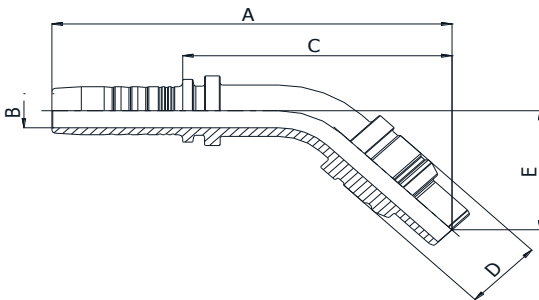
ISO 18879

MULTIFIT INSERT

M13H10**FAST-FIT STRAIGHT
MALE INSERT**

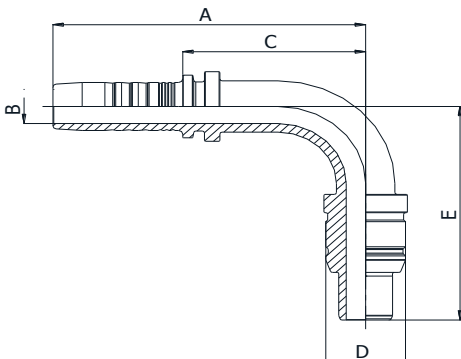
SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D			
10	-06	3/8"	M13H10-04-06	6	-04	1/4"	42	63.0	4.0	35.5	14.8			
10	-06	3/8"	M13H10-06-06	10	-06	3/8"	42	66.5	7.0	37.1	14.8			
12	-08	1/2"	M13H10-08-08	12	-08	1/2"	42	70.5	9.3	39.4	19.1			
16	-10	5/8"	M13H10-10-10	16	-10	5/8"	38	74.8	12.5	40.5	21.5			
19	-12	3/4"	M13H10-12-12	19	-12	3/4"	38	80.5	15.0	44.0	26.1			
25	-16	1"	M13H10-16-16	25	-16	1"	32	96.0	19.8	47.8	31.3			

MULTIFIT INSERT

M13H40**FAST-FIT 45° ELBOW
MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E		
10	-06	3/8"	M13H40-04-06	6	-04	1/4"	42	77.6	4.0	50.1	14.8	27.0		
10	-06	3/8"	M13H40-06-06	10	-06	3/8"	42	86.1	7.0	56.7	14.8	29.4		
12	-08	1/2"	M13H40-08-08	12	-08	1/2"	42	95.1	9.3	64.0	19.1	32.5		
19	-12	3/4"	M13H40-12-12	19	-12	3/4"	38	120.4	15.0	83.9	26.1	40.7		
25	-16	1"	M13H40-16-16	25	-16	1"	32	152.3	19.8	104.1	31.3	50.2		

MULTIFIT INSERT

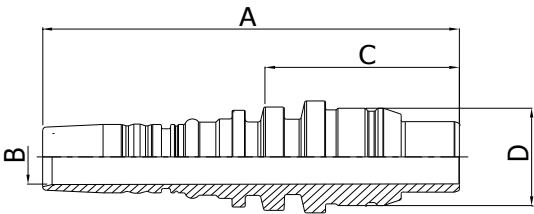
M13H90**FAST-FIT 90° ELBOW
MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E		
10	-06	3/8"	M13H90-04-06	6	-04	1/4"	42	57.6	4.0	30.1	14.8	45.2		
10	-06	3/8"	M13H90-06-06	10	-06	3/8"	42	66.4	7.0	37.0	14.8	51.2		
12	-08	1/2"	M13H90-08-08	12	-08	1/2"	42	74.9	9.3	43.8	19.1	58.3		
19	-12	3/4"	M13H90-12-12	19	-12	3/4"	38	99.0	15.0	62.5	26.1	76.9		
25	-16	1"	M13H90-16-16	25	-16	1"	32	125.5	19.8	77.3	31.3	94.4		

INTERLOCK PLUS INSERT

M33H10

FAST-FIT STRAIGHT
MALE INSERT

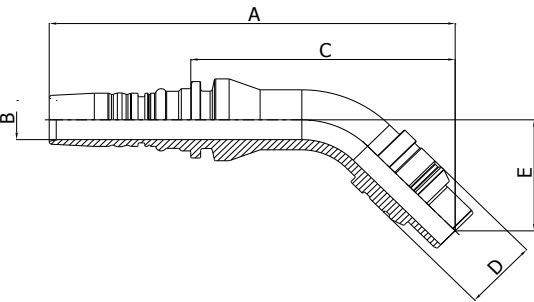


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D			
19	-12	3/4"	M33H10-12-12	19	-12	3/4"	42	96.6	14.5	46.4	26.1			
25	-16	1"	M33H10-16-16	25	-16	1"	42	112.0	19.5	50.3	31.3			

INTERLOCK PLUS INSERT

M33H40

FAST-FIT 45° ELBOW
MALE INSERT

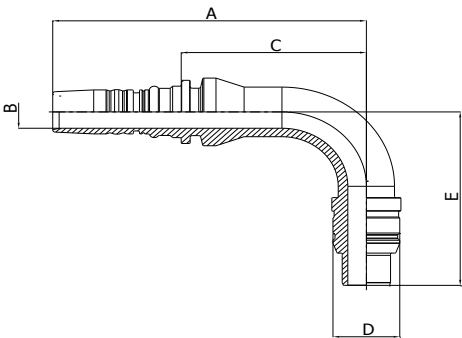


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E		
19	-12	3/4"	M33H40-12-12	19	-12	3/4"	42	143.9	14.5	93.8	26.1	40.7		
25	-16	1"	M33H40-16-16	25	-16	1"	42	174.8	19.5	113.1	31.3	50.2		

INTERLOCK PLUS INSERT

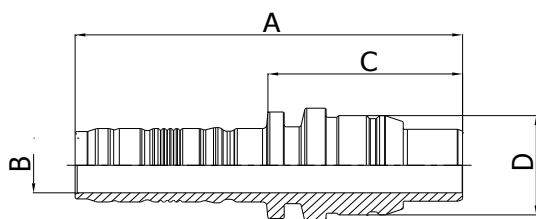
M33H90

FAST-FIT 90° ELBOW
MALE INSERT

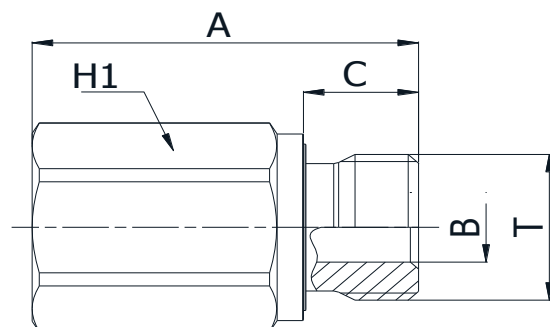


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E		
19	-12	3/4"	M33H90-12-12	19	-12	3/4"	42	122.6	14.5	72.4	26.1	76.9		
25	-16	1"	M33H90-16-16	25	-16	1"	42	148.0	19.5	86.3	31.3	94.4		

SPIRALFIT INSERT

M73H10**FAST-FIT STRAIGHT
MALE INSERT**

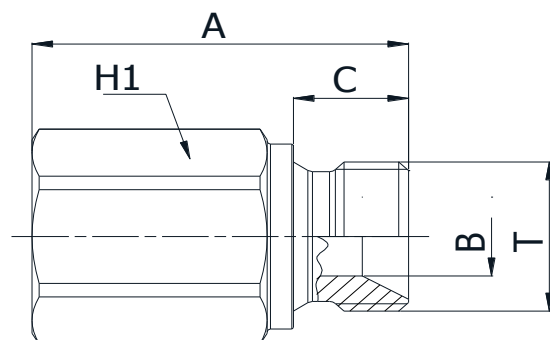
SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D		
19	-12	3/4"	M73H10-12-12	19	-12	3/4"	42	93.4	14.5	46.9	26.1		
25	-16	1"	M73H10-16-16	25	-16	1"	42	107.5	19.5	51.3	31.3		



ADAPTORS

A52013H**BSP MALE
OR BOSS TYPE
TO ISO 1179- 2**

SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm					
DN	Dash	inch		T	MPa	A	B	C	H1		
10	-06	3/8"	A52013H-04-06	1/4"-19	42	45.0	5.0	12.0	19		
10	-06	3/8"	A52013H-06-06	3/8"-19	42	44.5	8.0	12.0	22		
12	-08	1/2"	A52013H-08-08	1/2"-14	42	47.0	10.0	14.0	27		
19	-12	3/4"	A52013H-12-12	3/4"-14	42	53.0	16.0	16.0	32		
25	-16	1"	A52013H-16-16	1"-11	42	60.0	20.0	18.0	41		

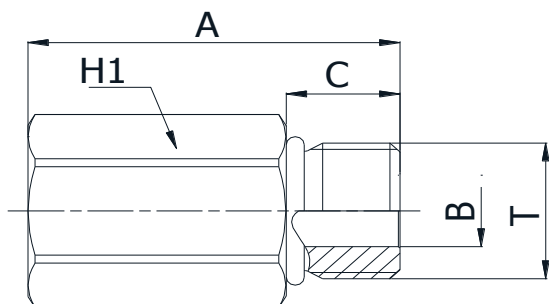


ADAPTORS

A52053H**BSP MALE 60° CONE
(ISO 8434-6 / BS5200)**

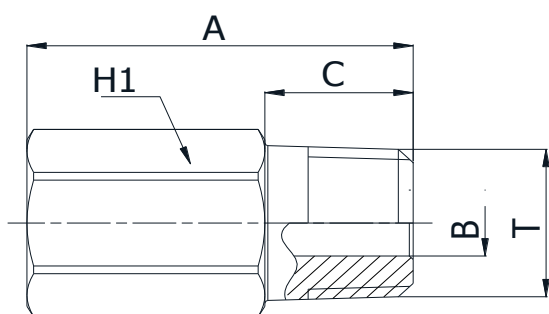
SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm					
DN	Dash	inch		T	MPa	A	B	C	H1		
12	-08	1/2"	A52053H-08-08	1/2"-14	42	45.8	11.0	14.0	27		

ADAPTORS

A52323H
**SAE MALE
OR BOSS TYPE
TO SAE J1926-2**


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52323H-04-06	7/16"-20	42	42.2	4.5	11.0	19			
10	-06	3/8"	A52323H-06-06	9/16"-18	42	42.4	7.5	12.0	19			
12	-08	1/2"	A52323H-08-08	3/4"-16	42	45.8	10.0	14.0	24			
16	-10	5/8"	A52323H-10-10	7/8"-14	42	49.2	12.5	16.0	27			
19	-12	3/4"	A52323H-12-12	1.1/16"-12	42	53.5	15.5	18.5	32			
25	-16	1"	A52323H-16-16	1.5/16"-12	42	56.0	20.5	18.5	38			

ADAPTORS

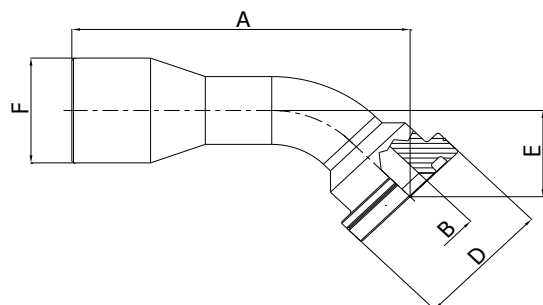
A52283H
**STRAIGHT ADAPTOR
NPTF MALE
TO ASME B1.20.3**


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52283H-04-06	1/4"-18	42	44.7	6.0	14.5	19			
10	-06	3/8"	A52283H-06-06	3/8"-18	42	43.7	8.0	14.5	19			
12	-08	1/2"	A52283H-08-08	1/2"-14	42	50.0	9.5	19.2	24			
19	-12	3/4"	A52283H-12-12	3/4"-14	42	54.5	15.0	19.2	32			
25	-16	1"	A52283H-16-16	1"-11.5	42	62.0	19.5	24.2	38			

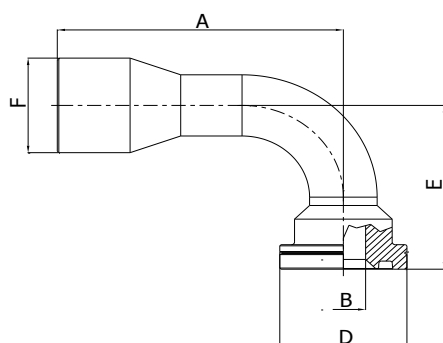
ADAPTORS

A54363H

45° ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3



SIZE			PART. REF.	FLANGE	W.P	DIMENSIONS mm						
DN	Dash	inch		inch	MPa	A	B	D	E	F		
12	-08	1/2"	A54363H-08-08	1/2"	42	82.0	9.3	31.8	21.9	25.0		
19	-12	3/4"	A54363H-12-12	3/4"	42	101.8	14.5	41.4	28.0	34.0		
25	-16	1"	A54363H-16-16	1"	42	125.2	19.5	47.7	37.9	41.0		
31	-20	1-1/4"	A54363H-20-20	1-1/4"	42	136.1	25.0	54.2	35.6	55.0		



ADAPTORS

A57363H

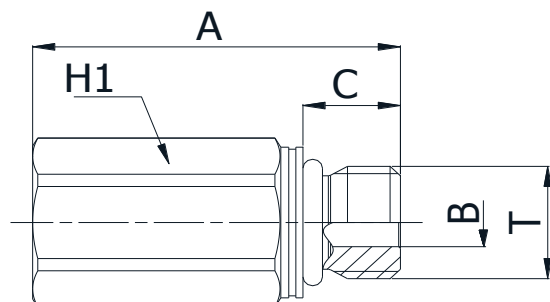
90° ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

SIZE			PART. REF.	FLANGE	W.P	DIMENSIONS mm						
DN	Dash	inch		inch	MPa	A	B	D	E	F		
12	-08	1/2"	A57363H-08-08	1/2"	42	74.2	9.3	31.8	45.0	25.0		
19	-12	3/4"	A57363H-12-12	3/4"	42	93.2	14.5	41.4	58.9	34.0		
25	-16	1"	A57363H-16-16	1"	42	113.6	19.5	47.7	80.0	41.0		
31	-20	1-1/4"	A57363H-20-20	1-1/4"	42	132.1	25.0	54.2	82.0	55.0		

ADAPTORS

A52193H

STRAIGHT ADAPTOR
METRIC MALE
ISO 6149-2

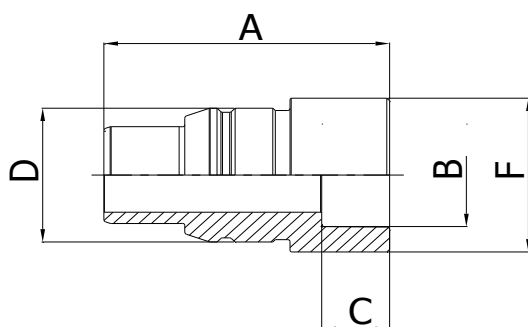


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52193H-14-06	M14X1.5	42	41.5	6.0	11.0	19			
10	-06	3/8"	A52193H-18-06	M18X1.5	42	43.5	8.0	14.0	24			
12	-08	1/2"	A52193H-22-08	M22X1.5	42	45.0	10.0	15.0	27			
19	-12	3/4"	A52193H-27-12	M27X2	42	53.5	15.0	18.5	32			
25	-16	1"	A52193H-33-16	M33X2	42	57.0	20.0	18.5	41			

ADAPTORS

A523H95

BRAZING SOCKET



SIZE			PART. REF.		W.P	DIMENSIONS mm						
DN	Dash	inch			MPa	A	B	C	D	F		
19	- 12	3/4"	A523H95-12-20		42	50.5	20.1	12.0	26.1	30.0		
25	- 16	1"	A523H95-16-26		42	58.0	26.1	16.0	31.3	38.0		



DISCONNECTABLE FASTFIT TYPE PUSH-TO-CONNECT

TECHNICAL DATA				
				
SIZE			WORKING PRESSURE (Dynamic)	
DN	Dash	inch	MPa	PSI
12	-08	1/2"	42	6,090

PRODUCT DESCRIPTION

- Push-to-connect design
- No assembly tools required
- Low connection effort
- Reduced assembly time even in hard-to-reach areas
- Disconnection by unlocking male insert by means of a standard tool

MATERIAL

Adaptor and Insert in steel, with some hardened areas in correspondence to the most stressed points. Seals in NBR. Other materials (VITON, EPDM or any others) on request

WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)
For different temperature range, the coupling can be assembled with specific seals

SAFETY FACTOR

4:1 for dynamic pressures

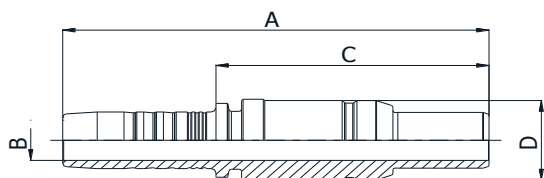
IMPULSE PRESSURES

500,000 cycles at 120% of the rated one (freq. 1Hz)

TEST SPECIFICATIONS

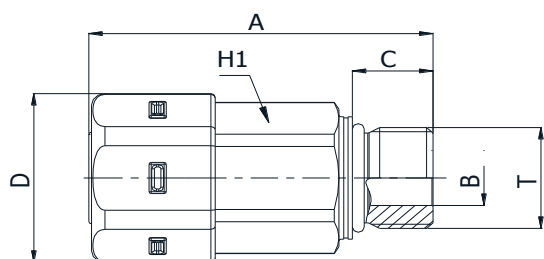
ISO 18879

MULTIFIT INSERT

M14H10
**DISCONNECTABLE FAST-FIT
STRAIGHT MALE INSERT**

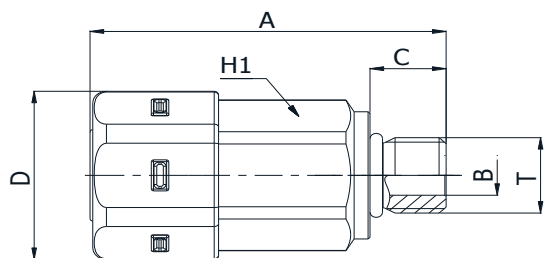
SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D			
12	-08	1/2"	M14H10-08-08	12	-08	1/2"	42	86.5	9.3	55.4	18.4			

ADAPTORS

A52194H
**STRAIGHT ADAPTOR
METRIC MALE ISO 6149-2**

SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52194H-22-08	M22X1.5	42	64.0	12.0	15.0	37.0	30.0		

ADAPTORS

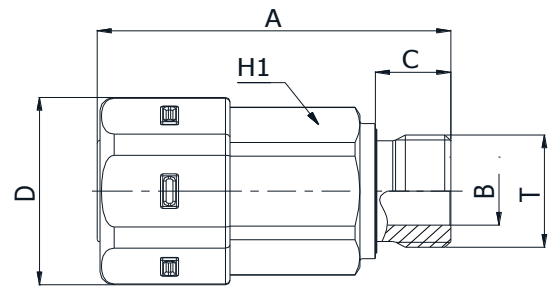
A52324H
**SAE MALE
OR BOSS TYPE
TO SAE J1926-2**

SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52324H-08-08	3/4"-16	42	64.8	10.0	14.0	37.0	30.0		

ADAPTORS

A52014H

**BSP MALE
OR BOSS TYPE
TO ISO 1179-2**



SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52014H-08-08	1/2"-14	42	66.0	12.0	14.0	37.0	30.0		



ROTOFIT TYPE SWIVEL JOINT

TECHNICAL DATA

			MPa							
SIZE			WORKING PRESSURE (Dynamic)							
			MULTIFIT		INTERLOCK PLUS		SPIRALFIT		ADAPTOR	
DN	Dash	inch	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI
6	-04	1/4"	42	6,090	-	-	-	-	-	-
10	-06	3/8"	42	6,090	-	-	-	-	42	6,090
12	-08	1/2"	42	6,090	-	-	-	-	-	-
16	-10	5/8"	42	6,090	-	-	-	-	35	5,075
19	-12	3/4"	35	5,075	42	6,090	42	6,090	35	5,075
25	-16	1"	35	5,075	42	6,090	42	6,090	35	5,075
31	-20	1.1/4"	35	5,075	42	6,090	42	6,090	35	5,075
38	-24	1.1/2"	28	4,060	42	6,090	42	6,090	35	5,075
51	-32	2"	21	3,045	-	-	-	-	-	-
63	-40	2.1/2"	14	2,030	-	-	-	-	-	-

PRODUCT DESCRIPTION

- Swivel joint purposely designed to eliminate torsional stresses due to hose twist under external torque
- Prevents connection unscrewing
- Full flow design to minimize pressure drops
- High number of balls to minimize friction

ROTATION ANGLE

Up to 40°

ROTATION FREQUENCY

Up to 15 alternative RPM

MATERIAL

Body in steel, with some hardened areas in correspondence to the most stressed points. Balls in 100Cr6 quenched and seals in NBR or Polyurethane. Other materials (VITON, EPDM or any others) on request

WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

For different temperature range, the coupling can be assembled with specific seals

SAFETY FACTOR

4:1 for dynamic pressures

IMPULSE PRESSURES

500,000 cycles at 120% of the rated one (freq. 1Hz)

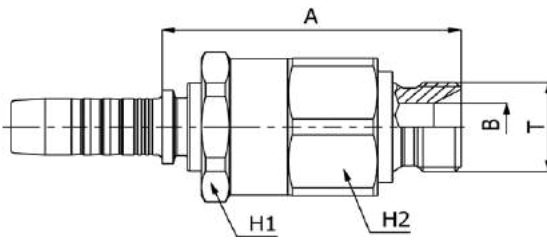
TEST SPECIFICATIONS

ISO 18879

BS STANDARD CONNECTIONS

MR10510

**BSP MALE
PARALLEL 60° CONE SEAT
BS5200 / ISO 8434-6**

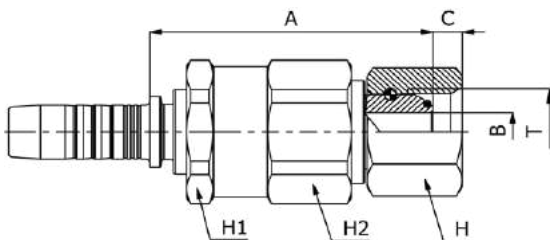


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	H1	H2			
MR10510-04-04	6	-04	1/4"	1/4"-19	42	57.7	4.7	24	24			
MR10510-06-06	10	-06	3/8"	3/8"-19	42	58.2	8.0	27	27			
MR10510-08-08	12	-08	1/2"	1/2"-14	42	61.6	11.0	32	32			
MR10510-10-10	16	-10	5/8"	5/8"-14	35	69.3	14.3	36	36			
MR10510-12-12	19	-12	3/4"	3/4"-14	35	71.0	16.7	41	41			
MR10510-16-16	25	-16	1"	1"-11	35	83.0	22.2	50	50			
MR10510-20-20	31	-20	1.1/4"	1.1/4"-11	35	91.9	28.6	60	60			
MR10510-24-24	38	-24	1.1/2"	1.1/2"-11	28	105.1	33.3	70	70			

BS STANDARD CONNECTIONS

MR20812

**BSP O-RING
FEMALE 60° CONE
BS5200 / ISO 12151-6**

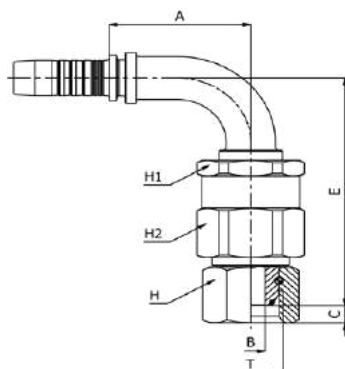


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H	H1	H2	
MR20812-04-04	6	-04	1/4"	1/4"-19	42	58.0	4.3	4.1	19	24	24	
MR20812-06-06	10	-06	3/8"	3/8"-19	42	59.4	7.0	5.9	22	27	27	
MR20812-08-08	12	-08	1/2"	1/2"-14	42	62.4	9.3	6.5	27	32	32	
MR20812-10-10	16	-10	5/8"	5/8"-14	35	68.0	12.5	9.7	28	36	36	
MR20812-12-12	19	-12	3/4"	3/4"-14	35	70.8	15.0	8.5	32	41	41	
MR20812-16-16	25	-16	1"	1"-11	35	81.0	19.8	10.6	38	50	50	

BS STANDARD CONNECTIONS

MR20892RT

90° BSP O-RING FEMALE SWEPT ELBOW
60° CONE BS5200 / ISO 12151-6

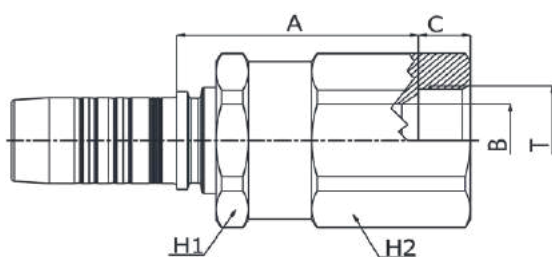


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	E	H	H1	H2
MR20892-08-08RT	12	-08	1/2"	1/2"-14	42	45.9	9.3	6.5	85.3	27	32	32

SAE STANDARD CONNECTIONS

MR22510

SWIVEL JOINT JIC
FEMALE 37° CONE SEAT
SAE J516 / ISO 12151-5

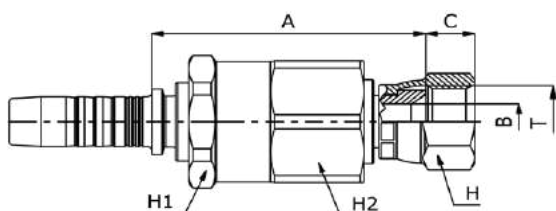


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H1	H2		
MR22510-20-20	31	-20	1.1/4"	1.5/8"-12	21	76.7	27.5	16.5	60	60		
MR22510-24-24	38	-24	1.1/2"	1.7/8"-12	16	87.5	33.5	19.5	70	70		

SAE STANDARD CONNECTIONS

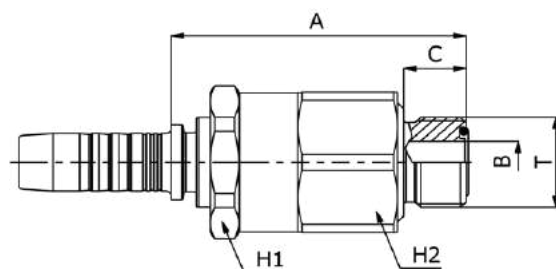
MR22711

JIC
FEMALE DOUBLE HEXAGON 37° CONE SEAT



PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H	H1	H2	
MR22711-06-06	10	-06	3/8"	9/16"-18	35	56.0	7.0	9.5	17	27	27	
MR22711-08-08	12	-08	1/2"	3/4"-16	35	59.9	9.3	10.7	22	32	32	
MR22711-08-10	12	-08	1/2"	7/8"-14	35	61.9	11.3	12.5	25	32	32	
MR22711-10-10	16	-10	5/8"	7/8"-14	35	66.8	11.3	12.5	25	36	36	
MR22711-12-12	19	-12	3/4"	1.1/16"-12	35	68.3	15.0	14.1	32	41	41	
MR22711-16-16	25	-16	1"	1.5/16"-12	28	79.8	19.8	15.3	38	50	50	

SAE STANDARD CONNECTIONS



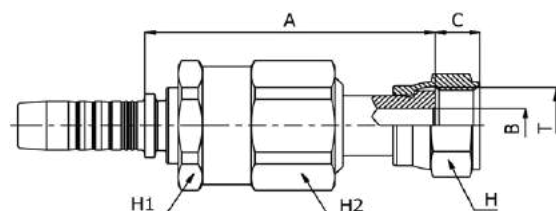
MR12410

ORFS
MALE

SAE J516 / ISO 12151-1

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H1	H2		
MR12410-08-08	12	-08	1/2"	13/16"-16	42	60.4	9.5	12.8	32	32		
MR12410-10-10	16	-10	5/8"	1"-14	42	68.8	12.5	15.5	36	36		

SAE STANDARD CONNECTIONS



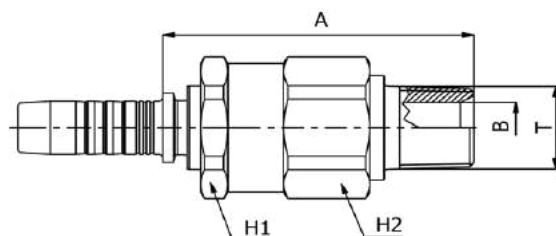
MR22411

ORFS
FEMALE

SAE J516 / ISO 12151-1
PULL BACK TYPE (CRIMPED BACK-NUT)

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H	H1	H2	
MR22411-06-06	10	-06	3/8"	11/16"-16	42	64.5	7.0	9.5	22	27	27	
MR22411-08-08	12	-08	1/2"	13/16"-16	42	70.9	9.3	11.0	24	32	32	
MR22411-10-10	16	-10	5/8"	1"-14	42	77.8	11.5	13.5	30	36	36	
MR22411-12-12	19	-12	3/4"	1.3/16"-12	35	83.8	14.0	14.5	36	41	41	
MR22411-16-16	25	-16	1"	1.7/16"-12	35	93.4	19.8	15.0	41	50	50	

SAE STANDARD CONNECTIONS

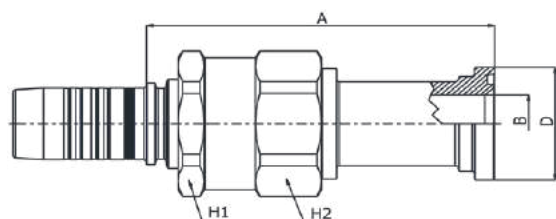


MR12810

NPTF MALE 60° CONE SEAT - SAE J516/J514

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	H1	H2			
MR12810-04-04	6	-04	1/4"	1/4"-18	35	61.2	5.5	24	24			
MR12810-06-06	10	-06	3/8"	3/8"-18	28	60.7	9.3	27	27			
MR12810-08-08	12	-08	1/2"	1/2"-14	24.5	66.8	12.5	32	32			
MR12810-12-12	19	-12	3/4"	3/4"-14	21	74.2	16.0	41	41			
MR12810-16-16	25	-16	1"	1"-11.5	17.5	88.2	19.5	50	50			

SAE STANDARD CONNECTIONS

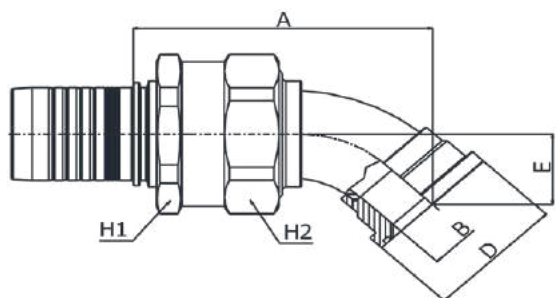


MR23311FK

ISO / SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3
(VITON)

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	H1	H2		
MR23311-20-20FK	31	-20	1.1/4"	1.1/4"	28	136.7	26.0	51.0	60	60		
MR23311-20-24FK	31	-20	1.1/4"	1.1/2"	21	134.7	32.0	60.5	60	60		
MR23311-24-24FK	38	-24	1.1/2"	1.1/2"	21	147.9	32.0	60.5	70	70		
MR23311-32-32FK	51	-32	2"	2"	21	154.4	42.0	71.6	90	90		

SAE STANDARD CONNECTIONS

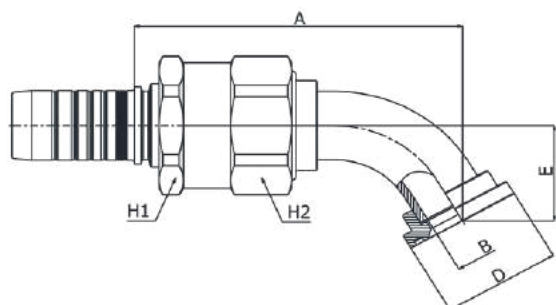


MR23341FK

45° ISO / SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3
(VITON)

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	E	H1	H2	
MR23341-40-40FK	63	-40	2.1/2"	2.1/2"	14	174.5	52.0	84.3	48.5	100	100	

SAE STANDARD CONNECTIONS

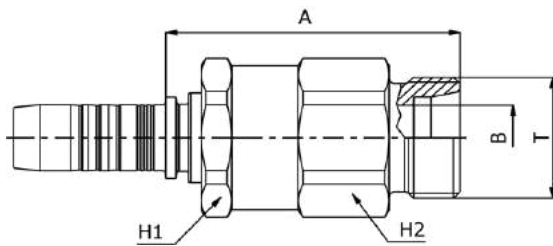


MR23361FK

60° ISO / SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3
(VITON)

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	E	H1	H2	
MR23361-24-24FK	38	-24	1.1/2"	1.1/2"	21	166.6	32.0	60.5	52.9	70	70	
MR23361-24-32FK	38	-24	1.1/2"	2"	21	170.1	42.0	71.6	59.0	70	70	

DIN STANDARD CONNECTIONS

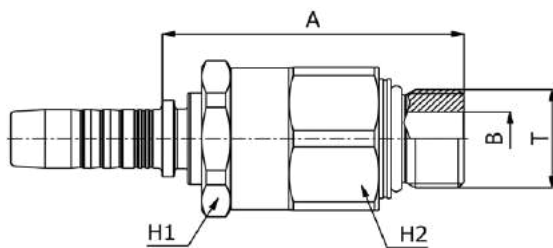


MR11210

**METRIC
MALE 24° CONE SEAT HEAVY DUTY
DIN 20066 / ISO 12151-2**

PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	mm	MPa	A	B	H1	H2			
MR11210-10-30	16	-10	5/8"	M30X2	20	42	66.3	16.0	36	36			

DIN STANDARD CONNECTIONS

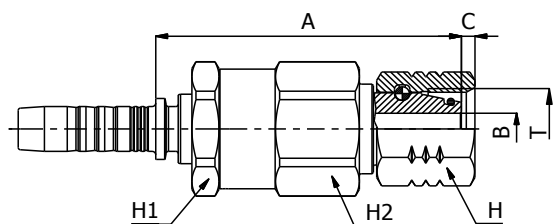


MR11910

**METRIC
MALE HEAVY DUTY SERIES
ISO 6149-2**

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	H1	H2			
MR11910-06-18	10	-06	3/8"	M18X1.5	42	60.5	9.0	27	27			
MR11910-08-22	12	-8	1/2"	M22X1.5	42	61.9	12.0	32	32			

DIN STANDARD CONNECTIONS

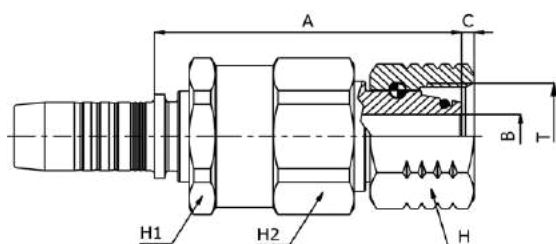


MR21512

**METRIC
O-RING FEMALE 24° CONE LIGHT DUTY
DIN 20066 / ISO 12151-2
(THRUST-WIRE NUT)**

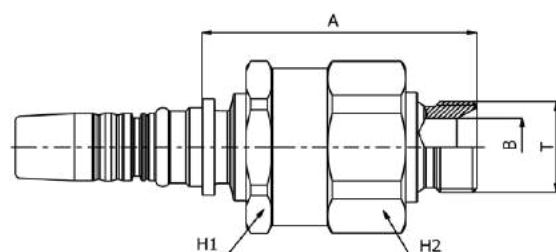
PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	mm	MPa	A	B	C	H	H1	H2	
MR21512-04-16	6	-04	1/4"	M16X1.5	10	35	63.2	6.0	3.0	19	24	24	
MR21512-06-18	10	-06	3/8"	M18X1.5	12	33	65.3	7.0	2.9	22	27	27	
MR21512-10-26	16	-10	5/8"	M26X1.5	18	25	72.3	12.5	2.3	32	36	36	

DIN STANDARD CONNECTIONS


MR21612
**METRIC O-RING FEMALE 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2 (THRUST-WIRE NUT)**

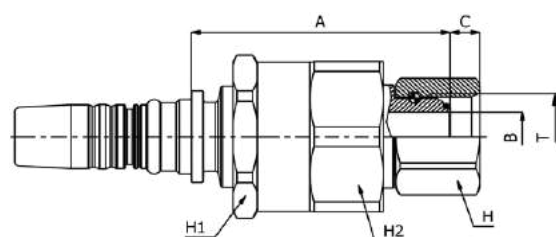
PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	mm	MPa	A	B	C	H	H1	H2	
MR21612-12-30	19	-12	3/4"	M30X2	20	35	79.8	12.5	3.2	36	41	41	

BS STANDARD CONNECTIONS


MR30510
**BSP
MALE 60° CONE SEAT
BS5200**

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	H1	H2			
MR30510-12-12	19	-12	3/4"	3/4"-14	35	73.9	16.7	46	46			
MR30510-16-16	25	-16	1"	1"-11	35	85.7	22.2	55	55			
MR30510-20-20	31	-20	1.1/4"	1.1/4"-11	35	95.8	28.6	65	65			
MR30510-24-24	38	-24	1.1/2"	1.1/2"-11	30	109.6	33.3	75	75			

BS STANDARD CONNECTIONS

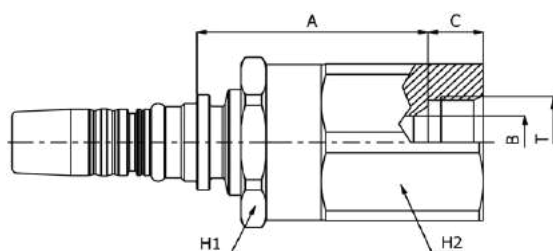

MR40812
**BSP
O-RING FEMALE 60° CONE
BS5200/ ISO 8434-6**

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch	T	MPa	A	B	C	H	H1	H2	
MR40812-12-12	19	-12	3/4"	3/4"-14	35	73.7	15.0	8.5	32	46	46	
MR40812-16-16	25	-16	1"	1"-11	35	83.7	19.8	10.6	41	55	55	

SAE STANDARD CONNECTIONS

MR42510

JIC
FEMALE 37 °CONE SEAT
SAE J514

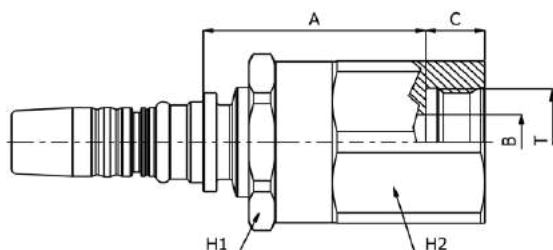


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm					
	DN	Dash	inch	T	MPa	A	B	C	H1	H2	
MR42510-12-12	19	-12	3/4"	1.1/16"-12	35	62.7	15.5	15.0	46	46	
MR42510-16-16	25	-16	1"	1.5/16"-12	28	70.0	21.5	16.5	55	55	

SAE STANDARD CONNECTIONS

MR42410

ORFS
FEMALE
ISO 8434-3 / SAE J1453

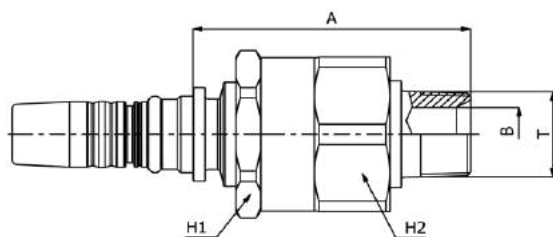


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm					
	DN	Dash	inch	T	MPa	A	B	C	H1	H2	
MR42410-12-12	19	-12	3/4"	1.3/16"-12	42	58.2	15.5	15.5	46	46	
MR42410-16-16	25	-16	1"	1.7/16"-12	42	66.0	20.5	16.0	55	55	

SAE STANDARD CONNECTIONS

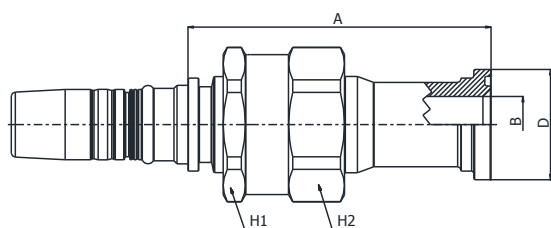
MR32810

NPTF
MALE 60° CONE SEAT
SAE J476A



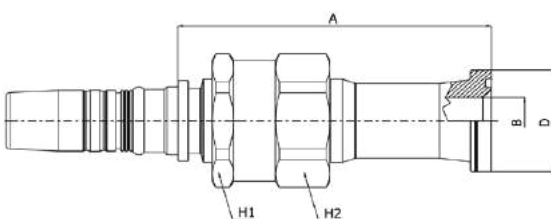
PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm					
	DN	Dash	inch	T	MPa	A	B	H1	H2		
MR32810-12-12	19	-12	3/4"	3/4"-14	21	77.1	16.0	46	46		
MR32810-16-16	25	-16	1"	1"-11.5	17.5	90.9	19.5	55	55		

SAE STANDARD CONNECTIONS


MR43310
ISO / SAE CODE 61 FLANGE
SAE J516 / ISO 12151-3

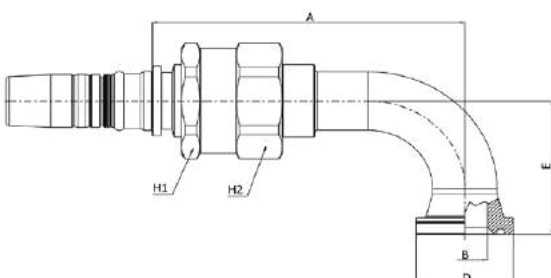
PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	H1	H2		
MR43310-20-20	31	-20	1.1/4"	1.1/4"	28	140.6	26.0	51.0	65	65		

SAE STANDARD CONNECTIONS


MR43610
ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

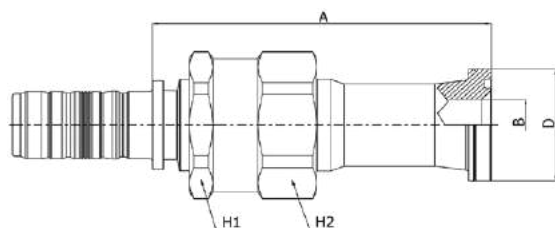
PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	H1	H2		
MR43610-20-20	31	-20	1.1/4"	1.1/4"	42	149.8	25.0	54.2	65	65		

SAE STANDARD CONNECTIONS

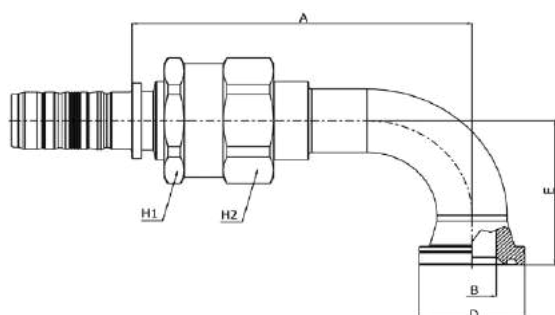

MR43690
90° ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch	inch	MPa	A	B	D	E	H1	H2	
MR43690-20-20	31	-20	1.1/4"	1.1/4"	42	174.6	25.0	54.2	82.0	65	65	

SAE STANDARD CONNECTIONS


MR83611
**ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm					
	DN	Dash	inch	inch	MPa	A	B	D	H1	H2	
MR83611-20-20	31	-20	1.1/4"	1.1/4"	42	149.9	25.0	54.2	65	65	

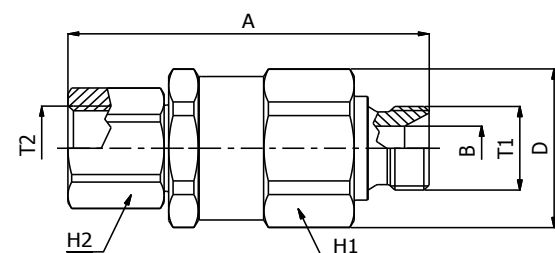


SAE STANDARD CONNECTIONS

MR83691
**90° ISO / SAE CODE 62 FLANGE
SAE J516 / ISO 12151-3**

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm					
	DN	Dash	inch	inch	MPa	A	B	D	E	H1	H2
MR83691-20-20	31	-20	1.1/4"	1.1/4"	42	174.6	25.0	54.2	82.0	65	65

BS STANDARD CONNECTIONS

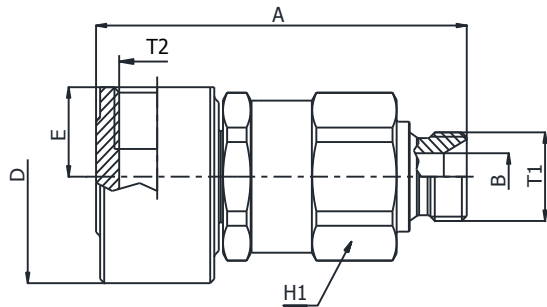

AR520504
**SWIVEL JOINT STRAIGHT
MALE BSP - FEMALE BSP**

PART. REF.	SIZE			THREAD		W.P.	DIMENSIONS mm					
	DN	Dash	inch	T1	T2	MPa	A	B	D	H1	H2	
AR520504-04-04	10	-06	3/8"	1/4"-19	1/4"-19	42	69.9	4.7	30.0	27.0	19.0	
AR520504-06-06	10	-06	3/8"	3/8"-19	3/8"-19	42	69.9	8.0	30.0	27.0	22.0	
AR520504-08-08	16	-10	5/8"	1/2"-14	1/2"-14	35	82.9	11.0	39.5	36.0	27.0	
AR520504-12-12	19	-12	3/4"	3/4"-14	3/4"-14	35	87.6	16.7	45.0	41.0	34.0	
AR520504-16-16	25	-16	1"	1"-11	1"-11	35	101.8	22.2	55.0	50.0	41.0	
AR520504-20-20	31	-20	1.1/4"	1.1/4"-11	1.1/4"-11	35	112.1	28.6	66.0	60.0	55.0	
AR520504-24-24	38	-24	1.1/2"	1.1/2"-11	1.1/2"-11	30	128.3	33.3	77.0	70.0	65.0	

BS STANDARD CONNECTIONS

AR580504

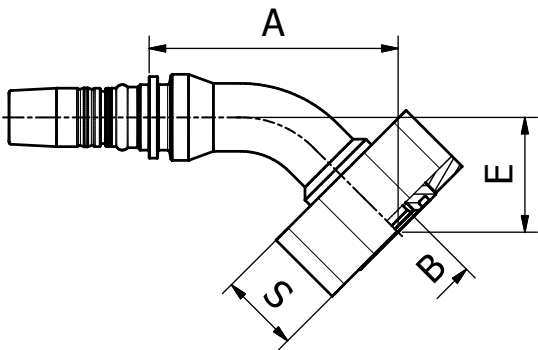
SWIVEL JOINT 90°
MALE BSP - FEMALE BSP



PART. REF.		SIZE			THREAD		W.P.	DIMENSIONS mm					
		DN	Dash	inch	T1	T2	MPa	A	B	D	E	H1	
AR580504-04-04		10	-06	3/8"	1/4"-19	1/4"-19	42	70.4	4.7	36.0	16.0	27.0	
AR580504-06-06		10	-06	3/8"	3/8"-19	3/8"-19	42	75.4	8.0	39.0	16.0	27.0	
AR580504-08-08		16	-10	5/8"	1/2"-14	1/2"-14	35	90.9	11.0	50.0	21.0	36.0	
AR580504-12-12		19	-12	3/4"	3/4"-14	3/4"-14	35	100.1	16.7	60.0	24.0	41.0	
AR580504-16-16		25	-16	1"	1"-11	1"-11	35	117.3	22.2	70.0	28.0	50.0	

FITTINGS

332

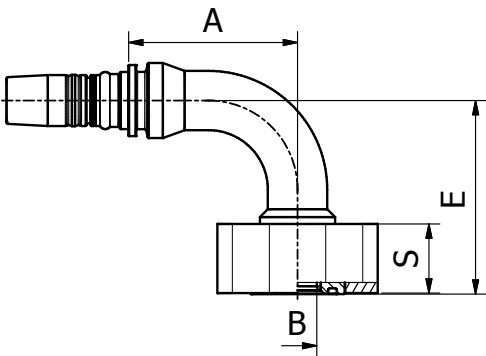


SAE STANDARD CONNECTIONS

M4364A

45° ADJUSTABLE FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch			A	B	E	S				
M4364A-12-12	19	- 12	3/4"	3/4"		90.5	14.5	37.5	27.4				
M4364A-16-16	25	- 16	1"	1"		109.5	19.5	50.5	35				
M4364A-20-20	31	- 20	1.1/4"	1.1/4"		136.5	25	56.5	35				



SAE STANDARD CONNECTIONS

M4369A

90° ADJUSTABLE FLANGE

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm							
	DN	Dash	inch			A	B	E	S				
M4369A-12-12	19	- 12	3/4"	3/4"		72.5	14.5	73	27.4				
M4369A-16-16	25	- 16	1"	1"		85.5	19.5	98	35				
M4369A-20-20	31	- 20	1.1/4"	1.1/4"		112	25	111.5	35				

