



FITTINGS

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

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

Xtralock (XL) - Designed for ultra high pressure hydraulic power lines

Blastlock (BL) - Ultra high pressure insert for water-blasting applications

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 1"

One-Piece Kompact (OPK) - No-skive, compact and flat-crimp fittings for wire spiral and wire braid high pressure hoses up to 2"

There are also three 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 - 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.

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CONNECTORS

TWO PIECE TECHNOLOGY

OVERVIEW

MINIFIT



F1

MULTIFIT



F2

INTERLOCK PLUS



F3

INTERLOCK SUPER



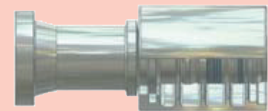
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XTRALOCK



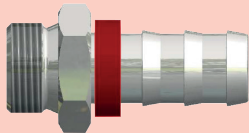
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SPIRALFIT



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PUSH-LOCK



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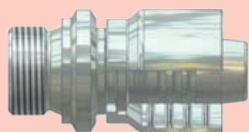
ACCESSORIES

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ONE PIECE TECHNOLOGY

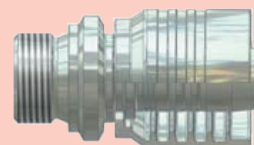
OVERVIEW

OPF



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OPK



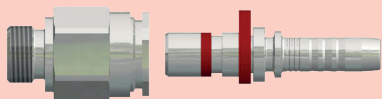
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SMART CONNECTORS

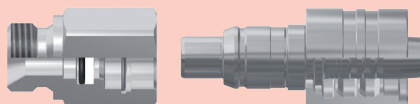
OVERVIEW

EASYFIT



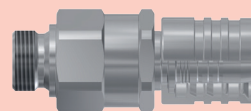
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FASTFIT



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ROTOFIT



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IM32510	3	36
IM32810	3	40
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OPK24111	10	35
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OPK24491 LONG DROP	10	17
OPK24791KR	10	12
OPK24792-OPK24793 LONG DROP	10	11
OPK3610	10	1

FITTINGS - TERMINATION ENDS WORKING PRESSURE

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	1/8"-28 350	1/4"-19 500		3/8"-19 460	1/2"-14 430	5/8"-14 350	3/4"-14 350	1"-11 350	1.1/4"-11 350	1.1/2"-11 300	2"-11 300	2.1/2"-11 140	3"-11 105		
JIC 37° CONE ISO 8434-2 / SAE J514		7/16"-20 350	1/2"-20 350	9/16"-18 350	3/4"-16 350	7/8"-14 350	1.1/16"-12 350	1.5/16"-12 280	1.5/8"-12 210	1.7/8"-12 160	2.1/2"-12 125				
ORFS ISO 8434-3 / SAE J1453		9/16"-18 460		11/16"-16 460	13/16"-16 420	1"-14 420	1.3/16"-12 420	1.7/16"-12 420	1.11/16"-12 420	2"-12 350					
NPTF MALE SAE J514 / ASME B1.20.3	1/8"-27 350	1/4"-18 350		3/8"-18 280	1/2"-14 245		3/4"-14 210	1"-11,5 175	1.1/4"-11,5 145	1.1/2"-11,5 145	2"-11,5 145				
NPSM FEMALE SAE J514	1/8"-27 350	1/4"-18 350		3/8"-18 280	1/2"-14 245		3/4"-14 210	1"-11,5 175	1.1/4"-11,5 145	1.1/2"-11,5 145	2"-11,5 145				
SAE 45° CONE SAE J512		7/16"-20 350	1/2"-20 350	5/8"-18 350	3/4"-16 310	7/8"-14 240	1.1/16"-14 240	1.3/8"-12 210							
ISO/SAE CODE 61 FLANGE ISO 6162-1 / SAE J518-1					1/2" 350		3/4" 350	1" 350	1-1/4" 280	1-1/2" 210	2" 210	2-1/2" 175	3" 160	3-1/2" 35	4" 35
ISO/SAE CODE 62 FLANGE ISO 6162-2 / SAE J518-2					1/2" 420		3/4" 420	1" 420	1-1/4" 420	1-1/2" 420	2" 420	2-1/2" 420	3" 420		
XTRAFRANGE/61 ISO 6162-1 / SAE J518-1 PORT COMPATIBLE								1" 420	1-1/4" 420	1-1/2" 420	2" 420	2-1/2" 420			
XTRAFRANGE/61 ISO 6162-1 / SAE J518-1 PORT COMPATIBLE							3/4" 560	1" 560	1-1/4" 560	1-1/2" 560	2" 450	2-1/2" 350	3" 420		
FLANGE/PLUS ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							3/4" 420	1" 420	1-1/4" 420						
CAT FLANGE ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							3/4" 420	1" 420	1-1/4" 420	1-1/2" 420	2" 420				
METRIC CONE 24° L SERIES ISO 8434-1 / DIN 3865	M12x1,5 415	M14x1,5 400	M16x1,5 350	M18x1,5 330	M22x1,5 275	M26x1,5 250	M30x2 245	M36x2 245	M45x2 220	M52x2 100					
METRIC CONE 24° S SERIES ISO 8434-1 / DIN 3865	M16x1,5 630	M18x1,5 630	M20x1,5 630	M20x1,5 630	M24x1,5 450	M30x2 420	M36x2 385	M42x2 350	M52x2 280						
METRIC CONE 60° LL SERIES DIN 20066							M30x2 63	M38x1,5 63	M45x1,5 63	M52x1,5 63	M65x2 40				
METRIC MULTISEAL DIN 20066	M12x1,5 250	M14x1,5 250	M16x1,5 250	M18x1,5 250	M22x1,5 250	M26x1,5 160									
FRENCH METRIC MILLIMETRIC NF E48-064						M27x1,5 420	M30x1,5 420	M33x1,5 420							
FRENCH GAZ MILLIMETRIC NF E48-064				M20x1,5 630	M24x1,5 630	M30x1,5 420	M36x1,5 420	M45x1,5 420							
JIS METRIC FEMALE 60° CONE (KOMATSU) JIS B8363		M14x1,5 350	M16x1,5 350	M18x1,5 350	M22x1,5 350	M24x1,5 280	M30x1,5 280	M33x1,5 280	M36x1,5 175	M42x2 105					
JIS GAS FEMALE 60° CONE (TOYOTA) JIS B8363		1/4"-19 350		3/8"-19 350	1/2"-14 350		3/4"-14 280	1"-11 280	1.1/4"-11 175	1.1/2"-11 105	2"-11 105				
WASHCLEANER				M22x1,5 420											

FITTINGS
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MS0813	1	5
MS0843	1	7
MS0882F	1	8
MS0893	1	6
M0811HKR	1	5
MS0841KR	1	7
MS0891KR	1	6

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

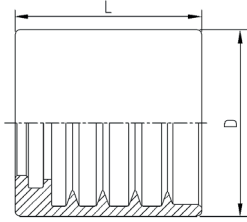
FERRULES

M02400														
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FITTINGS

BSP														
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FITTINGS
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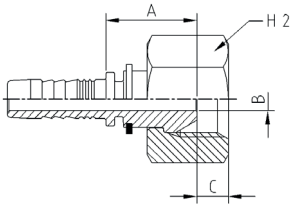
FERRULE

M02400

NO-SKIVE FERRULE FOR COMPACT HOSES

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
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				

BS STANDARD CONNECTIONS

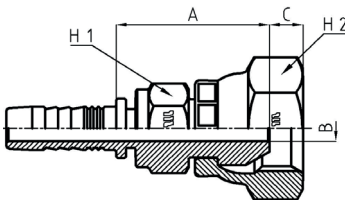


MS0513

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
MS0513-04-04	6	- 4	1/4"	1/4" - 19		4	15,7	5,4	19			
MS0513-06-06	10	- 6	3/8"	3/8" - 19		7	18,3	6	22			

BS STANDARD CONNECTIONS

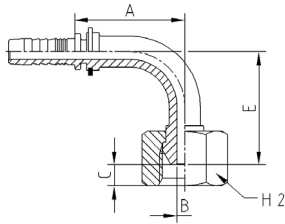


MS0511KR

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
MS0511-04-04H12KR	6	- 4	1/4"	1/4" - 19		4	23,5	5,2	19			
MS0511-06-06H17KR	10	- 6	3/8"	3/8" - 19		7	26	6	22			

KR:CRIMPED-BACK KOMPACT ROBUST NUT

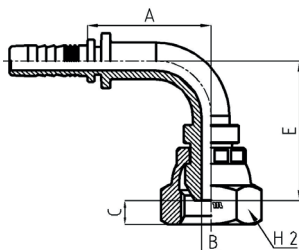


BS STANDARD CONNECTIONS

MS0593

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
MS0593-04-04	6	-4	1/4"	1/4" - 19		4	28,2	5,4	29	19		
MS0593-06-06	10	-6	3/8"	3/8" - 19		7	35,3	6	31,5	22		



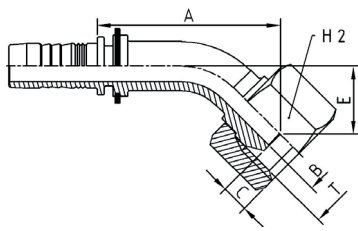
BS STANDARD CONNECTIONS

MS0591KR

90° BSP FEMALE SWEPT 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	5,2	30,5	19		
MS0591-06-06KR	10	-6	3/8"	3/8" - 19		7	34,5	6	37,5	22		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

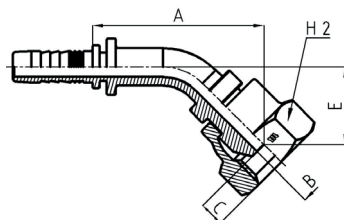


BS STANDARD CONNECTIONS

MS0543

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0543-04-04	6	-4	1/4"	1/4" - 19	4	34,7	5,4	14,7	19		
MS0543-06-06	10	-6	3/8"	3/8" - 19	7	41	6	15,3	22		



BS STANDARD CONNECTIONS

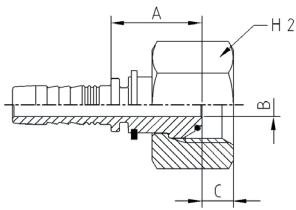
MS0541KR

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0541-04-04KR	6	-4	1/4"	1/4" - 19	4,2	36,5	5,2	16,6	19		
MS0541-06-06KR	10	-6	3/8"	3/8" - 19	7	44,5	6	20	22		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

BS STANDARD CONNECTIONS

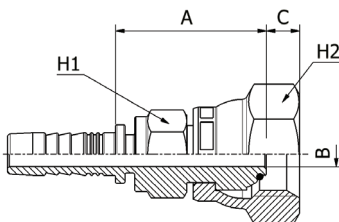


MS0813

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

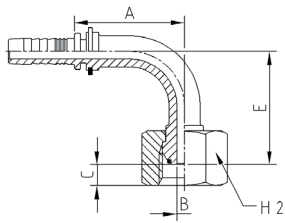
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
MS0813-04-04	6	- 4	1/4"	1/4" - 19		4	15,7	5,4	19			
MS0813-05-06	8	- 5	5/16"	3/8" - 19		7	18	6	22			
MS0813-06-06	10	- 6	3/8"	3/8" - 19		7	18,3	6	22			

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	23,5	5,2	12	19		
MS0811-06-06H17KR	10	- 6	3/8"	3/8" - 19		7	26	6	17	22		

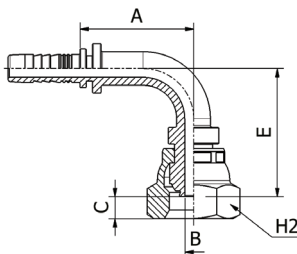


BS STANDARD CONNECTIONS

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	
MS0893-04-04	6	- 4	1/4"	1/4" - 19		4	28,2	5,4	29	19		
MS0893-05-06	8	- 5	5/16"	3/8" - 19		7	31	6	32,5	22		
MS0893-06-06	10	- 6	3/8"	3/8" - 19		7	35,3	6	31,5	22		



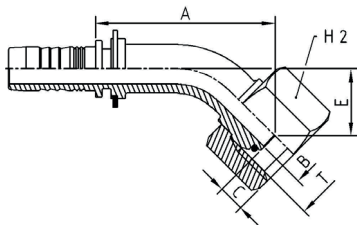
BS STANDARD CONNECTIONS

MS0891KR

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
MS0891-04-04KR	6	- 4	1/4"	1/4" - 19		4,2	27	5,2	30,5	19		
MS0891-06-06KR	10	- 6	3/8"	3/8" - 19		7	34,5	6	37,5	22		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

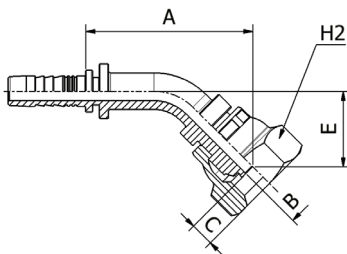


BS STANDARD CONNECTIONS

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		
MS0843-04-04	6	-4	1/4"	1/4" - 19		4	34,7	5,4	14,7	19		
MS0843-05-06	8	-5	5/16"	3/8" - 19		7	40,5	6	17	22		
MS0843-06-06	10	-6	3/8"	3/8" - 19		7	41	6	15,3	22		



BS STANDARD CONNECTIONS

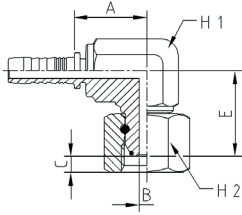
MS0841KR

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		
MS0841-04-04KR	6	-4	1/4"	1/4" - 19		4,2	36,5	5,2	16,5	19		
MS0841-06-06KR	10	-6	3/8"	3/8" - 19		7	44,5	6	20	22		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

BS STANDARD CONNECTIONS



MS0882F

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	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	



MULTIFIT

FITTING CODE	SECTION	PAGE
M..IP..	2	80
M00110-M00120-M00130	2	1
M00310-M00320	2	3
M00820-M00830	2	4
M00910-M00920-M00930	2	1
M03300	2	2
M03400	2	2
M03500	2	3
M10050	2	82
M10510	2	6
M10610	2	19
M10710	2	5
M11110	2	63
M11210	2	67
M11710	2	71
M11810	2	72
M12410	2	30
M12510	2	21
M12810	2	41
M13010	2	38
M14110R	2	42
M14310	2	39
M14390	2	39
M20511KR	2	8
M20512-20513	2	7
M20514	2	8
M20541KR	2	12
M20542-20543	2	11
M20591KR	2	10
M20592-20593	2	9
M20594	2	10
M20612-20613	2	20
M20711-20712	2	75
M20811HKR	2	14
M20812-20813	2	13
M20841KR	2	18
M20842-20843	2	17
M20882F	2	18
M20891KR	2	16
M20892-20893	2	15
M21013	2	59
M21093	2	59
M21312-21313	2	60
M21342-21343	2	62
M21392-21393	2	61
M21512-21513	2	64
M21542-21543	2	66
M21592-21593	2	65
M21612-21613	2	68
M21642-21643	2	70
M21692-M21693	2	69
M21713	2	71
M21813	2	72
M21893	2	73
M22010	2	55
M22040	2	58

FITTING CODE	SECTION	PAGE
M22090	2	57
M22110	2	56
M22140	2	58
M22190	2	57
M22411	2	31
M22441-22443	2	36
M22441KR	2	37
M22491-22493	2	33
M22491KR	2	34
M22512-22513	2	22
M22541KR	2	29
M22542-22543	2	28
M22582F	2	29
M22591KR	2	26
M22592-22593	2	25
M22612	2	40
M22692	2	40
M22711-KR-K	2	24
M22712	2	23
M22812	2	42
M23301P	2	51
M23301S	2	51
M23301T	2	52
M23311	2	43
M23321	2	44
M23331	2	45
M23341	2	46
M23361	2	47
M23371	2	48
M23391	2	49
M23391 LONG DROP	2	50
M23611	2	52
M23641	2	4
M23691	2	53
M23811	2	75
M23911	2	77
M23911CT	2	77
M23941	2	79
M23941CT	2	79
M23991	2	78
M23991CT	2	78
M24011-24012	2	74
M24091	2	74
M24111	2	76
M24141	2	76
M24191	2	76
M24491 LONG DROP	2	35
M24791KR	2	27
M24792-24793	2	26
M27411	2	32
M27411KR	2	32
O20310	2	81
O20910	2	81
O80210	2	82
O80810	2	82

MULTIFIT

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

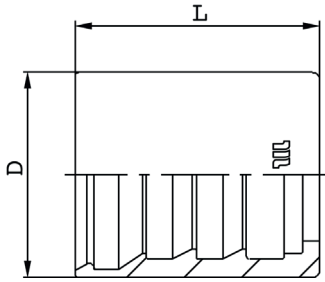
FERRULES

M00110 / M00120 / M00130																
M00910 / M00920																
M03300																
M03400																
M03500																
M00310																
M00320																
M00820 / M00830																

FITTINGS

BSP																
SAE (JIC)																
SAE (ORFS)																
SAE																
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																

FERRULE

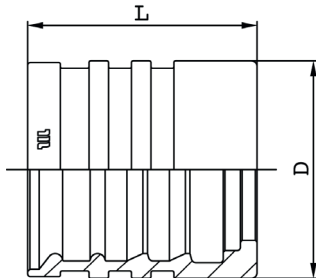


M00110/M00120/M00130

SKIVE FERRULE FOR WIRE BRAID HOSES

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00120-03	5	-3	3/16"			17	23,9				
M00120-04	6	-4	1/4"			19,5	28				
M00120-05	8	-5	5/16"			20	28,6				
M00120-06	10	-6	3/8"			23	30				
M00120-08	12	-8	1/2"			26,7	32				
M00120-10	16	-10	5/8"			32	38				
M00120-12	19	-12	3/4"			35,8	41,7				
M00130-16	25	-16	1"			43	47				
M00110-20	31	-20	1.1/4"			50,5	59				
M00110-24	38	-24	1.1/2"			57	70				
M00110-32	51	-32	2"			70	72				

FERRULE



M00910/M00920/M00930

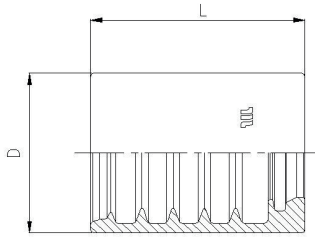
SKIVE FERRULE FOR WIRE BRAID AND SPIRAL HOSES

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00910-03	5	-3	3/16"			20,6	26				
M00910-04	6	-4	1/4"			22	30				
M00910-05	8	-5	5/16"			24	31				
M00910-06	10	-6	3/8"			26	33				
M00910-08	12	-8	1/2"			30	34				
M00910-10	16	-10	5/8"			33	39				
M00920-12	19	-12	3/4"			38	40				
M00930-16	25	-16	1"			46	54				
M00920-20	31	-20	1.1/4"			57	60				
M00910-24	38	-24	1.1/2"			65	70				
M00910-32	51	-32	2"			79	72				

FERRULE

M03300

NO-SKIVE FERRULE FOR WIRE BRAID HOSES



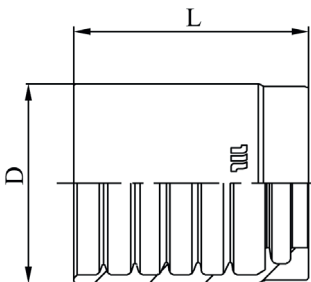
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03300-03	5	- 3	3/16"			19,2	22				
M03300-04	6	- 4	1/4"			20,5	27,5				
M03300-05	8	- 5	5/16"			22,8	28,5				
M03300-06	10	- 6	3/8"			25	30				

FITTINGS
F 2-2

FERRULE

M03400

NO-SKIVE FERRULE FOR WIRE BRAID HOSES

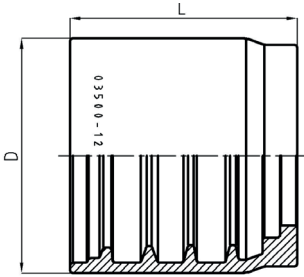


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03400-03	5	- 3	3/16"			21	23				
M03400-04	6	- 4	1/4"			23	30,1				
M03400-05	8	- 5	5/16"			24	30				
M03400-06	10	- 6	3/8"			26	31,1				
M03400-08	12	- 8	1/2"			29	34				
M03400-10	16	- 10	5/8"			33	37				
M03400-12	19	- 12	3/4"			37	42				
M03400-16	25	- 16	1"			46	50,7				
M03400-20	31	- 20	1.1/4"			59	57,2				
M03400-24	38	- 24	1.1/2"			67	64,8				
M03400-32	51	- 32	2"			80	68,3				
M03400-38	60	- 38	2.3/8"			82,5	69				
M03400-40	63	- 40	2.1/2"			88,2	68,8				
M03400-48	76	- 48	3"			103	75				
M03400-56	89	- 56	3.1/2"			123,4	91				

FERRULE

M03500

NO SKIVE FERRULE WIRE SPIRAL

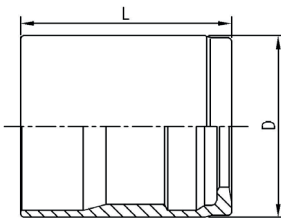


PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			D	L					
M03500-06	10	- 6	3/8"			29,5	30,7					
M03500-08	12	- 8	1/2"			33,4	32					
M03500-10	16	- 10	5/8"			37,2	34,8					
M03500-12	19	- 12	3/4"			41,3	40					
M03500-16	25	- 16	1"			49,1	51					

FERRULE

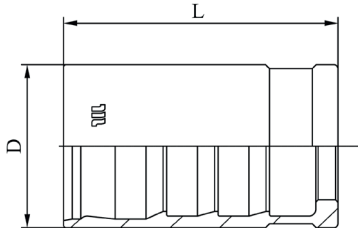
M00310/M00320

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					
M00310-04	6	- 4	1/4"			19,3	30					
M00310-05	8	- 5	5/16"			21	32					
M00310-06	10	- 6	3/8"			24	32					
M00310-08	12	- 8	1/2"			28,4	34					
M00310-10	16	- 10	5/8"			33	37					
M00320-12	19	- 12	3/4"			37	43					
M00310-16	25	- 16	1"			43,5	51					
M00310-20	31	- 20	1.1/4"			50	59					

FERRULE



M00820/M00830

NO-SKIVE FERRULE FOR COMPACT HOSES

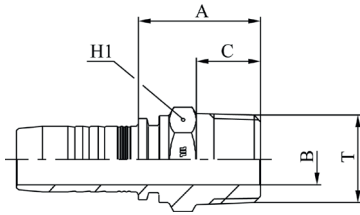
FITTINGS F 2-4

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00820-03	5	- 3	3/16"			14	26,4				
M00830-04	6	- 4	1/4"			18	29,6				
M00830-05	8	- 5	5/16"			19	31,9				
M00820-06	10	- 6	3/8"			22	32,9				
M00820-08	12	- 8	1/2"			26	33,9				
M00820-10	16	- 10	5/8"			29	35,9				
M00820-12	19	- 12	3/4"			33	41,7				
M00820-16	25	- 16	1"			41	49,7				
M00820-20	31	- 20	1.1/4"			48	57				
M00820-24	38	- 24	1.1/2"			55,5	66				
M00820-32	51	- 32	2"			68,6	70				

BS STANDARD CONNECTIONS

M10710

BSP MALE TAPERED - ISO 7

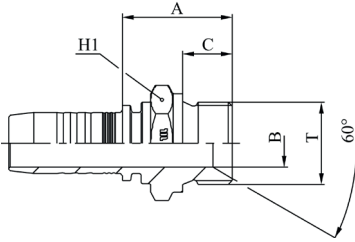


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M10710-03-02	5	-3	3/16"	1/8" - 28		4,5	20,5	8	12			
M10710-03-04	5	-3	3/16"	1/4" - 19		4,5	24,5	12	14			
M10710-04-02	6	-4	1/4"	1/8" - 28		4,5	21	8	12			
M10710-04-04	6	-4	1/4"	1/4" - 19		4,5	25	12	14			
M10710-04-06	6	-4	1/4"	3/8" - 19		7	26	12	19			
M10710-04-08	6	-4	1/4"	1/2" - 14		10	29,5	15	22			
M10710-05-04	8	-5	5/16"	1/4" - 19		5,5	25	12	14			
M10710-05-06	8	-5	5/16"	3/8" - 19		7	26,5	12	19			
M10710-05-08	8	-5	5/16"	1/2" - 14		10	30	15	22			
M10710-06-06	10	-6	3/8"	3/8" - 19		7	27	12	19			
M10710-06-08	10	-6	3/8"	1/2" - 14		10	30,5	15	22			
M10710-08-04	12	-8	1/2"	1/4" - 19		4,5	26	12	19			
M10710-08-08	12	-8	1/2"	1/2" - 14		10	31	15	22			
M10710-10-08	16	-10	5/8"	1/2" - 14		10	31	15	22			
M10710-10-12	16	-10	5/8"	3/4" - 14		17	34	17	27			
M10710-12-12	19	-12	3/4"	3/4" - 14		17	35,5	17	27			
M10710-16-12	25	-16	1"	3/4" - 14		17	38	17	32			
M10710-16-16	25	-16	1"	1" - 11		22,5	42	21	36			
M10710-20-20	31	-20	1.1/4"	1.1/4" - 11		28,5	47,5	23	46			
M10710-24-24	38	-24	1.1/2"	1.1/2" - 11		32	50	23	50			
M10710-32-32	51	-32	2"	2" - 11		44	55,5	27	65			

BS STANDARD CONNECTIONS

M10510

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

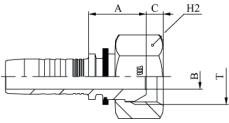
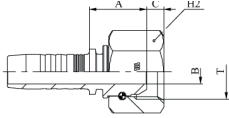


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M10510-03-02	5	-3	3/16"	1/8" - 28		3,5	22,5	10	14			
M10510-03-04	5	-3	3/16"	1/4" - 19		5	25	11	19			
M10510-04-02	6	-4	1/4"	1/8" - 28		3,5	22,5	10	14			
M10510-04-04	6	-4	1/4"	1/4" - 19		5	25,5	11	19			
M10510-04-06	6	-4	1/4"	3/8" - 19		8	27	12	22			
M10510-04-08	6	-4	1/4"	1/2" - 14		11	30	14	27			
M10510-05-04	8	-5	5/16"	1/4" - 19		5	26	11	19			
M10510-05-06	8	-5	5/16"	3/8" - 19		8	27,5	12	22			
M10510-06-04	10	-6	3/8"	1/4" - 19		5	26	11	19			
M10510-06-06	10	-6	3/8"	3/8" - 19		8	28	12	22			
M10510-06-08	10	-6	3/8"	1/2" - 14		11	30,5	14	27			
M10510-08-06	12	-8	1/2"	3/8" - 19		8	28	12	22			
M10510-08-08	12	-8	1/2"	1/2" - 14		11	31	14	27			
M10510-08-10	12	-8	1/2"	5/8" - 14		14,5	33	16	30			
M10510-08-12	12	-8	1/2"	3/4" - 14		17	34	16	32			
M10510-10-10	16	-10	5/8"	5/8" - 14		14,5	33	16	30			
M10510-10-12	16	-10	5/8"	3/4" - 14		17	35,5	16	32			
M10510-12-08	19	-12	3/4"	1/2" - 14		11	32	14	27			
M10510-12-12	19	-12	3/4"	3/4" - 14		17	35,5	16	32			
M10510-12-16	19	-12	3/4"	1" - 11		22,5	39,5	19	41			
M10510-16-12	25	-16	1"	3/4" - 14		17	36,5	16	32			
M10510-16-16	25	-16	1"	1" - 11		22,5	41	19	41			
M10510-16-20	25	-16	1"	1.1/4" - 11		28,5	45	20	50			
M10510-20-20	31	-20	1.1/4"	1.1/4" - 11		28,5	46,5	20	50			
M10510-20-24	31	-20	1.1/4"	1.1/2" - 11		33,5	48,5	22	55			
M10510-24-24	38	-24	1.1/2"	1.1/2" - 11		33,5	49,5	22	55			
M10510-32-32	51	-32	2"	2" - 11		46	54	25	70			

BS STANDARD CONNECTIONS

M20512/M20513

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



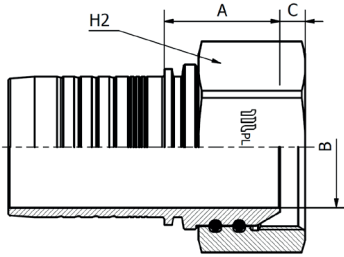
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H2			
M20512-03-02	5	-3	3/16"	1/8" - 28		3	16	4,4	14			
M20513-03-04	5	-3	3/16"	1/4" - 19		4	16,5	5,4	19			
M20512-04-02	6	-4	1/4"	1/8" - 28		3,1	16,5	4,4	14			
M20513-04-04	6	-4	1/4"	1/4" - 19		4	17	5,4	19			
M20513-04-06	6	-4	1/4"	3/8" - 19		7	19	6	22			
M20513-04-08	6	-4	1/4"	1/2" - 14		9,5	19,5	6,3	27			
M20512-05-04	8	-5	5/16"	1/4" - 19		4,1	17,5	4,2	19			
M20513-05-06	8	-5	5/16"	3/8" - 19		7	19	6	22			
M20513-05-08	8	-5	5/16"	1/2" - 14		9,3	20,5	6,3	27			
M20512-06-04	10	-6	3/8"	1/4" - 19		4,1	18	4,2	19			
M20513-06-06	10	-6	3/8"	3/8" - 19		7	19,5	6	22			
M20513-06-08	10	-6	3/8"	1/2" - 14		9,3	20	6,3	27			
M20512-08-06	12	-8	1/2"	3/8" - 19		7,1	21	6	22			
M20513-08-08	12	-8	1/2"	1/2" - 14		9,3	20,5	6,3	27			
M20512-08-10	12	-8	1/2"	5/8" - 14		12,1	22	10,2	28			
M20512-08-12	12	-8	1/2"	3/4" - 14		15	24,5	9	32			
M20512-10-08	16	-10	5/8"	1/2" - 14		9,8	24	6,5	27			
M20512-10-10	16	-10	5/8"	5/8" - 14		12,5	21,5	10,2	28			
M20512-10-12	16	-10	5/8"	3/4" - 14		15	23	9	32			
M20512-12-08	19	-12	3/4"	1/2" - 14		9,8	25	6,5	27			
M20512-12-12	19	-12	3/4"	3/4" - 14		15	24,5	9	32			
M20512-12-16	19	-12	3/4"	1" - 11		19,8	26	10,5	38			
M20512-16-12	25	-16	1"	3/4" - 14		15	25,5	9	32			
M20512-16-16	25	-16	1"	1" - 11		19,8	27,5	10,5	38			

M20512: THRUST-WIRE NUT / M20513: SLIP-ON NUT

BS STANDARD CONNECTIONS

M20514

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

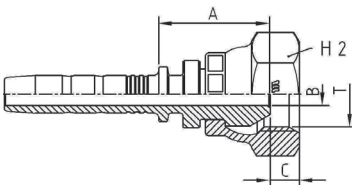


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M20514-40-40	63	- 40	2.1/2"	2.1/2"		55,4	52,5	11,5	85			
M20514-48-48	76	- 48	3"	3"		65	57	10,9	100			

BS STANDARD CONNECTIONS

M20511KR

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



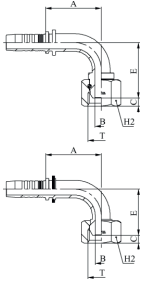
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M20511-04-04H12KR	6	- 4	1/4"	1/4" - 19		4	25	5,2	19			
M20511-04-04KR	6	- 4	1/4"	1/4" - 19		4	20	5,2	19			
M20511-04-06H17KR	6	- 4	1/4"	3/8" - 19		7	27	6	22			
M20511-06-06H17KR	10	- 6	3/8"	3/8" - 19		7	27,5	6	22			
M20511-06-06KR	10	- 6	3/8"	3/8" - 19		7	22	6	22			
M20511-06-08H19KR	10	- 6	3/8"	1/2" - 14		9,3	29,5	6,5	27			
M20511-08-06H19KR	12	- 8	1/2"	3/8" - 19		7	29,5	6	22			
M20511-08-08H19KR	12	- 8	1/2"	1/2" - 14		9,3	30	6,5	27			
M20511-08-08KR	12	- 8	1/2"	1/2" - 14		9,3	24	6,5	27			

KR:CRIMPED-BACK KOMPACT ROBUST NUT
H:FITTINGS WITH COUNTER-HEX.

BS STANDARD CONNECTIONS

M20592/M20593

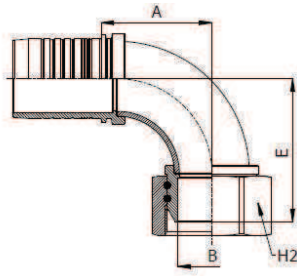
90° BSP FEMALE SWEPT ELBOW 60° CONE - BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M20592-03-02	5	-3	3/16"	1/8" - 28		3	21,5	4,4	26	14		
M20593-03-04	5	-3	3/16"	1/4" - 19		4	29	5,4	29	19		
M20592-04-02	6	-4	1/4"	1/8" - 28		3,1	28,5	4,4	27	14		
M20593-04-04	6	-4	1/4"	1/4" - 19		4	29,5	5,4	29	19		
M20593-04-06	6	-4	1/4"	3/8" - 19		7	29,5	6	31	22		
M20592-05-04	8	-5	5/16"	1/4" - 19		4	26,5	4,1	29,5	19		
M20593-05-06	8	-5	5/16"	3/8" - 19		7	32	6	27,5	22		
M20593-05-08	8	-5	5/16"	1/2" - 14		9,3	36,5	6,3	32	27		
M20592-06-04	10	-6	3/8"	1/4" - 19		4	27	4,1	29,5	19		
M20593-06-06	10	-6	3/8"	3/8" - 19		7	36,5	6	31,5	22		
M20593-06-08	10	-6	3/8"	1/2" - 14		9,3	36,5	6,3	32	27		
M20592-08-06	12	-8	1/2"	3/8" - 19		7,1	45	6	41	22		
M20593-08-08	12	-8	1/2"	1/2" - 14		9,3	45	6,3	36,5	27		
M20592-08-10	12	-8	1/2"	5/8" - 14		12,1	44	10,2	44	28		
M20592-08-12	12	-8	1/2"	3/4" - 14		15	44	9	45,5	32		
M20592-10-08	16	-10	5/8"	1/2" - 14		9,3	53,5	6,5	54,5	27		
M20592-10-10	16	-10	5/8"	5/8" - 14		12,5	53,5	10,2	53,5	28		
M20592-10-12	16	-10	5/8"	3/4" - 14		15	53,5	9	55	32		
M20592-12-08	19	-12	3/4"	1/2" - 14		9,3	45,5	6,5	44	27		
M20592-12-12	19	-12	3/4"	3/4" - 14		15	61,5	9	59,5	32		
M20592-12-16	19	-12	3/4"	1" - 11		19,8	61,5	10,5	62	38		
M20592-16-12	25	-16	1"	3/4" - 14		15	64,5	9	59,5	32		
M20592-16-16	25	-16	1"	1" - 11		19,8	79,5	10,5	76	38		

M20592: THRUST-WIRE NUT / M20593: SLIP-ON NUT

BS STANDARD CONNECTIONS

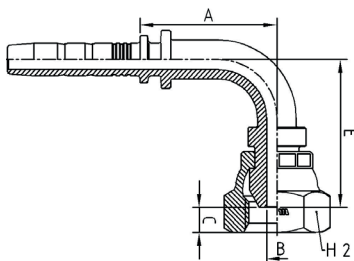


M20594

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M20594-40-40	63	- 40	2.1/2"	2.1/2"		55,4	88	11,5	114	85		
M20594-48-48	76	- 48	3"	3"		65	123	10,9	135	100		

BRAZED SOLUTION



BS STANDARD CONNECTIONS

M20591KR

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

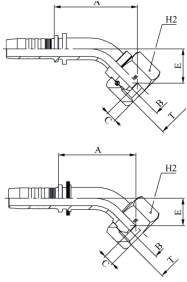
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M20591-04-04KR	6	- 4	1/4"	1/4" - 19		4,2	28,5	5,2	30,5	19		
M20591-04-06KR	6	- 4	1/4"	3/8" - 19		7	28,5	6	32	22		
M20591-06-06KR	10	- 6	3/8"	3/8" - 19		7	35,5	6	37,5	22		
M20591-06-08KR	10	- 6	3/8"	1/2" - 14		9,3	35,5	6,5	39	27		
M20591-08-06KR	12	- 8	1/2"	3/8" - 19		7	44	6	42	22		
M20591-08-08KR	12	- 8	1/2"	1/2" - 14		9,3	44	6,5	43,5	27		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

BS STANDARD CONNECTIONS

M20542/M20543

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



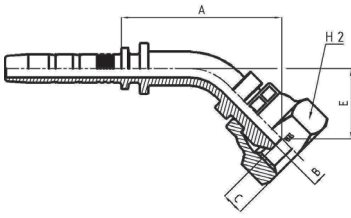
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M20542-03-02	5	- 3	3/16"	1/8" - 28		3	31	4,4	15	14		
M20543-03-04	5	- 3	3/16"	1/4" - 19		4	35,5	5,4	14,5	19		
M20542-04-02	6	- 4	1/4"	1/8" - 28		3,1	35,5	4,4	14,5	14		
M20543-04-04	6	- 4	1/4"	1/4" - 19		4	36	5,4	15	19		
M20543-04-06	6	- 4	1/4"	3/8" - 19		7	37,5	6	16	22		
M20542-05-04	8	- 5	5/16"	1/4" - 19		4	35,5	4,1	16	19		
M20543-05-06	8	- 5	5/16"	3/8" - 19		7	38	6	13,5	22		
M20543-06-06	10	- 6	3/8"	3/8" - 19		7	42	6	15,5	22		
M20543-06-08	10	- 6	3/8"	1/2" - 14		9,3	42,5	6,3	16	27		
M20542-08-06	12	- 8	1/2"	3/8" - 19		7,1	52	6	20	22		
M20543-08-08	12	- 8	1/2"	1/2" - 14		9,3	49,5	6,3	17	27		
M20542-08-10	12	- 8	1/2"	5/8" - 14		12,1	54,5	10,2	22,5	28		
M20542-08-12	12	- 8	1/2"	3/4" - 14		15	57	9	25	32		
M20542-10-08	16	- 10	5/8"	1/2" - 14		9,3	63,5	6,5	26,5	27		
M20542-10-10	16	- 10	5/8"	5/8" - 14		12,5	63	10,2	26	28		
M20542-10-12	16	- 10	5/8"	3/4" - 14		15	64	9	27	32		
M20542-12-08	19	- 12	3/4"	1/2" - 14		9,3	55,5	6,5	22,5	27		
M20542-12-12	19	- 12	3/4"	3/4" - 14		15	70,5	9	28,5	32		
M20542-12-16	19	- 12	3/4"	1" - 11		19,8	72,5	10,5	30	38		
M20542-16-16	25	- 16	1"	1" - 11		19,8	91	10,5	36,5	38		

M20542: THRUST-WIRE NUT / M20543: SLIP-ON NUT

BS STANDARD CONNECTIONS

M20541KR

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



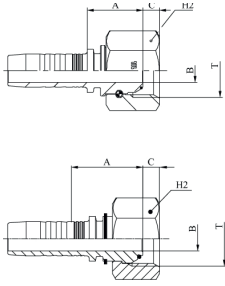
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M20541-04-04KR	6	- 4	1/4"	1/4" - 19		4,2	38	5,2	16,6	19		
M20541-06-06KR	10	- 6	3/8"	3/8" - 19		7	45,5	6	20	22		
M20541-08-08KR	12	- 8	1/2"	1/2" - 14		9,3	54	6,5	22	27		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

BS STANDARD CONNECTIONS

M20812/M20813

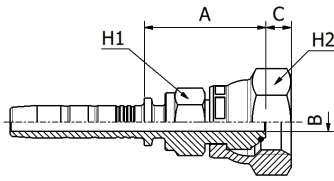
BSP O-RING FEMALE 60° CONE - BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M20813-03-04	5	- 3	3/16"	1/4" - 19		4	16,5	5,4	19			
M20813-04-04	6	- 4	1/4"	1/4" - 19		4	17	5,4	19			
M20813-04-06	6	- 4	1/4"	3/8" - 19		7	19	6	22			
M20812-06-04	10	- 6	3/8"	1/4" - 19		4,1	18	4,1	19			
M20813-06-06	10	- 6	3/8"	3/8" - 19		7	19,5	6	22			
M20813-06-08	10	- 6	3/8"	1/2" - 14		9,3	21	6,3	27			
M20813-08-08	12	- 8	1/2"	1/2" - 14		9,3	20,5	6,3	27			
M20812-10-10	16	- 10	5/8"	5/8" - 14		12,5	22	9,7	28			
M20812-12-12	19	- 12	3/4"	3/4" - 14		15	25	8,5	32			
M20812-16-12	25	- 16	1"	3/4" - 14		15	26	8,5	32			
M20812-16-16	25	- 16	1"	1" - 11		19,8	27,5	10,6	38			
M20812-16-20	25	- 16	1"	1.1/4" - 11		26,1	31	10,5	50			
M20812-20-16	31	- 20	1.1/4"	1" - 11		19,8	29	10,5	38			
M20812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	31,5	10,5	50			
M20812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	29,5	12,5	60			
M20812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26	31,5	10,5	50			
M20812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32	30,5	12,5	60			
M20812-24-32	38	- 24	1.1/2"	2" - 11		42,1	30	16,1	70			
M20812-32-32	51	- 32	2"	2" - 11		42	32	16,1	70			

M20812: THRUST-WIRE NUT / M20813: SLIP-ON NUT

BS STANDARD CONNECTIONS



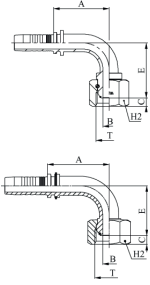
M20811HKR

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1	H2	
M20811-04-04H12KR	6	- 4	1/4"	1/4" - 19		4	25	5,2	12	19		
M20811-04-06H17KR	6	- 4	1/4"	3/8" - 19		7	27	6	17	22		
M20811-06-04H17KR	10	- 6	3/8"	1/4" - 19		4	26	5,2	17	19		
M20811-06-06H17KR	10	- 6	3/8"	3/8" - 19		7	27,5	6	17	22		
M20811-06-08H19KR	10	- 6	3/8"	1/2" - 14		9,3	29,5	6,5	19	27		
M20811-08-06H19KR	12	- 8	1/2"	3/8" - 19		7	29,5	6	19	22		
M20811-08-08H19KR	12	- 8	1/2"	1/2" - 14		9,3	30	5,5	19	22		

BS STANDARD CONNECTIONS

M20892/M20893

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



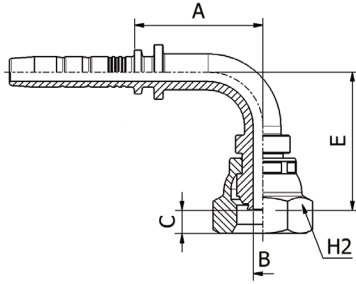
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20893-03-04	5	-3	3/16"	1/4" - 19	4	29	5,4	29	19		
M20893-04-04	6	-4	1/4"	1/4" - 19	4	29,5	5,4	29	19		
M20892-06-04	10	-6	3/8"	1/4" - 19	4,1	35,5	4,1	33	19		
M20893-06-06	10	-6	3/8"	3/8" - 19	7	36,5	6	31,5	22		
M20893-08-08	12	-8	1/2"	1/2" - 14	9,3	45	6,3	36,5	27		
M20892-10-10	16	-10	5/8"	5/8" - 14	12,5	53	9,7	55	28		
M20892-12-12	19	-12	3/4"	3/4" - 14	15	61,5	8,5	60	32		
M20892-12-16	19	-12	3/4"	1" - 11	19,8	61,5	10,6	62	38		
M20892-16-12	25	-16	1"	3/4" - 14	15	79,5	8,5	60	32		
M20892-16-16	25	-16	1"	1" - 11	19,8	79,5	10,6	76	38		
M20892-16-20	25	-16	1"	1.1/4" - 11	26,1	79,5	10,5	78,5	50		
M20892-20-16	31	-20	1.1/4"	1" - 11	19,8	79,5	10,6	76	38		
M20892-20-20	31	-20	1.1/4"	1.1/4" - 11	26	90,5	10,5	83,5	50		
M20892-20-24	31	-20	1.1/4"	1.1/2" - 11	32,1	90,5	12,5	84,5	60		
M20892-24-20	38	-24	1.1/2"	1.1/4" - 11	26	95	10,5	90,5	50		
M20892-24-24	38	-24	1.1/2"	1.1/2" - 11	32	108	12,5	98,5	60		
M20892-24-32	38	-24	1.1/2"	2" - 11	42,1	108	16,1	98	70		
M20892-32-32	51	-32	2"	2" - 11	42	131	16,1	110,5	70		

M20892: THRUST-WIRE NUT / M20893: SLIP-ON NUT

BS STANDARD CONNECTIONS

M20891KR

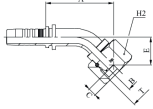
90° BSP O-RING FEMALE 60° CONE - BS5200 / ISO 12151-6



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		
M20891-04-06KR	6	- 4	1/4"	3/8" - 19		7	28,5	6	32	22		
M20891-06-04KR	10	- 6	3/8"	1/4" - 19		4	37,5	5,2	36	19		
M20891-06-06KR	10	- 6	3/8"	3/8" - 19		7	35,5	6	37,5	22		
M20891-06-08KR	10	- 6	3/8"	1/2" - 14		9,3	35,5	6,5	39	27		
M20891-08-06KR	12	- 8	1/2"	3/8" - 19		7	44	6	42	22		
M20891-08-08KR	12	- 8	1/2"	1/2" - 14		9,3	44	5,5	43,5	22		

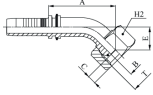
KR:CRIMPED-BACK KOMPACT ROBUST NUT

BS STANDARD CONNECTIONS



M20842/M20843

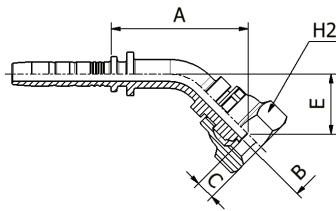
45° BSP O-RING FEMALE SWEPT ELBOW 60° CONE BS5200 / ISO
12151-6



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M20843-04-04	6	- 4	1/4"	1/4" - 19		4	36	5,4	14,5	19		
M20843-06-06	10	- 6	3/8"	3/8" - 19		7	42	6	15,5	22		
M20843-08-08	12	- 8	1/2"	1/2" - 14		9,3	49,5	6,3	17	27		
M20842-10-10	16	- 10	5/8"	5/8" - 14		12,5	63,5	9,7	27,5	28		
M20842-12-12	19	- 12	3/4"	3/4" - 14		15	71	8,5	29	32		
M20842-16-12	25	- 16	1"	3/4" - 14		15	79,5	8,5	29	32		
M20842-16-16	25	- 16	1"	1" - 11		19,8	90,5	10,6	35,5	38		
M20842-16-20	25	- 16	1"	1.1/4" - 11		26,1	93	10,5	38	50		
M20842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	101,5	10,5	39	50		
M20842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	118,5	12,5	40,5	60		
M20842-24-20	38	- 24	1.1/2"	1.1/4" - 11		26	106	10,5	42	50		
M20842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32	118	12,5	45	60		
M20842-24-32	38	- 24	1.1/2"	2" - 11		42,1	117,5	16,1	44,5	70		
M20842-32-32	51	- 32	2"	2" - 11		42	134	16,1	47	70		

M20842: THRUST-WIRE NUT / M20843: SLIP-ON NUT

BS STANDARD CONNECTIONS



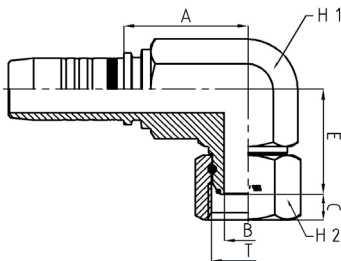
M20841KR

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20841-04-04KR	6	- 4	1/4"	1/4" - 19	4,2	38	5,2	16,6	19		
M20841-06-06KR	10	- 6	3/8"	3/8" - 19	7	45,5	6	16,5	22		
M20841-08-08KR	12	- 8	1/2"	1/2" - 14	9,3	54	6,5	22	27		

FITTINGS F 2-18

BS STANDARD CONNECTIONS

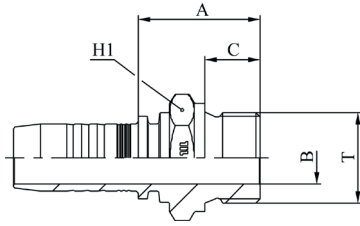


M20882F

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		T	B	A	C	E	H1	H2
M20882-04-04F	6	- 4	1/4"	1/4" - 19	4	20	4,1	22	14	19	
M20882-06-06F	10	- 6	3/8"	3/8" - 19	7	23	6	27,5	19	22	
M20882-08-08F	12	- 8	1/2"	1/2" - 14	9,3	25	6,5	31	22	27	
M20882-10-10F	16	- 10	5/8"	5/8" - 14	12,5	24,5	9,7	32,5	24	28	
M20882-12-12F	19	- 12	3/4"	3/4" - 14	15	37,5	8,5	36	27	32	
M20882-16-16F	25	- 16	1"	1" - 11	20	52	10,6	44	36	38	

BS STANDARD CONNECTIONS



M10610

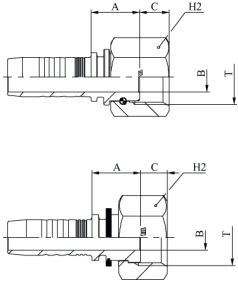
BSP MALE FLAT SEAT

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1		
M10610-04-04	6	- 4	1/4"	1/4" - 19		6	25,5	11	19			
M10610-06-06	10	- 6	3/8"	3/8" - 19		9,5	28	12	22			
M10610-06-08	10	- 6	3/8"	1/2" - 14		13	30,5	14	27			
M10610-08-08	12	- 8	1/2"	1/2" - 14		13	31	14	27			
M10610-10-08	16	- 10	5/8"	1/2" - 14		13	31	14	27			
M10610-12-12	19	- 12	3/4"	3/4" - 14		18	35,5	16	32			

BS STANDARD CONNECTIONS

M20612/M20613

BSP FEMALE FLAT SEAT



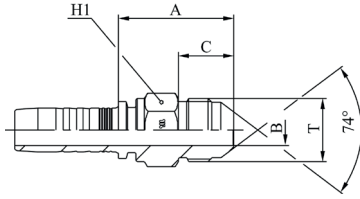
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M20613-04-04	6	- 4	1/4"	1/4" - 19		4	14,5	7,9	19			
M20613-05-06	8	- 5	5/16"	3/8" - 19		7	16	9	22			
M20613-06-06	10	- 6	3/8"	3/8" - 19		7	16,5	9	22			
M20613-06-08	10	- 6	3/8"	1/2" - 14		9,3	17,5	9,8	27			
M20613-08-08	12	- 8	1/2"	1/2" - 14		9,3	18	9,8	27			
M20612-08-12	12	- 8	1/2"	3/4" - 14		15	21	11,5	32			
M20612-10-12	16	- 10	5/8"	3/4" - 14		15	20,5	11,5	32			
M20612-12-12	19	- 12	3/4"	3/4" - 14		15	22	11,5	32			
M20612-12-16	19	- 12	3/4"	1" - 11		19,8	23,5	13	38			
M20612-16-16	25	- 16	1"	1" - 11		19,8	25	13	38			
M20612-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	26	15	50			

M20612: THRUST-WIRE NUT / M20613: SLIP-ON NUT

SAE STANDARD CONNECTIONS

M12510

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

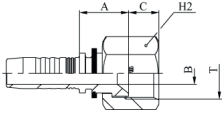
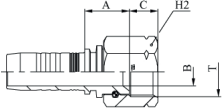


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M12510-04-04	6	-4	1/4"	7/16" - 20		4	28	14	12			
M12510-04-05	6	-4	1/4"	1/2" - 20		5,5	29	14	14			
M12510-04-06	6	-4	1/4"	9/16" - 18		7	29	14	17			
M12510-05-04	8	-5	5/16"	7/16" - 20		4	29	14	14			
M12510-05-05	8	-5	5/16"	1/2" - 20		5,5	29	14	14			
M12510-05-06	8	-5	5/16"	9/16" - 18		7	29	14	17			
M12510-06-05	10	-6	3/8"	1/2" - 20		5,5	29,5	14	17			
M12510-06-06	10	-6	3/8"	9/16" - 18		7	29,5	14	17			
M12510-06-08	10	-6	3/8"	3/4" - 16		9,3	34	16,5	19			
M12510-06-10	10	-6	3/8"	7/8" - 14		12,5	38,5	19,5	24			
M12510-08-06	12	-8	1/2"	9/16" - 18		7	32	14	19			
M12510-08-08	12	-8	1/2"	3/4" - 16		9,3	34,5	16,5	19			
M12510-08-10	12	-8	1/2"	7/8" - 14		12,5	39	19,5	24			
M12510-08-12	12	-8	1/2"	1.1/16" - 12		15	43	22	27			
M12510-10-10	16	-10	5/8"	7/8" - 14		12,5	39	19,5	24			
M12510-10-12	16	-10	5/8"	1.1/16" - 12		15	42,5	22	27			
M12510-12-10	19	-12	3/4"	7/8" - 14		12,5	41,5	19,5	27			
M12510-12-12	19	-12	3/4"	1.1/16" - 12		15	44	22	27			
M12510-12-14	19	-12	3/4"	1.3/16" - 12		15	44,5	22,5	32			
M12510-12-16	19	-12	3/4"	1.5/16" - 12		19,8	47	23	34			
M12510-16-12	25	-16	1"	1.1/16" - 12		15	45	22	32			
M12510-16-16	25	-16	1"	1.5/16" - 12		19,8	48	23	34			
M12510-16-20	25	-16	1"	1.5/8" - 12		26	53	24,3	42			
M12510-20-20	31	-20	1.1/4"	1.5/8" - 12		26	53,5	24,3	42			
M12510-20-24	31	-20	1.1/4"	1.7/8" - 12		32	60,5	27,5	50			
M12510-24-24	38	-24	1.1/2"	1.7/8" - 12		32	60,5	27,5	50			
M12510-32-32	51	-32	2"	2.1/2" - 12		42	72	34	65			

SAE STANDARD CONNECTIONS

M22512/M22513

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



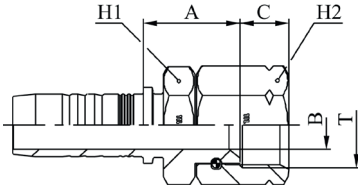
FITTINGS F 2-22

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C				
M22513-03-04	5	- 3	3/16"	7/16" - 20		3	15	8	15			
M22512-03-05	5	- 3	3/16"	1/2" - 20		4	15,5	9,1	17			
M22512-04-04	6	- 4	1/4"	7/16" - 20		4	15,5	8,7	17			
M22512-04-05	6	- 4	1/4"	1/2" - 20		4	16	9,1	17			
M22513-04-06	6	- 4	1/4"	9/16" - 18		4	16,5	9,8	19			
M22512-05-04	8	- 5	5/16"	7/16" - 20		4	15,5	8,7	17			
M22512-05-05	8	- 5	5/16"	1/2" - 20		5,5	16	9,1	17			
M22512-05-06	8	- 5	5/16"	9/16" - 18		7	15,5	9,2	19			
M22513-05-08	8	- 5	5/16"	3/4" - 16		5,5	17	10,1	22			
M22512-06-05	10	- 6	3/8"	1/2" - 20		5,5	16,5	9,1	17			
M22512-06-06	10	- 6	3/8"	9/16" - 18		7	16	9,2	19			
M22513-06-08	10	- 6	3/8"	3/4" - 16		7	17,5	10,1	22			
M22513-06-10	10	- 6	3/8"	7/8" - 14		9,3	18	12,4	27			
M22512-08-08	12	- 8	1/2"	3/4" - 16		9,3	20	10,2	22			
M22513-08-10	12	- 8	1/2"	7/8" - 14		9,3	18,5	12,4	27			
M22513-08-12	12	- 8	1/2"	1.1/16" - 12		12,5	22	14,1	32			
M22512-10-10	16	- 10	5/8"	7/8" - 14		12,5	20	12,3	27			
M22513-10-12	16	- 10	5/8"	1.1/16" - 12		12,5	21,5	14,1	32			
M22512-12-08	19	- 12	3/4"	3/4" - 16		9,3	21,5	10,2	22			
M22512-12-10	19	- 12	3/4"	7/8" - 14		12,5	21,5	12,3	27			
M22512-12-12	19	- 12	3/4"	1.1/16" - 12		15	22,5	14,2	32			
M22512-12-14	19	- 12	3/4"	1.3/16" - 12		15	23	14,3	36			
M22512-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	23	15	38			
M22512-16-12	25	- 16	1"	1.1/16" - 12		15	23,5	14,2	32			
M22512-16-16	25	- 16	1"	1.5/16" - 12		19,8	24	15	38			
M22512-16-20	25	- 16	1"	1.5/8" - 12		26	30	16,2	50			
M22512-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	30	16,2	50			
M22512-20-24	31	- 20	1.1/4"	1.7/8" - 12		32	35	18,8	60			
M22512-24-24	38	- 24	1.1/2"	1.7/8" - 12		32	35	18,8	60			
M22512-32-24	51	- 32	2"	1.7/8" - 12		32	37	18,8	60			
M22512-32-32	51	- 32	2"	2.1/2" - 12		44	35,5	24	75			

SAE STANDARD CONNECTIONS

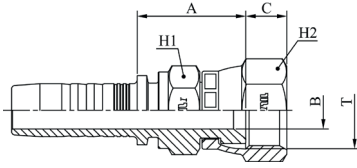
M22712

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	20,5	8,7	12	17		
M22712-04-04	6	- 4	1/4"	7/16" - 20		4	21	8,7	12	17		
M22712-04-05	6	- 4	1/4"	1/2" - 20		4	21,5	9,1	12	17		
M22712-04-06	6	- 4	1/4"	9/16" - 18		7	24	9,2	14	19		
M22712-05-05	8	- 5	5/16"	1/2" - 20		5,5	21,5	9,1	14	17		
M22712-05-06	8	- 5	5/16"	9/16" - 18		7	24	9,2	14	19		
M22712-05-08	8	- 5	5/16"	3/4" - 16		9,3	26	10,2	19	22		
M22712-06-04	10	- 6	3/8"	7/16" - 20		4	24,5	8,7	17	17		
M22712-06-05	10	- 6	3/8"	1/2" - 20		5,5	25	9,1	17	17		
M22712-06-06	10	- 6	3/8"	9/16" - 18		7	24,5	9,2	17	19		
M22712-06-08	10	- 6	3/8"	3/4" - 16		9,3	27	10,2	19	22		
M22712-06-10	10	- 6	3/8"	7/8" - 14		12,5	28	12,3	22	27		
M22712-08-06	12	- 8	1/2"	9/16" - 18		7	24,5	9,2	19	19		
M22712-08-08	12	- 8	1/2"	3/4" - 16		9,3	27,5	10,2	19	22		
M22712-08-10	12	- 8	1/2"	7/8" - 14		12,5	28,5	12,3	22	27		
M22712-08-12	12	- 8	1/2"	1.1/16" - 12		14	30	14,2	27	32		
M22712-10-08	16	- 10	5/8"	3/4" - 16		9,3	28,5	10,2	22	22		
M22712-10-10	16	- 10	5/8"	7/8" - 14		12,5	28,5	12,3	22	27		
M22712-10-12	16	- 10	5/8"	1.1/16" - 12		15	30	14,2	27	32		
M22712-12-08	19	- 12	3/4"	3/4" - 16		9,3	30	10,2	27	22		
M22712-12-10	19	- 12	3/4"	7/8" - 14		12,5	30	12,3	27	27		
M22712-12-12	19	- 12	3/4"	1.1/16" - 12		15	31,5	14,2	27	32		
M22712-12-14	19	- 12	3/4"	1.3/16" - 12		15	33	14,3	30	36		
M22712-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	32,5	15	32	38		
M22712-16-12	25	- 16	1"	1.1/16" - 12		12,5	34	14,2	32	32		
M22712-16-16	25	- 16	1"	1.5/16" - 12		19,8	34,5	15	32	38		
M22712-16-20	25	- 16	1"	1.5/8" - 12		26	43	16,2	41	50		
M22712-20-16	31	- 20	1.1/4"	1.5/16" - 12		19,8	36	15	38	38		
M22712-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	43,5	16,2	41	50		
M22712-24-24	38	- 24	1.1/2"	1.7/8" - 12		32	51	18,8	50	60		
M22712-32-32	51	- 32	2"	2.1/2" - 12		44	51,5	24	65	75		

SAE STANDARD CONNECTIONS



M22711/M22711KR/M22711K

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

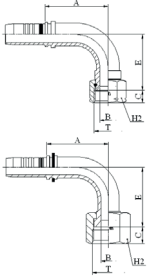
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1	H2	
M22711-03-04K	5	- 3	3/16"	7/16" - 20		4	20	8,9	12	15		
M22711-04-04KR	6	- 4	1/4"	7/16" - 20		4	20,5	8,9	12	15		
M22711-04-05KR	6	- 4	1/4"	1/2" - 20		4	21	9,4	14	17		
M22711-04-06KR	6	- 4	1/4"	9/16" - 18		7	21,5	9,5	14	17		
M22711-06-04KR	10	- 6	3/8"	7/16" - 20		4	21,5	8,9	17	15		
M22711-06-05KR	10	- 6	3/8"	1/2" - 20		4	22	9,4	17	17		
M22711-06-06KR	10	- 6	3/8"	9/16" - 18		7	22	9,5	17	17		
M22711-06-08KR	10	- 6	3/8"	3/4" - 16		9,3	26,5	10,7	19	22		
M22711-08-08KR	12	- 8	1/2"	3/4" - 16		9,3	27	10,7	19	22		
M22711-08-10KR	12	- 8	1/2"	7/8" - 14		9,3	29,5	12,5	22	25		
M22711-08-12KR	12	- 8	1/2"	1.1/16" - 12		15	28,5	14,1	27	32		
M22711-10-08KR	16	- 10	5/8"	3/4" - 16		9,3	28,5	10,7	22	22		
M22711-10-10KR	16	- 10	5/8"	7/8" - 14		12,5	29,5	12,5	22	25		
M22711-10-12KR	16	- 10	5/8"	1.1/16" - 12		15	29	14,1	27	32		
M22711-12-08KR	19	- 12	3/4"	3/4" - 16		9,3	29,5	10,7	27	22		
M22711-12-10KR	19	- 12	3/4"	7/8" - 14		12,5	30,5	12,5	27	25		
M22711-12-12KR	19	- 12	3/4"	1.1/16" - 12		15	30	14,1	27	32		
M22711-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	34,5	15,3	32	38		
M22711-16-12KR	25	- 16	1"	1.1/16" - 12		15	32,5	14,1	32	32		
M22711-16-16	25	- 16	1"	1.5/16" - 12		19,8	35,5	15,3	32	38		
M22711-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	42	16,1	41	50		
M22711-24-24	38	- 24	1.1/2"	1.7/8" - 12		32	46,5	18,6	50	60		
M22711-32-32	51	- 32	2"	2.1/2" - 12		42	50,5	23,5	65	75		

M22711: CRIMPED-BACK NUT / M22711KR and M22711K: CRIMPED-BACK COMPACT NUT

SAE STANDARD CONNECTIONS

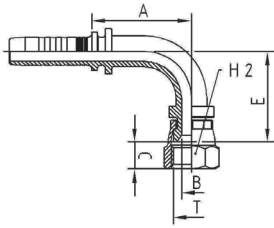
M22592/M22593

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M22593-03-04	5	- 3	3/16"	7/16" - 20		3	26	8,5	23,5	15		
M22592-04-04	6	- 4	1/4"	7/16" - 20		4	28,5	8,7	27	17		
M22592-04-05	6	- 4	1/4"	1/2" - 20		4	28,5	9,1	27,5	17		
M22593-04-06	6	- 4	1/4"	9/16" - 18		4	29,5	9,8	28	19		
M22593-04-08	6	- 4	1/4"	3/4" - 16		7	29,5	10	30,5	22		
M22592-05-05	8	- 5	5/16"	1/2" - 20		5,5	31	9,1	28	17		
M22592-05-06	8	- 5	5/16"	9/16" - 18		7	31	9,2	28,5	19		
M22592-06-05	10	- 6	3/8"	1/2" - 20		5,5	30	9,1	26,5	17		
M22592-06-06	10	- 6	3/8"	9/16" - 18		7	35,5	9,2	32,5	19		
M22593-06-08	10	- 6	3/8"	3/4" - 16		7	36,5	10,1	29,5	22		
M22593-06-10	10	- 6	3/8"	7/8" - 14		9,3	36,5	12,4	31,5	27		
M22592-08-06	12	- 8	1/2"	9/16" - 18		7	37	9,2	33	19		
M22592-08-08	12	- 8	1/2"	3/4" - 16		9,3	44	10,2	41	22		
M22593-08-10	12	- 8	1/2"	7/8" - 14		9,3	45	12,4	36	27		
M22593-08-12	12	- 8	1/2"	1.1/16" - 12		12,5	45	14,1	36	32		
M22592-10-10	16	- 10	5/8"	7/8" - 14		12,5	53,5	12,3	52,5	27		
M22593-10-12	16	- 10	5/8"	1.1/16" - 12		12,5	51,5	14,1	50	32		
M22592-12-10	19	- 12	3/4"	7/8" - 14		12,5	55	12,3	52,5	27		
M22592-12-12	19	- 12	3/4"	1.1/16" - 12		15	62	14,2	58	32		
M22592-12-14	19	- 12	3/4"	1.3/16" - 12		15	63	14,3	58	36		
M22592-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	63	15	57,5	38		
M22592-16-16	25	- 16	1"	1.5/16" - 12		19,8	77	15	68,5	38		
M22592-16-20	25	- 16	1"	1.5/8" - 12		26	77,5	16,2	74,5	50		
M22592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	90,5	16,2	86,5	50		
M22592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32	90,5	18,8	90,5	60		
M22592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32	108	18,8	100,5	60		
M22592-32-32	51	- 32	2"	2.1/2" - 12		44	142	24	137	75		

M22592: THRUST-WIRE NUT / M22593: SLIP-ON NUT



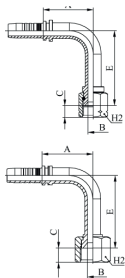
SAE STANDARD CONNECTIONS

M22591KR

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22591-04-04KR	6	- 4	1/4"	7/16" - 20	4,2	28,5	8,9	26	15		
M22591-04-05KR	6	- 4	1/4"	1/2" - 20	4	28,5	9,4	26,5	17		
M22591-06-06KR	10	- 6	3/8"	9/16" - 18	7	35,5	9,5	32	17		
M22591-08-08KR	12	- 8	1/2"	3/4" - 16	9,3	44	10,7	40,5	22		
M22591-10-10KR	16	- 10	5/8"	7/8" - 14	12,5	53,5	12,5	47	25		
M22591-12-12KR	19	- 12	3/4"	1.1/16" - 12	15	62	14,1	57	32		
M22591-16-12KR	25	- 16	1"	1.1/16" - 12	15	62	14,1	57	32		

KR:CRIMPED-BACK KOMPACT ROBUST NUT



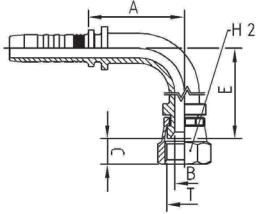
SAE STANDARD CONNECTIONS

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		T	B	A	C	E	H2	
M24792-04-04	6	- 4	1/4"	7/16" - 20	4	28,5	8,7	45	17		
M24792-04-05	6	- 4	1/4"	1/2" - 20	4	28,5	9,1	45	17		
M24793-04-06	6	- 4	1/4"	9/16" - 18	4	29,5	9,8	55,5	19		
M24792-06-06	10	- 6	3/8"	9/16" - 18	7	35,5	9,2	55	19		
M24793-06-08	10	- 6	3/8"	3/4" - 16	7	36,5	10,1	61,5	22		
M24792-08-08	12	- 8	1/2"	3/4" - 16	9,3	44	10,2	61	22		
M24793-08-10	12	- 8	1/2"	7/8" - 14	9,3	45	12,4	65	27		
M24792-10-10	16	- 10	5/8"	7/8" - 14	12,5	53,5	12,3	65,5	27		
M24792-12-12	19	- 12	3/4"	1.1/16" - 12	15	62	14,2	94,5	32		
M24792-16-16	25	- 16	1"	1.5/16" - 12	19,8	77,5	15	110	38		
M24792-20-20	31	- 20	1.1/4"	1.5/8" - 12	26	90,5	16,2	129	50		

M24792: THRUST-WIRE NUT - M24793: SLIP-ON NUT



SAE STANDARD CONNECTIONS

M24791KR

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

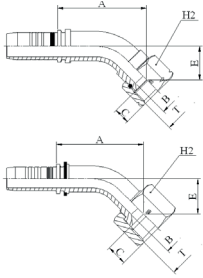
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M24791-04-04KR	6	- 4	1/4"	7/16" - 20		4,2	28,5	8,9	45	15		
M24791-06-06KR	10	- 6	3/8"	9/16" - 18		7	35,5	9,5	55	17		
M24791-08-08KR	12	- 8	1/2"	3/4" - 16		9,3	44	10,7	64	22		
M24791-10-10KR	16	- 10	5/8"	7/8" - 14		12,5	53,5	12,5	70	25		
M24791-12-12KR	19	- 12	3/4"	1.1/16" - 12		15	62	14,1	96	32		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS

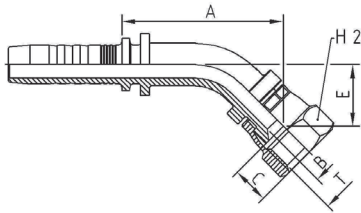
M22542/M22543

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



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M22542-03-04	5	- 3	3/16"	7/16" - 20		4	35	8,7	14,5	17		
M22542-04-04	6	- 4	1/4"	7/16" - 20		4	35,5	8,7	14,5	17		
M22542-04-05	6	- 4	1/4"	1/2" - 20		4	35,5	9,1	14,5	17		
M22543-04-06	6	- 4	1/4"	9/16" - 18		4	35,5	9,8	14	19		
M22542-05-05	8	- 5	5/16"	1/2" - 20		5,5	37,5	9,1	14	17		
M22542-05-06	8	- 5	5/16"	9/16" - 18		7	38	9,2	14,5	19		
M22542-06-06	10	- 6	3/8"	9/16" - 18		7	42	9,2	16,5	19		
M22543-06-08	10	- 6	3/8"	3/4" - 16		7	41	10,1	14	22		
M22543-06-10	10	- 6	3/8"	7/8" - 14		9,3	42,5	12,4	15,5	27		
M22542-08-06	12	- 8	1/2"	9/16" - 18		7	43	9,2	16,5	19		
M22542-08-08	12	- 8	1/2"	3/4" - 16		9,3	52	10,2	20	22		
M22543-08-10	12	- 8	1/2"	7/8" - 14		9,3	49,5	12,4	17	27		
M22543-08-12	12	- 8	1/2"	1.1/16" - 12		12,5	49,5	14,1	17	32		
M22542-10-10	16	- 10	5/8"	7/8" - 14		12,5	62	12,3	25,5	27		
M22543-10-12	16	- 10	5/8"	1.1/16" - 12		12,5	60	14,1	24	32		
M22542-12-08	19	- 12	3/4"	3/4" - 16		9,3	53,5	10,2	20	22		
M22542-12-10	19	- 12	3/4"	7/8" - 14		12,5	63,5	12,3	25	27		
M22542-12-12	19	- 12	3/4"	1.1/16" - 12		15	70	14,2	27,5	32		
M22542-12-14	19	- 12	3/4"	1.3/16" - 12		15	69,5	14,3	27,5	36		
M22542-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	70	15	27,5	38		
M22542-16-12	25	- 16	1"	1.1/16" - 12		15	72,5	14,2	27,5	32		
M22542-16-16	25	- 16	1"	1.5/16" - 12		19,8	84	15	32	38		
M22542-16-20	25	- 16	1"	1.5/8" - 12		26	90	16,2	36	50		
M22542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	103,5	16,2	41,5	50		
M22542-20-24	31	- 20	1.1/4"	1.7/8" - 12		32	106,5	18,8	44,5	60		
M22542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32	119	18,8	46,5	60		
M22542-32-32	51	- 32	2"	2.1/2" - 12		44	163	24	68	75		

M22542: THRUST-WIRE NUT - M22543: SLIP-ON NUT



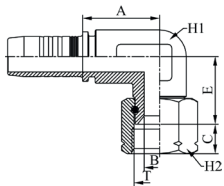
SAE STANDARD CONNECTIONS

M22541KR

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M22541-04-04KR	6	- 4	1/4"	7/16" - 20		4,2	34,5	8,9	13,5	15		
M22541-04-05KR	6	- 4	1/4"	1/2" - 20		4	35	9,4	14	17		
M22541-06-06KR	10	- 6	3/8"	9/16" - 18		7	42	9,5	16	17		
M22541-08-08KR	12	- 8	1/2"	3/4" - 16		9,3	52	10,7	20	22		
M22541-10-10KR	16	- 10	5/8"	7/8" - 14		12,5	61	12,5	22,5	25		
M22541-12-12KR	19	- 12	3/4"	1.1/16" - 12		15	69	14,1	26,5	32		

KR:CRIMPED-BACK KOMPACT ROBUST NUT



SAE STANDARD CONNECTIONS

M22582F

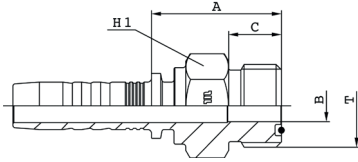
90° JIC FEMALE COMPACT ELBOW 37° CONE SEAT SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H1	H2
M22582-04-04F	6	- 4	1/4"	7/16" - 20		4	20	8,7	20,5	14	17	
M22582-04-06F	6	- 4	1/4"	9/16" - 18		7	20	9,2	21,5	14	19	
M22582-06-06F	10	- 6	3/8"	9/16" - 18		7	23	9,2	24	19	19	
M22582-06-08F	10	- 6	3/8"	3/4" - 16		9,3	26,5	10,2	28	22	22	
M22582-08-08F	12	- 8	1/2"	3/4" - 16		9,3	25	10,2	28	22	22	
M22582-08-10F	12	- 8	1/2"	7/8" - 14		12,5	25	12,3	29	22	27	
M22582-12-12F	19	- 12	3/4"	1.1/16" - 12		15	37,5	14,2	33	27	32	
M22582-16-16F	25	- 16	1"	1.5/16" - 12		20	52	15	40	36	38	

SAE STANDARD CONNECTIONS

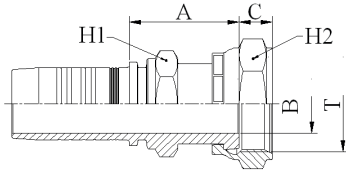
M12410

ORFS MALE - SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M12410-04-04	6	- 4	1/4"	9/16" - 18		4	24	9,8	16			
M12410-04-06	6	- 4	1/4"	11/16" - 16		6,7	26,5	11,2	19			
M12410-05-06	8	- 5	5/16"	11/16" - 16		6,7	27	11,2	19			
M12410-06-06	10	- 6	3/8"	11/16" - 16		6,7	27,5	11,2	19			
M12410-06-08	10	- 6	3/8"	13/16" - 16		9,3	30	12,8	22			
M12410-08-06	12	- 8	1/2"	11/16" - 16		6,7	29	11,2	22			
M12410-08-08	12	- 8	1/2"	13/16" - 16		9,3	30,5	12,8	22			
M12410-08-10	12	- 8	1/2"	1" - 14		12,5	35	15,5	27			
M12410-08-12	12	- 8	1/2"	1.3/16" - 12		15	37,5	17	32			
M12410-10-08	16	- 10	5/8"	13/16" - 16		9,3	30,5	12,8	22			
M12410-10-10	16	- 10	5/8"	1" - 14		12,5	34,5	15,5	27			
M12410-10-12	16	- 10	5/8"	1.3/16" - 12		15	37,5	17	32			
M12410-12-12	19	- 12	3/4"	1.3/16" - 12		15	39	17	32			
M12410-12-16	19	- 12	3/4"	1.7/16" - 12		19,8	40,5	17,5	38			
M12410-16-16	25	- 16	1"	1.7/16" - 12		19,8	42	17,5	38			
M12410-16-20	25	- 16	1"	1.11/16" - 12		26	44	17,5	46			
M12410-20-20	31	- 20	1.1/4"	1.11/16" - 12		26	46,5	17,5	46			
M12410-24-24	38	- 24	1.1/2"	2" - 12		32	48,5	17,5	55			

SAE STANDARD CONNECTIONS

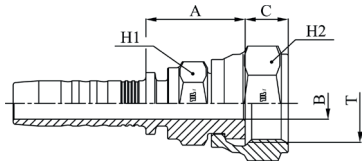


M22411

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M22411-04-04	6	- 4	1/4"	9/16" - 18		4	27,5	8	13	19		
M22411-04-06	6	- 4	1/4"	11/16" - 16		7	30	9,5	16	22		
M22411-04-08	6	- 4	1/4"	13/16" - 16		9,3	35,5	11	19	24		
M22411-05-04	8	- 5	5/16"	9/16" - 18		4	28,5	8	16	19		
M22411-05-06	8	- 5	5/16"	11/16" - 16		7	30,5	9,5	16	22		
M22411-06-04	10	- 6	3/8"	9/16" - 18		4	29	8	16	19		
M22411-06-06	10	- 6	3/8"	11/16" - 16		7	31	9,5	16	22		
M22411-06-08	10	- 6	3/8"	13/16" - 16		9,3	36,5	11	19	24		
M22411-08-06	12	- 8	1/2"	11/16" - 16		7	32	9,5	19	22		
M22411-08-08	12	- 8	1/2"	13/16" - 16		9,3	37	11	19	24		
M22411-08-10	12	- 8	1/2"	1" - 14		11,5	39	13,5	24	30		
M22411-08-12	12	- 8	1/2"	1.3/16" - 12		13,9	44	14,5	28	36		
M22411-10-08	16	- 10	5/8"	13/16" - 16		9,3	37	11	24	24		
M22411-10-10	16	- 10	5/8"	1" - 14		11,5	39	13,5	24	30		
M22411-10-12	16	- 10	5/8"	1.3/16" - 12		13,9	44	14,5	28	36		
M22411-12-10	19	- 12	3/4"	1" - 14		11,5	41,5	13,5	28	30		
M22411-12-12	19	- 12	3/4"	1.3/16" - 12		13,9	45,5	14,5	28	36		
M22411-12-16	19	- 12	3/4"	1.7/16" - 12		19,8	48,5	15	36	41		
M22411-16-12	25	- 16	1"	1.3/16" - 12		13,9	48	13,5	36	36		
M22411-16-16	25	- 16	1"	1.7/16" - 12		19,8	49,5	15	36	41		
M22411-16-20	25	- 16	1"	1.11/16" - 12		26	49,5	14,8	41	50		
M22411-20-20	31	- 20	1.1/4"	1.11/16" - 12		26	52	14,8	41	50		
M22411-20-24	31	- 20	1.1/4"	2" - 12		32	54	15,8	50	60		
M22411-24-24	38	- 24	1.1/2"	2" - 12		32	54	15,8	50	60		

SAE STANDARD CONNECTIONS

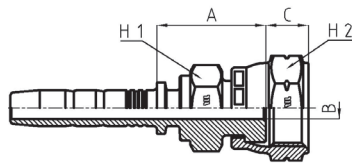


M27411

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M27411-04-04	6	-4	1/4"	9/16" - 18	4	20,5	8	13	19		
M27411-04-06	6	-4	1/4"	11/16" - 16	7	22	9,5	16	22		
M27411-05-06	8	-5	5/16"	11/16" - 16	7	25,5	9,5	16	22		
M27411-06-06	10	-6	3/8"	11/16" - 16	7	26	9,5	16	22		
M27411-06-08	10	-6	3/8"	13/16" - 16	9,3	26,5	11	19	24		
M27411-08-08	12	-8	1/2"	13/16" - 16	9,3	26,5	11	19	24		
M27411-08-10	12	-8	1/2"	1" - 14	11,5	27,5	12,5	24	30		
M27411-08-12	12	-8	1/2"	1.3/16" - 12	13,9	31	13,5	28	36		
M27411-10-10	16	-10	5/8"	1" - 14	11,5	28	12,5	24	30		
M27411-10-12	16	-10	5/8"	1.3/16" - 12	13,9	31	13,5	28	36		
M27411-12-12	19	-12	3/4"	1.3/16" - 12	13,9	32,5	13,5	28	36		
M27411-16-16	25	-16	1"	1.7/16" - 12	19,8	36,5	13,5	36	41		

SAE STANDARD CONNECTIONS



M27411KR

ORFS FEMALE - SAE J516 / ISO 12151-1 SHORT TYPE

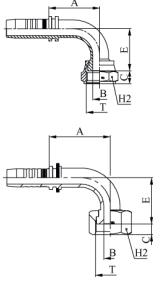
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M27411-04-04KR	6	-4	1/4"	9/16" - 18	4	20,5	8	14	17		
M27411-06-06KR	10	-6	3/8"	11/16" - 16	7	23	9,5	17	22		
M27411-08-08KR	12	-8	1/2"	13/16" - 16	9,3	27	11	19	24		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS

M22491/M22493

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



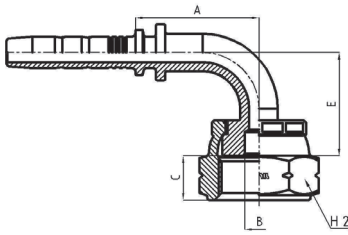
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M22493-04-04	6	-4	1/4"	9/16" - 18		4	27,5	8,2	22	17		
M22493-04-06	6	-4	1/4"	11/16" - 16		7	27,5	9,5	22	22		
M22493-05-06	8	-5	5/16"	11/16" - 16		7	32	9,5	23	22		
M22491-06-04	10	-6	3/8"	9/16" - 18		4	28	8	23	19		
M22493-06-06	10	-6	3/8"	11/16" - 16		6	30	9,5	24	22		
M22493-06-08	10	-6	3/8"	13/16" - 16		9,3	30	11	26,5	24		
M22491-08-06	12	-8	1/2"	11/16" - 16		7	30	9,5	24,5	22		
M22493-08-08	12	-8	1/2"	13/16" - 16		9	40,5	11	30	24		
M22493-08-10	12	-8	1/2"	1" - 14		11,5	40	13,5	30,5	30		
M22493-08-12	12	-8	1/2"	1.3/16" - 12		13,9	39,5	14,5	37,5	36		
M22491-10-08	16	-10	5/8"	13/16" - 16		9,3	41	11	34	24		
M22493-10-10	16	-10	5/8"	1" - 14		11,5	48	13,5	37,5	30		
M22491-10-10032	16	-10	5/8"	1" - 14		11	42	7,5	32	30		
M22493-10-12	16	-10	5/8"	1.3/16" - 12		13,9	48	14,5	41	36		
M22491-12-10	19	-12	3/4"	1" - 14		11,5	49	12,5	38,5	30		
M22493-12-12	19	-12	3/4"	1.3/16" - 12		13,9	56,5	14,5	48	36		
M22493-12-16	19	-12	3/4"	1.7/16" - 12		19,8	56,5	14,8	47,5	41		
M22491-16-12	25	-16	1"	1.3/16" - 12		13,9	57,5	13,5	48	36		
M22493-16-16	25	-16	1"	1.7/16" - 12		19,8	71,5	14,8	56	41		
M22493-16-20	25	-16	1"	1.11/16" - 12		26	71,5	14,8	58,5	50		
M22493-20-20	31	-20	1.1/4"	1.11/16" - 12		26	83	14,8	66	50		
M22493-24-24	38	-24	1.1/2"	2" - 12		32	102	14,8	79,5	60		

M22491: CRIMPED BACK-NUT / M22493: SLIP-ON NUT

SAE STANDARD CONNECTIONS

M22491KR

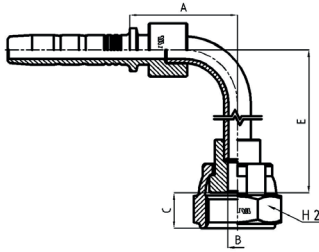
90° ORFS FEMALE SWEPT ELBOW - SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22491-04-04KR	6	- 4	1/4"	9/16" - 18	4,2	54	8	22	17		
M22491-04-06KR	6	- 4	1/4"	11/16" - 16	6	26,3	9,5	22	22		
M22491-06-06KR	10	- 6	3/8"	11/16" - 16	6	29	9,5	24	22		
M22491-06-08KR	10	- 6	3/8"	13/16" - 16	9	35,5	11	28,5	24		
M22491-08-08KR	12	- 8	1/2"	13/16" - 16	9	40,5	11	30,5	24		

KR:CRIMPED-BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS



M24491 LONG DROP

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

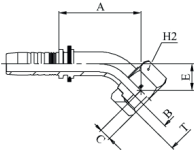
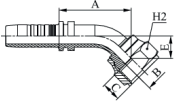
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E		
M24491-04-04	6	- 4	1/4"	9/16" - 18		4,4	25	8	46	17		
M24491-04-06	6	- 4	1/4"	11/16" - 16		7	26,5	9,5	53,5	22		
M24491-05-06	8	- 5	5/16"	11/16" - 16		6,7	31,5	9,5	54	22		
M24491-06-06	10	- 6	3/8"	11/16" - 16		6,7	32	9,5	54	22		
M24491-06-08	10	- 6	3/8"	13/16" - 16		6,7	32	11	54	24		
M24491-08-08	12	- 8	1/2"	13/16" - 16		9,6	37	11	64	24		
M24491-08-10	12	- 8	1/2"	1" - 14		9,6	37	12,5	64,5	30		
M24491-10-10	16	- 10	5/8"	1" - 14		12	41	13	70	30		
M24491-10-12	16	- 10	5/8"	1.3/16" - 12		12,7	41	13,5	73	36		
M24491-12-12	19	- 12	3/4"	1.3/16" - 12		15	58,5	13,5	96	36		
M24491-16-16	25	- 16	1"	1.7/16" - 12		19,8	71,5	13,5	114	41		
M24491-20-20	31	- 20	1.1/4"	1.11/16" - 12		26	82,5	13,6	129	50		

All items are made from brazing with the exception of M24491-04-06, M24491-12-12, M24491-16-16 and M24491-20-20

SAE STANDARD CONNECTIONS

M22441/M22443

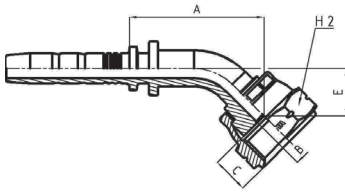
45° ORFS FEMALE SWEPT ELBOW - SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22443-04-04	6	-4	1/4"	9/16" - 18	4	31	8,2	10,5	17		
M22443-04-06	6	-4	1/4"	11/16" - 16	7	31	9,5	10,5	22		
M22443-05-06	8	-5	5/16"	11/16" - 16	7	34	9,5	10,5	22		
M22443-06-06	10	-6	3/8"	11/16" - 16	6	32,5	9,5	11	22		
M22443-06-08	10	-6	3/8"	13/16" - 16	9,3	34	11	12,5	24		
M22441-08-06	12	-8	1/2"	11/16" - 16	7	32,5	9,5	11	22		
M22443-08-08	12	-8	1/2"	13/16" - 16	9	42	11	13	24		
M22443-08-10	12	-8	1/2"	1" - 14	11,5	42	13,5	13,5	30		
M22443-08-12	12	-8	1/2"	1.3/16" - 12	13,9	46,5	14,5	18,5	36		
M22443-10-10	16	-10	5/8"	1" - 14	11,5	49	13,5	16	30		
M22443-10-12	16	-10	5/8"	1.3/16" - 12	13,9	51,5	14,5	18,5	36		
M22441-12-10	19	-12	3/4"	1" - 14	11,5	51	12,5	16,5	30		
M22443-12-12	19	-12	3/4"	1.3/16" - 12	13,9	60,5	14,5	21,5	36		
M22443-12-16	19	-12	3/4"	1.7/16" - 12	19,8	60	14,8	21	41		
M22441-16-12	25	-16	1"	1.3/16" - 12	13,9	66	13,5	21,5	36		
M22443-16-16	25	-16	1"	1.7/16" - 12	19,8	72	14,8	23,5	41		
M22443-16-20	25	-16	1"	1.11/16" - 12	26	74	14,8	25	50		
M22443-20-20	31	-20	1.1/4"	1.11/16" - 12	26	82	14,8	27	50		
M22443-24-24	38	-24	1.1/2"	2" - 12	32	98	14,8	31,5	60		

M22441: CRIMPED BACK-NUT / M22443: SLIP-ON NUT

SAE STANDARD CONNECTIONS



M22441KR

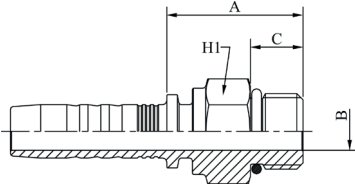
45° ORFS FEMALE SWEEP ELBOW - SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M22441-04-04KR	6	- 4	1/4"	9/16" - 18		4,2	30	8	10,5	17		
M22441-06-06KR	10	- 6	3/8"	11/16" - 16		6	31,5	9,5	11	22		
M22441-08-08KR	12	- 8	1/2"	13/16" - 16		9	42,5	11	13,5	24		

SAE STANDARD CONNECTIONS

M13010

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

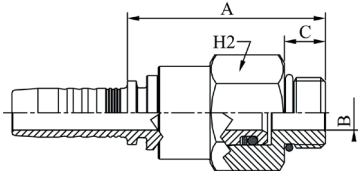


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
M13010-04-04	6	- 4	1/4"	7/16" - 20	4,4	24	9,1	14			
M13010-04-06	6	- 4	1/4"	9/16" - 18	7,5	24,5	9,9	17			
M13010-06-06	10	- 6	3/8"	9/16" - 18	7,5	25,5	9,9	17			
M13010-06-08	10	- 6	3/8"	3/4" - 16	9,9	28,5	11,1	22			
M13010-06-10	10	- 6	3/8"	7/8" - 14	12,3	31,5	12,7	25			
M13010-08-08	12	- 8	1/2"	3/4" - 16	9,9	29	11,1	22			
M13010-08-10	12	- 8	1/2"	7/8" - 14	12,3	32	12,7	25			
M13010-08-12	12	- 8	1/2"	1.1/16" - 12	15,5	38,5	15,1	32			
M13010-10-10	16	- 10	5/8"	7/8" - 14	12,5	32	12,7	25			
M13010-10-12	16	- 10	5/8"	1.1/16" - 12	15,5	37,5	15,1	32			
M13010-12-12	19	- 12	3/4"	1.1/16" - 12	15,5	39,5	15,1	32			
M13010-12-16	19	- 12	3/4"	1.5/16" - 12	21,5	40	15,1	38			
M13010-16-16	25	- 16	1"	1.5/16" - 12	21,5	41	15,1	38			
M13010-20-20	31	- 20	1.1/4"	1.5/8" - 12	27,5	43,5	15,1	46			

SAE STANDARD CONNECTIONS

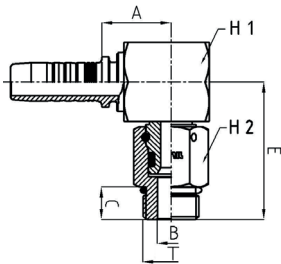
M14310

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	43	9,1	17		
M14310-04-06	6	-4	1/4"	9/16" - 18		7	44	9,9	22		
M14310-06-06	10	-6	3/8"	9/16" - 18		7	48	9,9	22		
M14310-06-08	10	-6	3/8"	3/4" - 16		9,3	47	11,1	22		
M14310-08-08	12	-8	1/2"	3/4" - 16		9,3	53	11,1	27		
M14310-08-10	12	-8	1/2"	7/8" - 14		9,3	41,5	13	27		
M14310-08-12	12	-8	1/2"	1.1/16" - 12		12,5	49,5	15	32		
M14310-10-10	16	-10	5/8"	7/8" - 14		9,3	41,5	13	27		
M14310-12-12	19	-12	3/4"	1.1/16" - 12		12,5	50,5	15	32		

Not to be used as a live swivel



SAE STANDARD CONNECTIONS

M14390

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

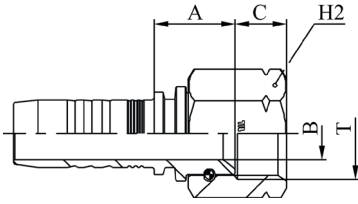
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H1	H2
M14390-06-06	10	-6	3/8"	9/16" - 18		5,7	20	9,9	40	22	17
M14390-06-08	10	-6	3/8"	3/4" - 16		9,3	20	11,1	44,5	22	22
M14390-08-08	12	-8	1/2"	3/4" - 16		9,3	23,5	11,1	47	27	22
M14390-08-10	12	-8	1/2"	7/8" - 14		9,8	23,5	13	47	27	27
M14390-10-10	16	-10	5/8"	7/8" - 14		9,8	23,5	13	47	27	27
M14390-12-12	19	-12	3/4"	1.1/16" - 12		13	28	15	58,5	34	32

Brazed solution - Not to be used as a live swivel

SAE STANDARD CONNECTIONS

M22612

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

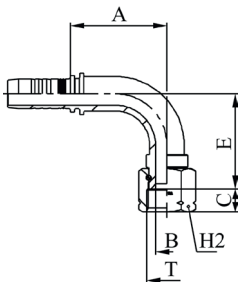


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M22612-04-04	6	- 4	1/4"	7/16" - 20		4	15,5	8,7	17			
M22612-05-06	8	- 5	5/16"	5/8" - 18		7	16	10,8	22			
M22612-06-06	10	- 6	3/8"	5/8" - 18		7	16,5	10,8	22			
M22612-12-12	19	- 12	3/4"	1.1/16" - 14		15	22,5	14,4	32			

SAE STANDARD CONNECTIONS

M22692

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

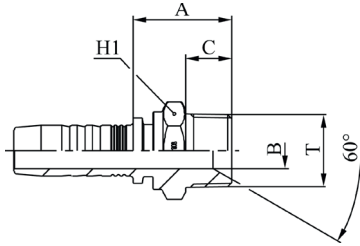


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M22692-04-04	6	- 4	1/4"	7/16" - 20		4	28,5	8,7	27	17		
M22692-06-06	10	- 6	3/8"	5/8" - 18		7	35,5	10,8	33	22		
M22692-12-12	19	- 12	3/4"	1.1/16" - 14		15	62	14,4	58	32		

SAE STANDARD CONNECTIONS

M12810

NPTF MALE 60° CONE SEAT - SAE J516/J514

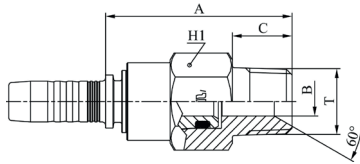


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M12810-03-02	5	-3	3/16"	1/8" - 27		3	23,5	10	12			
M12810-03-04	5	-3	3/16"	1/4" - 18		5,5	29	14,5	14			
M12810-04-02	6	-4	1/4"	1/8" - 27		4	24	10	12			
M12810-04-04	6	-4	1/4"	1/4" - 18		5,5	29	14,5	14			
M12810-04-06	6	-4	1/4"	3/8" - 18		9,3	27,5	14,5	19			
M12810-04-08	6	-4	1/4"	1/2" - 14		9,3	33,5	19,2	24			
M12810-05-04	8	-5	5/16"	1/4" - 18		5,5	29,5	14,5	14			
M12810-05-06	8	-5	5/16"	3/8" - 18		9,3	32	14,5	19			
M12810-06-04	10	-6	3/8"	1/4" - 18		5,5	30	14,5	14			
M12810-06-06	10	-6	3/8"	3/8" - 18		9,3	28,5	14,5	19			
M12810-06-08	10	-6	3/8"	1/2" - 14		12,5	34,5	19,2	24			
M12810-08-06	12	-8	1/2"	3/8" - 18		9,3	29	14,5	19			
M12810-08-08	12	-8	1/2"	1/2" - 14		12,5	35	19,2	24			
M12810-08-12	12	-8	1/2"	3/4" - 14		15,5	35,5	19,2	27			
M12810-10-08	16	-10	5/8"	1/2" - 14		12,5	38,5	19,2	24			
M12810-10-12	16	-10	5/8"	3/4" - 14		16	40	19,2	27			
M12810-12-08	19	-12	3/4"	1/2" - 14		12,5	36,5	19,2	27			
M12810-12-12	19	-12	3/4"	3/4" - 14		16	36,5	19,2	27			
M12810-12-16	19	-12	3/4"	1" - 11,5		19,8	46	24,2	36			
M12810-16-12	25	-16	1"	3/4" - 14		15,5	39	19,2	32			
M12810-16-16	25	-16	1"	1" - 11,5		19,8	44	24,2	36			
M12810-16-20	25	-16	1"	1.1/4" - 11,5		26	56,5	25	46			
M12810-20-20	31	-20	1.1/4"	1.1/4" - 11,5		26	56,5	25	46			
M12810-24-24	38	-24	1.1/2"	1.1/2" - 11,5		32	57,5	26	50			
M12810-32-32	51	-32	2"	2" - 11,5		45	64,5	26,5	65			
M12810-40-40	63	-40	2.1/2"	2.1/2" - 8		55,4	78	39,9	80			
M12810-48-48	76	-48	3"	3" - 8		68,9	86	41,5	100			

SAE STANDARD CONNECTIONS

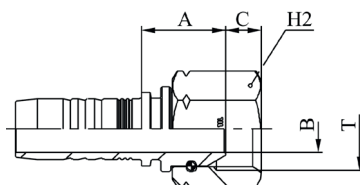
M14110R

NPTF SWIVEL MALE 60° CONE SEAT - SAE J516/J514



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
M14110-04-02R	6	-4	1/4"	1/8" - 27	3	42	10	17			
M14110-04-04R	6	-4	1/4"	1/4" - 18	4	46,5	14,5	17			
M14110-04-06R	6	-4	1/4"	3/8" - 18	7	46,5	14,5	19			
M14110-06-04R	10	-6	3/8"	1/4" - 18	4	50,5	14,5	22			
M14110-06-06R	10	-6	3/8"	3/8" - 18	7	50,5	14,5	22			
M14110-06-08R	10	-6	3/8"	1/2" - 14	9,3	55	19,2	24			
M14110-08-06R	12	-8	1/2"	3/8" - 18	7	54,5	14,5	27			
M14110-08-08R	12	-8	1/2"	1/2" - 14	9,3	59	19,2	27			
M14110-12-12R	19	-12	3/4"	3/4" - 14	16	58	19,2	32			
M14110-16-16R	25	-16	1"	1" - 11,5	19,8	66	24,2	38			

Not to be used as a live swivel



SAE STANDARD CONNECTIONS

M22812

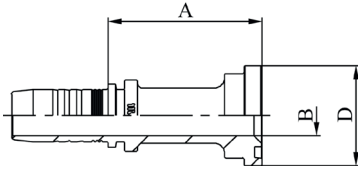
NPSM FEMALE 60° CONE - SAE J516/J514 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M22812-04-04	6	-4	1/4"	1/4" - 18	4	17,5	4,2	19			
M22812-06-04	10	-6	3/8"	1/4" - 18	4,1	18	4,2	19			
M22812-06-06	10	-6	3/8"	3/8" - 18	7	21	6	22			
M22812-08-08	12	-8	1/2"	1/2" - 14	9,3	23	6,5	27			
M22812-12-12	19	-12	3/4"	3/4" - 14	15	24,5	9	32			
M22812-16-16	25	-16	1"	1" - 11,5	19,8	27,5	10,5	38			

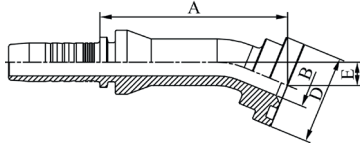
SAE STANDARD CONNECTIONS

M23311

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



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D			
M23311-08-08	12	- 8	1/2"	1/2"		9,3	51	30,3			
M23311-08-12	12	- 8	1/2"	3/4"		15,1	58	38			
M23311-10-08	16	- 10	5/8"	1/2"		9,3	51	30,3			
M23311-10-12	16	- 10	5/8"	3/4"		15	65,5	38			
M23311-10-24	16	- 10	5/8"	1.1/2"		32	69,5	60,5			
M23311-12-12	19	- 12	3/4"	3/4"		15	58	38			
M23311-12-16	19	- 12	3/4"	1"		20	58	44,6			
M23311-12-20	19	- 12	3/4"	1.1/4"		26	69,5	51			
M23311-16-12	25	- 16	1"	3/4"		15	60,5	38			
M23311-16-16	25	- 16	1"	1"		19,8	64,5	44,6			
M23311-16-20	25	- 16	1"	1.1/4"		26	70,5	51			
M23311-20-12	31	- 20	1.1/4"	3/4"		15	61	38			
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	70,5	51			
M23311-20-24	31	- 20	1.1/4"	1.1/2"		32	72,5	60,5			
M23311-20-32	31	- 20	1.1/4"	2"		42	75,5	71,6			
M23311-24-24	38	- 24	1.1/2"	1.1/2"		32	75,5	60,5			
M23311-24-32	38	- 24	1.1/2"	2"		42	75,5	71,6			
M23311-32-32	51	- 32	2"	2"		42	79	71,6			
M23311-32-40	51	- 32	2"	2.1/2"		56	81	84,3			
M23311-38-40	60	- 38	2.3/8"	2.1/2"		50,5	84	84,3			
M23311-40-32	63	- 40	2.1/2"	2"		42	78,5	71,6			
M23311-40-40	63	- 40	2.1/2"	2.1/2"		55,4	84	84,3			
M23311-40-48	63	- 40	2.1/2"	3"		68,9	79	101,6			
M23311-40-56	63	- 40	2.1/2"	3.1/2"		79	90,5	114,3			
M23311-40-64	63	- 40	2.1/2"	4"		90	96,5	127			
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	94,5	114,3			
M23311-64-64	102	- 64	4"	4"		90	100,5	127			



SAE STANDARD CONNECTIONS

M23321

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

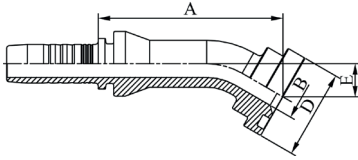
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M23321-08-08	12	- 8	1/2"	1/2"		9,3	64	30,3	8			
M23321-12-12	19	- 12	3/4"	3/4"		15	74,5	38	10			
M23321-12-16	19	- 12	3/4"	1"		20	74,5	44,6	10			
M23321-16-16	25	- 16	1"	1"		19,8	89	44,6	11,5			
M23321-16-20	25	- 16	1"	1.1/4"		26	88,5	51	11,5			
M23321-16-24	25	- 16	1"	1.1/2"		32	88,5	60,5	12			
M23321-20-20	31	- 20	1.1/4"	1.1/4"		26	100	51	12			
M23321-20-20018	31	- 20	1.1/4"	1.1/4"		26	99	51	18			
M23321-20-24	31	- 20	1.1/4"	1.1/2"		32	102	60,5	13			
M23321-24-24	38	- 24	1.1/2"	1.1/2"		32	116,5	60,5	14			
M23321-24-24023	38	- 24	1.1/2"	1.1/2"		32	115	60,5	23			
M23321-24-32	38	- 24	1.1/2"	2"		42	116,5	71,6	14			
M23321-32-32	51	- 32	2"	2"		42	134,5	71,6	15			
M23321-40-40	63	- 40	2.1/2"	2.1/2"		52	80	84,3	16,5			
M23321-40-48	63	- 40	2.1/2"	3"		61	107,5	101,6	20,5			
M23321-48-48	76	- 48	3"	3"		61	111	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



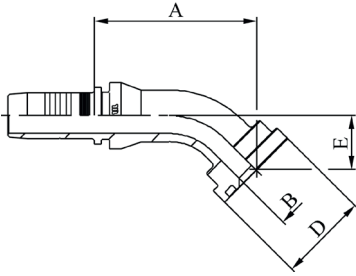
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M23331-08-08	12	- 8	1/2"	1/2"		9,3	62,5	30,3	11			
M23331-08-12	12	- 8	1/2"	3/4"		15	63,5	38	11,5			
M23331-12-12	19	- 12	3/4"	3/4"		15	73	38	14			
M23331-12-16	19	- 12	3/4"	1"		20	73	44,6	14			
M23331-16-16	25	- 16	1"	1"		19,8	87	44,6	16,5			
M23331-16-20	25	- 16	1"	1.1/4"		26	87	51	16,5			
M23331-20-20	31	- 20	1.1/4"	1.1/4"		26	98	51	17,5			
M23331-20-24	31	- 20	1.1/4"	1.1/2"		32	100	60,5	18,5			
M23331-20-24044	31	- 20	1.1/4"	1.1/2"		32	131,5	60,5	44			
M23331-24-24	38	- 24	1.1/2"	1.1/2"		32	114,5	60,5	20			
M23331-24-32	38	- 24	1.1/2"	2"		42	114,5	71,6	20			
M23331-32-32	51	- 32	2"	2"		42	132	71,6	22			
M23331-40-40	63	- 40	2.1/2"	2.1/2"		52	87,5	84,3	24			
M23331-40-48	63	- 40	2.1/2"	3"		52	85	101,6	24,5			
M23331-48-48	76	- 48	3"	3"		61	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

SAE STANDARD CONNECTIONS

M23341

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



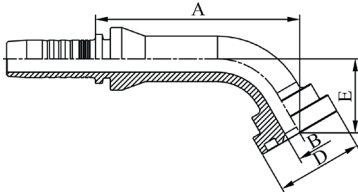
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M23341-06-08	10	- 6	3/8"	1/2"		9,3	52,5	30	17,5			
M23341-08-08	12	- 8	1/2"	1/2"		9,3	58,5	30,3	18,5			
M23341-08-12	12	- 8	1/2"	3/4"		15	59,5	38	19			
M23341-08-16	12	- 8	1/2"	1"		19,8	59,5	44,6	19			
M23341-10-12	16	- 10	5/8"	3/4"		15	61	38	22			
M23341-12-12	19	- 12	3/4"	3/4"		15	71	38	26			
M23341-12-16	19	- 12	3/4"	1"		20	68,5	44,6	23			
M23341-16-12	25	- 16	1"	3/4"		15	74,5	38	23			
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	44,5	32			
M23341-16-20	25	- 16	1"	1.1/4"		26	81,5	51	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	92	51	29,5			
M23341-20-20038	31	- 20	1.1/4"	1.1/4"		26	100,5	50,9	38			
M23341-20-24	31	- 20	1.1/4"	1.1/2"		32	93,5	60,5	31			
M23341-24-24	38	- 24	1.1/2"	1.1/2"		32	107,5	60,5	34,5			
M23341-24-24044	38	- 24	1.1/2"	1.1/2"		32	117	60,5	44			
M23341-24-32	38	- 24	1.1/2"	2"		42	107,5	71,6	34,5			
M23341-32-20	51	- 32	2"	1.1/4"		26	128,5	51	32			
M23341-32-32	51	- 32	2"	2"		42	124	71,6	39			
M23341-32-32056	51	- 32	2"	2"		42	141	71,5	56			
M23341-32-40	51	- 32	2"	2.1/2"		56	136,5	84,3	49,5			
M23341-40-32	63	- 40	2.1/2"	2"		42	152	71,6	48,5			
M23341-40-40	63	- 40	2.1/2"	2.1/2"		52	95	84,3	48,5			
M23341-40-48	63	- 40	2.1/2"	3"		61	117,5	101,6	53,5			
M23341-48-48	76	- 48	3"	3"		58	125,5	101,6	53,5			
M23341-56-56	89	- 56	3.1/2"	3.1/2"		79	139	114,3	68			
M23341-56-64	89	- 56	3.1/2"	4"		79	124,5	127	53,5			
M23341-64-64	102	- 64	4"	4"		90	132	127	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



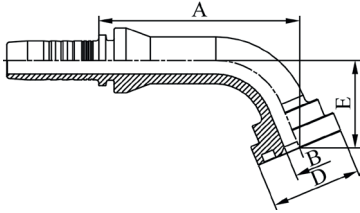
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M23361-08-08	12	- 8	1/2"	1/2"		9,3	71,5	30,3	26			
M23361-08-12	12	- 8	1/2"	3/4"		15	72	38	26,5			
M23361-12-12	19	- 12	3/4"	3/4"		15	87	38	33			
M23361-12-16	19	- 12	3/4"	1"		20	87	44,6	33			
M23361-16-16	25	- 16	1"	1"		19,8	104	44,6	39			
M23361-16-20	25	- 16	1"	1.1/4"		26	104	51	39			
M23361-20-20	31	- 20	1.1/4"	1.1/4"		26	120	51	43			
M23361-20-20065	31	- 20	1.1/4"	1.1/4"		26	107,5	51	65			
M23361-20-24	31	- 20	1.1/4"	1.1/2"		32	121	60,5	44,5			
M23361-24-20	38	- 24	1.1/2"	1.1/4"		26	136,5	51	46,5			
M23361-24-24	38	- 24	1.1/2"	1.1/2"		32	143,5	60,5	50,5			
M23361-24-32	38	- 24	1.1/2"	2"		42	143,5	71,6	51			
M23361-32-32	51	- 32	2"	2"		42	129	71,6	58			
M23361-40-40	63	- 40	2.1/2"	2.1/2"		52	94,5	84,3	67			
M23361-40-48	63	- 40	2.1/2"	3"		52	87,5	101,6	54,5			
M23361-48-48	76	- 48	3"	3"		61	128,5	101,6	79			

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

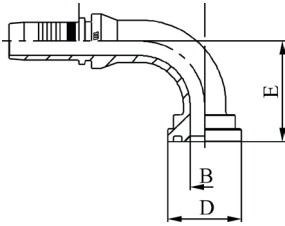


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M23371-08-08	12	- 8	1/2"	1/2"	9,3	68	30,3	29,5			
M23371-08-12	12	- 8	1/2"	3/4"	15	68,5	38	30,5			
M23371-08-16	12	- 8	1/2"	1"	19,8	68,5	44,6	30,5			
M23371-12-12	19	- 12	3/4"	3/4"	15	82	38	38			
M23371-12-16	19	- 12	3/4"	1"	20	82	44,6	38			
M23371-12-20	19	- 12	3/4"	1.1/4"	26	82	51	38			
M23371-16-16	25	- 16	1"	1"	19,8	98,5	44,6	45			
M23371-16-20	25	- 16	1"	1.1/4"	26	98,5	51	45			
M23371-20-20	31	- 20	1.1/4"	1.1/4"	26	114	51	50			
M23371-20-24	31	- 20	1.1/4"	1.1/2"	32	115	60,5	52			
M23371-24-24	38	- 24	1.1/2"	1.1/2"	32	136,5	60,5	59			
M23371-24-32	38	- 24	1.1/2"	2"	42	136,5	71,6	59			
M23371-32-32	51	- 32	2"	2"	42	162	71,6	68,5			
M23371-32-32085	51	- 32	2"	2"	42	150,5	71,6	85			
M23371-32-40	51	- 32	2"	2.1/2"	56	171,5	84,3	83,5			
M23371-40-40	63	- 40	2.1/2"	2.1/2"	52	95	84,3	78			
M23371-40-48	63	- 40	2.1/2"	3"	52	90,5	101,6	64,5			

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

M23391

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



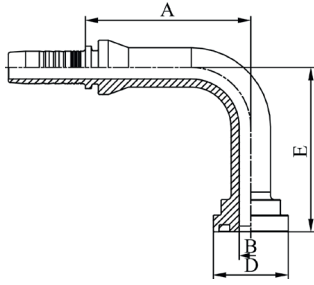
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M23391-06-08	10	- 6	3/8"	1/2"		9,3	44,5	30	34,5			
M23391-08-08	12	- 8	1/2"	1/2"		9,3	54,5	30,3	40			
M23391-08-12	12	- 8	1/2"	3/4"		15	54,5	38	41			
M23391-08-16	12	- 8	1/2"	1"		19,8	54,5	44,6	66			
M23391-10-08	16	- 10	5/8"	1/2"		9,3	56	30,3	46,5			
M23391-10-12	16	- 10	5/8"	3/4"		15	56	38	47,5			
M23391-12-12	19	- 12	3/4"	3/4"		15	64,5	38	52			
M23391-12-16	19	- 12	3/4"	1"		20	64,5	44,6	52			
M23391-12-20	19	- 12	3/4"	1.1/4"		26	64,5	51	52			
M23391-16-12	25	- 16	1"	3/4"		15	71	38	52			
M23391-16-16	25	- 16	1"	1"		19,8	77,5	44,6	62			
M23391-16-20	25	- 16	1"	1.1/4"		26	77,5	51	62			
M23391-16-24	25	- 16	1"	1.1/2"		32	77	60,5	64			
M23391-20-16	31	- 20	1.1/4"	1"		19,8	80	44,6	66			
M23391-20-20	31	- 20	1.1/4"	1.1/4"		26	90,5	51	70			
M23391-20-24	31	- 20	1.1/4"	1.1/2"		32	90,5	60,5	72			
M23391-20-32	31	- 20	1.1/4"	2"		42	93,5	71,6	76			
M23391-24-20	38	- 24	1.1/2"	1.1/4"		26	104,5	51	75			
M23391-24-24	38	- 24	1.1/2"	1.1/2"		32	108	60,5	84			
M23391-24-32	38	- 24	1.1/2"	2"		42	108	71,6	84			
M23391-32-24	51	- 32	2"	1.1/2"		32	133	60,5	84			
M23391-32-32	51	- 32	2"	2"		42	129	71,6	99			
M23391-32-40	51	- 32	2"	2.1/2"		56	132,5	84,3	116			
M23391-40-32	63	- 40	2.1/2"	2"		42	149,5	71,6	114			
M23391-40-40	63	- 40	2.1/2"	2.1/2"		52	88	84,3	119			
M23391-40-48	63	- 40	2.1/2"	3"		61	120	101,6	140			
M23391-48-48	76	- 48	3"	3"		58	123	101,6	140			
M23391-48-56	76	- 48	3"	3.1/2"		61	123	114,3	115			
M23391-56-56	89	- 56	3.1/2"	3.1/2"		79	134,5	114,3	160			
M23391-64-64	102	- 64	4"	4"		90	153,5	127	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.

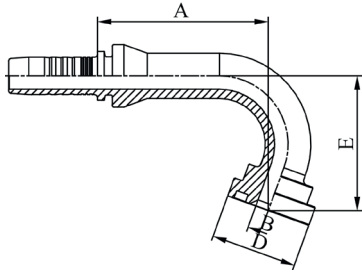
SAE STANDARD CONNECTIONS

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	41			
M23391-12-12058	19	- 12	3/4"	3/4"		15	64,5	38	58			
M23391-16-16070	25	- 16	1"	1"		19,8	77,5	44,5	70			
M23391-16-20117	25	- 16	1"	1.1/4"		26	77,5	51	117			
M23391-16-24107	25	- 16	1"	1.1/2"		32	77	60,5	107			
M23391-20-20091	31	- 20	1.1/4"	1.1/4"		26	90,5	51	91			
M23391-20-20100	31	- 20	1.1/4"	1.1/4"		26	90,5	51	100			
M23391-20-20112	31	- 20	1.1/4"	1.1/4"		26	90,5	51	112			
M23391-20-20130	31	- 20	1.1/4"	1.1/4"		26	90,5	51	130			
M23391-20-20168	31	- 20	1.1/4"	1.1/4"		26	90,5	51	168			
M23391-20-24118	31	- 20	1.1/4"	1.1/2"		32	90,5	60,5	118			
M23391-20-24130	31	- 20	1.1/4"	1.1/2"		32	90,5	60,5	130			
M23391-24-24104	38	- 24	1.1/2"	1.1/2"		32	108	60,5	104			
M23391-24-24148	38	- 24	1.1/2"	1.1/2"		32	108	60,5	148			
M23391-24-24172	38	- 24	1.1/2"	1.1/2"		32	108	60,5	172			
M23391-24-32115	38	- 24	1.1/2"	2"		42	108	71,6	115			
M23391-24-32172	38	- 24	1.1/2"	2"		42	108	71,6	172			
M23391-32-32138	51	- 32	2"	2"		42	129	71,5	138			
M23391-32-32203	51	- 32	2"	2"		42	129	71,6	203			

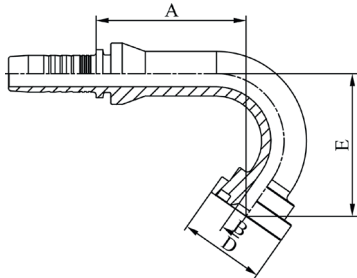


SAE STANDARD CONNECTIONS

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	53	38	48			
M23301-12-12P	19	- 12	3/4"	3/4"	15	89	38	62			
M23301-12-16P	19	- 12	3/4"	1"	20	89	44,6	62			
M23301-16-16P	25	- 16	1"	1"	19,8	88,5	44,6	79			
M23301-16-20133P	25	- 16	1"	1.1/4"	26	69	51	133			
M23301-20-20P	31	- 20	1.1/4"	1.1/4"	26	102	51	91			
M23301-20-24P	31	- 20	1.1/4"	1.1/2"	32	96,5	60,5	93			
M23301-24-24119P	38	- 24	1.1/2"	1.1/2"	32	105,5	60,5	119			
M23301-32-32P	51	- 32	2"	2"	42	142	71,6	123			

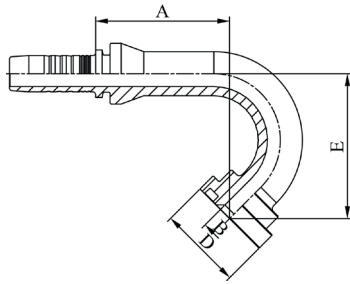


SAE STANDARD CONNECTIONS

M23301S

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M23301-32-32151S	51	- 32	2"	2"	42	118,5	71,6	151			

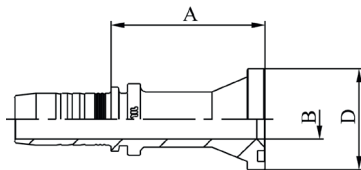


SAE STANDARD CONNECTIONS

M23301T

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M23301-12-12T	19	- 12	3/4"	3/4"		15	74,5	38	70			
M23301-12-16T	19	- 12	3/4"	1"		20	74,5	44,6	70			
M23301-16-16T	25	- 16	1"	1"		19,8	70	44,6	88,5			



SAE STANDARD CONNECTIONS

M23611

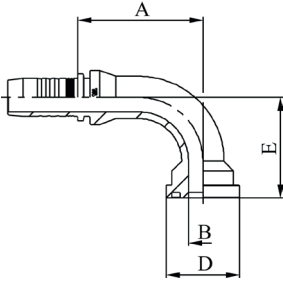
ISO/SAE CODE 62 FLANGE - SAE J516 / ISO 12151-3

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	31,8			
M23611-08-12	12	- 8	1/2"	3/4"		15	68,5	41,5			
M23611-10-08	16	- 10	5/8"	1/2"		9,3	52	31,8			
M23611-10-12	16	- 10	5/8"	3/4"		15	70	41,5			
M23611-10-16	16	- 10	5/8"	1"		20	80	47,7			
M23611-12-12	19	- 12	3/4"	3/4"		15	69	41,5			
M23611-12-16	19	- 12	3/4"	1"		20	81	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	90	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	84,5	54,2			
M23611-20-24	31	- 20	1.1/4"	1.1/2"		32	90,5	63,7			
M23611-24-24	38	- 24	1.1/2"	1.1/2"		32	92,5	63,6			
M23611-32-32	51	- 32	2"	2"		42	109	79,5			

SAE STANDARD CONNECTIONS

M23691

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

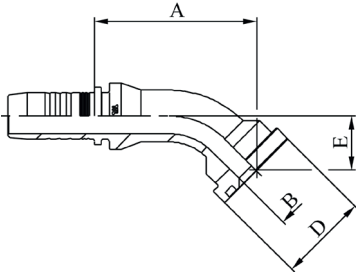


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M23691-08-08	12	- 8	1/2"	1/2"	9,3	54,5	31,8	45			
M23691-08-08040	12	- 8	1/2"	1/2"	9,3	54,5	31,7	41			
M23691-08-12	12	- 8	1/2"	3/4"	15	54,5	41,5	53			
M23691-10-08	16	- 10	5/8"	1/2"	9,3	57,5	31,8	45			
M23691-10-12	16	- 10	5/8"	3/4"	15	53,5	41,5	60,5			
M23691-10-16	16	- 10	5/8"	1"	19,8	56	47,7	64			
M23691-12-12	19	- 12	3/4"	3/4"	15	64	41,5	59			
M23691-12-16	19	- 12	3/4"	1"	20	64,5	47,7	65			
M23691-16-16	25	- 16	1"	1"	19,8	73,5	47,7	68			
M23691-16-20	25	- 16	1"	1.1/4"	26	73,5	54,2	75			
M23691-20-16	31	- 20	1.1/4"	1"	19,8	82,5	47,7	68			
M23691-20-20	31	- 20	1.1/4"	1.1/4"	26	85,5	54,2	81			
M23691-20-20090	31	- 20	1.1/4"	1.1/4"	26	85,5	54,1	90			
M23691-20-24	31	- 20	1.1/4"	1.1/2"	32	85,5	63,7	91,5			
M23691-24-24	38	- 24	1.1/2"	1.1/2"	32	106	63,7	94,5			
M23691-24-24104	38	- 24	1.1/2"	1.1/2"	32	106	63,7	104			
M23691-24-32	38	- 24	1.1/2"	2"	42	106	79,6	110,5			
M23691-32-32	51	- 32	2"	2"	42	138	79,6	132			
M23691-32-32138	51	- 32	2"	2"	42	138	79,6	138			

SAE STANDARD CONNECTIONS

M23641

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

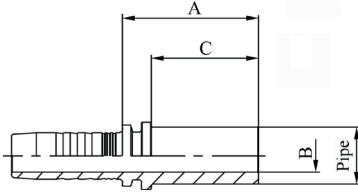


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M23641-08-08	12	- 8	1/2"	1/2"		9,3	59	31,7	19			
M23641-08-12	12	- 8	1/2"	3/4"		15	68	41,5	27,5			
M23641-10-08	16	- 10	5/8"	1/2"		9,3	62,5	31,8	23,5			
M23641-10-12	16	- 10	5/8"	3/4"		15	67,5	41,5	31			
M23641-12-12	19	- 12	3/4"	3/4"		15	72,5	41,5	28			
M23641-12-16	19	- 12	3/4"	1"		20	77	47,7	32,5			
M23641-16-12	25	- 16	1"	3/4"		15	80	41,5	30			
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	88,5	54,2	37,5			
M23641-20-20	31	- 20	1.1/4"	1.1/4"		26	95	54,2	37,5			
M23641-20-24	31	- 20	1.1/4"	1.1/2"		32	102,5	63,7	45			
M23641-24-24	38	- 24	1.1/2"	1.1/2"		32	118	63,7	44			
M23641-24-32	38	- 24	1.1/2"	2"		42	129	79,6	55,5			
M23641-32-32	51	- 32	2"	2"		42	151,5	79,6	60,5			
M23641-32-32056	51	- 32	2"	2"		42	147,5	79,6	56,5			

DIN STANDARD CONNECTIONS

M22010

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

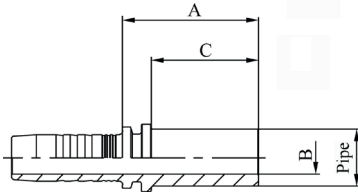


PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm						
	DN	Dash	inch		mm	B	A	C			
M22010-03-04	5	-3	3/16"	4	2	29,5	22				
M22010-03-06	5	-3	3/16"	6	3	29,5	22				
M22010-04-06	6	-4	1/4"	6	3	30	22				
M22010-05-08	8	-5	5/16"	8	5,5	30	22				
M22010-05-10	8	-5	5/16"	10	7	31	23				
M22010-06-10	10	-6	3/8"	10	7	31,5	23				
M22010-06-12	10	-6	3/8"	12	8	31,5	23				
M22010-06-15	10	-6	3/8"	15	10,5	33,5	25				
M22010-08-12	12	-8	1/2"	12	8	32	23				
M22010-08-15	12	-8	1/2"	15	10,5	34	25				
M22010-08-18	12	-8	1/2"	18	12,5	35	26				
M22010-10-18	16	-10	5/8"	18	12,5	35	26				
M22010-10-22	16	-10	5/8"	22	15	37	28				
M22010-12-18	19	-12	3/4"	18	12,5	36,5	26				
M22010-12-22	19	-12	3/4"	22	15	38,5	28				
M22010-16-28	25	-16	1"	28	19,8	41,5	30				
M22010-20-35	31	-20	1.1/4"	35	26	48,5	36				
M22010-24-42	38	-24	1.1/2"	42	32	52,5	40				

DIN STANDARD CONNECTIONS

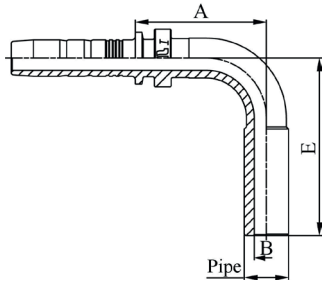
M22110

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



PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm							
	DN	Dash	inch		mm	B	A	C				
M22110-03-08	5	- 3	3/16"	8		3	31	24				
M22110-03-10	5	- 3	3/16"	10		3	29,5	22				
M22110-04-08	6	- 4	1/4"	8		4	32	24				
M22110-04-10	6	- 4	1/4"	10		4	34	26				
M22110-04-12	6	- 4	1/4"	12		7	34	26				
M22110-05-12	8	- 5	5/16"	12		7	34	26				
M22110-06-14	10	- 6	3/8"	14		8	37,5	29				
M22110-08-14	12	- 8	1/2"	14		9,3	38	29				
M22110-08-16	12	- 8	1/2"	16		10,5	39	30				
M22110-10-20	16	- 10	5/8"	20		12,5	45	36				
M22110-12-20	19	- 12	3/4"	20		15	46,5	36				
M22110-12-25	19	- 12	3/4"	25		15	50,5	40				
M22110-16-25	25	- 16	1"	25		15	51,5	40				
M22110-16-30	25	- 16	1"	30		19,8	55,5	44				
M22110-16-38	25	- 16	1"	38		26	61,5	50				
M22110-20-30	31	- 20	1.1/4"	30		20,5	56,5	44				
M22110-20-38	31	- 20	1.1/4"	38		26	62,5	50				
M22110-24-38	38	- 24	1.1/2"	38		26	62,5	50				

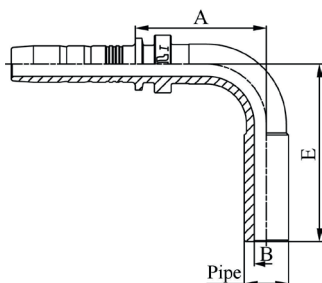
DIN STANDARD CONNECTIONS



M22090

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

PART. REF.	HOSE BORE			Pipe	DIMENSIONS						
	DN	Dash	inch		mm	B	A	E			
M22090-03-06	5	-3	3/16"	6	3	22,5	34				
M22090-04-06	6	-4	1/4"	6	3	23	34				
M22090-05-10	8	-5	5/16"	10	7	29,5	40				
M22090-06-10	10	-6	3/8"	10	7	33	42,5				
M22090-06-12	10	-6	3/8"	12	8	34	45				
M22090-08-12	12	-8	1/2"	12	8	34,5	45				
M22090-08-15	12	-8	1/2"	15	10,5	42	52				
M22090-08-18	12	-8	1/2"	18	12,5	42	55				
M22090-10-18	16	-10	5/8"	18	12,5	49	59				
M22090-10-22	16	-10	5/8"	22	15	53,5	63				
M22090-12-22	19	-12	3/4"	22	15	54,5	63				
M22090-16-28	25	-16	1"	28	19,8	67,5	75				
M22090-20-35	31	-20	1.1/4"	35	26	80,5	94				

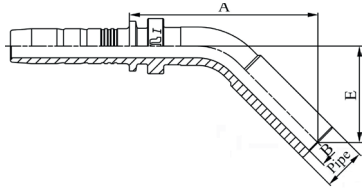


DIN STANDARD CONNECTIONS

M22190

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

PART. REF.	HOSE BORE			Pipe	DIMENSIONS						
	DN	Dash	inch		mm	B	A	E			
M22190-04-08	6	-4	1/4"	8	4	27	38				
M22190-04-10	6	-4	1/4"	10	6	27	41				
M22190-04-12	6	-4	1/4"	12	7	27	44				
M22190-05-12	8	-5	5/16"	12	7	30,5	44				
M22190-06-14	10	-6	3/8"	14	9,3	35	51				
M22190-08-14	12	-8	1/2"	14	9,3	42	53,5				
M22190-08-16	12	-8	1/2"	16	10,5	43	55				
M22190-10-20	16	-10	5/8"	20	12,5	49	66,5				
M22190-12-20	19	-12	3/4"	20	15	54,5	69				
M22190-12-25	19	-12	3/4"	25	15	57,5	75				
M22190-16-25	25	-16	1"	25	15	61,5	76,5				
M22190-16-30	25	-16	1"	30	19,8	69,5	87				

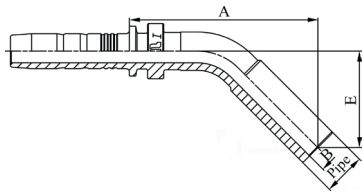


DIN STANDARD CONNECTIONS

M22040

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

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm						
	DN	Dash	inch		mm	B	A	E			
M22040-03-06	5	-3	3/16"	6	3	37,5	20,5				
M22040-04-06	6	-4	1/4"	6	3	38	20,5				
M22040-05-10	8	-5	5/16"	10	7	44,5	22,5				
M22040-06-10	10	-6	3/8"	10	7	47,5	23				
M22040-06-12	10	-6	3/8"	12	8	49,5	25				
M22040-08-15	12	-8	1/2"	15	10,5	58	28				
M22040-10-18	16	-10	5/8"	18	12,5	63,5	30,5				
M22040-12-22	19	-12	3/4"	22	15	69	32				
M22040-16-28	25	-16	1"	28	19,8	81,5	37				

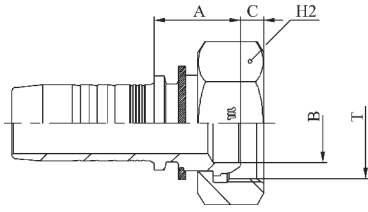


DIN STANDARD CONNECTIONS

M22140

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

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm						
	DN	Dash	inch		mm	B	A	E			
M22140-04-08	6	-4	1/4"	8	4	42	22				
M22140-04-10	6	-4	1/4"	10	6	44	24				
M22140-06-14	10	-6	3/8"	14	9,3	54,5	29				
M22140-08-16	12	-8	1/2"	16	10,5	61	30				
M22140-10-20	16	-10	5/8"	20	12,5	69	36				
M22140-12-25	19	-12	3/4"	25	15	80,5	40,5				
M22140-16-25	25	-16	1"	25	15	82	41				

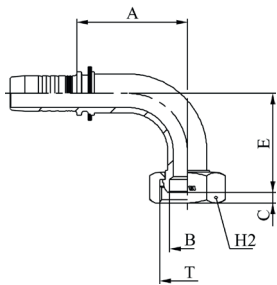


DIN STANDARD CONNECTIONS

M21013

METRIC FEMALE 60° CONE - DIN 20078/3863

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M21013-10-30	16	- 10	5/8"	M 30x1,5		20	20	6	36			
M21013-12-30	19	- 12	3/4"	M 30x1,5		20	21	6	36			
M21013-16-38	25	- 16	1"	M 38x1,5		26	23	7,5	46			
M21013-20-45	31	- 20	1.1/4"	M 45x1,5		33	23,5	8	50			
M21013-24-52	38	- 24	1.1/2"	M 52x1,5		40	25	8	60			



DIN STANDARD CONNECTIONS

M21093

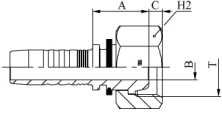
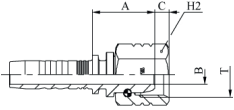
90° METRIC FEMALE SWEPT ELBOW 60° CONE - DIN 20078/3863

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M21093-12-30	19	- 12	3/4"	M 30x1,5		20	61	6	54,5	36		
M21093-16-38	25	- 16	1"	M 38x1,5		26	76,5	7,5	63	46		
M21093-20-45	31	- 20	1.1/4"	M 45x1,5		33	92	8	81	50		

DIN STANDARD CONNECTIONS

M21312/M21313

METRIC FEMALE MULTISEAL - DIN 20078/3868



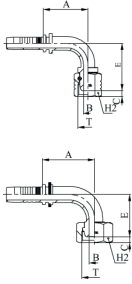
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H2	
M21313-03-12	5	- 3	3/16"	M 12x1,5	6	3	18,5	3,2	14			
M21312-04-12	6	- 4	1/4"	M 12x1,5	6	4	19,5	4	17			
M21313-04-14	6	- 4	1/4"	M 14x1,5	8	4	19,5	3	17			
M21313-04-16	6	- 4	1/4"	M 16x1,5	10	4	19,5	4	19			
M21313-05-16	8	- 5	5/16"	M 16x1,5	10	5,5	19,5	4	19			
M21313-05-18	8	- 5	5/16"	M 18x1,5	12	5,5	19,5	4	22			
M21312-06-14	10	- 6	3/8"	M 14x1,5	8	4	19,5	3,9	17			
M21312-06-16	10	- 6	3/8"	M 16x1,5	10	7	21,5	5	19			
M21313-06-18	10	- 6	3/8"	M 18x1,5	12	7	20	4	22			
M21313-06-22	10	- 6	3/8"	M 22x1,5	15	7	21	4,7	27			
M21312-08-18	12	- 8	1/2"	M 18x1,5	12	7	23	5,9	22			
M21313-08-22	12	- 8	1/2"	M 22x1,5	15	9,3	21,5	4,7	27			
M21312-10-22	16	- 10	5/8"	M 22x1,5	15	9,3	23,5	5,5	27			
M21313-10-26	16	- 10	5/8"	M 26x1,5	18	12,5	22	5	32			

M21312: THRUST-WIRE NUT / M21313: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21392/M21393

90° METRIC FEMALE SWEPT ELBOW MULTISEAL DIN 20078/3868



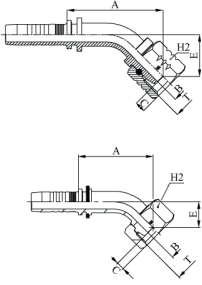
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21393-03-12	5	- 3	3/16"	M 12x1,5	6	3	26	3,2	27	14		
M21392-04-12	6	- 4	1/4"	M 12x1,5	6	4	28	4	30,5	17		
M21393-04-14	6	- 4	1/4"	M 14x1,5	8	4	29,5	3	29,5	17		
M21393-04-16	6	- 4	1/4"	M 16x1,5	10	4	29,5	4	29,5	19		
M21393-05-16	8	- 5	5/16"	M 16x1,5	10	5,5	32	4	29	19		
M21393-05-18	8	- 5	5/16"	M 18x1,5	12	7	32	4	30,5	22		
M21392-06-16	10	- 6	3/8"	M 16x1,5	10	7	35,5	5	38	19		
M21393-06-18	10	- 6	3/8"	M 18x1,5	12	7	36,5	4	31,5	22		
M21393-06-22	10	- 6	3/8"	M 22x1,5	15	7	36,5	4,7	32	27		
M21393-08-22	12	- 8	1/2"	M 22x1,5	15	9,3	45	4,7	36,5	27		
M21393-10-26	16	- 10	5/8"	M 26x1,5	18	12,5	51,5	5	50	32		
M21392-12-26	19	- 12	3/4"	M 26x1,5	18	15	61,5	2,3	63	32		

M21392: THRUST-WIRE NUT / M21393: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21342/M21343

45° METRIC FEMALE SWEPT ELBOW MULTISEAL DIN 20078/3868



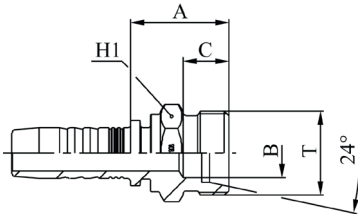
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21343-04-14	6	-4	1/4"	M 14x1,5	8	4	36,5	3	15	17		
M21343-04-16	6	-4	1/4"	M 16x1,5	10	4	36,5	4	15	19		
M21342-05-14	8	-5	5/16"	M 14x1,5	8	4	40	3,9	19,5	17		
M21343-05-16	8	-5	5/16"	M 16x1,5	10	5,5	39	4	15	19		
M21342-06-16	10	-6	3/8"	M 16x1,5	10	7	46	5	20	19		
M21343-06-18	10	-6	3/8"	M 18x1,5	12	7	42	4	15,5	22		
M21343-06-22	10	-6	3/8"	M 22x1,5	15	7	42,5	4,7	15,5	27		
M21343-08-22	12	-8	1/2"	M 22x1,5	15	9,3	49,5	4,7	17	27		
M21343-10-26	16	-10	5/8"	M 26x1,5	18	12,5	60	5	24	32		

M21342: THRUST-WIRE NUT / M21343: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M11110

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

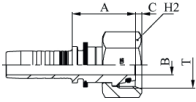
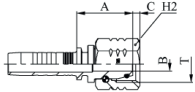


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A			
M11110-03-12	5	-3	3/16"	M 12x1,5	6	3	21	10	14			
M11110-04-12	6	-4	1/4"	M 12x1,5	6	4	21,5	10	14			
M11110-04-14	6	-4	1/4"	M 14x1,5	8	4	21,5	10	14			
M11110-04-16	6	-4	1/4"	M 16x1,5	10	7	23,5	11	17			
M11110-04-18	6	-4	1/4"	M 18x1,5	12	9	23,5	11	19			
M11110-05-16	8	-5	5/16"	M 16x1,5	10	7	24	11	17			
M11110-05-18	8	-5	5/16"	M 18x1,5	12	9	24	11	19			
M11110-06-16	10	-6	3/8"	M 16x1,5	10	7	24	11	17			
M11110-06-18	10	-6	3/8"	M 18x1,5	12	9	24,5	11	19			
M11110-06-22	10	-6	3/8"	M 22x1,5	15	10	25,5	12	22			
M11110-06-26	10	-6	3/8"	M 26x1,5	18	12,5	26,5	12	27			
M11110-08-16	12	-8	1/2"	M 16x1,5	10	7	24,5	11	22			
M11110-08-18	12	-8	1/2"	M 18x1,5	12	9,3	24,5	11	22			
M11110-08-22	12	-8	1/2"	M 22x1,5	15	10	25,5	12	22			
M11110-08-26	12	-8	1/2"	M 26x1,5	18	12,5	26,5	12	27			
M11110-10-22	16	-10	5/8"	M 22x1,5	15	10	25,5	12	22			
M11110-10-26	16	-10	5/8"	M 26x1,5	18	12,5	26,5	12	27			
M11110-10-30	16	-10	5/8"	M 30x2	22	15	28,5	14	30			
M11110-12-26	19	-12	3/4"	M 26x1,5	18	15	28	12	27			
M11110-12-30	19	-12	3/4"	M 30x2	22	15	30	14	30			
M11110-12-36	19	-12	3/4"	M 36x2	28	19,8	31	14	36			
M11110-16-36	25	-16	1"	M 36x2	28	19,8	32,5	14	36			
M11110-20-45	31	-20	1.1/4"	M 45x2	35	26	40,5	16	46			
M11110-24-52	38	-24	1.1/2"	M 52x2	42	32	43	16	55			

DIN STANDARD CONNECTIONS

M21512/M21513

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



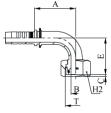
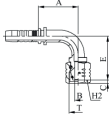
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H2	
M21513-03-12	5	- 3	3/16"	M 12x1,5	6	3	22	0,7	14			
M21513-03-14	5	- 3	3/16"	M 14x1,5	8	4	24,5	1,3	17			
M21512-04-12	6	- 4	1/4"	M 12x1,5	6	3	21	2,2	17			
M21513-04-14	6	- 4	1/4"	M 14x1,5	8	4	22	1,3	17			
M21513-04-16	6	- 4	1/4"	M 16x1,5	10	6	22,5	1,8	19			
M21513-04-18	6	- 4	1/4"	M 18x1,5	12	7	22	2	22			
M21512-05-14	8	- 5	5/16"	M 14x1,5	8	4	20	2,9	17			
M21513-05-16	8	- 5	5/16"	M 16x1,5	10	6	22,5	1,8	19			
M21513-05-18	8	- 5	5/16"	M 18x1,5	12	7	22	2	22			
M21512-06-16	10	- 6	3/8"	M 16x1,5	10	6	23	3	19			
M21513-06-18	10	- 6	3/8"	M 18x1,5	12	7	22,5	2	22			
M21513-06-22	10	- 6	3/8"	M 22x1,5	15	9,3	25	1,5	27			
M21512-08-18	12	- 8	1/2"	M 18x1,5	12	7	29	2,9	22			
M21513-08-22	12	- 8	1/2"	M 22x1,5	15	9,3	25,5	1,5	27			
M21513-08-26	12	- 8	1/2"	M 26x1,5	18	12,5	26	2	32			
M21512-10-18	16	- 10	5/8"	M 18x1,5	12	7	29	2,9	22			
M21512-10-22	16	- 10	5/8"	M 22x1,5	15	9,5	26,5	2,4	27			
M21513-10-26	16	- 10	5/8"	M 26x1,5	18	12,5	26	2	32			
M21513-10-30	16	- 10	5/8"	M 30x2	22	15	34	3	36			
M21513-10-36	16	- 10	5/8"	M 36x2	28	20	30,5	3,7	41			
M21512-12-22	19	- 12	3/4"	M 22x1,5		9,5	31	2,4	27			
M21512-12-26	19	- 12	3/4"	M 26x1,5	18	12,5	31	2,3	32			
M21513-12-30	19	- 12	3/4"	M 30x2	22	15	28	3	36			
M21513-12-36	19	- 12	3/4"	M 36x2	28	20	28,5	3,7	41			
M21512-16-30	25	- 16	1"	M 30x2	22	15	34	4,2	36			
M21513-16-36	25	- 16	1"	M 36x2	28	19,8	29,5	3,7	41			
M21513-16-45	25	- 16	1"	M 45x2	35	26	39	4	50			
M21512-20-36	31	- 20	1.1/4"	M 36x2	28	19,8	35,5	5	41			
M21513-20-45	31	- 20	1.1/4"	M 45x2	35	26	33	4	50			
M21513-20-52	31	- 20	1.1/4"	M 52x2	42	32	32,5	4,5	60			
M21512-24-45	38	- 24	1.1/2"	M 45x2	35	26	42,5	5,8	50			
M21513-24-52	38	- 24	1.1/2"	M 52x2	42	32	33	4,5	60			
M21512-32-52	51	- 32	2"	M 52x2	42	32	50,5	5,6	60			

M21512: THRUST-WIRE NUT / M21513: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21592/M21593

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



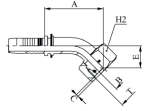
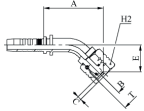
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21593-03-12	5	- 3	3/16"	M 12x1,5	6	3	26	0,7	30	14		
M21593-03-14	5	- 3	3/16"	M 14x1,5	8	4	29	1,3	31,5	17		
M21592-04-12	6	- 4	1/4"	M 12x1,5	6	3	28,5	2,2	32,5	17		
M21593-04-14	6	- 4	1/4"	M 14x1,5	8	4	29,5	1,3	31,5	17		
M21593-04-16	6	- 4	1/4"	M 16x1,5	10	6	29,5	1,8	32	19		
M21593-04-18	6	- 4	1/4"	M 18x1,5	12	7	29,5	2	33	22		
M21592-05-14	8	- 5	5/16"	M 14x1,5	8	4	31	2,9	33	17		
M21593-05-16	8	- 5	5/16"	M 16x1,5	10	6	32	1,8	32,5	19		
M21593-05-18	8	- 5	5/16"	M 18x1,5	12	7	32	2	32,5	22		
M21593-05-22	8	- 5	5/16"	M 22x1,5	15	9,3	36	1,5	35	27		
M21592-06-16	10	- 6	3/8"	M 16x1,5	10	6	35,5	3	40	19		
M21593-06-18	10	- 6	3/8"	M 18x1,5	12	7	36,5	2	33,5	22		
M21593-06-22	10	- 6	3/8"	M 22x1,5	15	9,3	36,5	1,5	35	27		
M21592-08-18	12	- 8	1/2"	M 18x1,5	12	7	44	2,9	48	22		
M21593-08-22	12	- 8	1/2"	M 22x1,5	15	9,3	45	1,5	39,5	27		
M21593-08-26	12	- 8	1/2"	M 26x1,5	18	12,5	45	2	40	32		
M21592-10-22	16	- 10	5/8"	M 22x1,5	15	9,3	53,5	3	57,5	27		
M21593-10-26	16	- 10	5/8"	M 26x1,5	18	12,5	51,5	2	53	32		
M21593-10-30	16	- 10	5/8"	M 30x2	22	15	51,5	3	54	36		
M21592-12-26	19	- 12	3/4"	M 26x1,5	18	12,5	61,5	2,3	63	32		
M21593-12-30	19	- 12	3/4"	M 30x2	22	15	61,5	3	59,5	36		
M21593-12-36	19	- 12	3/4"	M 36x2	28	19,8	61,5	3,7	61	41		
M21592-16-30	25	- 16	1"	M 30x2	22	15	79,5	4,2	80,5	36		
M21593-16-36	25	- 16	1"	M 36x2	28	19,8	76,5	3,7	69,5	41		
M21593-16-45	25	- 16	1"	M 45x2	35	26	79	4	72	50		
M21592-20-36	31	- 20	1.1/4"	M 36x2	28	19,8	93,5	5	92	41		
M21593-20-45	31	- 20	1.1/4"	M 45x2	35	26	93,5	4	81	50		
M21592-24-36	38	- 24	1.1/2"	M 36x2	28	19,8	97	5	68	41		
M21593-24-52	38	- 24	1.1/2"	M 52x2	42	32	107,5	4,5	98	60		
M21592-32-52	51	- 32	2"	M 52x2	42	32	131	5,6	119	60		

M21592: THRUST-WIRE NUT / M21593: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21542/M21543

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



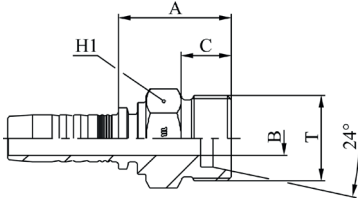
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21543-03-12	5	- 3	3/16"	M 12x1,5	6	3	35	0,7	16	14		
M21542-04-12	6	- 4	1/4"	M 12x1,5	6	3	39	2,2	18	17		
M21543-04-14	6	- 4	1/4"	M 14x1,5	8	4	38	1,3	16,5	17		
M21543-04-16	6	- 4	1/4"	M 16x1,5	10	6	38	1,8	17	19		
M21543-04-18	6	- 4	1/4"	M 18x1,5	12	7	38,5	2	17,5	22		
M21543-05-16	8	- 5	5/16"	M 16x1,5	10	6	41,5	1,8	17,5	19		
M21543-05-18	8	- 5	5/16"	M 18x1,5	12	7	41,5	2	17	22		
M21542-06-16	10	- 6	3/8"	M 16x1,5	10	6	47,5	3	21,5	19		
M21543-06-18	10	- 6	3/8"	M 18x1,5	12	7	43,5	2	16,5	22		
M21543-06-22	10	- 6	3/8"	M 22x1,5	15	9,3	45	1,5	18	27		
M21542-08-18	12	- 8	1/2"	M 18x1,5	12	7	56,5	2,9	25	22		
M21543-08-22	12	- 8	1/2"	M 22x1,5	15	9,3	52	1,5	19	27		
M21543-08-26	12	- 8	1/2"	M 26x1,5	18	12,5	52,5	2	19,5	32		
M21542-10-22	16	- 10	5/8"	M 22x1,5	15	9,3	65,5	3	29	27		
M21543-10-26	16	- 10	5/8"	M 26x1,5	18	12,5	62	2	26,5	32		
M21542-12-26	19	- 12	3/4"	M 26x1,5	18	12,5	73	2,3	31	32		
M21543-12-30	19	- 12	3/4"	M 30x2	22	15	71	3	28,5	36		
M21543-12-36	19	- 12	3/4"	M 36x2	28	19,8	72	3,7	30	41		
M21543-16-36	25	- 16	1"	M 36x2	28	19,8	85	3,7	32	41		
M21542-20-36	31	- 20	1.1/4"	M 36x2	28	19,8	107,5	5	44	41		
M21543-20-45	31	- 20	1.1/4"	M 45x2	35	26	100	4	36	50		
M21543-20-52	31	- 20	1.1/4"	M 52x2	42	32	100	4,5	42	60		
M21542-24-36	38	- 24	1.1/2"	M 36x2	28	19,8	113	5	34,5	41		
M21543-24-52	38	- 24	1.1/2"	M 52x2	42	32	117	4,5	44,5	60		

M21542: THRUST-WIRE NUT / M21543: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M11210

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

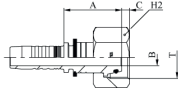
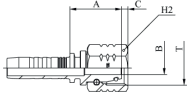


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A			
M11210-04-16	6	- 4	1/4"	M 16x1,5	8	5,5	25,5	12	17			
M11210-04-18	6	- 4	1/4"	M 18x1,5	10	6	26,5	12	19			
M11210-04-20	6	- 4	1/4"	M 20x1,5	12	7	29	12	22			
M11210-05-16	8	- 5	5/16"	M 16x1,5	8	5,5	26	12	17			
M11210-05-18	8	- 5	5/16"	M 18x1,5	10	7	26,5	12	19			
M11210-05-20	8	- 5	5/16"	M 20x1,5	12	7	29	12	22			
M11210-06-18	10	- 6	3/8"	M 18x1,5	10	7	27	12	19			
M11210-06-20	10	- 6	3/8"	M 20x1,5	12	7	29	12	22			
M11210-06-22	10	- 6	3/8"	M 22x1,5	14	8	31	14	22			
M11210-08-20	12	- 8	1/2"	M 20x1,5	12	9,3	29,5	12	22			
M11210-08-22	12	- 8	1/2"	M 22x1,5	14	9,3	31,5	14	22			
M11210-08-24	12	- 8	1/2"	M 24x1,5	16	9,3	31,5	14	24			
M11210-10-30	16	- 10	5/8"	M 30x2	20	15	35,5	16	30			
M11210-10-36	16	- 10	5/8"	M 36x2	25	19,8	40	18	36			
M11210-12-30	19	- 12	3/4"	M 30x2	20	15	37	16	30			
M11210-12-36	19	- 12	3/4"	M 36x2	25	19,8	41	18	36			
M11210-16-36	25	- 16	1"	M 36x2	25	19,8	42,5	18	36			
M11210-16-42	25	- 16	1"	M 42x2	30	25	44,5	20	46			
M11210-20-52	31	- 20	1.1/4"	M 52x2	38	30	51	22	55			

DIN STANDARD CONNECTIONS

M21612/M21613

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



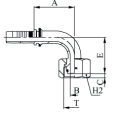
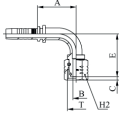
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A			
M21613-03-14	5	- 3	3/16"	M 14x1,5	6	2,5	25,5	3,5	17			
M21613-03-16	5	- 3	3/16"	M 16x1,5	8	3	21,5	3,4	19			
M21613-04-14	6	- 4	1/4"	M 14x1,5	6	3	23,5	1,9	17			
M21613-04-16	6	- 4	1/4"	M 16x1,5	8	4	22	3,4	19			
M21613-04-18	6	- 4	1/4"	M 18x1,5	10	4	28	2,5	22			
M21613-04-20	6	- 4	1/4"	M 20x1,5	12	7	26	2	24			
M21613-05-18	8	- 5	5/16"	M 18x1,5	10	5,5	28	2,5	22			
M21613-05-20	8	- 5	5/16"	M 20x1,5	12	5,5	25	2	24			
M21613-06-18	10	- 6	3/8"	M 18x1,5	10	7	28,5	2,5	22			
M21613-06-20	10	- 6	3/8"	M 20x1,5	12	7	25,5	2	24			
M21613-06-22	10	- 6	3/8"	M 22x1,5	14	7	32,5	3	27			
M21613-06-24	10	- 6	3/8"	M 24x1,5	16	7	32	4	30			
M21612-08-20	12	- 8	1/2"	M 20x1,5	12	7	29	2,5	24			
M21612-08-22	12	- 8	1/2"	M 22x1,5	14	7	27	2,5	27			
M21613-08-24	12	- 8	1/2"	M 24x1,5	16	9,3	26,5	4	30			
M21613-08-30	12	- 8	1/2"	M 30x2	20	12,5	37	3,5	36			
M21612-10-24	16	- 10	5/8"	M 24x1,5	16	9,3	29,5	4	30			
M21613-10-30	16	- 10	5/8"	M 30x2	20	12,5	30,5	3,5	36			
M21613-10-36	16	- 10	5/8"	M 36x2	25	15	40	4,5	41			
M21612-12-24	19	- 12	3/4"	M 24x1,5	16	9,3	30,5	4	30			
M21612-12-30	19	- 12	3/4"	M 30x2	20	12,5	33,5	2,2	36			
M21613-12-36	19	- 12	3/4"	M 36x2	25	15	34	4,5	41			
M21612-16-30	25	- 16	1"	M 30x2	20	12,5	34,5	2,2	36			
M21612-16-36	25	- 16	1"	M 36x2	25	15	35,5	1,7	41			
M21613-16-42	25	- 16	1"	M 42x2	30	19,8	35,5	6,3	50			
M21613-20-52	31	- 20	1.1/4"	M 52x2	38	26	37,5	8	60			
M21613-24-52	38	- 24	1.1/2"	M 52x2	38	26	49,5	8	60			

M21612: THRUST-WIRE NUT / M21613: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21692/M21693

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



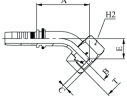
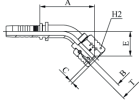
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21693-03-14	5	- 3	3/16"	M 14x1,5	6	3	26	3,5	30	17		
M21693-03-16	5	- 3	3/16"	M 16x1,5	8	3	26	3,4	29,5	19		
M21693-04-14	6	- 4	1/4"	M 14x1,5	6	3	29,5	1,9	32,5	17		
M21693-04-16	6	- 4	1/4"	M 16x1,5	8	4	29,5	3,4	29,5	19		
M21693-04-18	6	- 4	1/4"	M 18x1,5	10	4	29,5	2,5	31	22		
M21693-04-20	6	- 4	1/4"	M 20x1,5	12	5,5	29,5	2	34,5	24		
M21693-05-18	8	- 5	5/16"	M 18x1,5	10	4	32	2,5	33,5	22		
M21693-05-20	8	- 5	5/16"	M 20x1,5	12	5,5	32	2	34	24		
M21692-06-18	10	- 6	3/8"	M 18x1,5	10	4	35,5	3,9	42,5	22		
M21693-06-20	10	- 6	3/8"	M 20x1,5	12	7	36,5	2	35	24		
M21693-06-22	10	- 6	3/8"	M 22x1,5	14	7	36,5	3	37	27		
M21693-06-24	10	- 6	3/8"	M 24x1,5	16	9,3	36,5	4	36	30		
M21692-08-22	12	- 8	1/2"	M 22x1,5	14	7	44	2,5	48,5	27		
M21693-08-24	12	- 8	1/2"	M 24x1,5	16	9,3	45	4	40,5	30		
M21693-08-30	12	- 8	1/2"	M 30x2	20	12,5	45	3,5	44,5	36		
M21692-10-24	16	- 10	5/8"	M 24x1,5	16	9,3	53,5	4	58,5	30		
M21693-10-30	16	- 10	5/8"	M 30x2	20	12,5	51,5	3,5	57,5	36		
M21692-12-30	19	- 12	3/4"	M 30x2	20	12,5	61,5	2,2	67,5	36		
M21693-12-36	19	- 12	3/4"	M 36x2	25	15	61,5	4,5	64,5	41		
M21692-16-36	25	- 16	1"	M 36x2	25	15	79,5	1,7	86	41		
M21693-16-42	25	- 16	1"	M 42x2	30	19,8	79	6,3	74,5	50		
M21693-20-52	31	- 20	1.1/4"	M 52x2	38	26	93,5	8	85,5	60		
M21692-24-52	38	- 24	1.1/2"	M 52x2	38	24,7	91,5	8,8	95,5	60		

M21692: THRUST-WIRE NUT / M21693: SLIP-ON NUT

DIN STANDARD CONNECTIONS

M21642/M21643

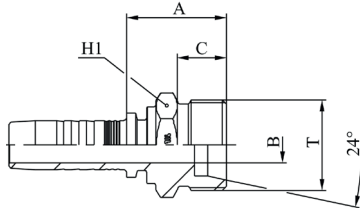
**45° METRIC O-RING FEMALE SWEPT ELBOW 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21643-04-14	6	- 4	1/4"	M 14x1,5	6	3	38,5	1,9	17,5	17		
M21643-04-16	6	- 4	1/4"	M 16x1,5	8	4	36,5	3,4	15	19		
M21643-04-18	6	- 4	1/4"	M 18x1,5	10	4	37,5	2,5	16,5	22		
M21643-05-18	8	- 5	5/16"	M 18x1,5	10	4	42,5	2,5	18	22		
M21643-05-20	8	- 5	5/16"	M 20x1,5	12	5,5	42	2	18,5	24		
M21642-06-18	10	- 6	3/8"	M 18x1,5	10	4	49	3,9	23	22		
M21643-06-20	10	- 6	3/8"	M 20x1,5	12	7	45	2,5	18	24		
M21643-06-22	10	- 6	3/8"	M 22x1,5	14	7	45,5	3	18,5	27		
M21642-08-22	12	- 8	1/2"	M 22x1,5	14	7	57,5	2,5	25,5	27		
M21643-08-24	12	- 8	1/2"	M 24x1,5	16	9,3	52,5	4	20	30		
M21643-10-30	16	- 10	5/8"	M 30x2	20	12,5	65,5	3,5	29,5	36		
M21642-12-30	19	- 12	3/4"	M 30x2	20	12,5	76,5	2,2	34	36		
M21643-12-36	19	- 12	3/4"	M 36x2	25	15	75	4,5	32,5	41		
M21642-16-36	25	- 16	1"	M 36x2	25	15	98	1,7	43,5	41		
M21643-16-42	25	- 16	1"	M 42x2	30	19,8	90	6,3	35,5	50		
M21643-20-52	31	- 20	1.1/4"	M 52x2	38	26	103	8	39,5	60		
M21642-24-52	38	- 24	1.1/2"	M 52x2	38	24,7	111	8,8	48	60		

M21642: THRUST-WIRE NUT / M21643: SLIP-ON NUT

NF STANDARD CONNECTIONS

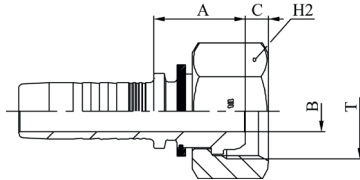


M11710

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	12,5	28,5	14	28			
M11710-10-2720	16	- 10	5/8"	M 27x1,5	20	12,5	28,5	14	28			
M11710-12-30	19	- 12	3/4"	M 30x1,5	22	15	30	14	30			
M11710-12-33	19	- 12	3/4"	M 33x1,5	25	15	31	14	34			

NF STANDARD CONNECTIONS



M21713

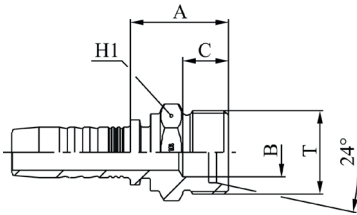
FRENCH METRIC FEMALE MILLIMETRIC TYPE (SLIP-ON NUT)

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	32			
M21713-10-2720	16	- 10	5/8"	M 27x1,5	20	12,5	21,5	5	32			
M21713-12-30	19	- 12	3/4"	M 30x1,5	22	15	25,5	2	36			
M21713-12-33	19	- 12	3/4"	M 33x1,5	25	15	25,5	2	38			
M21713-16-36	25	- 16	1"	M 36x1,5	28	19,8	28	4,7	41			
M21713-16-39	25	- 16	1"	M 39x1,5	30	19,8	28,5	4,2	46			

NF STANDARD CONNECTIONS

M11810

FRENCH METRIC MALE 24° CONE SEAT GAZ TYPE

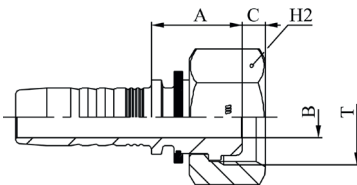


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H1	
M11810-05-20	8	- 5	5/16"	M 20x1,5	13,25	8	27	12	22			
M11810-06-20	10	- 6	3/8"	M 20x1,5	13,25	8	27,5	12	22			
M11810-06-24	10	- 6	3/8"	M 24x1,5	16,75	12	28	12	24			
M11810-08-24	12	- 8	1/2"	M 24x1,5	16,75	12	28,5	12	24			
M11810-10-30	16	- 10	5/8"	M 30x1,5	21,25	15	31,5	14	30			
M11810-12-36	19	- 12	3/4"	M 36x1,5	26,75	21	34	14	36			
M11810-16-45	25	- 16	1"	M 45x1,5	33,5	26	39,5	16	46			

NF STANDARD CONNECTIONS

M21813

FRENCH METRIC FEMALE GAZ TYPE (SLIP-ON NUT)

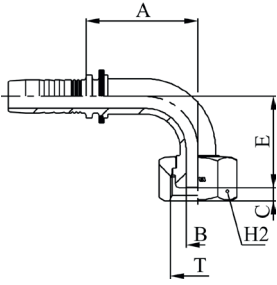


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H2	
M21813-04-20	6	- 4	1/4"	M 20x1,5	13,25	7	22	4	24			
M21813-05-20	8	- 5	5/16"	M 20x1,5	13,25	7	22	4	24			
M21813-06-20	10	- 6	3/8"	M 20x1,5	13,25	7	22,5	4	24			
M21813-06-24	10	- 6	3/8"	M 24x1,5	16,75	9,3	25,5	3,5	30			
M21813-08-24	12	- 8	1/2"	M 24x1,5	16,75	9,3	26	3,5	30			
M21813-08-30	12	- 8	1/2"	M 30x1,5	21,25	12,5	23,5	2	36			
M21813-10-30	16	- 10	5/8"	M 30x1,5	21,25	12,5	23,5	2	36			
M21813-12-36	19	- 12	3/4"	M 36x1,5	26,75	15	27	4,7	41			
M21813-16-45	25	- 16	1"	M 45x1,5	33,5	19,8	27	4,5	50			

NF STANDARD CONNECTIONS

M21893

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

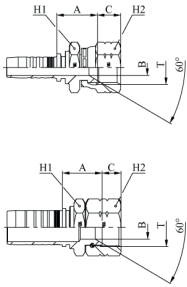


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21893-05-20	8	- 5	5/16"	M 20x1,5	13,25	7	32	4	29,5	24		
M21893-06-20	10	- 6	3/8"	M 20x1,5	13,25	7	36,5	4	33,5	24		
M21893-08-24	12	- 8	1/2"	M 24x1,5	16,75	12	45	3,5	41	30		
M21893-10-30	16	- 10	5/8"	M 30x1,5	21,25	12,5	51,5	2	53,5	36		
M21893-12-36	19	- 12	3/4"	M 36x1,5	26,75	15	61,5	4,7	60	41		

JIS STANDARD CONNECTIONS

M24011/M24012

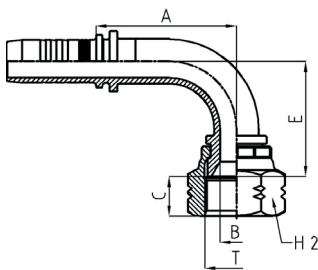
JIS METRIC FEMALE 60° CONE SEAT (KOMATSU) JIS B 8363



FITTINGS
F 2-74

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M24011-04-14	6	- 4	1/4"	M 14x1,5	4	23	10,5	19	19		
M24011-04-18	6	- 4	1/4"	M 18x1,5	7	22,5	11,5	24	24		
M24011-05-16	8	- 5	5/16"	M 16x1,5	5,5	22,5	9,3	21	21		
M24011-06-14	10	- 6	3/8"	M 14x1,5	4	23,5	10,5	19	19		
M24011-06-18	10	- 6	3/8"	M 18x1,5	7	23,5	11,5	24	24		
M24011-08-22	12	- 8	1/2"	M 22x1,5	9,3	25	13	27	27		
M24011-10-24	16	- 10	5/8"	M 24x1,5	12,5	26,5	15,1	32	32		
M24011-12-30	19	- 12	3/4"	M 30x1,5	15	31,5	18,3	36	36		
M24011-16-33	25	- 16	1"	M 33x1,5	19,8	33,5	21,3	41	41		
M24011-20-36	31	- 20	1.1/4"	M 36x1,5	19,8	41	20	46	46		
M24012-24-42	38	- 24	1.1/2"	M 42x1,5	26	44	18,8	55	55		

M24011: CRIMPED-BACK NUT / M24012: THRUST-WIRE NUT



JIS STANDARD CONNECTIONS

M24091

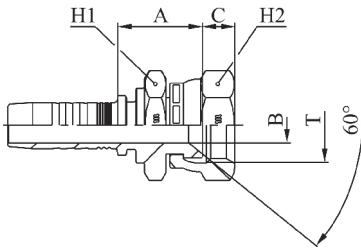
90° JIS METRIC FEMALE 60° CONE SEAT

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M24091-04-14	6	- 4	1/4"	M 14x1,5	4	29	10,5	28,5	19		
M24091-06-18	10	- 6	3/8"	M 18x1,5	7	35,5	11,5	34	24		
M24091-08-22	12	- 8	1/2"	M 22x1,5	9,3	44	13	40	27		
M24091-10-24	16	- 10	5/8"	M 24x1,5	12,5	53,5	15,2	47	32		
M24091-12-30	19	- 12	3/4"	M 30x1,5	15	61,5	18,3	56,5	36		

JIS STANDARD CONNECTIONS

M23811

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

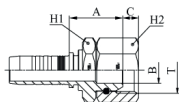
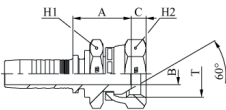


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1	H2	
M23811-04-04	6	- 4	1/4"	1/4" - 19		4	18,5	8,3	19	19		
M23811-06-06	10	- 6	3/8"	3/8" - 19		7	23	10	22	22		
M23811-08-08	12	- 8	1/2"	1/2" - 14		9,3	22	11,5	27	27		
M23811-12-12	19	- 12	3/4"	3/4" - 14		15	26	13,5	32	32		
M23811-16-16	25	- 16	1"	1" - 11		19,8	30,5	14,5	38	38		

JIS STANDARD CONNECTIONS

M20711/M20712

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



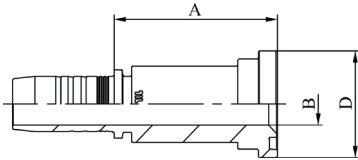
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1	H2	
M20711-04-04	6	- 4	1/4"	1/4" - 19		4	22,5	4,5	19	19		
M20711-06-06	10	- 6	3/8"	3/8" - 19		7	24,5	6,4	22	22		
M20711-08-08	12	- 8	1/2"	1/2" - 14		9,3	26,5	6,7	27	27		
M20712-10-08	16	- 10	5/8"	1/2" - 14		9,3	29	6,5	27	27		
M20712-10-12	16	- 10	5/8"	3/4" - 14		15	30,5	9	32	32		
M20711-12-12	19	- 12	3/4"	3/4" - 14		15	30	8,9	32	32		
M20712-16-16	25	- 16	1"	1" - 11		19,8	35,5	10,5	38	38		
M20712-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	44,5	12,5	50	50		

M20711: CRIMPED-BACK NUT / M20712: THRUST-WIRE NUT

ORIGINAL EQUIPMENT CONNECTIONS

M24111

STRAIGHT KOMATSU FLANGE

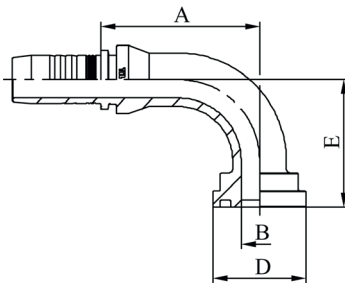


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D			
M24111-08-10	12	- 8	1/2"	5/8"		14	66	34			
M24111-10-10	16	- 10	5/8"	5/8"		14	65,5	34			
M24111-12-10	19	- 12	3/4"	5/8"		14	66,5	34			

ORIGINAL EQUIPMENT CONNECTIONS

M24191

90° KOMATSU FLANGE

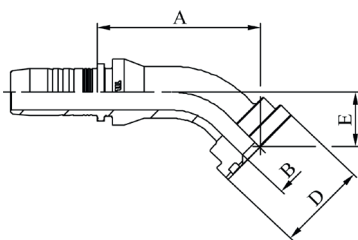


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M24191-10-10	16	- 10	5/8"	5/8"		14	56	34	47,5		
M24191-12-10	19	- 12	3/4"	5/8"		14	56	34	47,5		

ORIGINAL EQUIPMENT CONNECTIONS

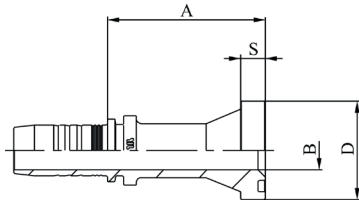
M24141

45° KOMATSU FLANGE



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M24141-10-10	16	- 10	5/8"	5/8"		14	61	34	22		

ORIGINAL EQUIPMENT CONNECTIONS

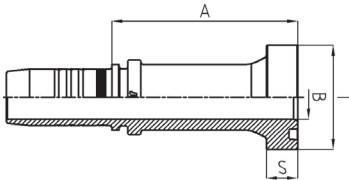


M23911

STRAIGHT SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	S		
M23911-12-12	19	- 12	3/4"	3/4"		15	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	47,7	14,3		
M23911-16-20	25	- 16	1"	1.1/4"		26	92,5	54	14,3		
M23911-20-20	31	- 20	1.1/4"	1.1/4"		26	86	54	14,3		
M23911-24-24	38	- 24	1.1/2"	1.1/2"		32	94	63,6	14,3		

ORIGINAL EQUIPMENT CONNECTIONS



M23911CT

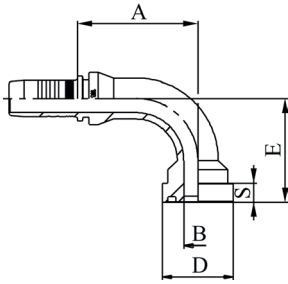
STRAIGHT REALCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	S		
M23911-16-16CT	25	- 16	1"	1"		19,8	85	47,7	14,3		
M23911-20-20CT	31	- 20	1.1/4"	1.1/4"		26	88,5	54	14,3		
M23911-24-24CT	38	- 24	1.1/2"	1.1/2"		32	93	63,6	14,3		

ORIGINAL EQUIPMENT CONNECTIONS

M23991

90° SUPERCAT FLANGE

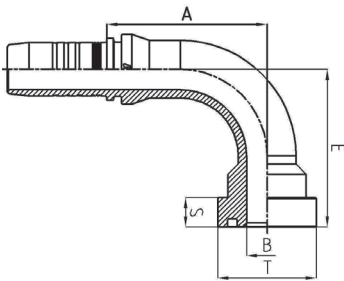


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	S	
M23991-12-12	19	- 12	3/4"	3/4"	15	64,5	41,5	64,5	14,3		
M23991-16-16	25	- 16	1"	1"	19,8	77,5	47,7	76,5	14,3		
M23991-16-20	25	- 16	1"	1.1/4"	26	75,5	54	80,5	14,3		
M23991-20-20	31	- 20	1.1/4"	1.1/4"	26	85,5	54	87	14,3		
M23991-20-24	31	- 20	1.1/4"	1.1/2"	32	85,5	63,7	93	14,3		

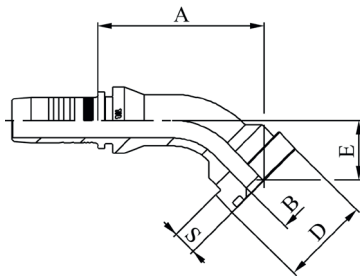
ORIGINAL EQUIPMENT CONNECTIONS

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	75,5	54	80,5	14,3		
M23991-20-20CT	31	- 20	1.1/4"	1.1/4"	26	85,5	54	87	14,3		
M23991-24-24CT	38	- 24	1.1/2"	1.1/2"	32	106	63,7	96	14,3		

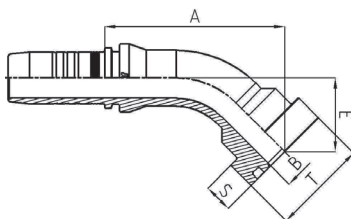


ORIGINAL EQUIPMENT CONNECTIONS

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	77	41,5	32	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	92,5	54	40,5	14,3		
M23941-20-20	31	- 20	1.1/4"	1.1/4"	26	99	54	41,5	14,3		
M23941-24-24	38	- 24	1.1/2"	1.1/2"	32	119	63,6	45,5	14,3		

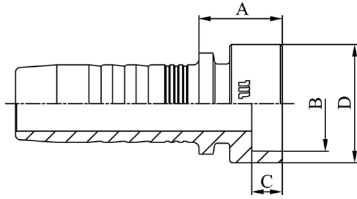


ORIGINAL EQUIPMENT CONNECTIONS

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	93	54	40,5	14,3		
M23941-20-20CT	31	- 20	1.1/4"	1.1/4"	26	99	54	41,5	14,3		
M23941-24-24CT	38	- 24	1.1/2"	1.1/2"	32	119	63,7	45	14,3		



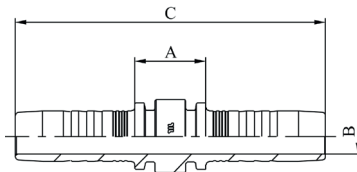
TAIL

M..IP..

BRAZING TAIL

FITTINGS F 2-80

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D				
M03IP06	5	- 3	3/16"	6	11,5	5	10				
M04IP08	6	- 4	1/4"	8	13	5	12				
M05IP10	8	- 5	5/16"	10	13,5	6	14				
M06IP14	10	- 6	3/8"	14	13,5	6	18				
M06IP12	10	- 6	3/8"	12	13,5	6	16				
M08IP15	12	- 8	1/2"	15	14	6	20				
M08IP16	12	- 8	1/2"	16	14	6	20				
M10IP18	16	- 10	5/8"	18	15	7	23				
M12IP22	19	- 12	3/4"	22	16	7	26				
M16IP28	25	- 16	1"	28	18,5	8	34				
M20IP35	31	- 20	1.1/4"	35	20,5	9	40				
M24IP40	38	- 24	1.1/2"	40	21,5	9	50				
M32IP50	51	- 32	2"	50	23	10	60				
M40IP60	63	- 40	2.1/2"	61	19	7	73				
M48IP70	76	- 48	3"	70	38	10	89				

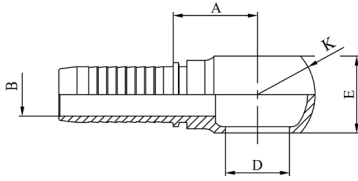


DOUBLE CONNECTOR

M10050

DOUBLE CONNECTOR

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C					
M10050-03-03	5	- 3	3/16"	3	15,5	58,2					
M10050-04-04	6	- 4	1/4"	4	14	69					
M10050-05-05	8	- 5	5/16"	5,5	14	70					
M10050-06-06	10	- 6	3/8"	7	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					
M10050-12-12	19	- 12	3/4"	15	18,5	91,5					
M10050-16-16	25	- 16	1"	19,8	22,5	119					
M10050-20-20	31	- 20	1.1/4"	26	23	128,1					
M10050-24-24	38	- 24	1.1/2"	32	23,5	147,5					

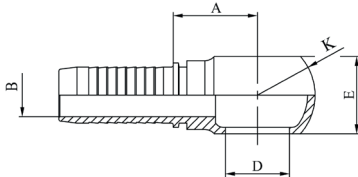


BANJO CONNECTIONS

O20910

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	12	20		
O20910-04-14	6	- 4	1/4"	M 14x1,5		4,4	23,5	14	14	24		
O20910-05-14	8	- 5	5/16"	M 14x1,5		5,6	23,5	14	14	24		
O20910-06-14	10	- 6	3/8"	M 14x1,5		7,1	25	14	14	24		
O20910-06-16	10	- 6	3/8"	M 16x1,5		7,1	25	16	16	28		
O20910-06-18	10	- 6	3/8"	M 18x1,5		7,1	27	18	20	32		
O20910-08-18	12	- 8	1/2"	M 18x1,5		9,8	28	18	20	32		
O20910-08-22	12	- 8	1/2"	M 22x1,5		9,8	31	22	25	39		
O20910-10-22	16	- 10	5/8"	M 22x1,5		12,7	31	22	25	39		
O20910-12-26	19	- 12	3/4"	M 26x1,5		15,5	34,5	26	30	46		



BANJO CONNECTIONS

O20310

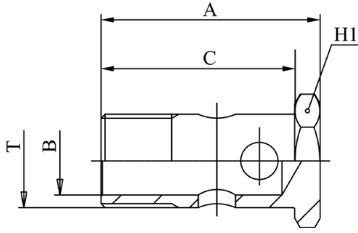
BSP BANJO

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	13,2	15	24		
O20310-04-06	6	- 4	1/4"	3/8" - 19		4,4	23,5	16,7	18	28		
O20310-05-04	8	- 5	5/16"	1/4" - 19		5	23	13,2	14	24		
O20310-05-06	8	- 5	5/16"	3/8" - 19		5,6	23	16,7	20	29		
O20310-06-06	10	- 6	3/8"	3/8" - 19		7	24,5	16,7	20	29		
O20310-06-08	10	- 6	3/8"	1/2" - 19		7,1	27	21	25	38		
O20310-08-08	12	- 8	1/2"	1/2" - 14		9,8	27,5	21	25	38		
O20310-10-10	16	- 10	5/8"	5/8" - 14		12,7	29,5	23	27	40		
O20310-12-12	19	- 12	3/4"	3/4" - 14		15,5	36,5	26,5	31	48		
O20310-16-16	25	- 16	1"	1" - 11		20,5	40,5	33,3	42	60		

BOLT

O80810

METRIC BOLT - DIN 7643

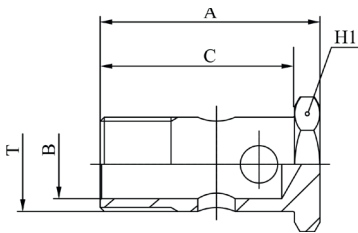


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
O80810-12				M 12x1,5	7	29	24	17			
O80810-14				M 14x1,5	9	31	26	19			
O80810-16				M 16x1,5	11	33	28	22			
O80810-18				M 18x1,5	13	37	32	24			
O80810-22				M 22x1,5	16	45	39	27			
O80810-26				M 26x1,5	20	51	45	32			

BOLT

O80210

BSP BOLT



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
O80210-04				1/4" - 19	6	34,5	28,5	17			
O80210-06				3/8" - 19	9	45,5	38,5	22			
O80210-08				1/2" - 14	13	52	44	27			
O80210-10				5/8" - 14	15	56,5	48,5	30			
O80210-12				3/4" - 14	18	64	54	32			
O80210-16				1" - 11	24	77,5	68,5	41			

 **manuli**[®]
HYDRAULICS



INTERLOCK PLUS

FITTING CODE	SECTION	PAGE
JO29	3	31
M01500	3	1
M01600	3	1
M01800-M01810	3	2
M30050	3	30
M30510	3	2
M31210	3	18
M32410	3	6
M32510	3	4
M32810	3	11
M33010	3	11
M40812	3	3
M40842	3	4
M40892	3	3
M41243 LONG DROP	3	20
M41293 LONG DROP	3	20
M41612-M41613	3	18
M41642-M41643	3	19
M41692-M41693	3	19
M42411	3	7
M42412	3	7
M42441	3	9
M42442	3	10
M42443	3	10
M42491	3	8
M42492	3	8
M42493	3	9
M42512	3	5
M42542	3	6
M42592	3	5
M43310	3	12

FITTING CODE	SECTION	PAGE
M43320	3	12
M43330	3	13
M43340	3	13
M43390	3	14
M43610	3	15
M43630	3	16
M43640	3	16
M43660	3	17
M43690	3	17
M43710	3	21
M43740	3	21
M43790	3	21
M43910	3	22
M43910CT	3	22
M43920	3	23
M43930	3	23
M43940	3	24
M43940CT	3	24
M43960	3	25
M43970	3	25
M43990	3	26
M43990 LONG DROP	3	27
M43990CT	3	26
M44492 LONG DROP	3	10
M48410	3	27
M48490	3	28
M48510	3	28
M48540	3	29
M48590	3	29
M49510WL	3	30

INTERLOCK PLUS

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

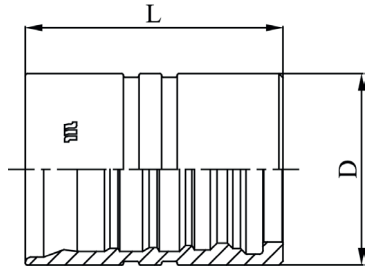
FERRULES

M01500																	
M01600																	
M01800 / M01810																	

FITTINGS

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

FITTINGS F 311

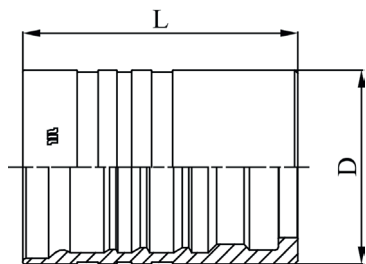


FERRULE

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	40,9				
M01500-12	19	- 12	3/4"			40	51,4				
M01500-16	25	- 16	1"			48	64,5				
M01500-20	31	- 20	1.1/4"			57	84				
M01500-24	38	- 24	1.1/2"			64,3	94				
M01500-32	51	- 32	2"			83,5	107				
M01500-40	63	- 40	2.1/2"			100	135				
M01500-48	76	- 48	3"			107	125				



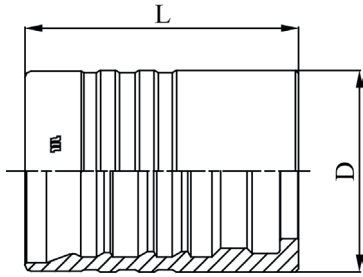
FERRULE

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	85				
M01600-24	38	- 24	1.1/2"			69	96				

FERRULE

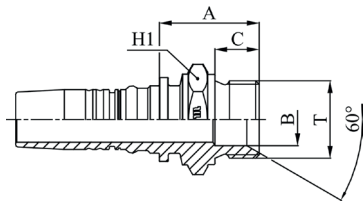


M01800/M01810

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

FITTINGS F 3-2

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01800-20	31	- 20	1.1/4"			65	88,2				
M01800-32	51	- 32	2"			86,5	108				
M01810-40	63	- 40	2.1/2"			103	135				
M01810-48	76	- 48	3"			113,5	125				



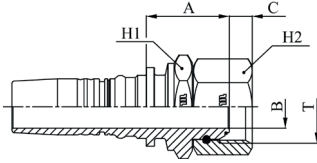
BS STANDARD CONNECTIONS

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	37	16	32		
M30510-12-16	19	- 12	3/4"	1" - 11	22,5	43	19	41		
M30510-16-16	25	- 16	1"	1" - 11	22,5	43	19	41		
M30510-16-20	25	- 16	1"	1.1/4" - 11	28,5	48	20	50		
M30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28,5	50,5	20	50		
M30510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33,5	54,5	22	55		
M30510-32-32	51	- 32	2"	2" - 11	42	58	25	70		

BS STANDARD CONNECTIONS

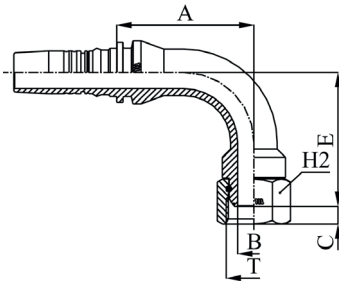


M40812

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

PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M40812-12-12	19	- 12	3/4"	3/4" - 14		14,5	39	8,5	32	32		
M40812-12-16	19	- 12	3/4"	1" - 11		19	36,5	10,6	32	41		
M40812-16-12	25	- 16	1"	3/4" - 14		15	35	8,5	41	32		
M40812-16-16	25	- 16	1"	1" - 11		19,5	44,5	10,6	41	41		
M40812-16-20	25	- 16	1"	1.1/4" - 11		26,1	41	10,5	41	50		
M40812-20-16	31	- 20	1.1/4"	1" - 11		19	44,5	10,6	50	41		
M40812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	52,5	10,5	50	50		
M40812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	46	12,5	50	60		
M40812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26,1	48,5	10,5	60	50		
M40812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	51,5	12,5	60	60		
M40812-32-32	51	- 32	2"	2" - 11		42	51,5	16,1	70	70		

BS STANDARD CONNECTIONS



M40892

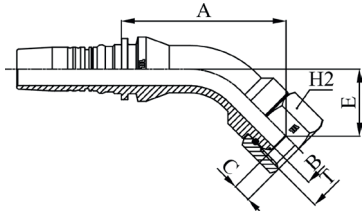
90° BSP O-RING FEMALE SWEPT ELBOW 60° CONE BS5200 / ISO 12151-6 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M40892-12-12	19	- 12	3/4"	3/4" - 14		14,5	72,5	8,5	70	32		
M40892-12-16	19	- 12	3/4"	1" - 11		19	72,5	10,6	71	41		
M40892-16-16	25	- 16	1"	1" - 11		19,5	82	10,6	80,5	41		
M40892-16-20	25	- 16	1"	1.1/4" - 11		26,1	95	10,5	78,5	50		
M40892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	98,5	10,5	98	50		
M40892-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	98,5	12,5	84,5	60		
M40892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	111,5	12,5	109	60		
M40892-32-32	51	- 32	2"	2" - 11		42	143	16,1	140,5	70		

BS STANDARD CONNECTIONS

M40842

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

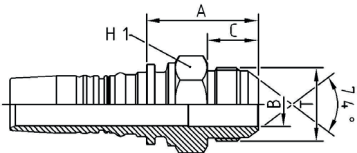


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M40842-12-12	19	- 12	3/4"	3/4" - 14		14,5	88	8,5	35	32		
M40842-12-16	19	- 12	3/4"	1" - 11		19	89,5	10,6	36,5	41		
M40842-16-12	25	- 16	1"	3/4" - 14		15	105,5	8,5	36	32		
M40842-16-16	25	- 16	1"	1" - 11		19,5	97	10,6	40	41		
M40842-16-20	25	- 16	1"	1.1/4" - 11		26,1	108,5	10,5	38	50		
M40842-20-16	31	- 20	1.1/4"	1" - 11		19	118	10,6	47,5	41		
M40842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	120	10,5	49,5	50		
M40842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	114,5	12,5	40	60		
M40842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	126,5	12,5	50	60		
M40842-32-32	51	- 32	2"	2" - 11		42	162,5	16,1	66,5	70		

SAE STANDARD CONNECTIONS

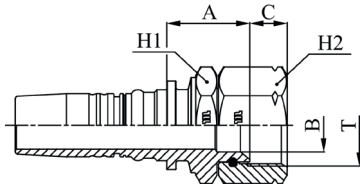
M32510

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	41	19,5	27			
M32510-12-12	19	- 12	3/4"	1.1/16" - 12		15	45,5	22	32			
M32510-16-16	25	- 16	1"	1.5/16" - 12		20	50,5	23	38			
M32510-16-20	25	- 16	1"	1.5/8" - 12		26	57	24,3	42			
M32510-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	66	24,3	46			
M32510-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	64	27,5	50			
M32510-32-32	51	- 32	2"	2.1/2" - 12		42	81	34	70			

SAE STANDARD CONNECTIONS

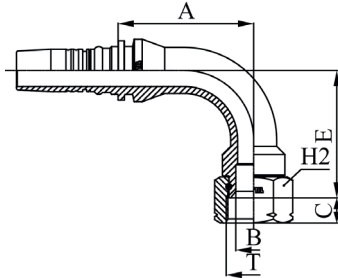


M42512

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

PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M42512-12-12	19	- 12	3/4"	1.1/16" - 12		15	36	14,2	32	32		
M42512-12-16	19	- 12	3/4"	1.5/16" - 12		21,7	32,5	15,2	41	41		
M42512-16-16	25	- 16	1"	1.5/16" - 12		21,7	40,5	15,2	41	41		
M42512-16-20	25	- 16	1"	1.5/8" - 12		26,1	44	16,2	50	50		
M42512-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	51,5	16,2	50	50		
M42512-20-24	31	- 20	1.1/4"	1.7/8" - 12		30,5	51	18,8	55	60		
M42512-24-24	38	- 24	1.1/2"	1.7/8" - 12		31	54,5	18,8	55	60		
M42512-32-32	51	- 32	2"	2.1/2" - 12		42	54	24	70	75		

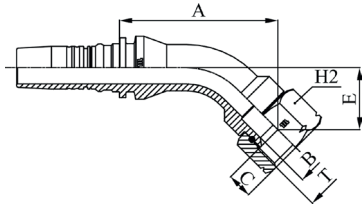
SAE STANDARD CONNECTIONS



M42592

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

PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H2		
M42592-12-12	19	- 12	3/4"	1.1/16" - 12		15	72,5	14,2	66	32		
M42592-12-16	19	- 12	3/4"	1.5/16" - 12		21,7	72,5	15,2	71,5	41		
M42592-16-16	25	- 16	1"	1.5/16" - 12		21,7	82,5	15,2	77,5	41		
M42592-16-20	25	- 16	1"	1.5/8" - 12		26,1	90,5	16,2	76,5	50		
M42592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	98,5	16,2	92	50		
M42592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32,1	101,5	18,8	108	60		
M42592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	111,5	18,8	106	60		
M42592-32-32	51	- 32	2"	2.1/2" - 12		42	144,5	24	137	75		



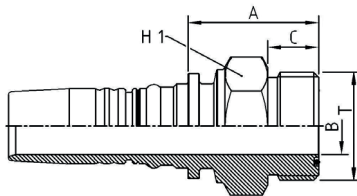
SAE STANDARD CONNECTIONS

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	86	14,2	33	32		
M42542-16-16	25	- 16	1"	1.5/16" - 12		21,7	95	15,2	37	41		
M42542-16-20	25	- 16	1"	1.5/8" - 12		26,1	102,5	16,2	36,5	50		
M42542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	115,5	16,2	45	50		
M42542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	126,5	18,8	50	60		
M42542-32-32	51	- 32	2"	2.1/2" - 12		42	161,5	24	63,5	75		

FITTINGS F 3-6



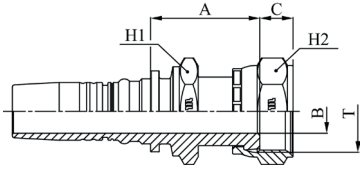
SAE STANDARD CONNECTIONS

M32410

ORFS MALE - SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm					
	DN	Dash	inch			T	B	A	C	H1	
M32410-10-08	16	- 10	5/8"	13/16" - 16		9,3	33	12,8	27		
M32410-10-10	16	- 10	5/8"	1" - 14		12	36	15,5	27		
M32410-10-12	16	- 10	5/8"	1.3/16" - 12		15	39	17	32		
M32410-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	40,5	17	32		
M32410-12-16	19	- 12	3/4"	1.7/16" - 12		19,8	42,5	17,5	38		
M32410-16-16	25	- 16	1"	1.7/16" - 12		19,5	45	17,5	41		
M32410-16-20	25	- 16	1"	1.11/16" - 12		25	48	17,5	46		
M32410-20-16	31	- 20	1.1/4"	1.7/16" - 12		19,5	47	17,5	50		
M32410-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	50,5	17,5	46		
M32410-24-24	38	- 24	1.1/2"	2" - 12		31	53	17,5	55		
M32410-32-24	51	- 32	2"	2" - 12		31	53	17,5	70		

SAE STANDARD CONNECTIONS

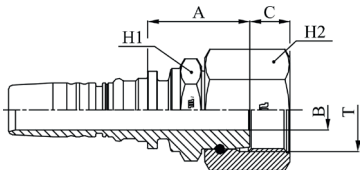


M42411

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	30		
M42411-12-12	19	- 12	3/4"	1.3/16" - 12	14,5	48	13,5	32	36		
M42411-12-16	19	- 12	3/4"	1.7/16" - 12	19	50	13,5	36	41		
M42411-16-12	25	- 16	1"	1.3/16" - 12	14,3	50	13,5	41	36		
M42411-16-16	25	- 16	1"	1.7/16" - 12	19,5	51,5	13,5	41	41		
M42411-16-20	25	- 16	1"	1.11/16" - 12	26	48,5	14,8	41	50		
M42411-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	55	14,8	50	50		
M42411-24-24	38	- 24	1.1/2"	2" - 12	31	58	15,8	60	60		

SAE STANDARD CONNECTIONS



M42412

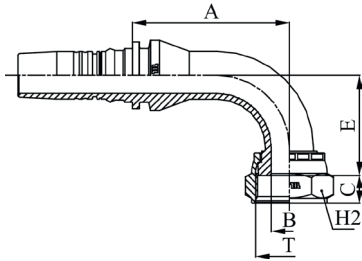
ORFS FEMALE - SAE J516 / ISO 12151-1 HEAVY TYPE (THRUST-WIRE NUT)

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	14,1	32	36		
M42412-12-16	19	- 12	3/4"	1.7/16" - 12	19,8	41	15	41	46		
M42412-16-16	25	- 16	1"	1.7/16" - 12	19,5	42	15	41	46		
M42412-16-20	25	- 16	1"	1.11/16" - 12	26	50	15,1	46	55		
M42412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	52	15,1	50	55		
M42412-20-24	31	- 20	1.1/4"	2" - 12	31	53	15	55	60		
M42412-24-24	38	- 24	1.1/2"	2" - 12	31	55	15	60	60		

SAE STANDARD CONNECTIONS

M42491

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

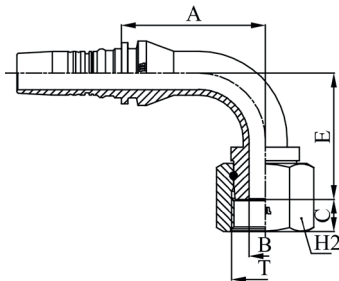


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42491-10-12	16	- 10	5/8"	1.3/16" - 12		14,3	51	13,5	47	36		
M42491-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	65	13,5	48	36		
M42491-12-12109	19	- 12	3/4"	1.3/16" - 12		14,5	65	13,5	109	36		
M42491-12-16	19	- 12	3/4"	1.7/16" - 12		19	70	13,5	53	41		
M42491-16-16	25	- 16	1"	1.7/16" - 12		19,5	85	13,5	57	41		
M42491-16-16128	25	- 16	1"	1.7/16" - 12		19,5	85	13,5	128	41		
M42491-16-20	25	- 16	1"	1.11/16" - 12		24	85	14,8	58	50		
M42491-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	98,5	14,8	65	50		
M42491-24-24	38	- 24	1.1/2"	2" - 12		31	115,5	15,8	79,5	60		

SAE STANDARD CONNECTIONS

M42492

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

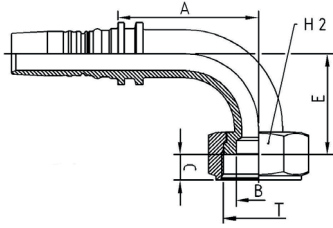


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42492-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	72,5	14,1	70,5	36		
M42492-16-16	25	- 16	1"	1.7/16" - 12		19,5	82,5	15	84,5	46		
M42492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	98,5	15,1	98	55		
M42492-24-24	38	- 24	1.1/2"	2" - 12		31	111,5	15	109	60		

SAE STANDARD CONNECTIONS

M42493

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

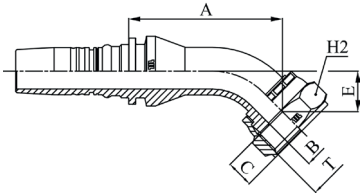


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42493-12-16	19	- 12	3/4"	1.7/16" - 12		19,8	67	14,8	53	41		
M42493-16-20	25	- 16	1"	1.11/16" - 12		26	81,5	14,8	58,5	50		
M42493-20-24	31	- 20	1.1/4"	2" - 12		32	100	14,8	70,5	60		

SAE STANDARD CONNECTIONS

M42441

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

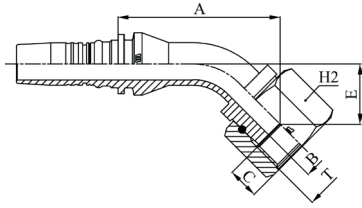


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42441-10-12	16	- 10	5/8"	1.3/16" - 12		14,3	56	13,5	21,5	36		
M42441-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	69	13,5	21,5	36		
M42441-12-16	19	- 12	3/4"	1.7/16" - 12		19	77,5	13,5	25	41		
M42441-16-16	25	- 16	1"	1.7/16" - 12		19,5	86	13,5	24	41		
M42441-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	96,5	14,8	26	50		
M42441-24-24	38	- 24	1.1/2"	2" - 12		31	112	15,8	31,5	60		

SAE STANDARD CONNECTIONS

M42442

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

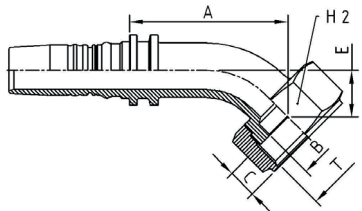


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42442-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	89	14	36	36		
M42442-16-16	25	- 16	1"	1.7/16" - 12		19,5	100	15	42,5	46		
M42442-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	119,5	15,1	49,5	55		
M42442-24-24	38	- 24	1.1/2"	2" - 12		31	128,5	15	52	60		

SAE STANDARD CONNECTIONS

M42443

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

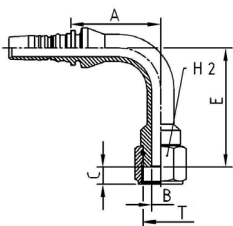


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M42443-12-16	19	- 12	3/4"	1.7/16" - 12		19,8	71	14,8	23,5	41		
M42443-16-20	25	- 16	1"	1.11/16" - 12		26	81	14,8	24	50		
M42443-20-24	31	- 20	1.1/4"	2" - 12		32	99	14,8	29	60		

SAE STANDARD CONNECTIONS

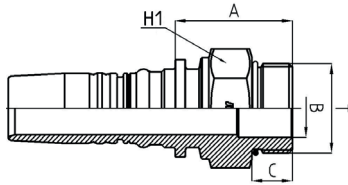
M44492 LONG DROP

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



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M44492-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	72,5	14,1	96	36		
M44492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	98,5	15,1	129	55		

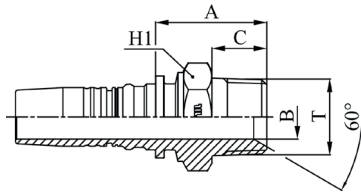
SAE STANDARD CONNECTIONS



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	15,1	32			
M33010-16-16	25	- 16	1"	1.5/16" - 12	21,5	43,5	15,1	38			
M33010-20-20	31	- 20	1.1/4"	1.5/8" - 12	27,5	47,5	15,1	46			



SAE STANDARD CONNECTIONS

M32810

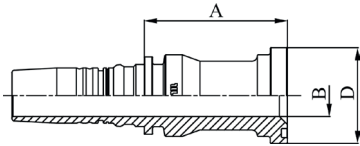
NPTF MALE 60° CONE SEAT - SAE J516/J514

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	40,7	19,2	27			
M32810-12-12	19	- 12	3/4"	3/4" - 14	16	42,9	19,2	32			
M32810-16-16	25	- 16	1"	1" - 11,5	19,5	50,5	24,2	38			
M32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5	26,1	61	25	46			
M32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5	32,1	62,5	26	50			
M32810-24-32	38	- 24	1.1/2"	2" - 11,5	42	67	26,5	70			
M32810-32-32	51	- 32	2"	2" - 11,5	42	67	26,5	70			
M32810-40-40	63	- 40	2.1/2"	2.1/2" - 8	51,5	94,5	43	80			
M32810-48-48	76	- 48	3"	3" - 8	62,5	123,5	51,5	100			

SAE STANDARD CONNECTIONS

M43310

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

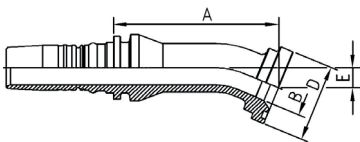


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D			
M43310-10-16	16	- 10	5/8"	1"		20	64	44,6			
M43310-12-12	19	- 12	3/4"	3/4"		16	60	38			
M43310-12-16	19	- 12	3/4"	1"		20	65,5	44,6			
M43310-16-12	25	- 16	1"	3/4"		16	67	38			
M43310-16-16	25	- 16	1"	1"		20	66,5	44,6			
M43310-16-20	25	- 16	1"	1.1/4"		26,1	73	51			
M43310-20-20	31	- 20	1.1/4"	1.1/4"		26,1	75	51			
M43310-20-24	31	- 20	1.1/4"	1.1/2"		32,1	80	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	88,5	71,6			
M43310-32-24	38	- 24	1.1/2"	2"		32,1	104	60,5			
M43310-32-32	51	- 32	2"	2"		42	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	101,6			

SAE STANDARD CONNECTIONS

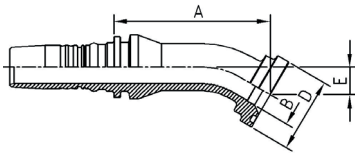
M43320

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	94,5	44,6	11,5		

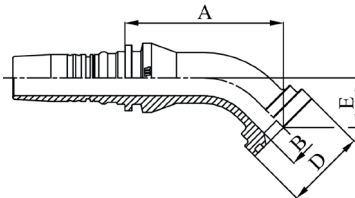
SAE STANDARD CONNECTIONS



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	93	44,6	16,5			
M43330-20-20	31	- 20	1.1/4"	1.1/4"	26,1	106,5	51	17,5			
M43330-24-24	38	- 24	1.1/2"	1.1/2"	32,1	118	60,5	20			
M43330-32-32	51	- 32	2"	2"	42	137	71,6	22			



SAE STANDARD CONNECTIONS

M43340

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

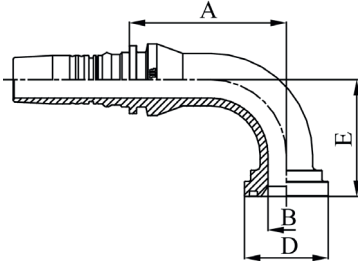
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M43340-12-12	19	- 12	3/4"	3/4"	16	75,5	38	26			
M43340-12-16	19	- 12	3/4"	1"	20	76	44,6	23			
M43340-16-16	25	- 16	1"	1"	20	87	44,6	27,5			
M43340-16-16032	25	- 16	1"	1"	20	92	44,5	32			
M43340-16-20	25	- 16	1"	1.1/4"	26	87,5	51	27,5			
M43340-20-20	31	- 20	1.1/4"	1.1/4"	26,1	100,5	51	29,5			
M43340-20-20038	31	- 20	1.1/4"	1.1/4"	26,1	109	50,9	38			
M43340-20-24	31	- 20	1.1/4"	1.1/2"	32,1	101,5	60,5	31			
M43340-24-24	38	- 24	1.1/2"	1.1/2"	32,1	111	60,5	34,5			
M43340-24-24044	38	- 24	1.1/2"	1.1/2"	32,1	120	60,5	44			
M43340-24-32	38	- 24	1.1/2"	2"	42	113	71,6	34,5			
M43340-32-32	51	- 32	2"	2"	42	128,5	71,6	39			
M43340-32-32056	51	- 32	2"	2"	42	146	71,6	56			
M43340-48-48	76	- 48	3"	3"	59	147,5	101,6	53			

All items are made from solid with the exception of M43340-48-48

SAE STANDARD CONNECTIONS

M43390

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



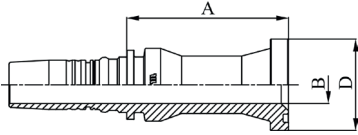
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm				
	DN	Dash	inch		Inch	B	A	D	E
M43390-10-16	16	- 10	5/8"	1"	20	71	44,6	52	
M43390-12-12	19	- 12	3/4"	3/4"	16	72	38	52	
M43390-12-12058	19	- 12	3/4"	3/4"	16	72	38	58	
M43390-12-16	19	- 12	3/4"	1"	20	72,5	44,6	52	
M43390-16-16	25	- 16	1"	1"	20	83,5	44,6	62	
M43390-16-16070	25	- 16	1"	1"	20	83,5	44,5	70	
M43390-16-20	25	- 16	1"	1.1/4"	26	83,5	51	62	
M43390-20-16	31	- 20	1.1/4"	1"	19,8	96,5	44,6	66	
M43390-20-20	31	- 20	1.1/4"	1.1/4"	26,1	99	51	70	
M43390-20-20090	31	- 20	1.1/4"	1.1/4"	26,1	99	50,9	90	
M43390-20-24	31	- 20	1.1/4"	1.1/2"	32,1	98,5	60,5	72	
M43390-24-24	38	- 24	1.1/2"	1.1/2"	32,1	111,5	60,5	84	
M43390-24-24104	38	- 24	1.1/2"	1.1/2"	32,1	111,5	60,5	104	
M43390-24-32	38	- 24	1.1/2"	2"	42	111,5	71,6	84	
M43390-32-32	51	- 32	2"	2"	42	133,5	71,6	99	
M43390-32-32138	51	- 32	2"	2"	42	133,5	71,5	138	
M43390-48-48	76	- 48	3"	3"	59	145	101,6	140	

All items are made from solid with the exception of M43390-48-48

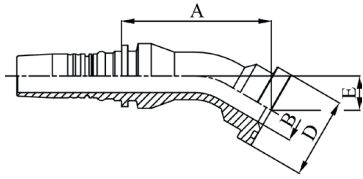
SAE STANDARD CONNECTIONS

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	65	41,5				
M43610-10-16	16	- 10	5/8"	1"		20	81,5	47,7				
M43610-12-12	19	- 12	3/4"	3/4"		16	71,5	41,4				
M43610-12-16	19	- 12	3/4"	1"		20	83,5	47,7				
M43610-16-12	25	- 16	1"	3/4"		16	80,5	41,4				
M43610-16-16	25	- 16	1"	1"		20	84,5	47,7				
M43610-16-20	25	- 16	1"	1.1/4"		26	89	54,2				
M43610-20-16	31	- 20	1.1/4"	1"		20	87	47,7				
M43610-20-20	31	- 20	1.1/4"	1.1/4"		26,1	91	54,2				
M43610-20-24	31	- 20	1.1/4"	1.1/2"		32,1	97	63,7				
M43610-24-20	38	- 24	1.1/2"	1.1/4"		26	101	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	113	79,6				
M43610-32-24	51	- 32	2"	1.1/2"		32,1	117	63,7				
M43610-32-32	51	- 32	2"	2"		42	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	131,9				

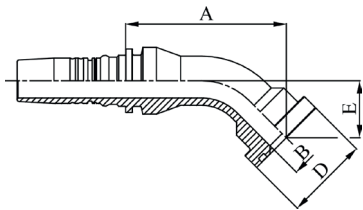


SAE STANDARD CONNECTIONS

M43630

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M43630-12-12	19	- 12	3/4"	3/4"		16	87	41,4	17,5			
M43630-16-12	25	- 16	1"	3/4"		16	93	41,4	17			
M43630-16-16	25	- 16	1"	1"		20	98,5	47,7	20			
M43630-20-20	31	- 20	1.1/4"	1.1/4"		26,1	115,5	54,2	23			
M43630-24-24	38	- 24	1.1/2"	1.1/2"		32	133,5	63,7	27			
M43630-32-32	51	- 32	2"	2"		42	167	79,6	36,5			

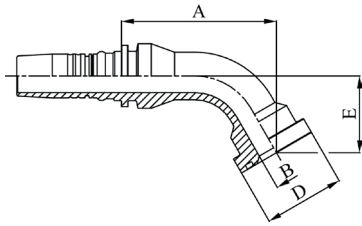


SAE STANDARD CONNECTIONS

M43640

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M43640-10-12	16	- 10	5/8"	3/4"		16	71	41,4	31			
M43640-10-16	16	- 10	5/8"	1"		20	83,5	47,7	32,5			
M43640-12-12	19	- 12	3/4"	3/4"		16	79	41,4	26			
M43640-12-16	19	- 12	3/4"	1"		20	85,5	47,7	32,5			
M43640-16-12	25	- 16	1"	3/4"		16	87	41,4	28			
M43640-16-16	25	- 16	1"	1"		20	91,5	47,7	32,5			
M43640-16-20	25	- 16	1"	1.1/4"		26	93,5	54,2	37,5			
M43640-20-16	31	- 20	1.1/4"	1"		20	106,5	47,7	36			
M43640-20-20	31	- 20	1.1/4"	1.1/4"		26,1	108	54,2	37,5			
M43640-20-24	31	- 20	1.1/4"	1.1/2"		32,1	115	63,7	45			
M43640-24-20	38	- 24	1.1/2"	1.1/4"		26	124,5	54,2	43			
M43640-24-24	38	- 24	1.1/2"	1.1/2"		32	124,5	63,7	44			
M43640-24-32	38	- 24	1.1/2"	2"		42	135,5	79,6	55,5			
M43640-32-32	51	- 32	2"	2"		42	154	79,6	60,5			
M43640-32-32056	51	- 32	2"	2"		42	150	79,6	56,5			

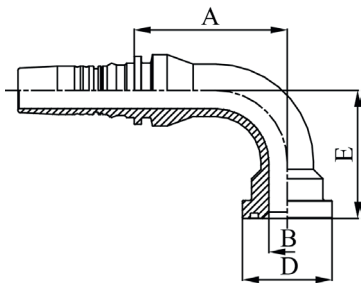


SAE STANDARD CONNECTIONS

M43660

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M43660-12-12	19	- 12	3/4"	3/4"	16	98,5	41,4	39			
M43660-12-16	19	- 12	3/4"	1"	20	101	47,7	44			
M43660-16-16	25	- 16	1"	1"	20	107	47,7	52			
M43660-20-20	31	- 20	1.1/4"	1.1/4"	26,1	130	54,2	59			
M43660-20-24	31	- 20	1.1/4"	1.1/2"	32,1	136,5	63,7	66			
M43660-24-24	38	- 24	1.1/2"	1.1/2"	32	154	63,7	61,5			
M43660-32-32	51	- 32	2"	2"	42	197,5	79,6	85			



SAE STANDARD CONNECTIONS

M43690

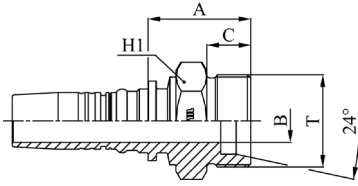
90° ISO/SAE CODE 62 FLANGE - SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M43690-10-12	16	- 10	5/8"	3/4"	16	56,5	41,4	60,5			
M43690-12-12	19	- 12	3/4"	3/4"	16	72,5	41,4	59			
M43690-12-16	19	- 12	3/4"	1"	20	72,5	47,7	65			
M43690-16-12	25	- 16	1"	3/4"	16	81,5	41,4	62			
M43690-16-16	25	- 16	1"	1"	20	81	47,7	68			
M43690-16-20	25	- 16	1"	1.1/4"	26	78,5	54,2	76			
M43690-20-16	31	- 20	1.1/4"	1"	20	98,5	47,7	79			
M43690-20-20	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54,2	81			
M43690-20-20090	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54,1	90			
M43690-20-24	31	- 20	1.1/4"	1.1/2"	32,1	98,5	63,7	91,5			
M43690-24-20	38	- 24	1.1/2"	1.1/4"	26	111	54,2	91			
M43690-24-24	38	- 24	1.1/2"	1.1/2"	32	112,5	63,7	94,5			
M43690-24-24104	38	- 24	1.1/2"	1.1/2"	32	112,5	63,7	104			
M43690-24-32	38	- 24	1.1/2"	2"	42	112,5	79,6	110,5			
M43690-32-32	51	- 32	2"	2"	42	140,5	79,6	132			
M43690-32-32138	51	- 32	2"	2"	42	140,5	79,6	138			

DIN STANDARD CONNECTIONS

M31210

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

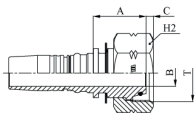
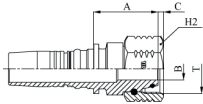


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H1	
M31210-10-30	16	- 10	5/8"	M 30x2	20	12	37	16	30			
M31210-12-30	19	- 12	3/4"	M 30x2	20	14,5	38,5	16	32			
M31210-12-36	19	- 12	3/4"	M 36x2	25	14,5	43,5	18	36			
M31210-16-36	25	- 16	1"	M 36x2	25	19,5	45	18	36			
M31210-16-42	25	- 16	1"	M 42x2	30	19,5	47	20	46			
M31210-20-52	31	- 20	1.1/4"	M 52x2	38	25	55	22	55			
M31210-24-52	38	- 24	1.1/2"	M 52x2	38	31	55,5	22	55			

DIN STANDARD CONNECTIONS

M41612/M41613

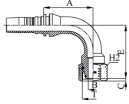
METRIC O-RING FEMALE 24° CONE HEAVY DUTY - DIN 20066 / ISO 12151-2



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	9,3	31	4	30			
M41613-10-30	16	- 10	5/8"	M 30x2	20	12	37	3,5	36			
M41612-12-30	19	- 12	3/4"	M 30x2	20	12,5	44	3,2	36			
M41613-12-36	19	- 12	3/4"	M 36x2	25	14,5	42	3,4	41			
M41613-12-42	19	- 12	3/4"	M 42x2	30	19	36	6,3	50			
M41612-16-36	25	- 16	1"	M 36x2	25	16	47	4,1	41			
M41613-16-42	25	- 16	1"	M 42x2	30	19,5	46,5	5,3	50			
M41613-16-52	25	- 16	1"	M 52x2	38	26,1	49,5	8	60			
M41612-20-42	31	- 20	1.1/4"	M 42x2	30	19	47,5	6	50			
M41613-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	41,5	8	60			
M41612-24-52	38	- 24	1.1/2"	M 52x2	38	29	52,5	8,8	60			

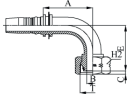
M41612: THRUST-WIRE NUT - M41613: SLIP-ON NUT

DIN STANDARD CONNECTIONS



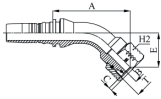
M41692/M41693

**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	H2
M41693-10-30	16	- 10	5/8"	M 30x2	20	12	52,5	3,5	57,5	36		
M41692-12-30	19	- 12	3/4"	M 30x2	25	12,5	64	3,2	68,5	36		
M41693-12-36	19	- 12	3/4"	M 36x2	25	14,5	67	3,4	67,5	41		
M41692-16-36	25	- 16	1"	M 36x2	25	16	81,5	4,1	89	41		
M41693-16-42	25	- 16	1"	M 42x2	30	19,5	81,5	5,3	75,5	50		
M41692-20-42	31	- 20	1.1/4"	M 42x2	30	19,1	103,5	6	90	50		
M41693-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	100	8	86,5	60		

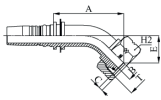
M41692: THRUST-WIRE NUT - M41693: SLIP-ON NUT



DIN STANDARD CONNECTIONS

M41642/M41643

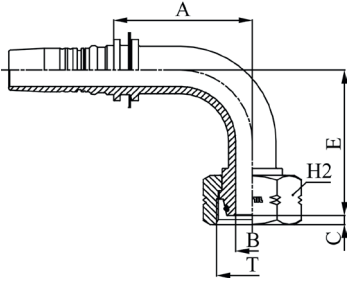
**45° METRIC O-RING FEMALE SWEPT ELBOW 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M41643-10-30	16	- 10	5/8"	M 30x2	20	12	66,5	3,5	29,5	36		
M41642-12-30	19	- 12	3/4"	M 30x2	20	12,5	79	3,2	35	36		
M41643-12-36	19	- 12	3/4"	M 36x2	25	14,5	81	3,4	33,5	41		
M41642-16-36	25	- 16	1"	M 36x2	25	16	103	4,1	45,5	41		
M41643-16-42	25	- 16	1"	M 42x2	30	19,5	93	5,3	36	50		
M41642-20-42	31	- 20	1.1/4"	M 42x2	30	19,1	116,5	6	44,5	50		
M41643-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	110	8	40	60		
M41642-24-52	38	- 24	1.1/2"	M 52x2	38	29	128	8,8	51,5	60		

M41642: THRUST-WIRE NUT - M41643: SLIP-ON NUT

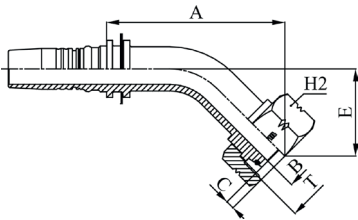
DIN STANDARD CONNECTIONS



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			T	mm	B	A	C	E	H2
M41293-10-30	16	- 10	5/8"	M 30x2	20	12	53	3,5	60	36		
M41293-12-36	19	- 12	3/4"	M 36x2	25	14,5	67	3,4	67,5	41		
M41293-16-42	25	- 16	1"	M 42x2	30	19,5	81,5	5,3	86	50		
M41293-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	100	8	92	60		

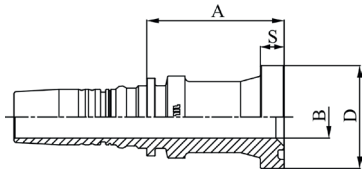


DIN STANDARD CONNECTIONS

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			T	mm	B	A	C	E	H2
M41243-10-30	16	- 10	5/8"	M 30x2	20	12	77,5	3,5	35	36		
M41243-12-36	19	- 12	3/4"	M 36x2	25	14,5	101	3,4	45	41		
M41243-16-42	25	- 16	1"	M 42x2	30	19,5	112	5,3	55	50		
M41243-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	133	8	63	60		

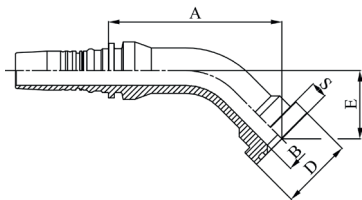


ORIGINAL EQUIPMENT CONNECTIONS

M43710

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	S	
M43710-10-12	16	- 10	5/8"	3/4"	16	51,5	41,5	9		
M43710-12-12	19	- 12	3/4"	3/4"	14,5	71,5	41,4	10		
M43710-16-16	25	- 16	1"	1"	19,5	64	47,7	11		
M43710-20-20	31	- 20	1.1/4"	1.1/4"	25	81	54,2	12		

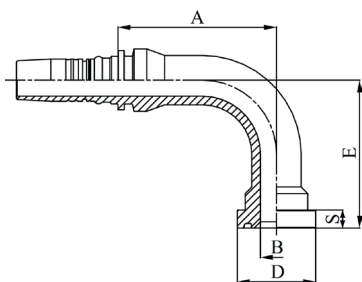


ORIGINAL EQUIPMENT CONNECTIONS

M43740

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	E	S
M43740-10-12	16	- 10	5/8"	3/4"	16	72,5	41,4	31	9	
M43740-12-12	19	- 12	3/4"	3/4"	14,5	113	41,4	40	10	
M43740-16-16	25	- 16	1"	1"	19,5	113,5	47,7	43	11	
M43740-20-20	31	- 20	1.1/4"	1.1/4"	25	133,5	54,2	50	12	



ORIGINAL EQUIPMENT CONNECTIONS

M43790

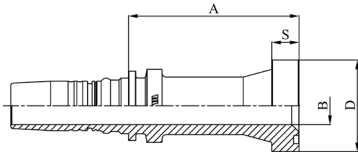
90° FLANGE PLUS (SAE J518 CODE 62 - ISO 6162-2 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	E	S
M43790-10-12	16	- 10	5/8"	3/4"	16	61,5	41,4	60,5	9	
M43790-12-12	19	- 12	3/4"	3/4"	14,5	93	41,4	75	10	
M43790-16-16	25	- 16	1"	1"	19,5	90	47,7	90	11	
M43790-20-20	31	- 20	1.1/4"	1.1/4"	25	115	54,2	110	12	

ORIGINAL EQUIPMENT CONNECTIONS

M43910

STRAIGHT SUPERCAT SERIES FLANGE

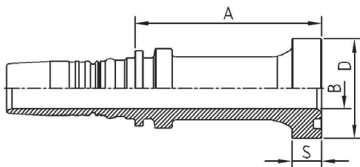


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	S		
M43910-12-12	19	- 12	3/4"	3/4"	16	77	41,5	14,3			
M43910-12-16	19	- 12	3/4"	1"	20	88,5	47,7	14,3			
M43910-16-16	25	- 16	1"	1"	20	89,5	47,7	14,3			
M43910-16-20	25	- 16	1"	1.1/4"	26	93,5	54	14,3			
M43910-20-20	31	- 20	1.1/4"	1.1/4"	26,1	95	54	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	63,6	14,3			
M43910-24-32	38	- 24	1.1/2"	2"	42	115	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	114,5	79,3	14,3			

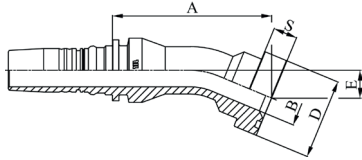
ORIGINAL EQUIPMENT CONNECTIONS

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	95	54	14,3			
M43910-20-24CT	31	- 20	1.1/4"	1.1/2"	31	98	63,6	14,3			
M43910-24-24CT	38	- 24	1.1/2"	1.1/2"	31	99	63,6	14,3			

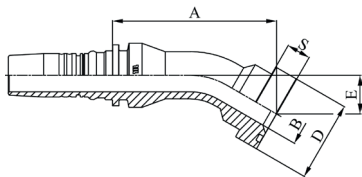


ORIGINAL EQUIPMENT CONNECTIONS

M43920

22,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M43920-12-12	19	- 12	3/4"	3/4"		16	94	41,5	14,5	14,3		
M43920-12-16	19	- 12	3/4"	1"		20	101,5	47,7	16,5	14,3		
M43920-16-16	25	- 16	1"	1"		20	110,5	47,7	16,5	14,3		
M43920-16-20	25	- 16	1"	1.1/4"		26,1	115,5	54	19	14,3		
M43920-20-20	31	- 20	1.1/4"	1.1/4"		26,1	122	54	18	14,3		
M43920-20-24	31	- 20	1.1/4"	1.1/2"		32	139	63,7	23	14,3		
M43920-24-24	38	- 24	1.1/2"	1.1/2"		32	138	63,7	20	14,3		



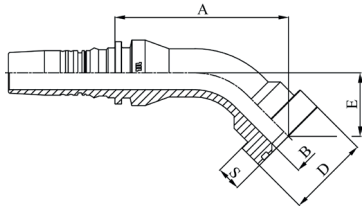
ORIGINAL EQUIPMENT CONNECTIONS

M43930

30° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M43930-12-12	19	- 12	3/4"	3/4"		16	92	41,5	20	14,3		
M43930-12-16	19	- 12	3/4"	1"		20	99	47,7	22,5	14,3		
M43930-16-16	25	- 16	1"	1"		20	108	47,7	23	14,3		
M43930-16-20	25	- 16	1"	1.1/4"		26,1	112,5	54	26	14,3		
M43930-20-20	31	- 20	1.1/4"	1.1/4"		26,1	119,5	54	25	14,3		
M43930-20-24	31	- 20	1.1/4"	1.1/2"		32	135,5	63,7	32	14,3		
M43930-24-24	38	- 24	1.1/2"	1.1/2"		32	135	63,7	28	14,3		
M43930-24-32	38	- 24	1.1/2"	2"		42	151,5	79,3	36	14,3		
M43930-32-32	51	- 32	2"	2"		42	171,5	79,3	37,5	14,3		

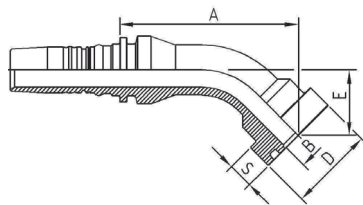
ORIGINAL EQUIPMENT CONNECTIONS



M43940

45° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M43940-12-12	19	- 12	3/4"	3/4"		16	85	41,5	32	14,3		
M43940-12-16	19	- 12	3/4"	1"		20	91,5	47,7	35,5	14,3		
M43940-16-16	25	- 16	1"	1"		20	100,5	47,7	36,5	14,3		
M43940-16-20	25	- 16	1"	1.1/4"		26,1	103,5	54	40,5	14,3		
M43940-20-20	31	- 20	1.1/4"	1.1/4"		26,1	110,5	54	40,5	14,3		
M43940-20-24	31	- 20	1.1/4"	1.1/2"		32	124,5	63,7	50,5	14,3		
M43940-24-24	38	- 24	1.1/2"	1.1/2"		32	125,5	63,7	45,5	14,3		
M43940-24-32	38	- 24	1.1/2"	2"		42	139,5	79,3	56,5	14,3		
M43940-32-32	51	- 32	2"	2"		42	158,5	79,3	61,5	14,3		



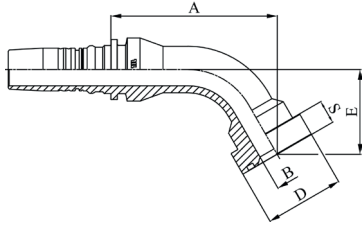
ORIGINAL EQUIPMENT CONNECTIONS

M43940CT

45° REALCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		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	103,5	54	40,5	14,3		
M43940-20-20CT	31	- 20	1.1/4"	1.1/4"		25	110,5	54	40,5	14,3		
M43940-20-24CT	31	- 20	1.1/4"	1.1/2"		31	124,5	63,7	50,5	14,3		
M43940-24-24CT	38	- 24	1.1/2"	1.1/2"		31	125,5	63,7	45	14,3		

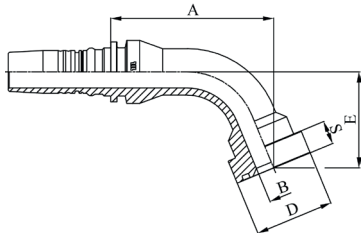
ORIGINAL EQUIPMENT CONNECTIONS



M43960

60° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M43960-12-12	19	- 12	3/4"	3/4"		16	101	41,5	44	14,3		
M43960-12-16	19	- 12	3/4"	1"		20	106	47,7	48	14,3		
M43960-16-16	25	- 16	1"	1"		20	122	47,7	51	14,3		
M43960-16-16055	25	- 16	1"	1"		20	102,5	47,7	55	14,3		
M43960-16-20	25	- 16	1"	1.1/4"		26,1	122	54	55	14,3		
M43960-20-20	31	- 20	1.1/4"	1.1/4"		26,1	136	54	56	14,3		
M43960-20-24	31	- 20	1.1/4"	1.1/2"		32	149	63,7	69	14,3		
M43960-24-24	38	- 24	1.1/2"	1.1/2"		32	154,5	63,7	63	14,3		
M43960-32-32	51	- 32	2"	2"		42	202	79,3	86,5	14,3		
M43960-32-32150	51	- 32	2"	2"		42	196,5	79,3	150	14,3		

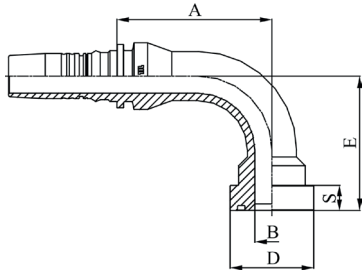


ORIGINAL EQUIPMENT CONNECTIONS

M43970

67,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M43970-12-12	19	- 12	3/4"	3/4"		16	95	41,5	49,5	14,3		
M43970-12-16	19	- 12	3/4"	1"		20	99,5	47,7	54	14,3		
M43970-16-16	25	- 16	1"	1"		20	115	47,7	58	14,3		
M43970-16-20	25	- 16	1"	1.1/4"		26,1	114,5	54	62	14,3		
M43970-20-20	31	- 20	1.1/4"	1.1/4"		26,1	128	54	64	14,3		
M43970-20-24	31	- 20	1.1/4"	1.1/2"		32	139,5	63,7	78	14,3		
M43970-24-24	38	- 24	1.1/2"	1.1/2"		32	146	63,7	72	14,3		
M43970-32-32	51	- 32	2"	2"		42	189,5	79,3	99	14,3		

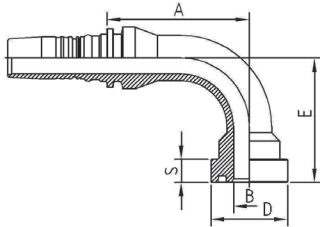


ORIGINAL EQUIPMENT CONNECTIONS

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	72,5	41,5	64,5	14,3		
M43990-12-16	19	- 12	3/4"	1"	20	75	47,7	69,5	14,3		
M43990-16-16	25	- 16	1"	1"	20	88,5	47,7	76,5	14,3		
M43990-16-20	25	- 16	1"	1.1/4"	26,1	86,5	54	80,5	14,3		
M43990-20-20	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54	85	14,3		
M43990-20-24	31	- 20	1.1/4"	1.1/2"	32	104	63,7	101	14,3		
M43990-24-24	38	- 24	1.1/2"	1.1/2"	32	112,5	63,7	96	14,3		
M43990-24-32	38	- 24	1.1/2"	2"	42	115	79,3	112	14,3		
M43990-32-32	51	- 32	2"	2"	42	144	79,3	133,5	14,3		



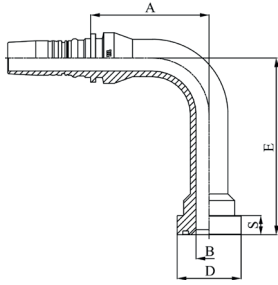
ORIGINAL EQUIPMENT CONNECTIONS

M43990CT

90° REALCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		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	86,5	54	80,5	14,3		
M43990-20-20CT	31	- 20	1.1/4"	1.1/4"	25	98,5	54	85	14,3		
M43990-24-24CT	38	- 24	1.1/2"	1.1/2"	31	112,5	63,7	96	14,3		

ORIGINAL EQUIPMENT CONNECTIONS

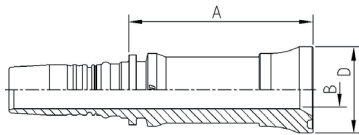


M43990 LONG DROP

90° LONG DROP SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	S	
M43990-16-16132	25	- 16	1"	1"	20	88,5	47,7	132	14,3		
M43990-16-16150	25	- 16	1"	1"	20	88,5	47,7	150	14,3		
M43990-16-20150	25	- 16	1"	1.1/4"	26,1	88,5	54	150	14,3		
M43990-20-20092	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54	92	14,3		
M43990-20-20150	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54	150	14,3		
M43990-20-24135	31	- 20	1.1/4"	1.1/2"	32	98,5	63,7	135	14,3		
M43990-24-24106	38	- 24	1.1/2"	1.1/2"	32	112,5	63,7	106	14,3		

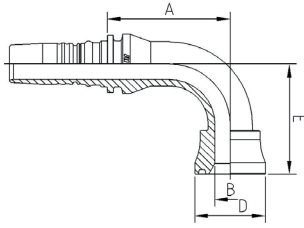
XTRAFRANGE



M48410

XTRAFRANGE/61 (ISO6162-1/SAE J518 CODE 61 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		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	103,5	50,5				
M48410-24-24	38	- 24	1.1/2"	1.1/2"	31	116	60,5				
M48410-32-32	51	- 32	2"	2"	41	101	71,6				
M48410-40-40	63	- 40	2.1/2"	2.1/2"	51,5	103	84,4				



XTRAFLLANGE

M48490

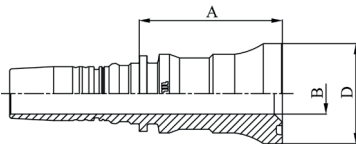
90° XTRAFLLANGE/61 (ISO6162-1/SAE J518 CODE 61 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		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	107	50,5	90				
M48490-24-24	38	- 24	1.1/2"	1.1/2"	31	112	60,5	104				
M48490-32-32	51	- 32	2"	2"	41	145	71,6	138				

XTRAFLLANGE

M48510

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

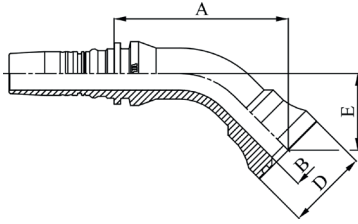


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D				
M48510-12-12	19	- 12	3/4"	3/4"	14,5	64	41,4					
M48510-16-16	25	- 16	1"	1"	19,5	68,5	47,7					
M48510-20-20	31	- 20	1.1/4"	1.1/4"	25	88	54,4					
M48510-24-24	38	- 24	1.1/2"	1.1/2"	31	102	63,7					
M48510-32-32	51	- 32	2"	2"	41	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)

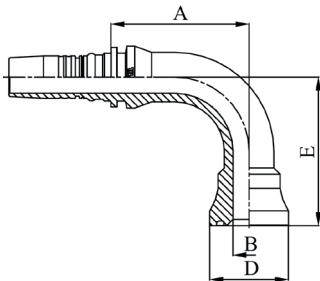


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	Inch	B	A	D	E				
M48540-12-12	19	- 12	3/4"	3/4"	14,5	92,5	41,4	38				
M48540-16-16	25	- 16	1"	1"	19,5	101,5	47,7	45				
M48540-20-20	31	- 20	1.1/4"	1.1/4"	25	138	54,4	62,5				
M48540-24-24	38	- 24	1.1/2"	1.1/2"	31	155	63,7	71,5				
M48540-32-32	51	- 32	2"	2"	39	193,5	79,6	92,5				

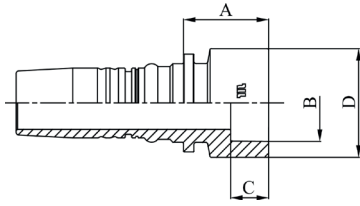
XTRAFLANGE

M48590

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



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	Inch	B	A	D	E				
M48590-12-12	19	- 12	3/4"	3/4"	14,5	75,5	41,4	75				
M48590-16-16	25	- 16	1"	1"	19,5	83,5	47,7	90				
M48590-20-20	31	- 20	1.1/4"	1.1/4"	25	107	54,4	120				
M48590-24-24	38	- 24	1.1/2"	1.1/2"	31	122	63,7	140				
M48590-32-32	51	- 32	2"	2"	39	147,5	79,6	178				



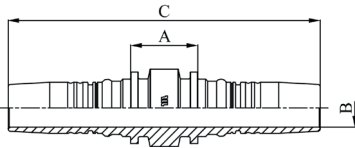
TAIL

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	26				
M49510-12-22WL	19	- 12	3/4"	22,1	27,5	12	34				
M49510-16-28WL	25	- 16	1"	28,1	31,5	14	40				
M49510-20-35WL	31	- 20	1.1/4"	35,1	33	14	49				

FITTINGS
F 3-30



DOUBLE CONNECTOR

M30050

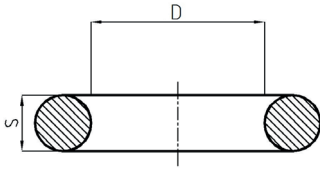
DOUBLE CONNECTOR

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C					
M30050-20-20	31	- 20	1.1/4"	25	42	206					
M30050-24-24	38	- 24	1.1/2"	31	43,1	229,1					
M30050-32-32	51	- 32	2"	41	43	244,7					

O-RING

JO29

OPTIONAL INTERLOCK PLUS O-RING



PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			D	S					
JO29161218	16	- 10	5/8"			12,4	1,8					
JO29191618	19	- 12	3/4"			15,6	1,8					
JO29262218	25	- 16	1"			22	1,8					
JO29322818	31	- 20	1.1/4"			28,3	1,8					
JO29383518	38	- 24	1.1/2"			34,6	1,8					
JO29514718	51	- 32	2"			47,4	1,8					
JO29605718	63	- 40	2.1/2"			57,9	1,8					
JO29737018	76	- 48	3"			69,6	1,8					



**INTERLOCK PLUS
STAINLESS STEEL**

FITTING CODE	SECTION	PAGE
IM01500	3	33
IM01600	3	33
IM01800/IM01810	3	34
IM30510	3	34
IM31210	3	44
IM32510	3	36
IM32810	3	40
IM40812	3	35
IM40842	3	35
IM40892	3	3
IM41613	3	44
IM41643	3	45
IM41692/IM41693	3	45
IM42412	3	38
IM42442	3	39
IM42492	3	39
IM42512	3	37
IM42542	3	37
IM42592	3	38
IM43310	3	40
IM43340	3	41
IM43390	3	41
IM43610	3	42
IM43640	3	43
IM43690	3	43
IM43910	3	46
IM43940	3	46
IM43990	3	47

INTERLOCK PLUS STAINLESS STEEL

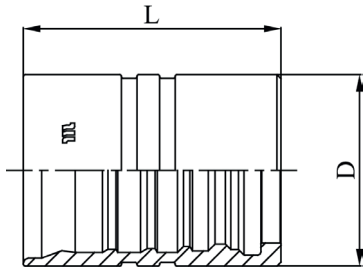
DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

IM01500																	
IM01600																	
IM01800 / IM01810																	

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																	

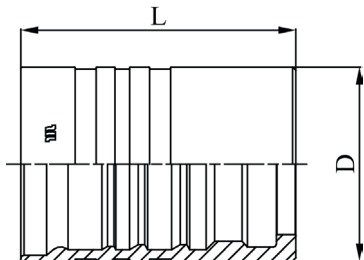


FERRULE

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	40,9					
IM01500-12	19	- 12	3/4"			40	51,4					
IM01500-16	25	- 16	1"			48	64,5					
IM01500-20	31	- 20	1.1/4"			57	84					
IM01500-24	38	- 24	1.1/2"			64,3	94					
IM01500-32	51	- 32	2"			83,5	107					
IM01500-40	63	- 40	2.1/2"			100	135					
IM01500-48	76	- 48	3"			107	125					

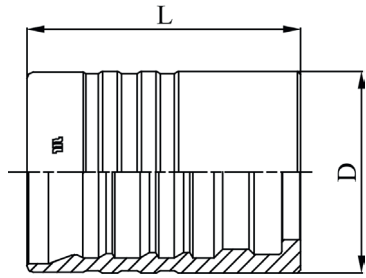


FERRULE

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	85					
IM01600-24	38	- 24	1.1/2"			69	96					



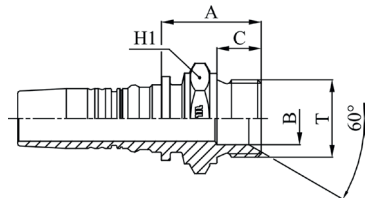
FERRULE

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				
IM01800-20	31	- 20	1.1/4"			64,5	88,2				
IM01800-32	51	- 32	2"			86,5	108				
IM01810-40	63	- 40	2.1/2"			103	135				
IM01810-48	76	- 48	3"			113,5	125				

FITTINGS
F 3-34

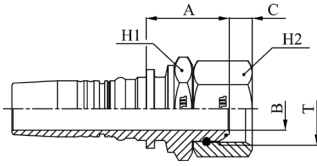


BS STANDARD CONNECTIONS

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	37	16	32		
IM30510-16-16	25	- 16	1"	1" - 11	22,5	43	19	41		
IM30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28,5	50,5	20	50		
IM30510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33,5	54,5	22	55		
IM30510-32-32	51	- 32	2"	2" - 11	42	58	25	70		

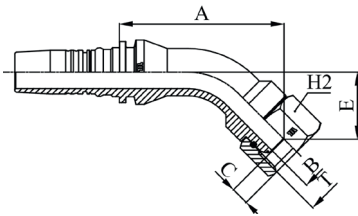


BS STANDARD CONNECTIONS

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	8,5	32	32		
IM40812-16-16	25	- 16	1"	1" - 11		19,5	44,5	10,6	41	41		
IM40812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	52,5	10,5	50	50		
IM40812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	51,5	12,5	60	60		
IM40812-32-32	38	- 24	1.1/2"	1.1/2" - 11		42	51,5	16,1	70	70		



BS STANDARD CONNECTIONS

IM40842

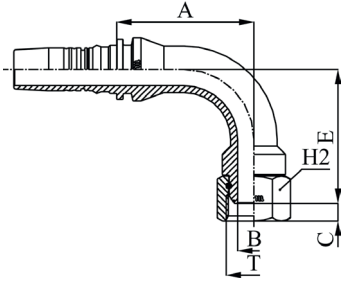
45° BSP O-RING FEMALE SWEPT ELBOW 60° CONE BS5200 / ISO 12151-6 (THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
IM40842-12-12	19	- 12	3/4"	3/4" - 14		14,5	88	8,5	35	32		
IM40842-16-16	25	- 16	1"	1" - 11		19,5	97	10,6	40	41		
IM40842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	120	10,5	49,5	50		
IM40842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	126,5	12,5	50	60		
IM40842-32-32	51	- 32	2"	2" - 11,5		42	162,5	16,1	66,5	70		

BS STANDARD CONNECTIONS

IM40892

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

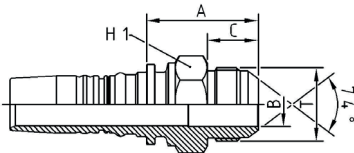


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
IM40892-12-12	19	- 12	3/4"	3/4" - 14		14,5	72,5	8,5	70	32		
IM40892-16-16	25	- 16	1"	1" - 11		19,5	82	10,6	80,5	41		
IM40892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	98,5	10,5	98	50		
IM40892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	111,5	12,5	109	60		
IM40892-32-32	51	- 32	2"	2" - 11,5		42	143	16,1	140,5	70		

SAE STANDARD CONNECTIONS

IM32510

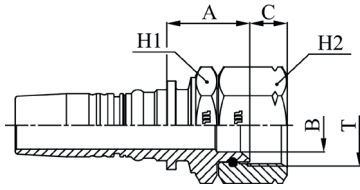
JIC MALE 37° CONE - SAE J516 / ISO 12151-5 STAINLESS STEEL



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm			
	DN	Dash	inch			T	B	A	C
IM32510-10-10	16	- 10	5/8"	7/8" - 14		12	41	19,5	27
IM32510-12-12	19	- 12	3/4"	1.1/16" - 12		15	45,5	22	32
IM32510-16-16	25	- 16	1"	1.5/16" - 12		20	50,5	23	38
IM32510-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	66	24,3	46
IM32510-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	64	27,5	50
IM32510-32-32	51	- 32	2"	2.1/2" - 12		42	81	34	70

SAE STANDARD CONNECTIONS

IM42512

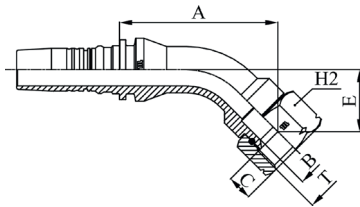


JIC FEMALE 37° CONE SEAT - SAE J516 / ISO 12151-5 (THRUST-WIRE NUT) STAINLESS STEEL

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	36	16	32	32		
IM42512-16-16	25	- 16	1"	1.5/16" - 12		21,7	40,5	15,2	41	41		
IM42512-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	51,5	16,2	50	50		
IM42512-24-24	38	- 24	1.1/2"	1.7/8" - 12		31	54,5	18,8	55	60		
IM42512-32-32	51	- 32	2"	2.1/2" - 8		42	54	24	70	75		

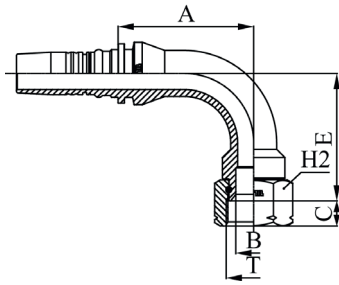
SAE STANDARD CONNECTIONS

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	86	16	33	32		
IM42542-16-16	25	- 16	1"	1.5/16" - 12		21,7	95	15,2	37	41		
IM42542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	115,5	16,2	45	50		
IM42542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	126,5	18,8	50	60		

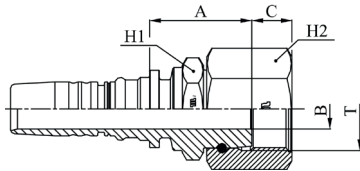


SAE STANDARD CONNECTIONS

IM42592

90° JIC FEMALE SWEEP 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	
IM42592-12-12	19	- 12	3/4"	1.1/16" - 12		15	72,5	16	66	32		
IM42592-12-16	19	- 12	3/4"	1.5/16" - 12		21,7	72,5	15,2	71,5	41		
IM42592-16-16	25	- 16	1"	1.5/16" - 12		21,7	82,5	15,2	77,5	41		
IM42592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	98,5	16,2	92	50		
IM42592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	111,5	18,8	106	60		
IM42592-32-32	51	- 32	2"	2.1/2" - 8		42	144,5	24	137	75		

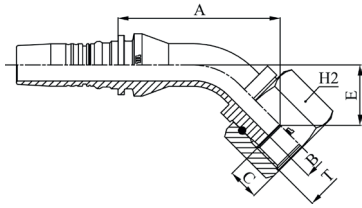


SAE STANDARD CONNECTIONS

IM42412

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	
IM42412-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	37		32	36		
IM42412-16-16	25	- 16	1"	1.7/16" - 12		19,5	42	15	41	46		
IM42412-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	52	15,1	50	55		
IM42412-24-24	38	- 24	1.1/2"	2" - 12		31	55	15	60	60		

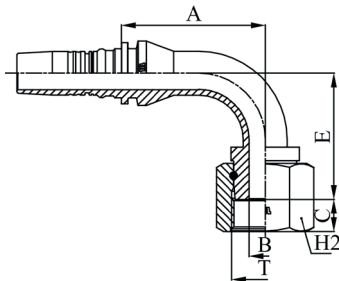


SAE STANDARD CONNECTIONS

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		T	B	A	C	E	H2	
IM42442-12-12	19	- 12	3/4"	1.3/16" - 12	14,5	89	13,9	36	36		
IM42442-16-16	25	- 16	1"	1.7/16" - 12	19,5	100	15	42,5	46		
IM42442-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	119,5	15,1	49,5	55		
IM42442-24-24	38	- 24	1.1/2"	2" - 12	31	128,5	15	52	60		



SAE STANDARD CONNECTIONS

IM42492

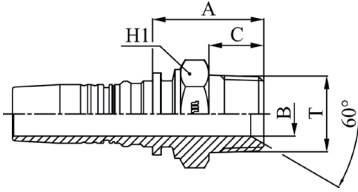
90° ORFS FEMALE SWEPT ELBOW - SAE J516 / ISO 12151-1 HEAVY TYPE (THRUST-WIRE-NUT) STAINLESS STEEL

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		
IM42492-16-16	25	- 16	1"	1.7/16" - 12	19,5	82,5	15	84,5	46		
IM42492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	98,5	15,1	98	55		
IM42492-24-24	38	- 24	1.1/2"	2" - 12	31	111,5	15	109	60		

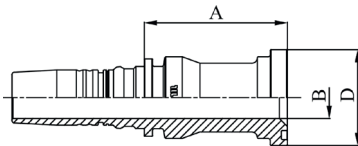
SAE STANDARD CONNECTIONS

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			
IM32810-10-08	16	- 10	5/8"	1/2" - 14		12	39,5	19,2	24			
IM32810-10-12	16	- 10	5/8"	3/4" - 14		16	40,5	19,2	27			
IM32810-12-12	19	- 12	3/4"	3/4" - 14		16	43	19,2	32			
IM32810-16-16	25	- 16	1"	1" - 11,5		19,5	50,5	24,2	38			
IM32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5		26,1	61	25	46			
IM32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5		32,1	62,5	26	50			
IM32810-32-32	51	- 32	2"	2" - 11		42	67	26,5	70			
IM32810-40-40	63	- 40	2.1/2"	2.1/2" - 8		51,5	94,5	43	80			
IM32810-48-48	76	- 48	3"	3" - 8		62,5	123,5	51,5	100			



SAE STANDARD CONNECTIONS

IM43310

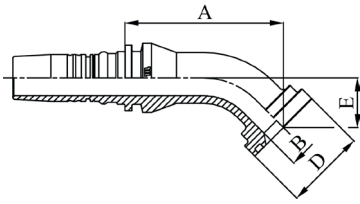
ISO/SAE CODE 61 FLANGE - SAE J516 / ISO 12151-3 (STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			Inch	B	A	D			
IM43310-12-12	19	- 12	3/4"	3/4"		16	60	38				
IM43310-16-16	25	- 16	1"	1"		20	66,5	44,6				
IM43310-20-20	31	- 20	1.1/4"	1.1/4"		26,1	75	51				
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	83	71,6				

SAE STANDARD CONNECTIONS

IM43340

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

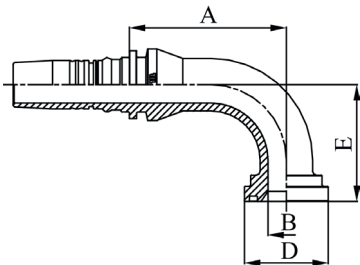


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
IM43340-12-12	19	- 12	3/4"	3/4"		16	75,5	38	23			
IM43340-16-16	25	- 16	1"	1"		20	87	44,6	27,3			
IM43340-20-20	31	- 20	1.1/4"	1.1/4"		26,1	100,5	51	29,5			
IM43340-24-24	38	- 24	1.1/2"	1.1/2"		32,1	111	60,5	34,5			
IM43340-32-32	51	- 32	2"	2"		42	128,5	71,6	39			

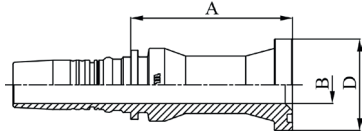
SAE STANDARD CONNECTIONS

IM43390

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



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
IM43390-12-12	19	- 12	3/4"	3/4"		16	72	38	52			
IM43390-16-16	25	- 16	1"	1"		20	83,5	44,6	62			
IM43390-20-20	31	- 20	1.1/4"	1.1/4"		26,1	99	51	70			
IM43390-24-24	38	- 24	1.1/2"	1.1/2"		32,1	111,5	60,5	84			
IM43390-32-32	51	- 32	2"	2"		42	133,5	71,6	99			



SAE STANDARD CONNECTIONS

IM43610

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

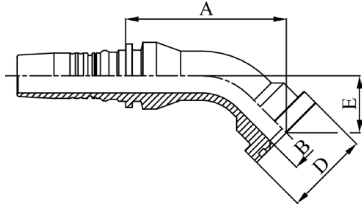
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D				
IM43610-10-12	16	- 10	5/8"	3/4"		16	65	41,5				
IM43610-10-16	16	- 10	5/8"	1"		20	81,5	47,7				
IM43610-12-12	19	- 12	3/4"	3/4"		16	71,5	41,4				
IM43610-12-16	19	- 12	3/4"	1"		20	83,5	47,7				
IM43610-16-12	25	- 16	1"	3/4"		16	80,3	41,4				
IM43610-16-16	25	- 16	1"	1"		20	84,5	47,7				
IM43610-16-20	25	- 16	1"	1.1/4"		26	89	54,2				
IM43610-20-16	31	- 20	1.1/4"	1"		20	87	47,7				
IM43610-20-20	31	- 20	1.1/4"	1.1/4"		26,1	91	54,2				
IM43610-20-24	31	- 20	1.1/4"	1.1/2"		32,1	97	63,7				
IM43610-24-20	38	- 24	1.1/2"	1.1/4"		26	101	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	113	79,6				
IM43610-32-24	51	- 32	2"	1.1/2"		32,1	117	63,7				
IM43610-32-32	51	- 32	2"	2"		42	113	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	131,9				

FITTINGS
F 3-42

SAE STANDARD CONNECTIONS

IM43640

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

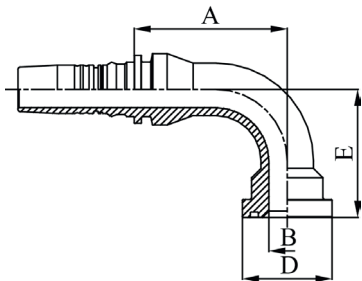


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
IM43640-12-12	19	- 12	3/4"	3/4"		16	81	41,4	28			
IM43640-16-16	25	- 16	1"	1"		20	91,5	47,7	32,5			
IM43640-20-20	31	- 20	1.1/4"	1.1/4"		26	108	54,2	37,5			
IM43640-24-24	38	- 24	1.1/2"	1.1/2"		32	124,5	63,7	44			
IM43640-32-32	51	- 32	2"	2"		42	154	79,6	60,5			

SAE STANDARD CONNECTIONS

IM43690

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

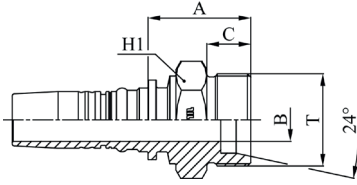


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
IM43690-10-12	16	- 10	5/8"	3/4"		16	57,5	41,4	60,5			
IM43690-12-12	19	- 12	3/4"	3/4"		16	72,4	41,4	59			
IM43690-16-16	25	- 16	1"	1"		20	81	47,7	68			
IM43690-20-20	31	- 20	1.1/4"	1.1/4"		26	98,5	54,2	81			
IM43690-24-24	38	- 24	1.1/2"	1.1/2"		32	112,5	63,7	94,5			
IM43690-32-32	51	- 32	2"	2"		42	140,5	79,6	132			

DIN STANDARD CONNECTIONS

IM31210

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

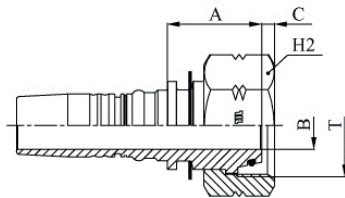


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H1	
IM31210-10-30	16	- 10	5/8"	M 30x2	20	12	37	16	30			
IM31210-12-36	19	- 12	3/4"	M 36x2	25	14,5	43,5	18	36			
IM31210-16-42	25	- 16	1"	M 42x2	30	19,5	46,8	20	46			
IM31210-20-52	31	- 20	1.1/4"	M 52x2	38	25	55	22	55			

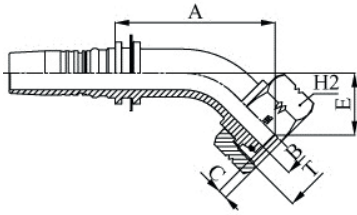
DIN STANDARD CONNECTIONS

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			T	mm	B	A	C	H2	
IM41613-10-30	16	- 10	5/8"	M 30x2	20	12	37	3,5	36			
IM41613-12-36	19	- 12	3/4"	M 36x2	25	14,5	42	3,4	41			
IM41613-16-42	25	- 16	1"	M 42x2	30	19,5	46,5	5,3	50			
IM41613-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	41,5	8	60			

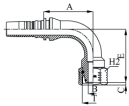


DIN STANDARD CONNECTIONS

IM41643

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

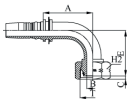
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
IM41643-10-30	16	- 10	5/8"	M 30x2	20	12	66,5	3,5	29,5	36		
IM41643-12-36	19	- 12	3/4"	M 36x2	25	14,5	81	3,4	33,5	41		
IM41643-16-42	25	- 16	1"	M 42x2	30	19,5	93	5,3	36	50		
IM41643-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	110	8	40	60		



DIN STANDARD CONNECTIONS

IM41692/IM41693

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



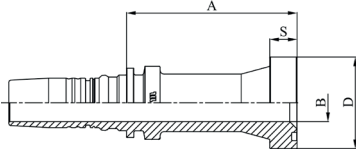
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
IM41693-10-30	16	- 10	5/8"	M 30x2	20	12	52,5	3,5	57,5	36		
IM41693-12-36	19	- 12	3/4"	M 36x2	25	14,5	67	3,4	67,5	41		
IM41693-16-42	25	- 16	1"	M 42x2	30	19,5	81,5	5,3	75,5	50		
IM41692-20-42	31	- 20	1.1/4"	M 42x2	30	19,1	103,5	6,1	90	50		
IM41693-20-52	31	- 20	1.1/4"	M 52x2	38	26	100	8	86,5	60		

M41692: THRUST-WIRE NUT - M41693: SLIP-ON NUT

ORIGINAL EQUIPMENT CONNECTIONS

IM43910

STRAIGHT SUPERCAT SERIES FLANGE (STAINLESS STEEL)

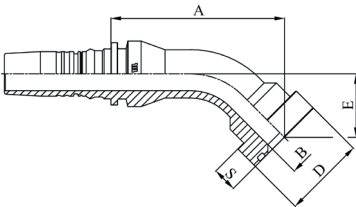


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	S		
IM43910-12-12	19	- 12	3/4"	3/4"		16	77	41,5	14,3		
IM43910-16-16	25	- 16	1"	1"		20	89,5	47,7	14,3		
IM43910-20-20	31	- 20	1.1/4"	1.1/4"		26	95	54	14,3		
IM43910-24-24	38	- 24	1.1/2"	1.1/2"		32,1	99	63,6	14,3		
IM43910-32-32	51	- 32	2"	2"		42	114	79,3	14,3		

ORIGINAL EQUIPMENT CONNECTIONS

IM43940

45° SUPERCAT SERIES FLANGE (STAINLESS STEEL)

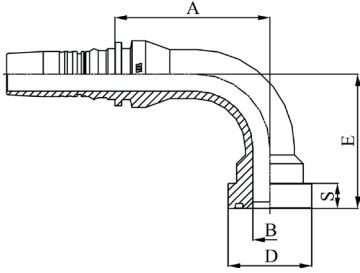


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	E	S
IM43940-12-12	19	- 12	3/4"	3/4"		16	85	41,5	32	14,3
IM43940-16-16	25	- 16	1"	1"		20	100,5	47,7	36,5	14,3
IM43940-20-20	31	- 20	1.1/4"	1.1/4"		26,1	110,5	54	40,5	14,3
IM43940-24-24	38	- 24	1.1/2"	1.1/2"		32	125,5	63,7	45,5	14,3
IM43940-32-32	51	- 32	2"	2"		42	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		Inch	B	A	D	E	S	
IM43990-12-12	19	- 12	3/4"	3/4"	16	72,5	41,5	64,5	14,3		
IM43990-16-16	25	- 16	1"	1"	20	88,5	47,7	76,5	14,3		
IM43990-20-20	31	- 20	1.1/4"	1.1/4"	26,1	98,5	54	85	14,3		
IM43990-24-24	38	- 24	1.1/2"	1.1/2"	32	112,5	63,7	96	14,3		
IM43990-32-32	51	- 32	2"	2"	42	144	79,3	133,5	14,3		

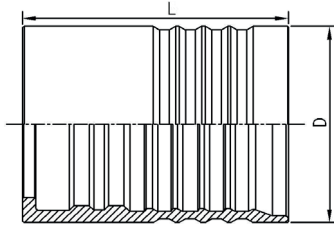
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HYDRAULICS



INTERLOCK SUPER

FITTING CODE	SECTION	PAGE
JO29 IS	4	2
M02700	4	1
M02800	4	1
MB3610	4	2
MB8510	4	2

FERRULE

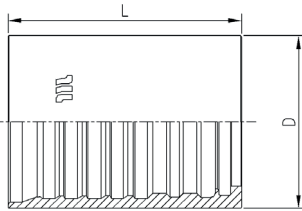


M02700

DOUBLE SKIVE FERRULE EXD.8WS

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M02700-48	76	- 48	3"			122	165				

FERRULE

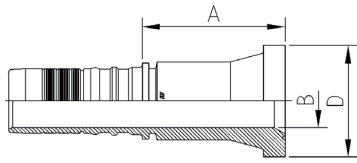


M02800

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	165				
M02800-56	89	- 56	3.1/2"			149	236,7				

SAE STANDARD CONNECTIONS

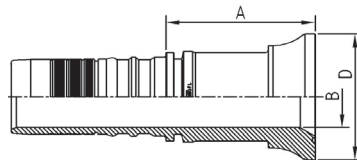


MB3610

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D			
MB3610-48-48	76	- 48	3"	3"	62,5	169	131,9				

XTRAFRANGE

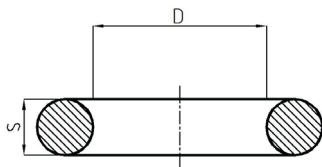


MB8510

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			
MB8510-48-48	76	- 48	3"	3"	62,5	152	128				

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				



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HYDRAULICS



XTRALOCK

FITTING CODE	SECTION	PAGE
M01750	5	1
M01800	5	1
M52810-M57810	5	2
M53510	5	2
M68510	5	4
M68540	5	5
M68590	5	5
M68610	5	3
M68640	5	4
M68690	5	3

XTRALOCK

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

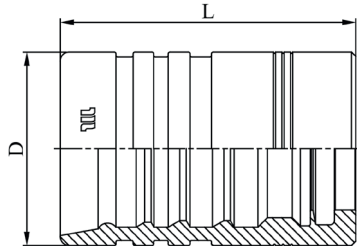
FERRULES

M01750																	
M01800																	

FITTINGS

SAE (NPTF-NPSM)																	
SAE FLANGE CODE 62																	
XTRAFLLANGE																	

FITTINGS F 511

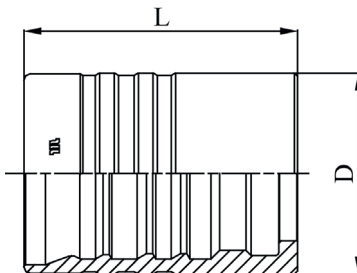


FERRULE

M01750

DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (4 PLY)

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01750-12	19	- 12	3/4"			45,1	69				



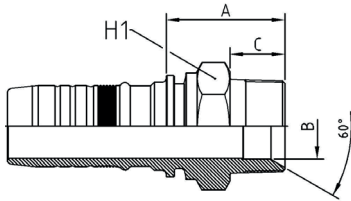
FERRULE

M01800

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

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01800-16	25	- 16	1"			53,5	69				
M01800-24	38	- 24	1.1/2"			73	97,8				

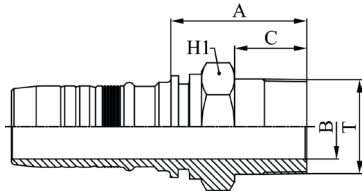
SAE STANDARD CONNECTION



M52810/M57810

NPTF MALE 60° CONE SEAT - SAE J516/J514 ANSI B1.20.3

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M52810-12-12	19	- 12	3/4"	3/4" - 14		15	49,4	21	32			
M57810-16-16	25	- 16	1"	1" - 11		19	60,4	24,2	41			
M57810-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	63,9	28	46			
M57810-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	70,4	30	55			
M57810-32-32	51	- 32	2"	2" - 11		42	75,5	35	70			
M57810-40-40	63	- 40	2.1/2"	2.1/2" - 8		55,4	94,7	43	80			
M57810-48-48	76	- 48	3"	3" - 8		62,5	123,5	51,5	100			

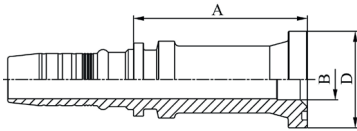


SAE STANDARD CONNECTIONS

M53510

NPT MALE - ANSI B1.20.1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M53510-32-32	51	- 32	2"	2" - 11,5		41	119,5	55	70			
M53510-40-40	63	- 40	2.1/2"	2.1/2" - 8		51,5	135	63	80			
M53510-48-48	76	- 48	3"	3" - 8		62,5	143,5	71,5	100			

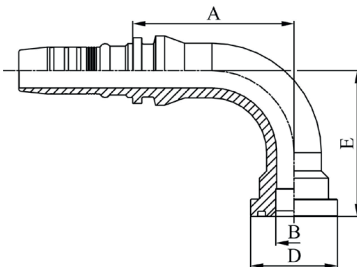


SAE STANDARD CONNECTIONS

M68610

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

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D				
M68610-12-12	19	- 12	3/4"	3/4"		16	74	41,4				
M68610-12-16	19	- 12	3/4"	1"		20	85,5	47,7				
M68610-16-16	25	- 16	1"	1"		20	85	47,7				
M68610-20-20	31	- 20	1.1/4"	1.1/4"		26,1	91	54,2				
M68610-24-24	38	- 24	1.1/2"	1.1/2"		32,1	97,5	63,7				
M68610-32-32	51	- 32	2"	2"		42	112,5	79,6				
M68610-32-40	51	- 32	2"	2.1/2"		51,5	124	107,8				
M68610-40-32	63	- 40	2.1/2"	2"		41	115	79,6				
M68610-40-40	63	- 40	2.1/2"	2.1/2"		51,5	126,5	107,9				
M68610-48-48	76	- 48	3"	3"		62,5	167	131,9				



SAE STANDARD CONNECTIONS

M68690

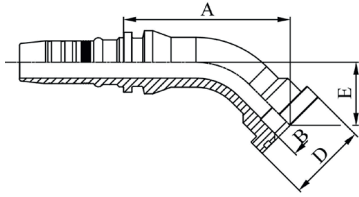
90° ISO/SAE CODE 62 FLANGE - SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M68690-12-12	19	- 12	3/4"	3/4"		16	75	41,4	59			
M68690-16-16	25	- 16	1"	1"		20	87	47,7	80			
M68690-20-20	31	- 20	1.1/4"	1.1/4"		24	110	54,2	93			
M68690-24-24	38	- 24	1.1/2"	1.1/2"		30,5	124,5	63,7	109,5			
M68690-32-32	51	- 32	2"	2"		42	148	79,6	135,5			

SAE STANDARD CONNECTIONS

M68640

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

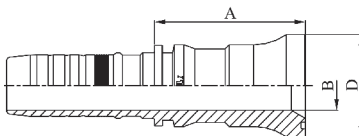


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M68640-12-16	19	- 12	3/4"	1"		20	88	47,7	32			
M68640-16-16	25	- 16	1"	1"		20	98,5	47,7	38			
M68640-20-20	31	- 20	1.1/4"	1.1/4"		24	121,5	54,2	43,5			
M68640-24-24	38	- 24	1.1/2"	1.1/2"		30,5	136	63,7	50			
M68640-32-32	51	- 32	2"	2"		42	160	79,6	61			

XTRAFRANGE

M68510

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

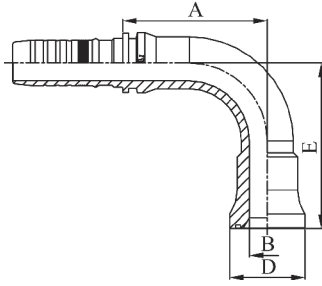


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D			
M68510-16-16	25	- 16	1"	1"		20	69,5	47,7			
M68510-20-20	31	- 20	1.1/4"	1.1/4"		24	88	54,4			
M68510-20-24	31	- 20	1.1/4"	1.1/2"		30,5	100	63,7			
M68510-24-24	38	- 24	1.1/2"	1.1/2"		30,5	102	63,7			
M68510-32-32	51	- 32	2"	2"		41	129	79,6			
M68510-40-40	63	- 40	2.1/2"	2.1/2"		51,5	149	99,2			

XTRAFLLANGE

M68590

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

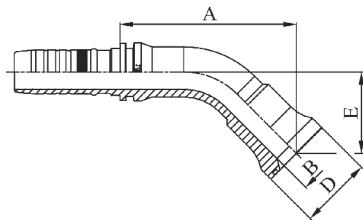


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M68590-16-16	25	- 16	1"	1"		20	84	47,7	90			
M68590-20-20	31	- 20	1.1/4"	1.1/4"		24	107	54,4	120			
M68590-24-24	38	- 24	1.1/2"	1.1/2"		30,5	122	63,7	140			
M68590-24-32	38	- 24	1.1/2"	2"		39	122	79,6	170			
M68590-32-32	51	- 32	2"	2"		39	147,5	79,6	178			

XTRAFLLANGE

M68540

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



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M68540-16-16	25	- 16	1"	1"		20	103	47,7	45			
M68540-20-20	31	- 20	1.1/4"	1.1/4"		24	138	54,4	62,5			
M68540-24-24	38	- 24	1.1/2"	1.1/2"		30,5	155	63,7	71,5			
M68540-24-32	38	- 24	1.1/2"	2"		39	176,5	79,6	93			
M68540-32-32	51	- 32	2"	2"		39	193,5	79,6	92,5			



SPIRALFIT

FITTING CODE	SECTION	PAGE
M05400	6	1
M05500	6	1
M70050	6	26
M70510	6	2
M71210	6	17
M72410	6	6
M72510	6	4
M72810	6	9
M73010	6	9
M80812	6	2
M80842	6	3
M80892	6	3
M81612	6	17
M81642-M81643	6	18
M81692-M81693	6	18
M82412	6	7
M82442	6	8
M82492	6	7
M82542	6	5
M82592	6	5
M82712	6	4
M83301P	6	16
M83311	6	10
M83321	6	10
M83331	6	11
M83341	6	11

FITTING CODE	SECTION	PAGE
M83361	6	12
M83371	6	12
M83391	6	13
M83611	6	14
M83631	6	14
M83641	6	15
M83661	6	15
M83691	6	16
M83711	6	19
M83741	6	19
M83791	6	19
M83911	6	20
M83921	6	20
M83931	6	21
M83941	6	21
M83961	6	22
M83971	6	22
M83991	6	23
M83991 LONG DROP	6	23
M84492	6	8
M84792	6	6
M88511	6	24
M88541	6	24
M88591	6	25
M89510WL	6	25

SPIRALFIT

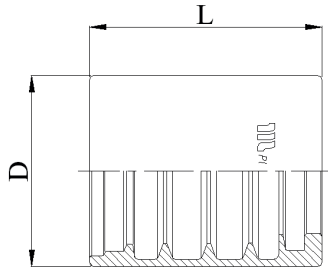
DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES

M05400																	
M05500																	

FITTINGS

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

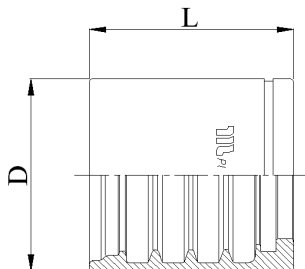


FERRULE

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	44,3				
M05400-12	19	- 12	3/4"			43,8	53,3				
M05400-16	25	- 16	1"			52	64,3				
M05400-20	31	- 20	1.1/4"			59,3	72				
M05400-24	38	- 24	1.1/2"			68,5	78				
M05400-32	51	- 32	2"			84,6	97,1				
M05400-40	63	- 40	2.1/2"			97	116				
M05400-48	76	- 48	3"			109,8	124				
M05400-56	89	- 56	3.1/2"			127,7	123,5				
M05400-64	102	- 64	4"			145	126,5				



FERRULE

M05500

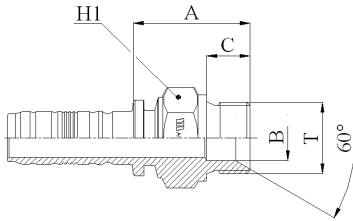
NO-SKIVE FERRULE FOR HEAVY DUTY SPIRAL HOSES (4-6 PLY)

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05500-20	31	- 20	1.1/4"			66	70				
M05500-24	38	- 24	1.1/2"			75	79				
M05500-32	51	- 32	2"			90	98,1				

BS STANDARD CONNECTIONS

M70510

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

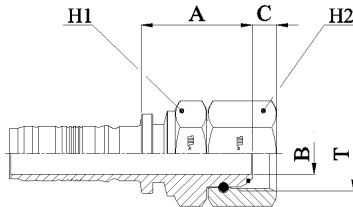


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1		
M70510-12-12	19	- 12	3/4"	3/4" - 14		16,8	43,5	16	32			
M70510-12-16	19	- 12	3/4"	1" - 11		22,2	49,5	19	41			
M70510-16-16	25	- 16	1"	1" - 11		22,2	51	19	41			
M70510-16-20	25	- 16	1"	1.1/4" - 11		28,5	56	20	50			
M70510-20-20	31	- 20	1.1/4"	1.1/4" - 11		28,5	56,5	20	50			
M70510-24-24	38	- 24	1.1/2"	1.1/2" - 11		33,5	60,5	22	55			
M70510-32-32	51	- 32	2"	2" - 11		42	64	25	70			

BS STANDARD CONNECTIONS

M80812

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

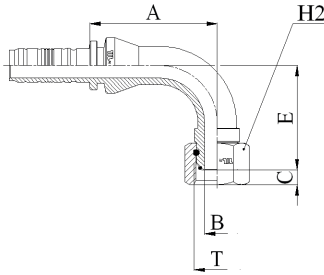


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1	H2	
M80812-12-12	19	- 12	3/4"	3/4" - 14		14,5	39,5	8,5	32	32		
M80812-12-16	19	- 12	3/4"	1" - 11		19,5	44	10,6	41	41		
M80812-16-12	25	- 16	1"	3/4" - 14		15	44,5	8,5	41	32		
M80812-16-16	25	- 16	1"	1" - 11		19,5	45,5	10,6	41	41		
M80812-16-20	25	- 16	1"	1.1/4" - 11		26,1	50,5	10,5	50	50		
M80812-20-16	31	- 20	1.1/4"	1" - 11		19	48	10,6	50	41		
M80812-20-20	31	- 20	1.1/4"	1.1/4" - 11		26,1	50,5	10,5	50	50		
M80812-20-24	31	- 20	1.1/4"	1.1/2" - 11		32,1	50	12,5	50	60		
M80812-24-20	38	- 24	1.1/2"	1.1/4" - 11		26,1	52	10,5	55	50		
M80812-24-24	38	- 24	1.1/2"	1.1/2" - 11		32,1	52	12,5	60	60		
M80812-32-32	51	- 32	2"	2" - 11		42	53,5	16,1	70	70		

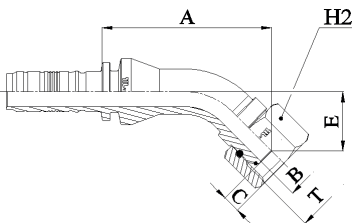
BS STANDARD CONNECTIONS

M80892

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M80892-12-12	19	- 12	3/4"	3/4" - 14		14,5	73,5	8,5	60	32		
M80892-12-12050	19	- 12	3/4"	3/4" - 14		14,5	67,5	8,5	50	32		
M80892-12-16	19	- 12	3/4"	1" - 11		19,5	73,5	10,6	62	41		
M80892-16-12	25	- 16	1"	3/4" - 14		15	90	8,5	70	32		
M80892-16-16	25	- 16	1"	1" - 11		19,5	83	10,6	76	41		
M80892-16-16058	25	- 16	1"	1" - 11		19,5	74,5	10,6	58,5	41		
M80892-16-20	25	- 16	1"	1.1/4" - 11		26,1	96	10,5	78,5	50		
M80892-20-16	31	- 20	1.1/4"	1" - 11		19,5	90	10,6	76	41		
M80892-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	88	10,5	83,5	50		
M80892-20-24	31	- 20	1.1/4"	1.1/2" - 11		32	88	12,5	92	60		
M80892-24-24	38	- 24	1.1/2"	1.1/2" - 11		32	103	12,5	98,5	60		
M80892-32-32	51	- 32	2"	2" - 11		42	135,9	16,1	140,5	70		



BS STANDARD CONNECTIONS

M80842

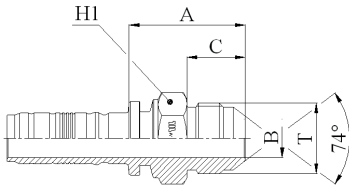
45° BSP O-RING FEMALE SWEPT ELBOW 60° CONE BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M80842-12-12	19	- 12	3/4"	3/4" - 14		14,5	82,5	8,5	29	32		
M80842-12-16	19	- 12	3/4"	1" - 11		19,5	84	10,6	30	41		
M80842-16-12	25	- 16	1"	3/4" - 14		15	106,5	8,5	36	32		
M80842-16-16	25	- 16	1"	1" - 11		19,5	95	10,6	36,5	41		
M80842-16-16028	25	- 16	1"	1" - 11		19,5	84	10,6	28	41		
M80842-16-20	25	- 16	1"	1.1/4" - 11		26,1	109,5	10,5	38	50		
M80842-20-16	31	- 20	1.1/4"	1" - 11		19,5	102	10,6	36,5	41		
M80842-20-20	31	- 20	1.1/4"	1.1/4" - 11		26	99	10,5	39	50		
M80842-20-24	31	- 20	1.1/4"	1.1/2" - 11		32	114	12,5	54	60		
M80842-24-24	38	- 24	1.1/2"	1.1/2" - 11		32	112,5	12,5	45	60		
M80842-32-32	51	- 32	2"	2" - 11		42	155	16,1	66	70		

SAE STANDARD CONNECTIONS

M72510

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

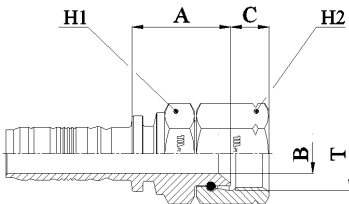


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
M72510-12-12	19	- 12	3/4"	1.1/16" - 12		14,5	44,5	22	30		
M72510-16-16	25	- 16	1"	1.5/16" - 12		19,5	51,5	23	38		
M72510-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	56	24,3	46		
M72510-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	60	27,5	50		
M72510-32-32	51	- 32	2"	2.1/2" - 12		42	75,5	34	65		

SAE STANDARD CONNECTIONS

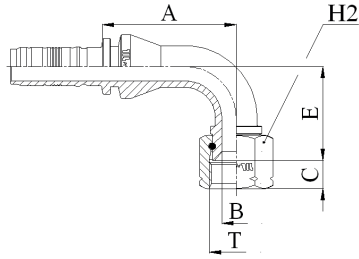
M82712

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	32
M82712-12-16	19	- 12	3/4"	1.5/16" - 12		19,5	36,5	15,2	32	41
M82712-16-16	25	- 16	1"	1.5/16" - 12		19,5	41,5	15,2	41	41
M82712-16-20	25	- 16	1"	1.5/8" - 12		26,1	46,5	16,2	41	50
M82712-20-20	31	- 20	1.1/4"	1.5/8" - 12		26,1	51,5	16,2	50	50
M82712-20-24	31	- 20	1.1/4"	1.7/8" - 12		32	54,5	18,8	55	60
M82712-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	54,5	18,8	55	60
M82712-32-32	51	- 32	2"	2.1/2" - 12		42	56	24	65	75

SAE STANDARD CONNECTIONS

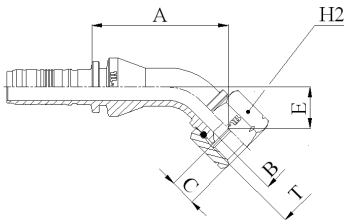


M82592

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E		
M82592-12-12	19	- 12	3/4"	1.1/16" - 12		14,5	67,5	14,2	47,5	32		
M82592-12-16	19	- 12	3/4"	1.5/16" - 12		19,8	73,5	15,2	57,5	41		
M82592-16-12	25	- 16	1"	1.1/16" - 12		14,5	76,5	14,2	47,5	32		
M82592-16-16	25	- 16	1"	1.5/16" - 12		19,5	74,5	15,2	55,5	41		
M82592-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	88	16,2	86,5	50		
M82592-20-24	31	- 20	1.1/4"	1.7/8" - 12		32	88	18,8	90,5	60		
M82592-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	105	18,8	101	60		
M82592-32-32	51	- 32	2"	2.1/2" - 12		42	145	24	139	75		

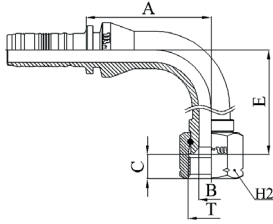
SAE STANDARD CONNECTIONS



M82542

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E		
M82542-12-12	19	- 12	3/4"	1.1/16" - 12		14,5	75	14,2	22,5	32		
M82542-16-16	25	- 16	1"	1.5/16" - 12		19,5	81,5	15,2	26	41		
M82542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	101	16,2	41,5	50		
M82542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	121,5	18,8	48,5	60		
M82542-32-32	51	- 32	2"	2.1/2" - 12		42	162	24	63,5	75		



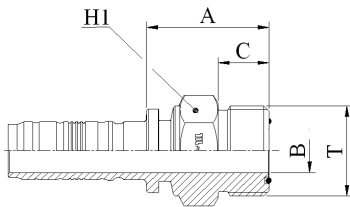
SAE STANDARD CONNECTIONS

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		
M84792-16-16	25	- 16	1"	1.5/16" - 12		19,5	81	15,2	114	41		
M84792-20-20	31	- 20	1.1/4"	1.5/8" - 12		26	88	16,2	129	50		
M84792-24-24	38	- 24	1.1/2"	1.7/8" - 12		32,1	105	18,8	141	60		
M84792-32-32	38	- 24	1.1/2"	2.1/2" - 12		42	145	24	222	75		

FITTINGS F 66



SAE STANDARD CONNECTIONS

M72410

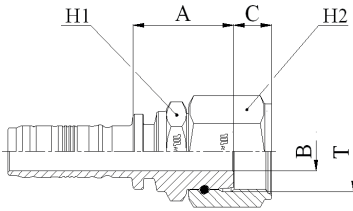
ORFS MALE - SAE J516 / ISO 12151-1

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	17	32		
M72410-16-16	25	- 16	1"	1.7/16" - 12		19,5	46	17,5	41		
M72410-20-20	31	- 20	1.1/4"	1.11/16" - 12		26	50,5	17,5	46		
M72410-24-24	38	- 24	1.1/2"	2" - 12		32	53	17,5	55		

SAE STANDARD CONNECTIONS

M82412

ORFS FEMALE SAE J516/ISO 12151.1

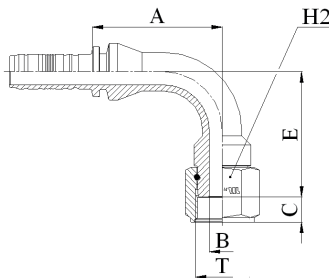


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M82412-12-12	19	- 12	3/4"	1.3/16" - 12	14,5	38	14,1	32	36		
M82412-12-16	19	- 12	3/4"	1.7/16" - 12	19,5	42	15	41	46		
M82412-16-16	25	- 16	1"	1.7/16" - 12	19,5	43	15	41	46		
M82412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	52,5	15,1	50	55		
M82412-24-24	38	- 24	1.1/2"	2" - 12	30,5	55	15	60	60		

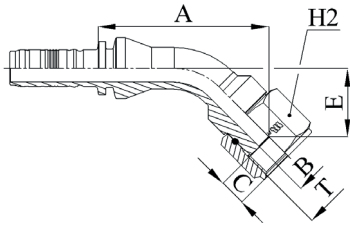
SAE STANDARD CONNECTIONS

M82492

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	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	
M82492-12-16	19	- 12	3/4"	1.7/16" - 12	19,5	86	15	71	46	
M82492-16-12	25	- 16	1"	1.3/16" - 12	14,5	89,5	14,1	70,5	36	
M82492-16-16	25	- 16	1"	1.7/16" - 12	19,5	83	15	84,5	46	
M82492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25	99	15,1	98	55	
M82492-24-24	38	- 24	1.1/2"	2" - 12	32	105	15	104	60	

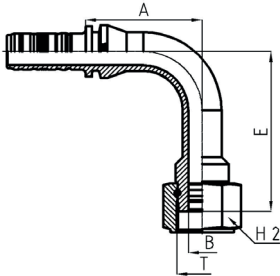


SAE STANDARD CONNECTIONS

M82442

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

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M82442-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	90	14,1	36	36		
M82442-12-16	19	- 12	3/4"	1.7/16" - 12		19,5	90,5	15	36,5	46		
M82442-16-16	25	- 16	1"	1.7/16" - 12		19,5	101	15	42,5	46		
M82442-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	120	15,1	49,5	55		
M82442-24-24	38	- 24	1.1/2"	2" - 12		32	123,5	15	50,5	60		



SAE STANDARD CONNECTIONS

M84492

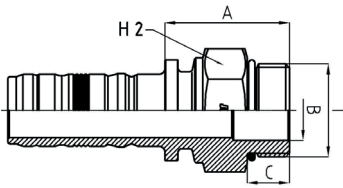
90° ORFS FEMALE LONG DROP ELBOW - SAE J516 / ISO 12151-1
(THURST- WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M84492-12-12	19	- 12	3/4"	1.3/16" - 12		14,5	73,5	14,1	96	36		
M84492-16-16	25	- 16	1"	1.7/16" - 12		19,5	83	15	114	46		
M84492-20-20	31	- 20	1.1/4"	1.11/16" - 12		25	99	15,1	129	55		

SAE STANDARD CONNECTIONS

M73010

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

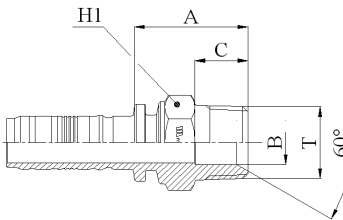


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M73010-12-12	19	- 12	3/4"	1.1/16" - 12		15,5	42,5	15,1	32			
M73010-16-16	25	- 16	1"	1.5/16" - 12		21,5	44,5	15,1	38			
M73010-20-20	31	- 20	1.1/4"	1.5/8" - 12		27,5	47,5	15,1	46			

SAE STANDARD CONNECTIONS

M72810

NPTF MALE 60° CONE SEAT - SAE J516/J514

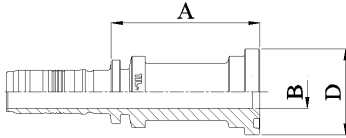


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M72810-12-12	19	- 12	3/4"	3/4" - 14		16	41,5	19,2	30			
M72810-16-16	25	- 16	1"	1" - 11,5		19,5	52	24,2	38			
M72810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5		25	61,5	25	46			
M72810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5		30,5	60,5	26	50			
M72810-32-32	51	- 32	2"	2" - 11,5		41	67,5	26,5	65			
M72810-48-48	76	- 48	3"	3" - 8		62,5	121,5	51,5	100			

SAE STANDARD CONNECTIONS

M83311

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

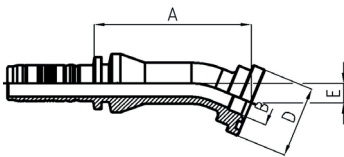


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D				
M83311-12-12	19	- 12	3/4"	3/4"		14,5	66,5	38				
M83311-12-16	19	- 12	3/4"	1"		19,5	52,5	44,6				
M83311-16-12	25	- 16	1"	3/4"		14,5	67,5	38				
M83311-16-16	25	- 16	1"	1"		19,5	67,5	44,6				
M83311-16-20	25	- 16	1"	1.1/4"		26	53,5	51				
M83311-20-16	31	- 20	1.1/4"	1"		19,5	69	44,6				
M83311-20-20	31	- 20	1.1/4"	1.1/4"		26	75	51				
M83311-20-24	31	- 20	1.1/4"	1.1/2"		32	60	60,5				
M83311-24-24	38	- 24	1.1/2"	1.1/2"		32	78,5	60,5				
M83311-24-32	38	- 24	1.1/2"	2"		42	60,5	71,6				
M83311-32-32	51	- 32	2"	2"		42	82,5	71,6				
M83311-40-40	63	- 40	2.1/2"	2.1/2"		51,5	93	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	98,5	114,3				
M83311-64-64	102	- 64	4"	4"		89	105	127				

SAE STANDARD CONNECTIONS

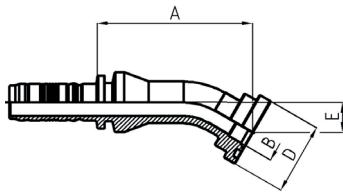
M83321

22,5° ISO/SAE CODE 61 FLANGE



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M83321-12-12	19	- 12	3/4"	3/4"		16	84,5	38	11			
M83321-16-16	25	- 16	1"	1"		19,5	93	44,6	14			
M83321-16-20	25	- 16	1"	1.1/4"		26	101	51	15			
M83321-20-20	31	- 20	1.1/4"	1.1/4"		26	94,5	51	15			
M83321-24-24	38	- 24	1.1/2"	1.1/2"		32	112,5	60,5	18			
M83321-32-32	51	- 32	2"	2"		42	158	71,6	22			

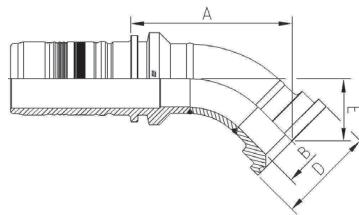
SAE STANDARD CONNECTIONS



M83331

30° ISO/SAE CODE 61 FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M83331-12-12	19	- 12	3/4"	3/4"		16	82,5	38	16			
M83331-12-16	19	- 12	3/4"	1"		19,5	83,5	44,6	19			
M83331-16-16	25	- 16	1"	1"		19,5	91,1	44,6	19			
M83331-24-24	38	- 24	1.1/2"	1.1/2"		32	109,5	60,5	25			
M83331-24-32	38	- 24	1.1/2"	2"		42	111,5	71,6	32			
M83331-32-32	51	- 32	2"	2"		42	154	71,6	32			



SAE STANDARD CONNECTIONS

M83341

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

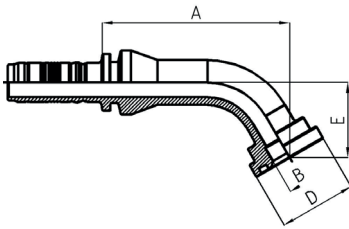
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E			
M83341-12-12	19	- 12	3/4"	3/4"		16	78	38	24,5			
M83341-12-16	19	- 12	3/4"	1"		19,5	78	44,6	24,5			
M83341-16-12	25	- 16	1"	3/4"		16	90,5	38	24,5			
M83341-16-16	25	- 16	1"	1"		19,5	86,5	44,6	26,5			
M83341-16-20	25	- 16	1"	1.1/4"		26	92	51	32			
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	87,5	51	29			
M83341-20-24	31	- 20	1.1/4"	1.1/2"		32	88,5	60,5	30			
M83341-24-24	38	- 24	1.1/2"	1.1/2"		32	102,5	60,5	38			
M83341-24-32	38	- 24	1.1/2"	2"		42	102,5	71,6	38			
M83341-32-32	51	- 32	2"	2"		42	143,5	71,6	52			
M83341-40-40	63	- 40	2.1/2"	2.1/2"		49,2	131	84,3	44,5			
M83341-48-48	76	- 48	3"	3"		59	147	101,6	53			
M83341-56-56	89	- 56	3.1/2"	3.1/2"		73,7	169	114,3	68			

All items are made from solid with the exception of M83341-40-40, M83341-48-48 and M83341-56-56

SAE STANDARD CONNECTIONS

M83361

60° ISO/SAE CODE 61 FLANGE

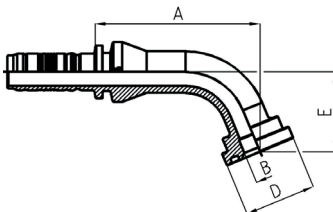


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83361-12-12	19	- 12	3/4"	3/4"	16	92,5	38	37			
M83361-12-16	19	- 12	3/4"	1"	19,5	106,5	44,6	44			
M83361-16-16	25	- 16	1"	1"	19,5	104,3	44,6	44			
M83361-24-24	38	- 24	1.1/2"	1.1/2"	32	129	60,5	53			
M83361-24-32	38	- 24	1.1/2"	2"	42	123	71,6	75			
M83361-32-32	51	- 32	2"	2"	42	188	71,6	75			

SAE STANDARD CONNECTIONS

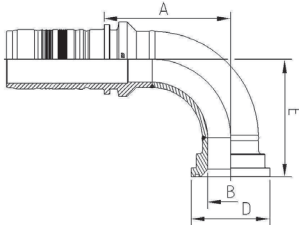
M83371

67,5° ISO/SAE CODE 61 FLANGE



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83371-12-12	19	- 12	3/4"	3/4"	16	87,5	38	42			
M83371-16-16	25	- 16	1"	1"	19,5	97,5	44,6	51			
M83371-24-24	38	- 24	1.1/2"	1.1/2"	32	122	60,5	61			

SAE STANDARD CONNECTIONS



M83391

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

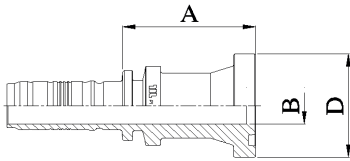
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			Inch	B	A	D	E		
M83391-12-12	19	- 12	3/4"	3/4"		16	72,5	38	58			
M83391-12-16	19	- 12	3/4"	1"		19,5	72,5	44,6	70			
M83391-12-16054	19	- 12	3/4"	1"		19,5	72,5	44,6	54			
M83391-16-12	25	- 16	1"	3/4"		16	85	38	58			
M83391-16-16	25	- 16	1"	1"		19,5	82	44,6	60			
M83391-16-20	25	- 16	1"	1.1/4"		26	82	51	68			
M83391-20-16	31	- 20	1.1/4"	1"		19,5	86	44,6	60			
M83391-20-20	31	- 20	1.1/4"	1.1/4"		26	85	51	67			
M83391-20-24	31	- 20	1.1/4"	1.1/2"		32	85	60,5	69			
M83391-24-24	38	- 24	1.1/2"	1.1/2"		32	96,5	60,5	81			
M83391-24-32	38	- 24	1.1/2"	2"		42	101,5	71,6	84			
M83391-32-32	51	- 32	2"	2"		42	135,5	71,6	120			
M83391-40-40	63	- 40	2.1/2"	2.1/2"		49,2	128	84,3	118			
M83391-48-48	76	- 48	3"	3"		59	144,5	101,6	140			
M83391-56-56	89	- 56	3.1/2"	3.1/2"		73,7	164	114,3	160			

All items are made from solid with the exception of M83391-40-40, M83391-48-48 and M83391-56-56

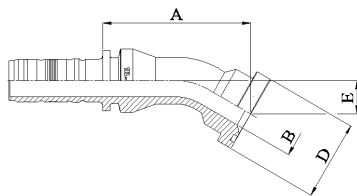
SAE STANDARD CONNECTIONS

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				
M83611-12-12	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	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	70	54,2				
M83611-20-16	31	- 20	1.1/4"	1"		19,5	62	47,7				
M83611-20-20	31	- 20	1.1/4"	1.1/4"		26	66	54,2				
M83611-20-24	31	- 20	1.1/4"	1.1/2"		32	74,5	63,7				
M83611-24-20	38	- 24	1.1/2"	1.1/4"		26	66,5	54,2				
M83611-24-24	38	- 24	1.1/2"	1.1/2"		32	74,5	63,7				
M83611-24-32	38	- 24	1.1/2"	2"		42	88,5	79,6				
M83611-32-24	51	- 32	2"	1.1/2"		32	91,5	63,7				
M83611-32-32	51	- 32	2"	2"		42	91,5	79,6				



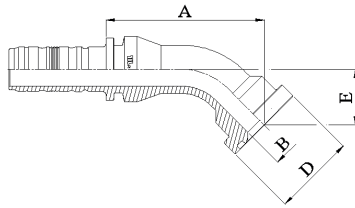
SAE STANDARD CONNECTIONS

M83631

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

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M83631-12-12	19	- 12	3/4"	3/4"		16	78,5	41,4	17,5			
M83631-16-16	25	- 16	1"	1"		19,5	89	47,7	20			
M83631-20-20	31	- 20	1.1/4"	1.1/4"		26	90,5	54,2	22,5			
M83631-24-24	38	- 24	1.1/2"	1.1/2"		32	104,5	63,7	27			
M83631-32-32	51	- 32	2"	2"		42	139,5	79,6	35			

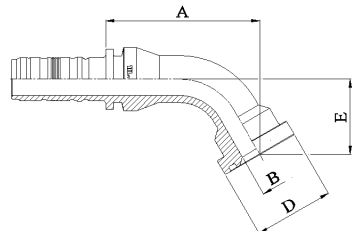
SAE STANDARD CONNECTIONS



M83641

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83641-12-12	19	- 12	3/4"	3/4"	16	81,5	41,4	28			
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	87,5	41,4	28			
M83641-16-16	25	- 16	1"	1"	19,5	92	47,7	32,5			
M83641-16-20	25	- 16	1"	1.1/4"	26	97	54,2	37			
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	96,5	54,2	38			
M83641-20-24	31	- 20	1.1/4"	1.1/2"	32	104,5	63,7	44,5			
M83641-24-20	38	- 24	1.1/2"	1.1/4"	26	110,5	54,2	38			
M83641-24-24	38	- 24	1.1/2"	1.1/2"	32	109,5	63,7	44			
M83641-24-32	38	- 24	1.1/2"	2"	42	121,5	79,6	56			
M83641-32-32	51	- 32	2"	2"	42	148	79,6	59			



SAE STANDARD CONNECTIONS

M83661

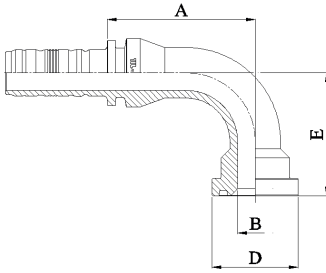
60° ISO/SAE CODE 62 FLANGE - SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83661-12-12	19	- 12	3/4"	3/4"	16	81	41,4	39			
M83661-12-16	19	- 12	3/4"	1"	19,5	84	47,7	44			
M83661-16-16	25	- 16	1"	1"	19,5	92	47,7	45			
M83661-20-20	31	- 20	1.1/4"	1.1/4"	26	97,5	54,2	55			
M83661-20-24	31	- 20	1.1/4"	1.1/2"	32	101,5	63,7	62			
M83661-24-24	38	- 24	1.1/2"	1.1/2"	32	110,5	63,7	61,5			
M83661-32-32	51	- 32	2"	2"	42	151	79,6	85			

SAE STANDARD CONNECTIONS

M83691

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

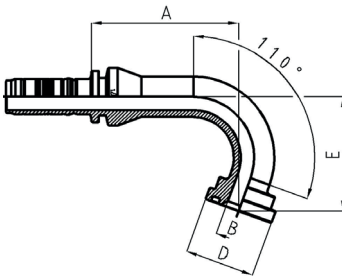


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83691-12-12	19	- 12	3/4"	3/4"	16	72,5	41,4	59			
M83691-12-16	19	- 12	3/4"	1"	19,5	72,6	47,7	65			
M83691-16-12	25	- 16	1"	3/4"	16	82	41,4	62			
M83691-16-16	25	- 16	1"	1"	19,5	82	47,7	68			
M83691-16-20	25	- 16	1"	1.1/4"	26	82	54,2	90			
M83691-16-20075	25	- 16	1"	1.1/4"	26	82	54,2	75			
M83691-20-16	31	- 20	1.1/4"	1"	19,5	86	47,7	68			
M83691-20-20	31	- 20	1.1/4"	1.1/4"	26	85	54,2	90			
M83691-20-24	31	- 20	1.1/4"	1.1/2"	32	85	63,7	104			
M83691-24-20	38	- 24	1.1/2"	1.1/4"	26	99	54,2	90			
M83691-24-24	38	- 24	1.1/2"	1.1/2"	32	98	63,7	104			
M83691-24-32	38	- 24	1.1/2"	2"	42	98	79,6	138			
M83691-32-32	51	- 32	2"	2"	42	136	79,6	138			

SAE STANDARD CONNECTIONS

M83301...P

110° ISO/SAE CODE 61 FLANGE

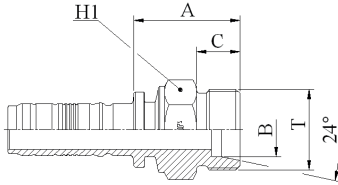


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E		
M83301-12-12P	19	- 12	3/4"	3/4"	16	80	38	62			
M83301-16-16P	25	- 16	1"	1"	19,5	91,5	44,6	79			
M83301-20-20P	31	- 20	1.1/4"	1.1/4"	26	121,5	51	91			
M83301-24-24P	38	- 24	1.1/2"	1.1/2"	32	124,8	60,5	109			
M83301-32-32P	51	- 32	2"	2"	42	146,5	71,6	140			

DIN STANDARD CONNECTIONS

M71210

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

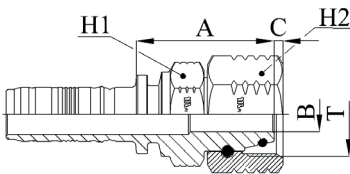


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS						
	DN	Dash	inch			T	mm	B	A	C	H1	
M71210-12-30	19	- 12	3/4"	M 30x2	20	14,5	39,5	16	32			
M71210-12-36	19	- 12	3/4"	M 36x2	25	14,5	44,5	18	36			
M71210-16-36	25	- 16	1"	M 36x2	25	19,5	46	18	36			
M71210-16-42	25	- 16	1"	M 42x2	30	19,5	47,5	20	46			
M71210-20-52	31	- 20	1.1/4"	M 52x2	38	25	55	22	55			
M71210-24-52	38	- 24	1.1/2"	M 52x2	38	30,5	55,5	22	55			

DIN STANDARD CONNECTIONS

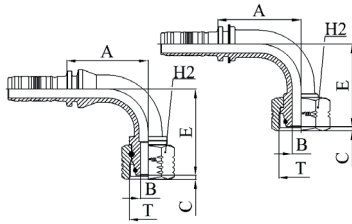
M81612

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



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS						
	DN	Dash	inch			T	mm	B	A	C	H1	H2
M81612-12-30	19	- 12	3/4"	M 30x2	20	12,5	49,5	3,2	32	36		
M81612-12-36	19	- 12	3/4"	M 36x2	25	14,5	52	4,1	36	41		
M81612-12-42	19	- 12	3/4"	M 42x2	30	19,5	52,5	6	41	50		
M81612-16-36	25	- 16	1"	M 36x2	25	16	56	4,1	41	41		
M81612-16-42	25	- 16	1"	M 42x2	30	19,5	54,5	6	41	50		
M81612-16-52	25	- 16	1"	M 52x2	38	25	56	8,8	50	60		
M81612-20-42	31	- 20	1.1/4"	M 42x2	30	19,5	56	6,1	46	50		
M81612-20-52	31	- 20	1.1/4"	M 52x2	38	25	57	8,8	50	60		
M81612-24-52	38	- 24	1.1/2"	M 52x2	38	26,1	58	8,8	55	60		

DIN STANDARD CONNECTIONS

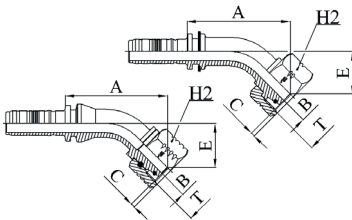


M81692/M81693

**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	H2
M81692-12-30	19	- 12	3/4"	M 30x2	20	12,5	64,5	3,2	68,5	36		
M81693-12-36	19	- 12	3/4"	M 36x2	25	14,5	68	3,4	67,5	41		
M81692-16-36	25	- 16	1"	M 36x2	25	15	83	4,1	87,5	41		
M81693-16-42	25	- 16	1"	M 42x2	30	19,5	82,5	5,3	75,5	50		
M81692-20-42	31	- 20	1.1/4"	M 42x2	30	19,1	102	6	90	50		
M81693-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	101	8	86,5	60		

M81692: THRUST-WIRE NUT - M81693: SLIP-ON NUT



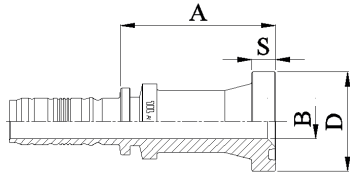
DIN STANDARD CONNECTIONS

M81642/M81643

**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	H2
M81642-12-30	19	- 12	3/4"	M 30x2	20	12,5	80	3,2	35	36		
M81643-12-36	19	- 12	3/4"	M 36x2	25	14,5	82	3,4	33,5	41		
M81642-16-36	25	- 16	1"	M 36x2	25	15	103	4,1	44,5	41		
M81643-16-42	25	- 16	1"	M 42x2	30	19,5	94	5,3	36	50		
M81642-20-42	31	- 20	1.1/4"	M 42x2	30	19,1	117,5	6	44	50		
M81643-20-52	31	- 20	1.1/4"	M 52x2	38	26,1	111	8	40	60		

M81642: THRUST-WIRE NUT - M81643: SLIP-ON NUT

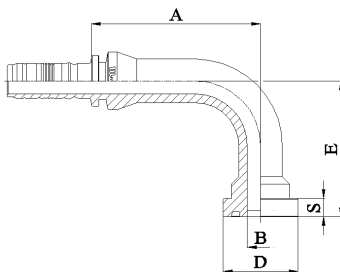


ORIGINAL EQUIPMENT CONNECTIONS

M83711

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	S		
M83711-12-12	19	- 12	3/4"	3/4"		14,5	65	41,4	10		
M83711-16-16	25	- 16	1"	1"		19,5	65	47,7	11		
M83711-20-20	31	- 20	1.1/4"	1.1/4"		25	81	54,2	12		

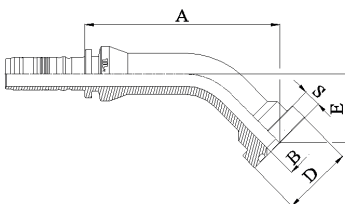


ORIGINAL EQUIPMENT CONNECTIONS

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	10
M83791-16-16	25	- 16	1"	1"		19,5	91	47,7	90	11
M83791-20-20	31	- 20	1.1/4"	1.1/4"		25	115	54,2	110	12



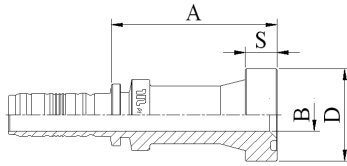
ORIGINAL EQUIPMENT CONNECTIONS

M83741

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	E	S
M83741-12-12	19	- 12	3/4"	3/4"		14,5	114	41,4	40	10
M83741-16-16	25	- 16	1"	1"		19,5	107,5	47,7	43	11
M83741-20-20	31	- 20	1.1/4"	1.1/4"		25	133,5	54,2	50	12

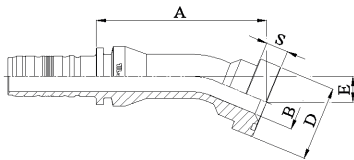
ORIGINAL EQUIPMENT CONNECTIONS



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	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	47,7	14,3			
M83911-16-20	25	- 16	1"	1.1/4"	26	84	54	14,3			
M83911-20-20	31	- 20	1.1/4"	1.1/4"	26	80,5	54	14,3			
M83911-20-24	31	- 20	1.1/4"	1.1/2"	32	84	63,6	14,3			
M83911-24-24	38	- 24	1.1/2"	1.1/2"	32	84,5	63,6	14,3			
M83911-24-32	38	- 24	1.1/2"	2"	42	107,5	79,3	14,3			
M83911-32-24	51	- 32	2"	1.1/2"	32	95,5	63,6	14,3			
M83911-32-32	51	- 32	2"	2"	42	110,5	79,3	14,3			

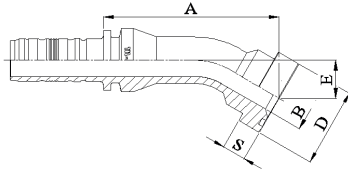


ORIGINAL EQUIPMENT CONNECTIONS

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	101,5	41,5	16	14,3		
M83921-12-16	19	- 12	3/4"	1"	19,5	98	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	113	54	18,5	14,3		
M83921-20-20	31	- 20	1.1/4"	1.1/4"	26	120,5	54	18	14,3		
M83921-20-24	31	- 20	1.1/4"	1.1/2"	32	119	63,7	21	14,3		
M83921-24-24	38	- 24	1.1/2"	1.1/2"	32	123,5	63,7	20	14,3		

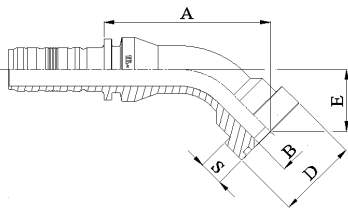


ORIGINAL EQUIPMENT CONNECTIONS

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	99	41,5	22	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	47,7	23	14,3		
M83931-16-20	25	- 16	1"	1.1/4"		26	110	54	26	14,3		
M83931-20-20	31	- 20	1.1/4"	1.1/4"		26	117,5	54	25	14,3		
M83931-20-24	31	- 20	1.1/4"	1.1/2"		32	115,5	63,7	29	14,3		
M83931-24-24	38	- 24	1.1/2"	1.1/2"		32	120,5	63,7	28	14,3		
M83931-24-32	38	- 24	1.1/2"	2"		42	134,5	79,3	36	14,3		
M83931-32-32	51	- 32	2"	2"		42	163,5	79,3	37,5	14,3		

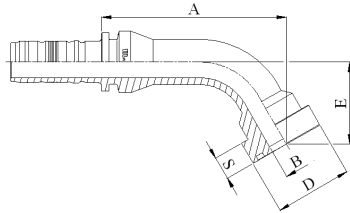


ORIGINAL EQUIPMENT CONNECTIONS

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	91,5	41,5	34,5	14,3		
M83941-12-16	19	- 12	3/4"	1"		19,5	92	47,7	35,5	14,3		
M83941-16-16	25	- 16	1"	1"		19,5	98	47,7	36,5	14,3		
M83941-16-20	25	- 16	1"	1.1/4"		26	101	54	40,5	14,3		
M83941-20-20	31	- 20	1.1/4"	1.1/4"		26	109	54	40	14,3		
M83941-20-24	31	- 20	1.1/4"	1.1/2"		32	106	63,7	46	14,3		
M83941-24-24	38	- 24	1.1/2"	1.1/2"		32	111	63,7	45,5	14,3		
M83941-24-32	38	- 24	1.1/2"	2"		42	122	79,3	56,5	14,3		
M83941-32-32	51	- 32	2"	2"		42	150,5	79,3	61,5	14,3		

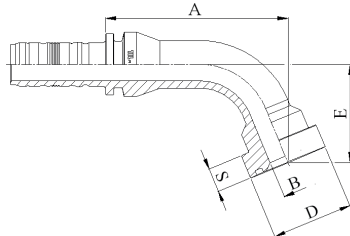


ORIGINAL EQUIPMENT CONNECTIONS

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	106,5	41,5	47	14,3		
M83961-12-16	19	- 12	3/4"	1"	19,5	107	47,7	48	14,3		
M83961-16-16	25	- 16	1"	1"	19,5	114	47,7	51	14,3		
M83961-16-16055	25	- 16	1"	1"	19,5	100	47,7	55	14,3		
M83961-16-20	25	- 16	1"	1.1/4"	26	116,5	54	54	14,3		
M83961-20-20	31	- 20	1.1/4"	1.1/4"	26	130	54	54,5	14,3		
M83961-20-24	31	- 20	1.1/4"	1.1/2"	32	126	63,7	63,5	14,3		
M83961-24-24	38	- 24	1.1/2"	1.1/2"	32	140	63,7	63	14,3		
M83961-32-32	51	- 32	2"	2"	42	194	79,3	86,5	14,3		
M83961-32-32150	51	- 32	2"	2"	42	198	79,3	150	14,3		

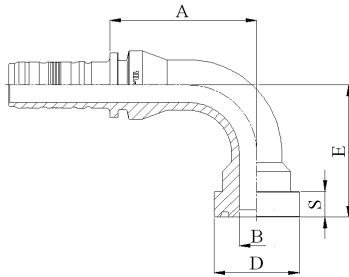


ORIGINAL EQUIPMENT CONNECTIONS

M83971

67,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	S	
M83971-12-12	19	- 12	3/4"	3/4"	16	100	41,5	53	14,3		
M83971-12-16	19	- 12	3/4"	1"	19,5	100,5	47,7	54	14,3		
M83971-16-16	25	- 16	1"	1"	19,5	107	47,7	58	14,3		
M83971-16-20	25	- 16	1"	1.1/4"	26	109	54	62	14,3		
M83971-20-20	31	- 20	1.1/4"	1.1/4"	26	123	54	62	14,3		
M83971-20-24	31	- 20	1.1/4"	1.1/2"	32	117,5	63,7	71,5	14,3		
M83971-24-24	38	- 24	1.1/2"	1.1/2"	32	131	63,7	72	14,3		
M83971-32-32	51	- 32	2"	2"	42	181,5	79,3	99	14,3		

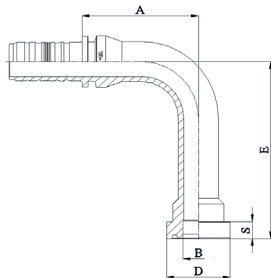


ORIGINAL EQUIPMENT CONNECTIONS

M83991

90° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M83991-12-12	19	- 12	3/4"	3/4"		16	76	41,5	68,5	14,3		
M83991-12-16	19	- 12	3/4"	1"		19,5	76	47,7	69,5	14,3		
M83991-16-16	25	- 16	1"	1"		19,5	82	47,7	73,5	14,3		
M83991-16-20	25	- 16	1"	1.1/4"		26	82	54	78,5	14,3		
M83991-20-20	31	- 20	1.1/4"	1.1/4"		26	94	54	82	14,3		
M83991-20-24	31	- 20	1.1/4"	1.1/2"		32	85	63,7	92	14,3		
M83991-24-24	38	- 24	1.1/2"	1.1/2"		32	98	63,7	96	14,3		
M83991-24-32	38	- 24	1.1/2"	2"		42	98	79,3	112	14,3		
M83991-32-32	51	- 32	2"	2"		42	136	79,3	133,5	14,3		



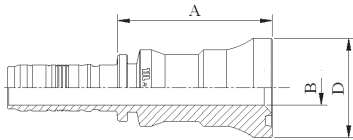
ORIGINAL EQUIPMENT CONNECTIONS

M83991 LONG DROP

90° LONG DROP SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		Inch	B	A	D	E	S		
M83991-16-16132	25	- 16	1"	1"		19,5	86	47,7	132	14,3		
M83991-16-16150	25	- 16	1"	1"		19,5	86	47,7	150	14,3		
M83991-16-20150	25	- 16	1"	1.1/4"		26	82	54	150	14,3		
M83991-20-20092	31	- 20	1.1/4"	1.1/4"		26,1	99	54	92	14,3		
M83991-20-20150	31	- 20	1.1/4"	1.1/4"		26,1	99	54	150	14,3		
M83991-20-24135	31	- 20	1.1/4"	1.1/2"		32	98,5	63,7	135	14,3		
M83991-24-24106	38	- 24	1.1/2"	1.1/2"		32	112,5	63,7	106	14,3		

XTRAFLLANGE



M88511

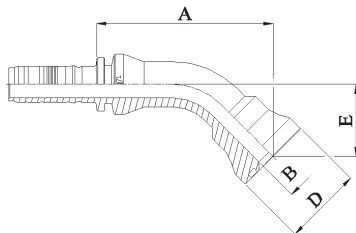
XTRAFLLANGE/62 (SAE J518 -2/ ISO 6162-2 PORT COMPATIBLE)

FITTINGS

F 6-24

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	47,7				
M88511-20-20	31	- 20	1.1/4"	1.1/4"		25	88	54,4				
M88511-24-24	38	- 24	1.1/2"	1.1/2"		30,5	102	63,7				
M88511-32-32	51	- 32	2"	2"		41	129,5	79,6				

XTRAFLLANGE



M88541

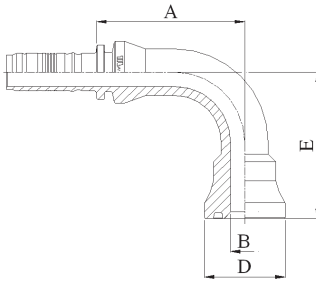
45° XTRAFLLANGE/62 (SAE J518 -2/ ISO 6162-2 PORT COMPATIBLE)

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			
M88541-16-16	25	- 16	1"	1"		19,5	103,5	47,7	45			
M88541-20-20	31	- 20	1.1/4"	1.1/4"		25	138	54,4	62,5			
M88541-24-24	38	- 24	1.1/2"	1.1/2"		30,5	155	63,7	71,5			
M88541-32-32	51	- 32	2"	2"		39	194,5	79,6	92,5			

XTRAFLANGE

M88591

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

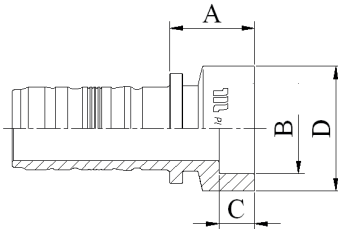


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	Inch		B	A	D	E			
M88591-12-12	19	- 12	3/4"	3/4"		14,5	76,5	41,4	75			
M88591-16-16	25	- 16	1"	1"		19,5	84,5	47,7	90			
M88591-20-20	31	- 20	1.1/4"	1.1/4"		25	107	54,4	120			
M88591-24-24	38	- 24	1.1/2"	1.1/2"		30,5	122	63,7	140			
M88591-32-32	51	- 32	2"	2"		39	148,5	79,6	178			

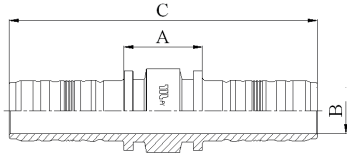
TAIL

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	34			
M89510-16-28WL	25	- 16	1"			28,1	32,5	14	40			
M89510-20-35WL	31	- 20	1.1/4"			35,1	33	14	49			



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	42,5	166,2				
M70050-24-24	38	- 24	1.1/2"			30,5	43	178,9				
M70050-32-32	51	- 32	2"			41	45,5	220,8				



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HYDRAULICS



PUSHLOCK

FITTING CODE	SECTION	PAGE
L10510	7	1
L20513	7	1
L20543	7	2
L20593	7	2

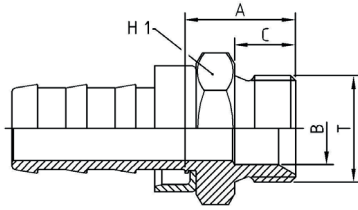
PUSHLOCK

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																	
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BS STANDARD CONNECTIONS

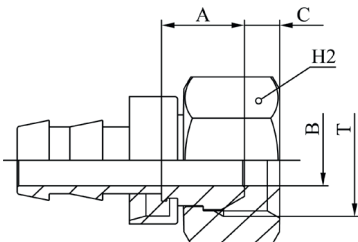


L10510

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	20,5	11	19			
L10510-04-06	6	-4	1/4"	3/8" - 19	8	22,5	12	22			
L10510-06-06	10	-6	3/8"	3/8" - 19	8	23	12	22			
L10510-08-08	12	-8	1/2"	1/2" - 14	11	27	14	27			
L10510-10-10	16	-10	5/8"	5/8" - 14	14,5	28,5	16	30			
L10510-12-12	19	-12	3/4"	3/4" - 14	17	30,5	16	32			
L10510-16-16	25	-16	1"	1" - 11	22,5	34,5	19	41			

No ferrule needed



BS STANDARD CONNECTIONS

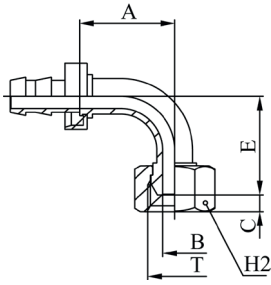
L20513

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	12,5	5,8	19			
L20513-04-06	6	-4	1/4"	3/8" - 19	7	14,6	6,2	22			
L20513-06-06	10	-6	3/8"	3/8" - 19	7	15	6,2	22			
L20513-08-08	12	-8	1/2"	1/2" - 14	9,5	16,5	6,5	27			
L20513-10-10	16	-10	5/8"	5/8" - 14	12	16	9	28			
L20513-12-12	19	-12	3/4"	3/4" - 14	16	18	9	32			
L20513-12-16	19	-12	3/4"	1" - 11	19	19,5	11	38			
L20513-16-16	25	-16	1"	1" - 11	19	19,5	11	38			

No ferrule needed

BS STANDARD CONNECTIONS

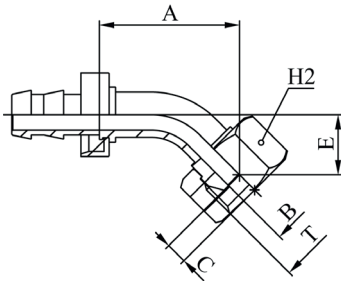


L20593

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
L20593-04-04	6	-4	1/4"	1/4" - 19	4	26	5,8	24	19		
L20593-06-06	10	-6	3/8"	3/8" - 19	7	35	6,2	30,5	22		
L20593-08-08	12	-8	1/2"	1/2" - 14	9,5	38	6,5	38,5	27		
L20593-10-10	16	-10	5/8"	5/8" - 14	12	45,5	9	41	28		
L20593-12-12	19	-12	3/4"	3/4" - 14	16	48,5	9	46,5	32		
L20593-12-16	19	-12	3/4"	1" - 11	19	48,5	11	48,5	38		
L20593-16-16	25	-16	1"	1" - 11	19	54	11	54	38		

No ferrule needed



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		T	B	A	C	E	H2	
L20543-04-04	6	-4	1/4"	1/4" - 19	4	31	5,8	12	19		
L20543-06-06	10	-6	3/8"	3/8" - 19	7	38,5	6,2	14,5	22		
L20543-08-08	12	-8	1/2"	1/2" - 14	9,5	44	6,5	18,5	27		
L20543-10-10	16	-10	5/8"	5/8" - 14	12	50,5	9	19	28		
L20543-12-12	19	-12	3/4"	3/4" - 14	16	53	9	21	32		
L20543-16-16	25	-16	1"	1" - 11	19	56	11	23,5	38		

No ferrule needed



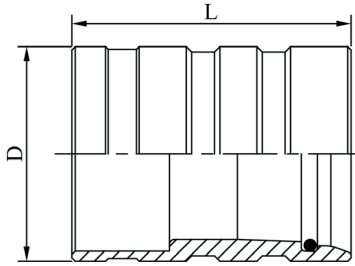
ACCESSORIES

FITTING CODE	SECTION	PAGE
O820	8	1
O83308	8	2
O83607	8	3
O83609	8	2
O88507	8	3
O88407	8	4

ACCESSORIES

O820

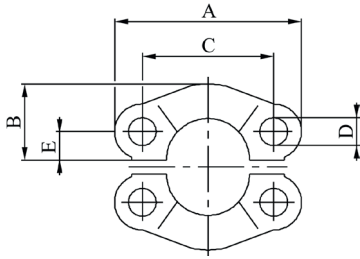
ANTI-KINK SLEEVE



PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
O82040-12	19	- 12	3/4"			45	67				
O82040-16	25	- 16	1"			52	81				
O82068-16	25	- 16	1"			55	75				
O82062-20	31	- 20	1.1/4"			64	83				
O82060-20	31	- 20	1.1/4"			64	84				
O82068-20	31	- 20	1.1/4"			65,5	83				
O82068-24	38	- 24	1.1/2"			73	99				
O82060-24	38	- 24	1.1/2"			72	102				
O82068-32	51	- 32	2"			86,5	116				
O82068-40	63	- 40	2.1/2"			100,5	148,5				
O82068-48	76	- 48	3"			112	158				

ACCESSORIES

083308

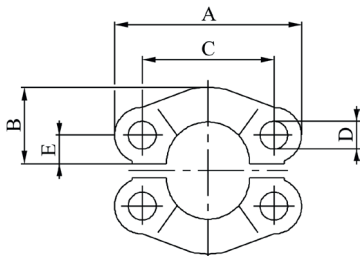


ISO/SAE CODE 61 SPLIT FLANGE CLAMPS - SAE J518 / ISO 6162-1

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E			
O83308-08				22,8	54	38,1	8,8	8,7			
O83308-12				25,9	65	47,6	10,8	11,1			
O83308-16				29,2	70	52,4	10,8	13,1			
O83308-20				36,3	79	58,7	12	15,1			
O83308-24				41,1	94	69,8	13,5	17,9			
O83308-32				48,2	102	77,8	13,5	21,4			
O83308-40				54,1	114	88,9	13,5	25,4			
O83308-48				65,3	135	106,4	16,8	31			
O83308-56				70	152	120,6	17	34,8			
O83308-64				75	160	130,2	17	38,9			

ACCESSORIES

083609



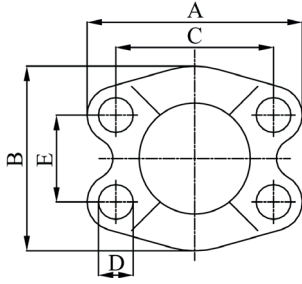
ISO/SAE CODE 62 SPLIT FLANGE CLAMPS - SAE J518 / ISO 6162-2

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E			
O83609-08				23,6	56	40,5	8,8	9,1			
O83609-12				30	71	50,8	11	11,9			
O83609-16				34,8	81	57,1	13	13,9			
O83609-20				38,6	95	66,7	15	15,9			
O83609-24				47,5	113	79,4	17	18,3			
O83609-32				56,9	133	96,8	21	22,2			

ACCESSORIES

O83607

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

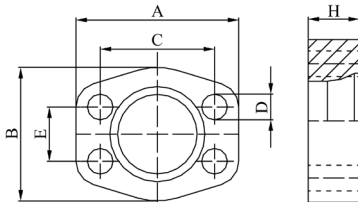


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E			
O83607-12	19	- 12	3/4"	60	72	50,8	10,5	23,8			
O83607-16	25	- 16	1"	70	81	57,2	13	27,8			
O83607-20	31	- 20	1.1/4"	78	96	66,7	15	31,8			
O83607-24	38	- 24	1.1/2"	96	113	79,4	17	36,5			
O83607-32	51	- 32	2"	114	134	96,8	21	44,4			
O83607-40	63	- 40	2.1/2"	150	175	123,8	25	58,7			
O83607-48	76	- 48	3"	178	210	152,4	32	71,4			

ACCESSORIES

O88507

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

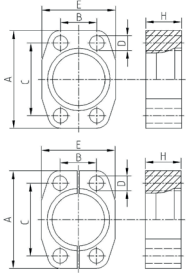


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E	H		
O88507-12				60	71,5	50,8	11	23,8	21,5		
O88507-16				66,7	80	57,2	13	27,8	24		
O88507-20				78	95	66,7	15	31,7	30		
O88507-24				94	112	79,4	17	36,5	36		
O88507-32				114	133	96,8	21	44,5	47		
O88507-40				150	180	123,8	26	58,8	55		
O88507-48				176	210,3	152,4	31	71,4	60		

ACCESSORIES

O88407

ONE-PIECE XTRAFANGE 61 CLAMP/SPLIT XTRAFANGE/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	25,7	
O88407-20				1.1/4"		30,2	80	58,7	12	64	26,8	
O88407-24				1.1/2"		35,7	94	69,9	13,3	77	33,6	
O88407-32				2"		42,9	102	77,8	13,3	88	35	
O88407-40				2.1/2"		50,8	114	88,9	13,3	102	44,3	

O88407-32 and O88407-40 : SPLIT XTRAFANGE/61 CLAMP

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OPF

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OPF12810	9	23
OPF13010	9	21
OPF14110R	9	24
OPF14310	9	22
OPF14390	9	22
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OPF20542-OPF20543	9	5
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OPF20711	9	38
OPF20812-OPF20813	9	6
OPF20842-OPF20843	9	7
OPF20882F	9	7
OPF20892-OPF20893	9	6
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OPF21392-OPF21393	9	29
OPF21512-OPF21513	9	31
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OPF22441-OPF22443	9	20
OPF22491-OPF22493	9	18
OPF22541KR	9	15
OPF22542-OPF22543	9	14
OPF22582F	9	16
OPF22591KR	9	12
OPF22592-OPF22593	9	11
OPF22612	9	23
OPF22711-KR-K	9	10
OPF22712	9	9
OPF22812	9	24
OPF23311	9	25
OPF23321	9	25
OPF23331	9	26
OPF23341	9	26
OPF23361	9	27
OPF23371	9	27
OPF23391	9	28
OPF23811	9	38
OPF24011	9	37
OPF24111	9	39
OPF24141	9	39
OPF24191	9	39
OPF24491 LONG DROP	9	19
OPF24791KR	9	13
OPF24792-OPF24793 LONG DROP	9	12
OPF3100	9	1

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

FERRULES

OPF3100											
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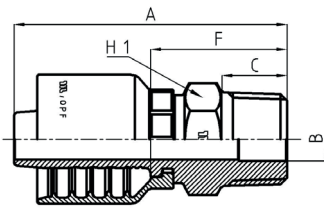
FITTINGS

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											

BS STANDARD CONNECTIONS

OPF10710

BSP MALE TAPERED

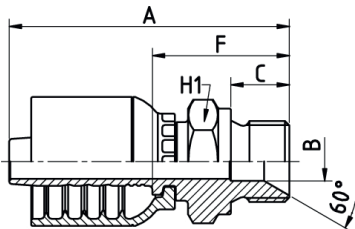


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPF10710-08A08	12	- 8	1/2"	1/2" - 14	10	62	15	31	22		
OPF10710-10A12	16	- 10	5/8"	3/4" - 14	17	68,5	17	34	27		

BS STANDARD CONNECTIONS

OPF10510

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

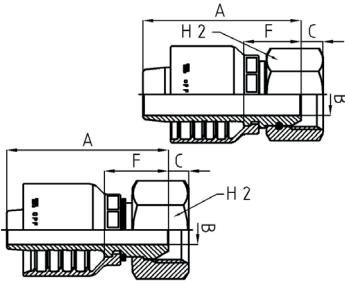


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPF10510-03A02	5	- 3	3/16"	1/8" - 28	3,5	44	10	22,5	14		
OPF10510-04A02	6	- 4	1/4"	1/8" - 28	3,5	50	10	22,5	14		
OPF10510-04A04	6	- 4	1/4"	1/4" - 19	5	53	11	25,5	19		
OPF10510-04A06	6	- 4	1/4"	3/8" - 19	8	54,5	12	27	22		
OPF10510-05A04	8	- 5	5/16"	1/4" - 19	5	54	11	26	19		
OPF10510-05A06	8	- 5	5/16"	3/8" - 19	8	55,5	12	27,5	22		
OPF10510-06A04	10	- 6	3/8"	1/4" - 19	5	55,5	11	26	19		
OPF10510-06A06	10	- 6	3/8"	3/8" - 19	8	57,5	12	28	22		
OPF10510-06A08	10	- 6	3/8"	1/2" - 14	11	60	14	30,5	27		
OPF10510-08A06	12	- 8	1/2"	3/8" - 19	8	59	12	28	22		
OPF10510-08A08	12	- 8	1/2"	1/2" - 14	11	62	14	31	27		
OPF10510-08A10	12	- 8	1/2"	5/8" - 14	14,5	64	16	33	30		
OPF10510-08A12	12	- 8	1/2"	3/4" - 14	17	65	16	34	32		
OPF10510-10A10	16	- 10	5/8"	5/8" - 14	14,5	67,5	16	33	30		
OPF10510-10A12	16	- 10	5/8"	3/4" - 14	17	68,5	16	34	32		
OPF10510-12A12	19	- 12	3/4"	3/4" - 14	17	72	16	35,5	32		
OPF10510-12A16	19	- 12	3/4"	1" - 11	22,5	76	19	39,5	41		
OPF10510-16A16	25	- 16	1"	1" - 11	22,5	89	19	41	41		
OPF10510-16A20	25	- 16	1"	1.1/4" - 11	28,5	93	20	45	50		

BS STANDARD CONNECTIONS

OPF20512/OPF20513

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



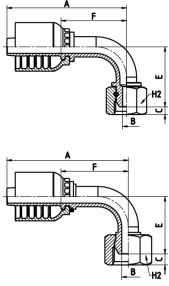
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H2	
OPF20512-03A02	5	- 3	3/16"	1/8" - 28	3	37	4,4	16	14		
OPF20513-03A04	5	- 3	3/16"	1/4" - 19	4	38	5,4	16,5	19		
OPF20512-04A02	6	- 4	1/4"	1/8" - 28	3,1	44	4,4	16,5	14		
OPF20513-04A04	6	- 4	1/4"	1/4" - 19	4	44,5	5,4	17	19		
OPF20513-04A06	6	- 4	1/4"	3/8" - 19	7	45,5	6	19	22		
OPF20512-05A04	8	- 5	5/16"	1/4" - 19	4,1	45,5	4,2	17,5	19		
OPF20513-05A06	8	- 5	5/16"	3/8" - 19	7	47	6	19	22		
OPF20512-06A04	10	- 6	3/8"	1/4" - 19	4,1	47,5	4,2	18	19		
OPF20513-06A06	10	- 6	3/8"	3/8" - 19	7	49	6	19,5	22		
OPF20513-06A08	10	- 6	3/8"	1/2" - 14	9,3	49,5	6,3	20	27		
OPF20512-08A06	12	- 8	1/2"	3/8" - 19	7,1	52	6	21	22		
OPF20513-08A08	12	- 8	1/2"	1/2" - 14	9,3	51,5	6,3	20,5	27		
OPF20512-08A10	12	- 8	1/2"	5/8" - 14	12,1	53	10,2	22	28		
OPF20512-08A12	12	- 8	1/2"	3/4" - 14	15	56	9	24,5	32		
OPF20512-10A10	16	- 10	5/8"	5/8" - 14	12,5	56	10,2	21,5	28		
OPF20512-10A12	16	- 10	5/8"	3/4" - 14	15	57,5	9	23	32		
OPF20512-12A12	19	- 12	3/4"	3/4" - 14	15	61	9	24,5	32		
OPF20512-12A16	19	- 12	3/4"	1" - 11	19,8	62,5	10,5	26	38		
OPF20512-16A16	25	- 16	1"	1" - 11	19,8	75,5	10,5	27,5	38		

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

BS STANDARD CONNECTIONS

OPF20592/OPF20593

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



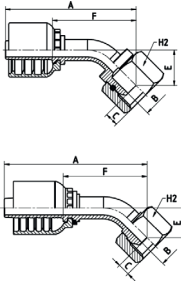
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPF20592-03A02	5	- 3	3/16"	1/8" - 28		3	43	4,4	26	21,5	14	
OPF20592-04A02	6	- 4	1/4"	1/8" - 28		3,1	56	4,4	27	28,5	14	
OPF20593-04A04	6	- 4	1/4"	1/4" - 19		4	57	5,4	29	29,5	19	
OPF20593-04A06	6	- 4	1/4"	3/8" - 19		7	57	6	31	29,5	22	
OPF20592-05A04	8	- 5	5/16"	1/4" - 19		4	54,5	4,1	29,5	26,5	19	
OPF20593-05A06	8	- 5	5/16"	3/8" - 19		7	60	6	27,5	32	22	
OPF20593-06A06	10	- 6	3/8"	3/8" - 19		7	66	6	31,5	36,5	22	
OPF20593-06A08	10	- 6	3/8"	1/2" - 14		9,3	66	6,3	32	36,5	27	
OPF20592-08A06	12	- 8	1/2"	3/8" - 19		7,1	76	6	41	45	22	
OPF20593-08A08	12	- 8	1/2"	1/2" - 14		9,3	76	6,3	36,5	45	27	
OPF20592-08A10	12	- 8	1/2"	5/8" - 14		12,1	75,5	10,2	44	44	28	
OPF20592-08A12	12	- 8	1/2"	3/4" - 14		15	75,5	9	45,5	44	32	
OPF20592-10A10	16	- 10	5/8"	5/8" - 14		12,5	88	10,2	53,5	53,5	28	
OPF20592-10A12	16	- 10	5/8"	3/4" - 14		15	88	9	55	53,5	32	
OPF20592-12A12	19	- 12	3/4"	3/4" - 14		15	98	9	59,5	61,5	32	
OPF20592-12A16	19	- 12	3/4"	1" - 11		19,8	98	10,5	62	61,5	38	
OPF20592-16A16	25	- 16	1"	1" - 11		19,8	127,5	10,5	76	79,5	38	

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

BS STANDARD CONNECTIONS

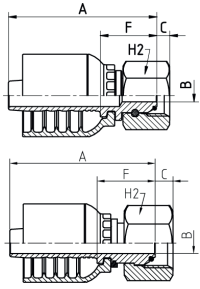
OPF20542/OPF20543

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	63,5	5,4	15	36	19	
OPF20543-04A06	6	-4	1/4"	3/8" - 19		7	65	6	16	37,5	22	
OPF20543-05A06	8	-5	5/16"	3/8" - 19		7	66	6	13,5	38	22	
OPF20543-06A06	10	-6	3/8"	3/8" - 19		7	71,5	6	15,5	42	22	
OPF20543-06A08	10	-6	3/8"	1/2" - 14		9,3	72	6,3	16	42,5	27	
OPF20543-08A08	12	-8	1/2"	1/2" - 14		9,3	81	6,3	17	49,5	27	
OPF20542-08A10	12	-8	1/2"	5/8" - 14		12,1	85,5	10,2	22,5	54,5	28	
OPF20542-10A10	16	-10	5/8"	5/8" - 14		12,5	97,5	10,2	26	63	28	
OPF20542-10A12	16	-10	5/8"	3/4" - 14		15	98	9	27	64	32	
OPF20542-12A12	19	-12	3/4"	3/4" - 14		15	107	9	28,5	70,5	32	
OPF20542-12A16	19	-12	3/4"	1" - 11		19,8	109	10,5	30	72,5	38	
OPF20542-16A16	25	-16	1"	1" - 11		19,8	139,5	10,5	36,5	91	38	

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



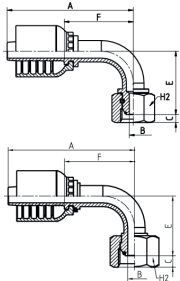
BS STANDARD CONNECTIONS

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	44,5	5,4	17	19		
OPF20812-06A04	10	- 6	3/8"	1/4" - 19		4,1	47,5	4,1	18	19		
OPF20813-06A06	10	- 6	3/8"	3/8" - 19		7	49	6	19,5	22		
OPF20813-08A08	12	- 8	1/2"	1/2" - 14		9,3	51,5	6,3	20,5	27		
OPF20812-10A10	16	- 10	5/8"	5/8" - 14		12,5	56,5	9,7	22	28		
OPF20812-12A12	19	- 12	3/4"	3/4" - 14		15	61,5	8,5	25	32		
OPF20812-16A16	25	- 16	1"	1" - 11		19,8	75,5	10,6	27,5	38		
OPF20812-16A20	25	- 16	1"	1.1/4" - 11		26,1	79	10,5	31	50		

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



BS STANDARD CONNECTIONS

OPF20892/OPF20893

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

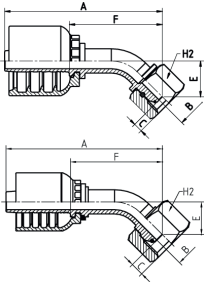
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF20893-04A04	6	- 4	1/4"	1/4" - 19		4	57	5,4	29	29,5	19	
OPF20892-06A04	10	- 6	3/8"	1/4" - 19		4,1	65	4,1	33	35,5	19	
OPF20893-06A06	10	- 6	3/8"	3/8" - 19		7	66	6	31,5	36,5	22	
OPF20893-08A08	12	- 8	1/2"	1/2" - 14		9,3	76	6,3	36,5	45	27	
OPF20892-10A10	16	- 10	5/8"	5/8" - 14		12,5	87,5	9,7	55	53	28	
OPF20892-12A12	19	- 12	3/4"	3/4" - 14		15	98	8,5	60	61,5	32	
OPF20892-16A16	25	- 16	1"	1" - 11		19,8	127,5	10,6	76	79,5	38	
OPF20892-16A20	25	- 16	1"	1.1/4" - 11		26,1	127,5	10,5	78,5	79,5	50	

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

BS STANDARD CONNECTIONS

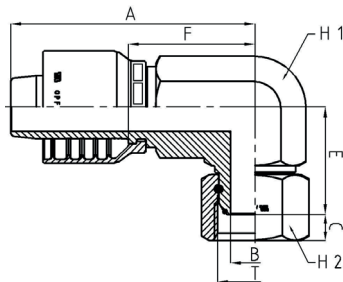
OPF20842/OPF20843

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



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF20843-04A04	6	-4	1/4"	1/4" - 19		4	63,5	5,4	14,5	36	19	
OPF20843-06A06	10	-6	3/8"	3/8" - 19		7	71,5	6	15,5	42	22	
OPF20843-08A08	12	-8	1/2"	1/2" - 14		9,3	81	6,3	17	49,5	27	
OPF20842-10A10	16	-10	5/8"	5/8" - 14		12,5	98	9,7	27,5	63,5	28	
OPF20842-12A12	19	-12	3/4"	3/4" - 14		15	107,5	8,5	29	71	32	
OPF20842-16A16	25	-16	1"	1" - 11		19,8	138,5	10,6	35,5	90,5	38	

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



BS STANDARD CONNECTIONS

OPF20882F

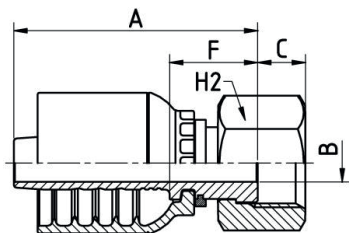
90° BSP O-RING FEMALE COMPACT ELBOW 60° CONE BS5200 / ISO 12151-6 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H1
OPF20882-04A04F	6	-4	1/4"	1/4" - 19		4	47,5	4,1	22	20	14	19
OPF20882-06A06F	10	-6	3/8"	3/8" - 19		7	52,5	6	27,5	23	19	22
OPF20882-08A08F	12	-8	1/2"	1/2" - 14		9,3	56	6,5	31	25	22	27
OPF20882-10A10F	16	-10	5/8"	5/8" - 14		12,5	59	9,7	32,5	24,5	24	28
OPF20882-12A12F	19	-12	3/4"	3/4" - 14		15	74	8,5	36	37,5	27	32
OPF20882-16A16F	25	-16	1"	1" - 11		20	100	10,6	44	52	36	38

BS STANDARD CONNECTIONS

OPF20612/OPF20613

BSP FEMALE FLAT SEAT (SLIP-ON NUT)

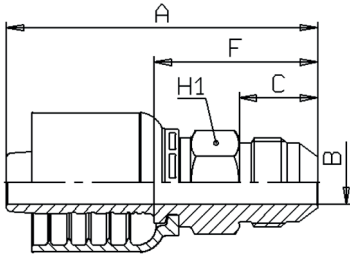


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	F	H2	
OPF20613-04A04	6	-4	1/4"	1/4" - 19		4	42	7,9	14,5	19		
OPF20613-06A06	10	-6	3/8"	3/8" - 19		7	46	9	16,5	22		
OPF20613-06A08	10	-6	3/8"	1/2" - 14		9,3	47	9,8	17,5	27		
OPF20612-08A12	12	-8	1/2"	3/4" - 14		15	52	11,5	21	32		

SAE STANDARD CONNECTIONS

OPF12510

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

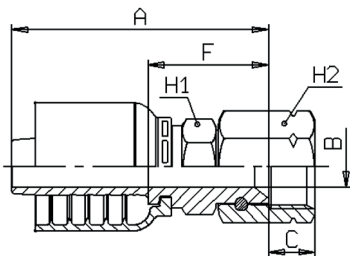


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	F	H1
OPF12510-04A04	6	-4	1/4"	7/16" - 20	4	55,5	14	28	12	
OPF12510-04A05	6	-4	1/4"	1/2" - 20	5,5	56,5	14	29	14	
OPF12510-04A06	6	-4	1/4"	9/16" - 18	7	56,5	14	29	17	
OPF12510-05A05	8	-5	5/16"	1/2" - 20	5,5	57	14	29	14	
OPF12510-05A06	8	-5	5/16"	9/16" - 18	7	57	14	29	17	
OPF12510-06A06	10	-6	3/8"	9/16" - 18	7	59	14	29,5	17	
OPF12510-06A08	10	-6	3/8"	3/4" - 16	9,3	63,5	16,5	34	19	
OPF12510-06A10	10	-6	3/8"	7/8" - 14	12,5	68	19,5	38,5	24	
OPF12510-08A06	12	-8	1/2"	9/16" - 18	7	63	14	32	19	
OPF12510-08A08	12	-8	1/2"	3/4" - 16	9,3	65,5	16,5	34,5	19	
OPF12510-08A10	12	-8	1/2"	7/8" - 14	12,5	70	19,5	39	24	
OPF12510-08A12	12	-8	1/2"	1.1/16" - 12	15	74	22	43	27	
OPF12510-10A10	16	-10	5/8"	7/8" - 14	12,5	73,5	19,5	39	24	
OPF12510-10A12	16	-10	5/8"	1.1/16" - 12	15	77	22	42,5	27	
OPF12510-12A10	19	-12	3/4"	7/8" - 14	12,5	78	19,5	41,5	27	
OPF12510-12A12	19	-12	3/4"	1.1/16" - 12	15	80,5	22	44	27	
OPF12510-12A14	19	-12	3/4"	1.3/16" - 12	15	81	22,5	44,5	32	
OPF12510-12A16	19	-12	3/4"	1.5/16" - 12	19,8	83,5	23	47	34	
OPF12510-16A12	25	-16	1"	1.1/16" - 12	15	93	22	45	32	
OPF12510-16A16	25	-16	1"	1.5/16" - 12	19,8	96	23	48	34	
OPF12510-16A20	25	-16	1"	1.5/8" - 12	26	101	24,3	53	42	

SAE STANDARD CONNECTIONS

OPF22712

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

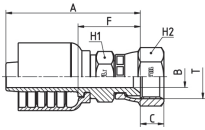
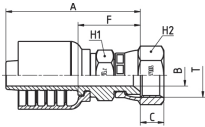


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	F	H1
OPF22712-12A14	19	-12	3/4"	1.3/16" - 12	15	69,5	14,3	33	30	36
OPF22712-16A20	25	-16	1"	1.5/8" - 12	26	91	16,2	43	41	50

SAE STANDARD CONNECTIONS

OPF22711/OPF22711KR/OPF22711K

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



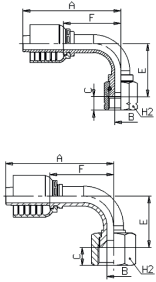
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPF22711-03A04K	5	- 3	3/16"	7/16" - 20	4	41,5	8,9	20	12	15	
OPF22711-04A04KR	6	- 4	1/4"	7/16" - 20	4	48	8,9	20,5	12	15	
OPF22711-04A05KR	6	- 4	1/4"	1/2" - 20	4	48,5	9,4	21	14	17	
OPF22711-04A06KR	6	- 4	1/4"	9/16" - 18	7	49	9,5	21,5	14	17	
OPF22711-05A05KR	8	- 5	5/16"	1/2" - 20	4	49,5	9,4	21,5	17	17	
OPF22711-06A06KR	10	- 6	3/8"	9/16" - 18	7	51,5	9,5	22	17	17	
OPF22711-06A08KR	10	- 6	3/8"	3/4" - 16	9,3	56	10,7	26,5	19	22	
OPF22711-08A06KR	12	- 8	1/2"	9/16" - 18	7	55,5	9,5	24	19	17	
OPF22711-08A08KR	12	- 8	1/2"	3/4" - 16	9,3	58	10,7	27	19	22	
OPF22711-08A10KR	12	- 8	1/2"	7/8" - 14	9,3	60,5	12,5	29,5	22	25	
OPF22711-08A12KR	12	- 8	1/2"	1.1/16" - 12	15	60	14,1	28,5	27	32	
OPF22711-10A08KR	16	- 10	5/8"	3/4" - 16	9,3	62,5	10,7	28,5	22	22	
OPF22711-10A10KR	16	- 10	5/8"	7/8" - 14	9,3	64	12,5	29,5	22	25	
OPF22711-10A12KR	16	- 10	5/8"	1.1/16" - 12	15	63,5	14,1	29	27	32	
OPF22711-12A08KR	19	- 12	3/4"	3/4" - 16	9,3	66	10,7	29,5	27	22	
OPF22711-12A10KR	19	- 12	3/4"	7/8" - 14	12,5	67	12,5	30,5	27	25	
OPF22711-12A12KR	19	- 12	3/4"	1.1/16" - 12	15	66,5	14,1	30	27	32	
OPF22711-12A16	19	- 12	3/4"	1.5/16" - 12	19,8	71	15,3	34,5	32	38	
OPF22711-16A12KR	25	- 16	1"	1.1/16" - 12	15	80,5	14,1	32,5	32	32	
OPF22711-16A16	25	- 16	1"	1.5/16" - 12	19,8	83,5	15,3	35,5	32	38	

KR:CRIMPED-BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS

OPF22592/OPF22593

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



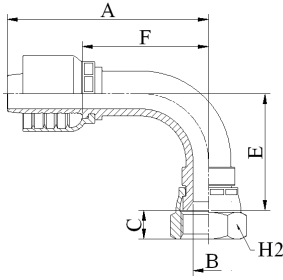
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF22593-03A04	5	- 3	3/16"	7/16" - 20		3	47,5	8,5	23,5	26	15	
OPF22592-04A04	6	- 4	1/4"	7/16" - 20		4	56	8,7	27	28,5	17	
OPF22592-04A05	6	- 4	1/4"	1/2" - 20		4	56	9,1	27,5	28,5	17	
OPF22593-04A06	6	- 4	1/4"	9/16" - 18		4	57	9,8	28	29,5	19	
OPF22593-04A08	6	- 4	1/4"	3/4" - 16		7	57	10	30,5	29,5	22	
OPF22592-05A05	8	- 5	5/16"	1/2" - 20		5,5	59	9,1	28	31	17	
OPF22592-05A06	8	- 5	5/16"	9/16" - 18		7	59	9,2	28,5	31	19	
OPF22592-06A05	10	- 6	3/8"	1/2" - 20		5,5	59,5	9,1	26,5	30	17	
OPF22592-06A06	10	- 6	3/8"	9/16" - 18		7	65	9,2	32,5	35,5	19	
OPF22593-06A08	10	- 6	3/8"	3/4" - 16		7	66	10,1	29,5	36,5	22	
OPF22593-06A10	10	- 6	3/8"	7/8" - 14		9,3	66	12,4	31,5	36,5	27	
OPF22592-08A06	12	- 8	1/2"	9/16" - 18		7	68	9,2	33	37	19	
OPF22592-08A08	12	- 8	1/2"	3/4" - 16		9,3	75,5	10,2	41	44	22	
OPF22593-08A10	12	- 8	1/2"	7/8" - 14		9,3	76	12,4	36	45	27	
OPF22593-08A12	12	- 8	1/2"	1.1/16" - 12		12,5	76	14,1	36	45	32	
OPF22592-10A10	16	- 10	5/8"	7/8" - 14		12,5	88	12,3	52,5	53,5	27	
OPF22593-10A12	16	- 10	5/8"	1.1/16" - 12		12,5	86	14,1	50	51,5	32	
OPF22592-12A10	19	- 12	3/4"	7/8" - 14		12,5	91,5	12,3	52,5	55	27	
OPF22592-12A12	19	- 12	3/4"	1.1/16" - 12		15	98	14,2	58	62	32	
OPF22592-12A14	19	- 12	3/4"	1.3/16" - 12		15	99	14,3	58	63	36	
OPF22592-12A16	19	- 12	3/4"	1.5/16" - 12		19,8	99	15	57,5	63	38	
OPF22592-16A16	25	- 16	1"	1.5/16" - 12		19,8	124	15	68,5	76	38	
OPF22592-16A20	25	- 16	1"	1.5/8" - 12		26	125,5	16,2	74,5	77,5	50	

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)

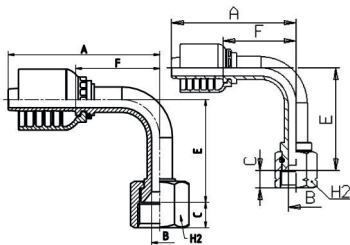


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF22591-04A04KR	6	-4	1/4"	7/16" - 20		4,2	56	8,9	26	28,5	15	
OPF22591-04A05KR	6	-4	1/4"	1/2" - 20		4	56	9,4	26,5	28,5	17	
OPF22591-06A06KR	10	-6	3/8"	9/16" - 18		7	65	9,5	32	35,5	17	
OPF22591-08A08KR	12	-8	1/2"	3/4" - 16		9,3	75,5	10,7	40,5	44	22	
OPF22591-10A10KR	16	-10	5/8"	7/8" - 14		12,5	88	12,5	47	53,5	25	
OPF22591-12A12KR	19	-12	3/4"	1.1/16" - 12		15	98	14,1	57	62	32	

SAE STANDARD CONNECTIONS

OPF24792/OPF24793 LONG DROP

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



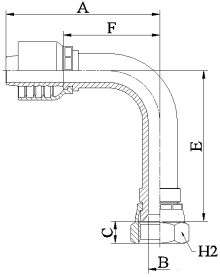
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF24792-04A04	6	-4	1/4"	7/16" - 20		4	56	8,7	45	28,5	17	
OPF24792-04A05	6	-4	1/4"	1/2" - 20		4	56	9,1	45	28,5	17	
OPF24793-04A06	6	-4	1/4"	9/16" - 18		4	57	9,8	55,5	29,5	19	
OPF24792-06A06	10	-6	3/8"	9/16" - 18		7	65	9,2	55	35,5	19	
OPF24793-06A08	10	-6	3/8"	3/4" - 16		7	66	10,1	61,5	36,5	22	
OPF24792-08A08	12	-8	1/2"	3/4" - 16		9,3	75,5	10,2	61	44	22	
OPF24793-08A10	12	-8	1/2"	7/8" - 14		9,3	76	12,4	65	45	27	
OPF24792-10A10	16	-10	5/8"	7/8" - 14		12,5	88	12,3	65,5	53,5	27	
OPF24792-12A12	19	-12	3/4"	1.1/16" - 12		15	98	14,2	94,5	62	32	
OPF24792-16A16	25	-16	1"	1.5/16" - 12		19,8	125,5	15	110	77,5	38	

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)

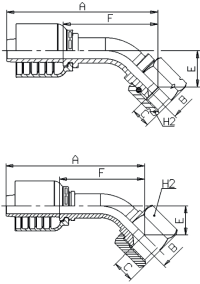


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPF24791-04A04KR	6	- 4	1/4"	7/16" - 20		4,2	56	8,9	45	28,5	15	
OPF24791-06A06KR	10	- 6	3/8"	9/16" - 18		7	65	9,5	55	35,5	17	
OPF24791-08A08KR	12	- 8	1/2"	3/4" - 16		9,3	75,5	10,7	64	44	22	
OPF24791-10A10KR	16	- 10	5/8"	7/8" - 14		12,5	88	12,5	70	53,5	25	
OPF24791-12A12KR	19	- 12	3/4"	1.1/16" - 12		15	98	14,1	96	62	32	

SAE STANDARD CONNECTIONS

OPF22542/OPF22543

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



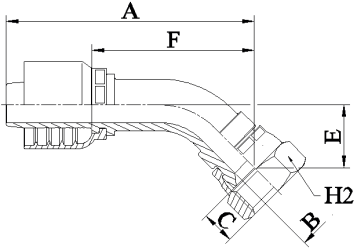
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPF22542-04A04	6	- 4	1/4"	7/16" - 20		4	63	8,7	14,5	35,5	17	
OPF22542-04A05	6	- 4	1/4"	1/2" - 20		4	63	9,1	14,5	35,5	17	
OPF22543-04A06	6	- 4	1/4"	9/16" - 18		4	63	9,8	14	35,5	19	
OPF22542-05A05	8	- 5	5/16"	1/2" - 20		5,5	65,5	9,1	14	37,5	17	
OPF22542-05A06	8	- 5	5/16"	9/16" - 18		7	66	9,2	14,5	38	19	
OPF22542-06A06	10	- 6	3/8"	9/16" - 18		7	71,5	9,2	16,5	42	19	
OPF22543-06A08	10	- 6	3/8"	3/4" - 16		7	70,5	10,1	14	41	22	
OPF22543-06A10	10	- 6	3/8"	7/8" - 14		9,3	72	12,4	15,5	42,5	27	
OPF22542-08A08	12	- 8	1/2"	3/4" - 16		9,3	83	10,2	20	52	22	
OPF22543-08A10	12	- 8	1/2"	7/8" - 14		9,3	80,5	12,4	17	49,5	27	
OPF22543-08A12	12	- 8	1/2"	1.1/16" - 12		12,5	80,5	14,1	17	49,5	32	
OPF22542-10A10	16	- 10	5/8"	7/8" - 14		12,5	96,5	12,3	25,5	62	27	
OPF22543-10A12	16	- 10	5/8"	1.1/16" - 12		12,5	94,5	14,1	24	60	32	
OPF22542-12A12	19	- 12	3/4"	1.1/16" - 12		15	106	14,2	27,5	70	32	
OPF22542-12A14	19	- 12	3/4"	1.3/16" - 12		15	106	14,3	27,5	69,5	36	
OPF22542-12A16	19	- 12	3/4"	1.5/16" - 12		19,8	106,5	15	27,5	70	38	
OPF22542-16A12	25	- 16	1"	1.1/16" - 12		15	120,5	14,2	27,5	72,5	32	
OPF22542-16A16	25	- 16	1"	1.5/16" - 12		19,8	132,5	15	32	84	38	
OPF22542-16A20	25	- 16	1"	1.5/8" - 12		26	138	16,2	36	90	50	

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

SAE STANDARD CONNECTIONS

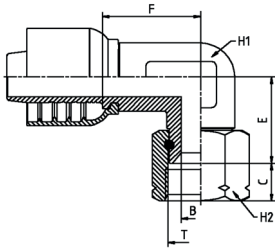
OPF22541KR

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	8,9	13,5	34,5	15	
OPF22541-04A05KR	6	- 4	1/4"	1/2" - 20		4	62,5	9,4	14	35	17	
OPF22541-06A06KR	10	- 6	3/8"	9/16" - 18		7	71,5	9,5	16	42	17	
OPF22541-08A08KR	12	- 8	1/2"	3/4" - 16		9,3	83	10,7	20	52	22	
OPF22541-10A10KR	16	- 10	5/8"	7/8" - 14		12,5	95,5	12,5	22,5	61	25	
OPF22541-12A12KR	19	- 12	3/4"	1.1/16" - 12		15	105,5	14,1	26,5	69	32	

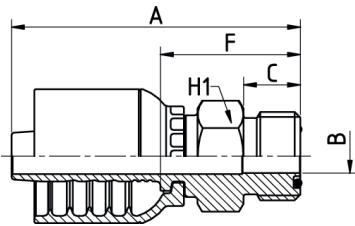
SAE STANDARD CONNECTIONS



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		T	B	A	C	E	F	H1	H2
OPF22582-04A04F	6	-4	1/4"	7/16" - 20	4	47,5	8,7	20,5	20	14	17	
OPF22582-04A06F	6	-4	1/4"	9/16" - 18	7	47,5	9,2	21,5	20	14	19	
OPF22582-06A06F	10	-6	3/8"	9/16" - 18	7	52,5	9,2	24	23	19	19	
OPF22582-06A08F	10	-6	3/8"	3/4" - 16	9,3	56	10,2	28	26,5	22	22	
OPF22582-08A08F	12	-8	1/2"	3/4" - 16	9,3	56	10,2	28	25	22	22	
OPF22582-08A10F	12	-8	1/2"	7/8" - 14	12,5	56	12,3	29	25	22	27	
OPF22582-12A12F	19	-12	3/4"	1.1/16" - 12	15	74	14,2	33	37,5	27	32	
OPF22582-16A16F	25	-16	1"	1.5/16" - 12	20	100	15	40	52	36	38	



SAE STANDARD CONNECTIONS

OPF12410

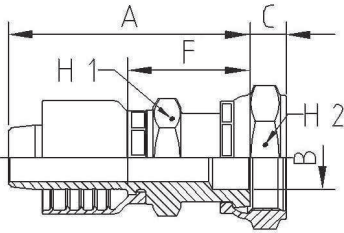
ORFS MALE - SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1		
OPF12410-04A04	6	-4	1/4"	9/16" - 18	4	51,5	9,8	24	16			
OPF12410-04A06	6	-4	1/4"	11/16" - 16	6,7	54	11,2	26,5	19			
OPF12410-05A06	8	-5	5/16"	11/16" - 16	6,7	55	11,2	27	19			
OPF12410-06A06	10	-6	3/8"	11/16" - 16	6,7	57	11,2	27,5	19			
OPF12410-06A08	10	-6	3/8"	13/16" - 16	9,3	59,5	12,8	30	22			
OPF12410-08A08	12	-8	1/2"	13/16" - 16	9,3	61,5	12,8	30,5	22			
OPF12410-08A10	12	-8	1/2"	1" - 14	12,5	66	15,5	35	27			
OPF12410-10A10	16	-10	5/8"	1" - 14	12,5	69	15,5	34,5	27			
OPF12410-10A12	16	-10	5/8"	1.3/16" - 12	15	72	17	37,5	32			
OPF12410-12A12	19	-12	3/4"	1.3/16" - 12	15	75,5	17	39	32			
OPF12410-12A16	19	-12	3/4"	1.7/16" - 12	19,8	77	17,5	40,5	38			
OPF12410-16A16	25	-16	1"	1.7/16" - 12	19,8	90	17,5	42	38			

SAE STANDARD CONNECTIONS

OPF22411

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

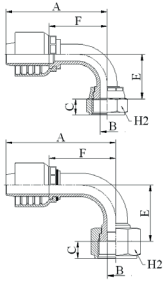


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPF22411-04A04	6	-4	1/4"	9/16" - 18	4	55	8	27,5	13	19	
OPF22411-04A06	6	-4	1/4"	11/16" - 16	7	57,5	9,5	30	16	22	
OPF22411-05A06	8	-5	5/16"	11/16" - 16	7	58,5	9,5	30,5	16	22	
OPF22411-06A06	10	-6	3/8"	11/16" - 16	7	60,5	9,5	31	16	22	
OPF22411-06A08	10	-6	3/8"	13/16" - 16	9,3	65	11	35,5	19	24	
OPF22411-08A06	12	-8	1/2"	11/16" - 16	7	63	9,5	32	19	22	
OPF22411-08A08	12	-8	1/2"	13/16" - 16	9,3	67	11	36	19	24	
OPF22411-08A10	12	-8	1/2"	1" - 14	11,5	69,5	13,5	38,5	24	30	
OPF22411-08A12	12	-8	1/2"	1.3/16" - 12	13,9	73	14,5	42	28	36	
OPF22411-10A10	16	-10	5/8"	1" - 14	11,5	73	13,5	38,5	24	30	
OPF22411-10A12	16	-10	5/8"	1.3/16" - 12	13,9	76,5	14,5	42	28	36	
OPF22411-12A10	19	-12	3/4"	1" - 14	11,5	77,5	13,5	41	28	30	
OPF22411-12A12	19	-12	3/4"	1.3/16" - 12	13,9	80	14,5	43,5	28	36	
OPF22411-12A16	19	-12	3/4"	1.7/16" - 12	19,8	82	15	45,5	36	41	
OPF22411-16A12	25	-16	1"	1.3/16" - 12	13,9	94	13,5	48	36	36	
OPF22411-16A16	25	-16	1"	1.7/16" - 12	19,8	94,5	15	46,5	36	41	

SAE STANDARD CONNECTIONS

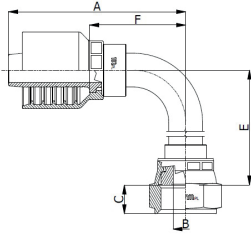
OPF22491/OPF22493

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22493-04A04	6	- 4	1/4"	9/16" - 18	4	55	8,2	22	27,5	17	
OPF22493-04A06	6	- 4	1/4"	11/16" - 16	7	55	9,5	22	27,5	22	
OPF22493-05A06	8	- 5	5/16"	11/16" - 16	7	60	9,5	23	32	22	
OPF22493-06A06	10	- 6	3/8"	11/16" - 16	6	59,5	9,5	24	30	22	
OPF22493-06A08	10	- 6	3/8"	13/16" - 16	9,3	59,5	11	26,5	30	24	
OPF22491-08A06	12	- 8	1/2"	11/16" - 16	7	61,5	9,5	24,5	30	22	
OPF22493-08A08	12	- 8	1/2"	13/16" - 16	9	71,5	11	30	40,5	24	
OPF22493-08A10	12	- 8	1/2"	1" - 14	11,5	71	13,5	30,5	40	30	
OPF22493-08A12	12	- 8	1/2"	1.3/16" - 12	13,9	71	14,5	37,5	39,5	36	
OPF22493-10A10	16	- 10	5/8"	1" - 14	11,5	82,5	13,5	37,5	48	30	
OPF22493-10A12	16	- 10	5/8"	1.3/16" - 12	13,9	82,5	14,5	41	48	36	
OPF22491-12A10	19	- 12	3/4"	1" - 14	11,5	85,5	13,5	38	49	30	
OPF22493-12A12	19	- 12	3/4"	1.3/16" - 12	13,9	93	14,5	48	56,5	36	
OPF22493-12A16	19	- 12	3/4"	1.7/16" - 12	19,8	93	14,8	47,5	56,5	41	
OPF22491-16A12	25	- 16	1"	1.3/16" - 12	13,9	106	14,5	48	57,5	36	
OPF22493-16A16	25	- 16	1"	1.7/16" - 12	19,8	119,5	14,8	56	71,5	41	
OPF22493-16A20	25	- 16	1"	1.11/16" - 12	26	119,5	14,8	58,5	71,5	50	

OPF22491: CRIMPED-BACK NUT / OPF22493: SLIP-ON NUT



SAE STANDARD CONNECTIONS

OPF24491 LONG DROP

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

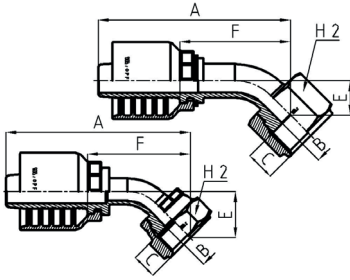
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF24491-04A04	6	- 4	1/4"	9/16" - 18	4,4	52,5	8	46	25	17	
OPF24491-06A06	10	- 6	3/8"	11/16" - 16	6,7	61,5	9,5	54	32	22	
OPF24491-06A08	10	- 6	3/8"	13/16" - 16	6,7	61,5	11	54	32	24	
OPF24491-08A08	12	- 8	1/2"	13/16" - 16	9,6	68	11	64	37	24	
OPF24491-08A10	12	- 8	1/2"	1" - 14	9,6	68	12,5	64,5	37	30	
OPF24491-10A10	16	- 10	5/8"	1" - 14	12	75,5	13	70	41	30	
OPF24491-10A12	16	- 10	5/8"	1.3/16" - 12	12,7	75,5	13,5	73	41	36	
OPF24491-12A12	19	- 12	3/4"	1.3/16" - 12	15	95	13,5	96	58,5	36	
OPF24491-16A16	25	- 16	1"	1.7/16" - 12	19,8	119,5	13,5	114	71,5	41	

All items are made from brazing with the exception of OPF24491-12A12 and OPF24491-16A16

SAE STANDARD CONNECTIONS

OPF22441/OPF22443

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



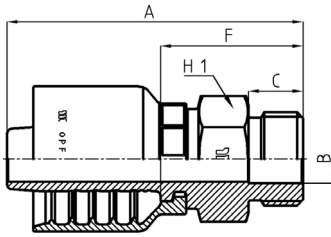
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22443-04A04	6	- 4	1/4"	9/16" - 18	4	58,5	8,2	10,5	31	17	
OPF22443-04A06	6	- 4	1/4"	11/16" - 16	7	58,5	9,5	10,5	31	22	
OPF22443-05A06	8	- 5	5/16"	11/16" - 16	7	62	9,5	10,5	34	22	
OPF22443-06A06	10	- 6	3/8"	11/16" - 16	6	61,5	9,5	11	32,5	22	
OPF22443-06A08	10	- 6	3/8"	13/16" - 16	9,3	63	11	12,5	34	24	
OPF22441-08A06	12	- 8	1/2"	11/16" - 16	7	63,5	9,5	11	32,5	22	
OPF22443-08A08	12	- 8	1/2"	13/16" - 16	9	73	11	13	42	24	
OPF22443-08A10	12	- 8	1/2"	1" - 14	11,5	73	13,5	13,5	42	30	
OPF22443-08A12	12	- 8	1/2"	1.3/16" - 12	13,9	78	14,5	18,5	46,5	36	
OPF22443-10A10	16	- 10	5/8"	1" - 14	11,5	83,5	13,5	16	49	30	
OPF22443-10A12	16	- 10	5/8"	1.3/16" - 12	13,9	86	14,5	18,5	51,5	36	
OPF22441-12A10	19	- 12	3/4"	1" - 14	11,5	87	13,5	16,5	50,5	30	
OPF22443-12A12	19	- 12	3/4"	1.3/16" - 12	13,9	97	14,5	21,5	60,5	36	
OPF22443-12A16	19	- 12	3/4"	1.7/16" - 12	19,8	96,5	14,8	21	60	41	
OPF22443-16A16	25	- 16	1"	1.7/16" - 12	19,8	120	14,8	23,5	72	41	
OPF22443-16A20	25	- 16	1"	1.11/16" - 12	26	122	14,8	25	74	50	

OPF22441: CRIMPED-BACK NUT / OPF22443: SLIP-ON NUT

SAE STANDARD CONNECTIONS

OPF13010

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

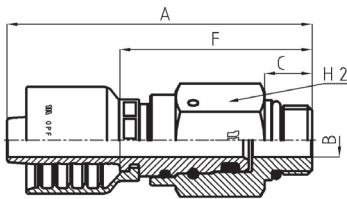


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPF13010-04A04	6	-4	1/4"	7/16" - 20	4,4	51,5	9,1	24	14		
OPF13010-04A06	6	-4	1/4"	9/16" - 18	7,5	52	9,9	24,5	17		
OPF13010-06A06	10	-6	3/8"	9/16" - 18	7,5	55	9,9	25,5	17		
OPF13010-06A08	10	-6	3/8"	3/4" - 16	9,9	58	11,1	28,5	22		
OPF13010-08A08	12	-8	1/2"	3/4" - 16	9,9	60	11,1	29	22		
OPF13010-08A10	12	-8	1/2"	7/8" - 14	12,3	63	12,7	32	25		
OPF13010-10A10	16	-10	5/8"	7/8" - 14	12,5	63	12,7	32	25		
OPF13010-10A12	16	-10	5/8"	1.1/16" - 12	15,5	72	15,1	37,5	32		
OPF13010-12A12	19	-12	3/4"	1.1/16" - 12	15,5	76	15,1	39,5	32		
OPF13010-12A16	19	-12	3/4"	1.5/16" - 12	21,5	76,5	15,1	40	38		
OPF13010-16A16	25	-16	1"	1.5/16" - 12	21,5	89,5	15,1	41	38		

SAE STANDARD CONNECTIONS

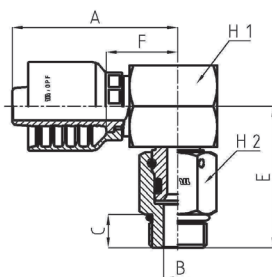
OPF14310

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	70,5	9,1	43	17		
OPF14310-04A06	6	- 4	1/4"	9/16" - 18		7	71,5	9,9	44	22		
OPF14310-06A06	10	- 6	3/8"	9/16" - 18		7	77,5	9,9	48	22		
OPF14310-06A08	10	- 6	3/8"	3/4" - 16		9,3	76,5	11,1	47	22		
OPF14310-08A08	12	- 8	1/2"	3/4" - 16		9,3	84	11,1	53	27		
OPF14310-08A10	12	- 8	1/2"	7/8" - 14		9,3	72,4	13	41,5	27		
OPF14310-12A12	19	- 12	3/4"	1.1/16" - 12		12,5	87	15	50,5	32		

Not to be used as a live swivel



SAE STANDARD CONNECTIONS

OPF14390

90° SAE SWIVEL MALE OR.BOSS

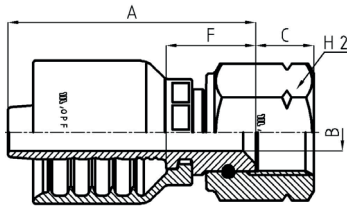
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H1
OPF14390-06A06	10	- 6	3/8"	9/16" - 18		5,7	49,5	9,9	40	20	22	17
OPF14390-06A08	10	- 6	3/8"	3/4" - 16		9,3	49,5	11,1	44,5	20	22	22
OPF14390-08A08	12	- 8	1/2"	3/4" - 16		9,3	54,5	11,1	47	23,5	27	22
OPF14390-08A10	12	- 8	1/2"	7/8" - 14		9,8	54,5	13	47	23,5	27	27
OPF14390-10A10	16	- 10	5/8"	7/8" - 14		9,8	58	13	47	23,5	27	27
OPF14390-12A12	19	- 12	3/4"	1.1/16" - 12		13	64,5	15	58,5	28	34	32

Not to be used as a live swivel

SAE STANDARD CONNECTIONS

OPF22612

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

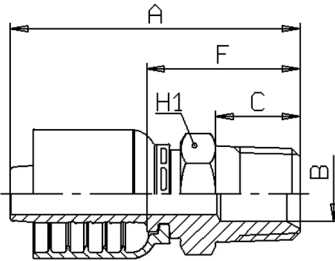


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H2		
OPF22612-06A06	10	-6	3/8"	9/16" - 18		7	46	10,8	16,5	22		

SAE STANDARD CONNECTIONS

OPF12810

NPTF MALE 60° CONE SEAT - SAE J516/J514

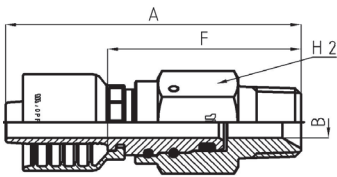


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1		
OPF12810-03A02	5	-3	3/16"	1/8" - 27		3	45	10	23,5	12		
OPF12810-03A04	5	-3	3/16"	1/4" - 18		5,5	50,5	14,5	29	14		
OPF12810-04A02	6	-4	1/4"	1/8" - 27		4	51,5	10	24	12		
OPF12810-04A04	6	-4	1/4"	1/4" - 18		5,5	56,5	14,5	29	14		
OPF12810-04A06	6	-4	1/4"	3/8" - 18		9,3	55	14,5	27,5	19		
OPF12810-04A08	6	-4	1/4"	1/2" - 14		9,3	61	19,2	33,5	24		
OPF12810-05A04	8	-5	5/16"	1/4" - 18		5,5	57,5	14,5	29,5	14		
OPF12810-05A06	8	-5	5/16"	3/8" - 18		9,3	60	14,5	32	19		
OPF12810-06A04	10	-6	3/8"	1/4" - 18		5,5	59,5	14,5	30	14		
OPF12810-06A06	10	-6	3/8"	3/8" - 18		9,3	58	14,5	28,5	19		
OPF12810-06A08	10	-6	3/8"	1/2" - 14		12,5	64	19,2	34,5	24		
OPF12810-08A06	12	-8	1/2"	3/8" - 18		9,3	60	14,5	29	19		
OPF12810-08A08	12	-8	1/2"	1/2" - 14		12,5	66	19,2	35	24		
OPF12810-08A12	12	-8	1/2"	3/4" - 14		15,5	66,5	19,2	35,5	27		
OPF12810-10A08	16	-10	5/8"	1/2" - 14		12,5	73	19,2	38,5	24		
OPF12810-10A12	16	-10	5/8"	3/4" - 14		16	74,5	19,2	40	27		
OPF12810-12A08	19	-12	3/4"	1/2" - 14		12,5	73	19,2	36,5	27		
OPF12810-12A12	19	-12	3/4"	3/4" - 14		16	73	19,2	36,5	27		
OPF12810-12A16	19	-12	3/4"	1" - 11,5		19,8	82,5	24,2	46	36		
OPF12810-16A12	25	-16	1"	3/4" - 14		15,5	87	19,2	39	32		
OPF12810-16A16	25	-16	1"	1" - 11,5		19,8	92	24,2	44	36		
OPF12810-16A20	25	-16	1"	1.1/4" - 11,5		26	104,5	25	56,5	46		

SAE STANDARD CONNECTIONS

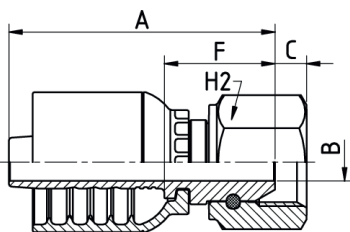
OPF14110R

SWIVEL MALE NPTF



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	69,5	10	42	17		
OPF14110-04A04R	6	- 4	1/4"	1/4" - 18	4	74	14,5	46,5	17		
OPF14110-04A06R	6	- 4	1/4"	3/8" - 18	7	74	14,5	46,5	19		
OPF14110-06A04R	10	- 6	3/8"	1/4" - 18	4	80	14,5	50,5	22		
OPF14110-06A06R	10	- 6	3/8"	3/8" - 18	7	80	14,5	50,5	22		
OPF14110-06A08R	10	- 6	3/8"	1/2" - 14	9,3	84,5	19,2	55	24		
OPF14110-08A08R	12	- 8	1/2"	1/2" - 14	9,3	90	19,2	59	27		
OPF14110-12A12R	19	- 12	3/4"	3/4" - 14	16	94,5	19,2	58	32		
OPF14110-16A16R	25	- 16	1"	1" - 11	19,8	114	24,2	66	38		

Not to be used as a live swivel



SAE STANDARD CONNECTIONS

OPF22812

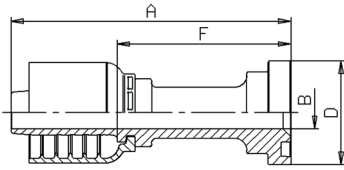
NPSM FEMALE 60° CONE - SAE J516/J514 (THRUST-WIRE NUT)

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	45	4,2	17,5	19		
OPF22812-06A06	10	- 6	3/8"	3/8" - 18	7	50,5	6	21	22		
OPF22812-08A08	12	- 8	1/2"	1/2" - 14	9,3	54	6,5	23	27		
OPF22812-12A12	19	- 12	3/4"	3/4" - 14	15	61	9	24,5	32		
OPF22812-16A16	25	- 16	1"	1" - 11,5	19,8	75,5	10,5	27,5	38		

SAE STANDARD CONNECTIONS

OPF23311

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

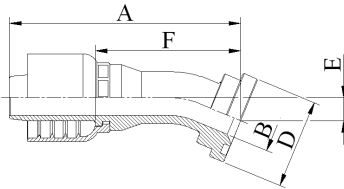


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	F		
OPF23311-08A08	12	- 8	1/2"	1/2"	9,3	82	30,3	51			
OPF23311-08A12	12	- 8	1/2"	3/4"	15,1	89	38	58			
OPF23311-10A12	16	- 10	5/8"	3/4"	15	100	38	65,5			
OPF23311-12A12	19	- 12	3/4"	3/4"	15	94,5	38	58			
OPF23311-12A16	19	- 12	3/4"	1"	20	94,5	44,6	58			
OPF23311-16A16	25	- 16	1"	1"	19,8	112,5	44,6	64,5			
OPF23311-16A20	25	- 16	1"	1.1/4"	26	118,5	51	70,5			

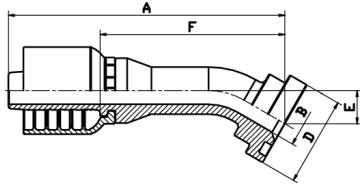
SAE STANDARD CONNECTIONS

OPF23321

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



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPF23321-08A08	12	- 8	1/2"	1/2"	9,3	95	30,3	8	64		
OPF23321-12A12	19	- 12	3/4"	3/4"	15	111	38	10	74,5		
OPF23321-12A16	19	- 12	3/4"	1"	20	111	44,6	10	74,5		
OPF23321-16A16	25	- 16	1"	1"	19,8	137	44,6	11,5	89		

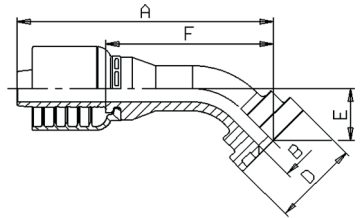


SAE STANDARD CONNECTIONS

OPF23331

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPF23331-08A08	12	- 8	1/2"	1/2"	9,3	93,5	30,3	11	62,5		
OPF23331-12A12	19	- 12	3/4"	3/4"	15	109,5	38	14	73		
OPF23331-12A16	19	- 12	3/4"	1"	20	109,5	44,6	14	73		
OPF23331-16A16	25	- 16	1"	1"	19,8	135	44,6	16,5	87		

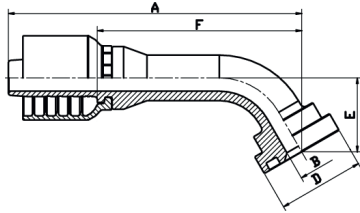


SAE STANDARD CONNECTIONS

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	30,3	18,5	58,5		
OPF23341-08A12	12	- 8	1/2"	3/4"	15	90,5	38	19	59,5		
OPF23341-10A12	16	- 10	5/8"	3/4"	15	95	38	22	61		
OPF23341-12A12	19	- 12	3/4"	3/4"	15	104,5	38	23	68,5		
OPF23341-12A16	19	- 12	3/4"	1"	20	104,5	44,6	23	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	129,5	51	27,5	81,5		

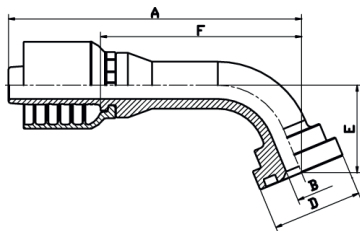


SAE STANDARD CONNECTIONS

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	71,5		
OPF23361-12A12	19	- 12	3/4"	3/4"	15	123,5	38	33	87		
OPF23361-16A16	25	- 16	1"	1"	19,8	152	44,6	39	104		
OPF23361-16A20	25	- 16	1"	1.1/4"	26	152	51	39	104		

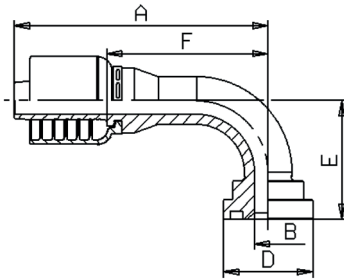


SAE STANDARD CONNECTIONS

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	30,3	29,5	68		
OPF23371-12A12	19	- 12	3/4"	3/4"	15	118,5	38	38	82		
OPF23371-12A16	19	- 12	3/4"	1"	20	118,5	44,6	38	82		
OPF23371-16A16	25	- 16	1"	1"	19,8	147	44,6	45	98,5		



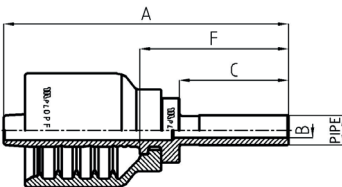
SAE STANDARD CONNECTIONS

OPF23391

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPF23391-08A08	12	- 8	1/2"	1/2"	9,3	85,5	30,3	40	54,5		
OPF23391-08A12	12	- 8	1/2"	3/4"	15	85,5	38	41	54,5		
OPF23391-10A12	16	- 10	5/8"	3/4"	15	90	38	47,5	56		
OPF23391-12A12	19	- 12	3/4"	3/4"	15	101	38	52	64,5		
OPF23391-12A16	19	- 12	3/4"	1"	20	101	44,6	52	64,5		
OPF23391-16A16	25	- 16	1"	1"	19,8	125,5	44,6	62	77,5		
OPF23391-16A20	25	- 16	1"	1.1/4"	26	125,5	51	62	77,5		

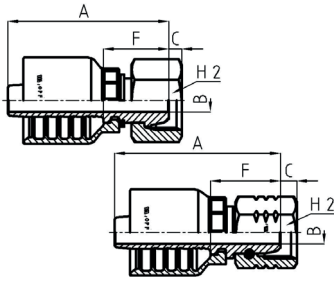
DIN STANDARD CONNECTIONS



OPF22010

METRIC STANDPIPE STRAIGHT L.T.

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm						
	DN	Dash	inch		mm	B	A	C	F		
OPF22010-04A06	6	- 4	1/4"	6	3	57,5	22	30			
OPF22010-06A10	10	- 6	3/8"	10	7	61	23	31,5			

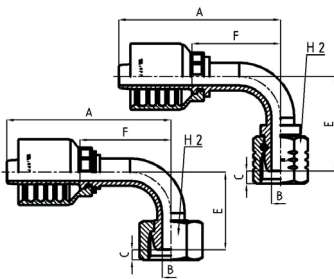


DIN STANDARD CONNECTIONS

OPF21312/OPF21313

METRIC FEMALE MULTISEAL

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H2
OPF21312-06A16	10	-6	3/8"	M 16x1,5	10	7	51	5	21,5	19		
OPF21313-06A18	10	-6	3/8"	M 18x1,5	12	7	49,5	4	20	22		
OPF21313-08A22	12	-8	1/2"	M 22x1,5	15	9,3	52,5	4,7	21,5	27		



DIN STANDARD CONNECTIONS

OPF21392/OPF21393

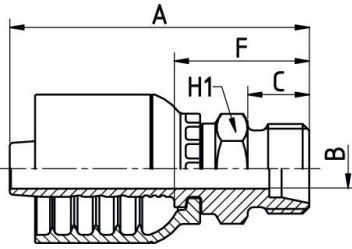
90° METRIC FEMALE MULTISEAL

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21392-06A16	10	-6	3/8"	M 16x1,5	10	7	65	5	38	35,5	19	
OPF21393-06A18	10	-6	3/8"	M 18x1,5	12	7	66	4	31,5	36,5	22	

DIN STANDARD CONNECTIONS

OPF11110

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

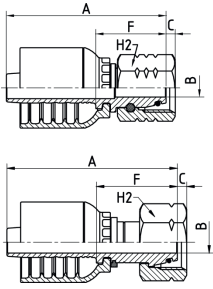


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H1
OPF11110-04A12	6	- 4	1/4"	M 12x1,5	6	4	49	10	21,5	14		
OPF11110-04A14	6	- 4	1/4"	M 14x1,5	8	4	49	10	21,5	14		
OPF11110-04A16	6	- 4	1/4"	M 16x1,5	10	7	51	11	23,5	17		
OPF11110-04A18	6	- 4	1/4"	M 18x1,5	12	9	51	11	23,5	19		
OPF11110-05A16	8	- 5	5/16"	M 16x1,5	10	7	52	11	24	17		
OPF11110-05A18	8	- 5	5/16"	M 18x1,5	12	9	52	11	24	19		
OPF11110-06A16	10	- 6	3/8"	M 16x1,5	10	7	53,5	11	24	17		
OPF11110-06A18	10	- 6	3/8"	M 18x1,5	12	9	54	11	24,5	19		
OPF11110-06A22	10	- 6	3/8"	M 22x1,5	15	10	55	12	25,5	22		
OPF11110-08A22	12	- 8	1/2"	M 22x1,5	15	10	56,5	12	25,5	22		
OPF11110-08A26	12	- 8	1/2"	M 26x1,5	18	12,5	57,5	12	26,5	27		
OPF11110-10A22	16	- 10	5/8"	M 22x1,5	15	10	60	12	25,5	22		
OPF11110-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	61	12	26,5	27		
OPF11110-12A30	19	- 12	3/4"	M 30x2	22	15	66,5	14	30	30		
OPF11110-16A36	25	- 16	1"	M 36x2	28	19,8	80,5	14	32,5	36		

DIN STANDARD CONNECTIONS

OPF21512/OPF21513

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



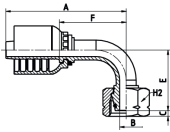
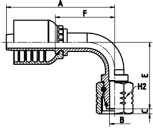
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H2
OPF21512-04A12	6	-4	1/4"	M 12x1,5	6	3	48,5	2,2	21	17		
OPF21513-04A14	6	-4	1/4"	M 14x1,5	8	4	49,5	1,3	22	17		
OPF21513-04A16	6	-4	1/4"	M 16x1,5	10	6	50	1,8	22,5	19		
OPF21513-04A18	6	-4	1/4"	M 18x1,5	12	7	49,5	2	22	22		
OPF21512-05A14	8	-5	5/16"	M 14x1,5	8	4	48	2,9	20	17		
OPF21513-05A16	8	-5	5/16"	M 16x1,5	10	6	50,5	1,8	22,5	19		
OPF21513-05A18	8	-5	5/16"	M 18x1,5	12	7	50	2	22	22		
OPF21512-06A16	10	-6	3/8"	M 16x1,5	10	6	52,5	3	23	19		
OPF21513-06A18	10	-6	3/8"	M 18x1,5	12	7	52	2	22,5	22		
OPF21513-06A22	10	-6	3/8"	M 22x1,5	15	9,3	54,5	1,5	25	27		
OPF21512-08A18	12	-8	1/2"	M 18x1,5	12	7	60	2,9	29	22		
OPF21513-08A22	12	-8	1/2"	M 22x1,5	15	9,3	56,5	1,5	25,5	27		
OPF21513-08A26	12	-8	1/2"	M 26x1,5	18	12,5	57	2	26	32		
OPF21513-10A26	16	-10	5/8"	M 26x1,5	18	12,5	60,5	2	26	32		
OPF21513-10A30	16	-10	5/8"	M 30x2	22	15	68,5	3	34	36		
OPF21512-12A26	19	-12	3/4"	M 26x1,5	18	12,5	67,5	2,3	31	32		
OPF21513-12A30	19	-12	3/4"	M 30x2	22	15	64,5	3	28	36		
OPF21513-12A36	19	-12	3/4"	M 36x2	28	20	65	3,7	28,5	41		
OPF21513-16A36	25	-16	1"	M 36x2	28	19,8	77,5	3,7	29,5	41		

OPF21512: THRUST-WIRE NUT / OPF21513: SLIP-ON NUT

DIN STANDARD CONNECTIONS

OPF21592/OPF21593

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



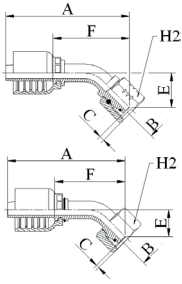
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21593-03A12	5	- 3	3/16"	M 12x1,5	6	3	47,5	0,7	30	26	14	
OPF21592-04A12	6	- 4	1/4"	M 12x1,5	6	3	56	2,2	32,5	28,5	17	
OPF21593-04A14	6	- 4	1/4"	M 14x1,5	8	4	57	1,3	31,5	29,5	17	
OPF21593-04A16	6	- 4	1/4"	M 16x1,5	10	6	57	1,8	32	29,5	19	
OPF21593-04A18	6	- 4	1/4"	M 18x1,5	12	7	57	2	33	29,5	22	
OPF21593-05A16	8	- 5	5/16"	M 16x1,5	10	6	60	1,8	32,5	32	19	
OPF21593-05A18	8	- 5	5/16"	M 18x1,5	12	7	60	2	32,5	32	22	
OPF21592-06A16	10	- 6	3/8"	M 16x1,5	10	6	65	3	40	35,5	19	
OPF21593-06A18	10	- 6	3/8"	M 18x1,5	12	7	66	2	33,5	36,5	22	
OPF21593-06A22	10	- 6	3/8"	M 22x1,5	15	9,3	66	1,5	35	36,5	27	
OPF21592-08A18	12	- 8	1/2"	M 18x1,5	12	7	75	2,9	48	44	22	
OPF21593-08A22	12	- 8	1/2"	M 22x1,5	15	9,3	76	1,5	39,5	45	27	
OPF21593-08A26	12	- 8	1/2"	M 26x1,5	18	12,5	76	2	40	45	32	
OPF21593-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	86	2	53	51,5	32	
OPF21593-10A30	16	- 10	5/8"	M 30x2	22	15	86	3	54	51,5	36	
OPF21593-12A30	19	- 12	3/4"	M 30x2	22	15	97,5	3	59,5	61,5	36	
OPF21593-16A36	25	- 16	1"	M 36x2	28	19,8	125	3,7	69,5	76,5	41	

OPF21592: THRUST-WIRE NUT / OPF21593: SLIP-ON NUT

DIN STANDARD CONNECTIONS

OPF21542/OPF21543

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



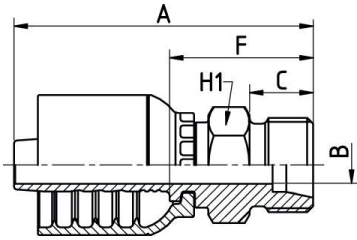
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21543-04A14	6	- 4	1/4"	M 14x1,5	8	4	65,5	1,3	16,5	38	17	
OPF21543-04A16	6	- 4	1/4"	M 16x1,5	10	6	65,5	1,8	17	38	19	
OPF21543-05A16	8	- 5	5/16"	M 16x1,5	10	6	69,5	1,8	17,5	41,5	19	
OPF21543-05A18	8	- 5	5/16"	M 18x1,5	12	7	69,5	2	17	41,5	22	
OPF21542-06A16	10	- 6	3/8"	M 16x1,5	10	6	77	3	21,5	47,5	19	
OPF21543-06A18	10	- 6	3/8"	M 18x1,5	12	7	73	2	16,5	43,5	22	
OPF21543-06A22	10	- 6	3/8"	M 22x1,5	15	9,3	74	1,5	18	45	27	
OPF21543-08A22	12	- 8	1/2"	M 22x1,5	15	9,3	83	1,5	19	52	27	
OPF21543-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	96,5	2	26,5	62	32	
OPF21543-12A30	19	- 12	3/4"	M 30x2	22	15	107,5	3	28,5	71	36	
OPF21543-16A36	25	- 16	1"	M 36x2	28	19,8	133	3,7	32	85	41	

OPF21542: THRUST-WIRE NUT / OPF21543: SLIP-ON NUT

DIN STANDARD CONNECTIONS

OPF11210

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

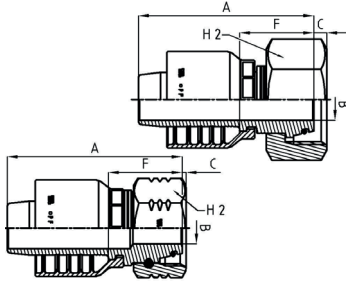


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H1
OPF11210-04A16	6	- 4	1/4"	M 16x1,5	8	5,5	53	12	25,5	17		
OPF11210-04A18	6	- 4	1/4"	M 18x1,5	10	6	54	12	26,5	19		
OPF11210-04A20	6	- 4	1/4"	M 20x1,5	12	7	56,5	12	29	22		
OPF11210-05A20	8	- 5	5/16"	M 20x1,5	12	7	57	12	29	22		
OPF11210-06A18	10	- 6	3/8"	M 18x1,5	10	7	56,5	12	27	19		
OPF11210-06A20	10	- 6	3/8"	M 20x1,5	12	7	58,5	12	29	22		
OPF11210-06A22	10	- 6	3/8"	M 22x1,5	14	8	60,5	14	31	22		
OPF11210-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	62,5	14	31,5	24		
OPF11210-10A30	16	- 10	5/8"	M 30x2	20	15	70	16	35,5	30		
OPF11210-12A30	19	- 12	3/4"	M 30x2	20	15	73,5	16	37	30		
OPF11210-12A36	19	- 12	3/4"	M 36x2	25	19,8	77,5	18	41	36		
OPF11210-16A36	25	- 16	1"	M 36x2	25	19,8	90,5	18	42,5	36		
OPF11210-16A42	25	- 16	1"	M 42x2	30	25	92,5	20	44,5	46		

DIN STANDARD CONNECTIONS

OPF21612/OPF21613

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



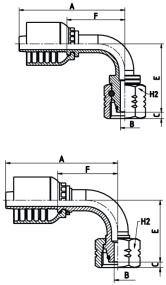
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H2
OPF21613-03A16	5	- 3	3/16"	M 16x1,5	8	3	43	3,4	21,5	19		
OPF21613-04A14	6	- 4	1/4"	M 14x1,5	6	3	51	1,9	23,5	17		
OPF21613-04A16	6	- 4	1/4"	M 16x1,5	8	4	49,5	3,4	22	19		
OPF21613-04A18	6	- 4	1/4"	M 18x1,5	10	4	55,5	2,5	28	22		
OPF21613-04A20	6	- 4	1/4"	M 20x1,5	12	7	53,5	2	26	24		
OPF21613-05A18	8	- 5	5/16"	M 18x1,5	10	5,5	56	2,5	28	22		
OPF21613-05A20	8	- 5	5/16"	M 20x1,5	12	5,5	53	2	25	24		
OPF21613-06A20	10	- 6	3/8"	M 20x1,5	12	7	54,5	2	25,5	24		
OPF21613-06A22	10	- 6	3/8"	M 22x1,5	14	7	62	3	32,5	27		
OPF21613-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	58	4	26,5	30		
OPF21613-10A30	16	- 10	5/8"	M 30x2	20	12,5	65	3,5	30,5	36		
OPF21612-12A30	19	- 12	3/4"	M 30x2	20	12,5	70	2,2	33,5	36		
OPF21613-12A36	19	- 12	3/4"	M 36x2	25	15	70,5	4,5	34	41		
OPF21612-16A36	25	- 16	1"	M 36x2	25	15	83,5	1,7	35,5	41		
OPF21613-16A42	25	- 16	1"	M 42x2	30	19,8	83,5	6,3	35,5	50		

OPF21612: THRUST-WIRE NUT / OPF21613: SLIP-ON NUT

DIN STANDARD CONNECTIONS

OPF21692/OPF21693

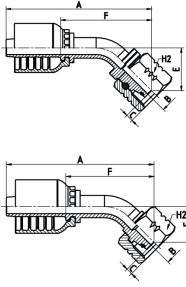
90° METRIC O-RING FEMALE SWEPT ELBOW 24° CONE HEAVY DUTY
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21693-04A16	6	- 4	1/4"	M 16x1,5	8	4	57	3,4	29,5	29,5	19	
OPF21693-04A18	6	- 4	1/4"	M 18x1,5	10	4	57	2,5	31	29,5	22	
OPF21693-04A20	6	- 4	1/4"	M 20x1,5	12	5,5	57	2	34,5	29,5	24	
OPF21693-05A20	8	- 5	5/16"	M 20x1,5	12	5,5	60	2	34	32	24	
OPF21693-06A20	10	- 6	3/8"	M 20x1,5	12	7	66	2	35	36,5	24	
OPF21693-06A22	10	- 6	3/8"	M 22x1,5	14	7	66	3	37	36,5	27	
OPF21693-06A24	10	- 6	3/8"	M 24x1,5	16	9,3	66	4	36	36,5	30	
OPF21693-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	76	4	40,5	45	30	
OPF21693-10A30	16	- 10	5/8"	M 30x2	20	12,5	86	3,5	57,5	51,5	36	
OPF21692-12A30	19	- 12	3/4"	M 30x2	20	12,5	98	2,2	67,5	61,5	36	
OPF21693-12A36	19	- 12	3/4"	M 36x2	25	15	97,5	4,5	64,5	61,5	41	
OPF21692-16A36	25	- 16	1"	M 36x2	25	15	127,5	1,7	86	79,5	41	
OPF21693-16A42	25	- 16	1"	M 42x2	30	19,8	127,5	6,3	74,5	79	50	

OPF21692: THRUST-WIRE NUT / OPF21693: SLIP-ON NUT

DIN STANDARD CONNECTIONS

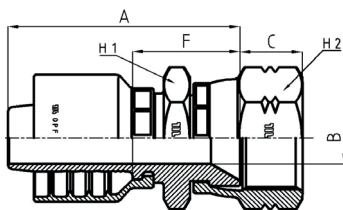


OPF21642/OPF21643

**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			T	mm	B	A	C	E	F
OPF21643-04A16	6	- 4	1/4"	M 16x1,5	8	4	64	3,4	15	36,5	19	
OPF21643-04A18	6	- 4	1/4"	M 18x1,5	10	4	65	2,5	16,5	37,5	22	
OPF21643-05A20	8	- 5	5/16"	M 20x1,5	12	5,5	70	2	18,5	42	24	
OPF21643-06A20	10	- 6	3/8"	M 20x1,5	12	7	73,5	2	17	44	24	
OPF21643-06A22	10	- 6	3/8"	M 22x1,5	14	7	75	3	18,5	45,5	27	
OPF21643-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	83,5	4	20	52,5	30	
OPF21643-10A30	16	- 10	5/8"	M 30x2	20	12,5	99,5	3,5	29,5	65,5	36	
OPF21642-12A30	19	- 12	3/4"	M 30x2	20	12,5	113	2,2	34	76,5	36	
OPF21643-12A36	19	- 12	3/4"	M 36x2	25	15	111,5	4,5	32,5	75	41	
OPF21643-16A42	25	- 16	1"	M 42x2	30	19,8	138	6,3	35,5	90	50	

OPF21642: THRUST-WIRE NUT / OPF21643: SLIP-ON NUT

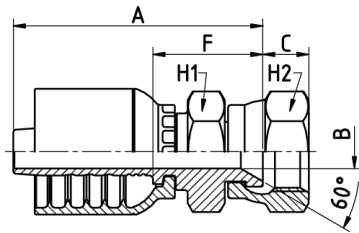


JIS STANDARD CONNECTIONS

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	50,5	10,5	23	19	19	
OPF24011-06A14	10	- 6	3/8"	M 14x1,5		4	53	10,5	23,5	19	19	
OPF24011-06A18	10	- 6	3/8"	M 18x1,5		7	53	11,5	23,5	24	24	
OPF24011-08A22	12	- 8	1/2"	M 22x1,5		9,3	56	13	25	27	27	
OPF24011-10A24	16	- 10	5/8"	M 24x1,5		12,5	61	15,1	26,5	32	32	
OPF24011-12A30	19	- 12	3/4"	M 30x1,5		15	68	18,3	31,5	36	36	
OPF24011-16A33	25	- 16	1"	M 33x1,5		19,8	81,5	21,3	33,5	41	41	

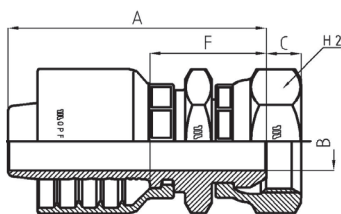


JIS STANDARD CONNECTIONS

OPF23811

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1	H2	
OPF23811-04A04	6	- 4	1/4"	1/4" - 19		4	46	8,3	18,5	19	19	
OPF23811-06A06	10	- 6	3/8"	3/8" - 19		7	52,5	10	23	22	22	
OPF23811-08A08	12	- 8	1/2"	1/2" - 14		9,3	53	11,5	22	27	27	
OPF23811-12A12	19	- 12	3/4"	3/4" - 14		15	62,5	13,5	26	32	32	
OPF23811-16A16	25	- 16	1"	1" - 11		19,8	78,5	14,5	30,5	38	38	

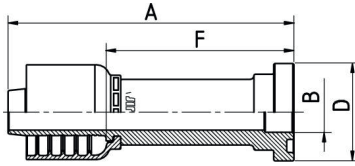


JIS STANDARD CONNECTIONS

OPF20711

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1	H2	
OPF20711-12A12	19	- 12	3/4"	3/4" - 14		15	66,5	8,9	30	32	32	

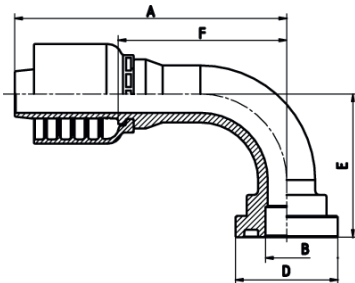


ORIGINAL EQUIPMENT CONNECTIONS

OPF24111

STRAIGHT KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	F		
OPF24111-10A10	16	- 10	5/8"	5/8"	14	100	34	65,5			

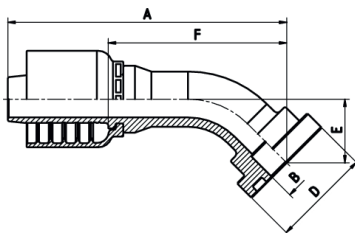


ORIGINAL EQUIPMENT CONNECTIONS

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	90	34	47,5	56	



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	95	34	22	61	



manuli[®]
HYDRAULICS



OPK

FITTING CODE	SECTION	PAGE
OPK10510	10	1
OPK11110	10	27
OPK11210	10	31
OPK11710	10	33
OPK11810	10	33
OPK12410	10	14
OPK12510	10	10
OPK12810	10	20
OPK13010	10	19
OPK14110R	10	21
OPK14310	10	19
OPK20512-OPK20513	10	2
OPK20542-OPK20543	10	4
OPK20592-OPK20593	10	3
OPK20812-OPK20813	10	5
OPK20842-OPK20843	10	7
OPK20892-OPK20893	10	6
OPK21512-OPK21513	10	28
OPK21542-OPK21543	10	30
OPK21592-OPK21593	10	29
OPK21612-OPK21613	10	31
OPK21642-OPK21643	10	32
OPK21692-OPK21693	10	32
OPK21813	10	33
OPK22411	10	15
OPK22441-OPK22443	10	18
OPK22491-OPK22493	10	16
OPK22541KR	10	9

FITTING CODE	SECTION	PAGE
OPK22542-OPK22543	10	13
OPK22591KR	10	8
OPK22592-OPK22593	10	11
OPK22711-OPK22711KR	10	8
OPK22712	10	10
OPK22812	10	21
OPK23311	10	22
OPK23321	10	22
OPK23331	10	23
OPK23341	10	23
OPK23361	10	24
OPK23371	10	24
OPK23391	10	25
OPK23611	10	25
OPK23641	10	26
OPK23691	10	26
OPK23811	10	34
OPK23911	10	36
OPK23941	10	37
OPK23991	10	36
OPK24011-OPK24012	10	34
OPK24111	10	35
OPK24141	10	35
OPK24191	10	35
OPK24491 LONG DROP	10	17
OPK24791KR	10	9
OPK24792-OPK24793 LONG DROP	10	12
OPK3610	10	1

OPK

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

FERRULES

OPK3610											
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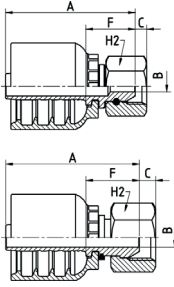
FITTINGS

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											

BS STANDARD CONNECTIONS

OPK20512/OPK20513

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



FITTINGS
F 10-2

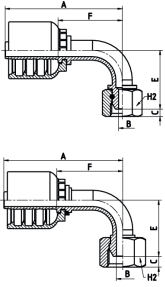
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H2		
OPK20512-06A04	10	- 6	3/8"	1/4" - 19		4,1	47,5	4,2	18	19		
OPK20513-06A06	10	- 6	3/8"	3/8" - 19		7	49	6	19,5	22		
OPK20513-06A08	10	- 6	3/8"	1/2" - 14		9,3	49,5	6,3	20	27		
OPK20512-08A06	12	- 8	1/2"	3/8" - 19		7,1	52	6	21	22		
OPK20513-08A08	12	- 8	1/2"	1/2" - 14		9,3	51,5	6,3	20,5	27		
OPK20512-08A10	12	- 8	1/2"	5/8" - 14		12,1	53	10,2	22	28		
OPK20512-08A12	12	- 8	1/2"	3/4" - 14		15	56	9	24,5	32		
OPK20512-10A10	16	- 10	5/8"	5/8" - 14		12,5	56	10,2	21,5	28		
OPK20512-10A12	16	- 10	5/8"	3/4" - 14		15	57,5	9	23	32		
OPK20512-12A12	19	- 12	3/4"	3/4" - 14		15	61	9	24,5	32		
OPK20512-12A16	19	- 12	3/4"	1" - 11		19,8	62,5	10,5	26	38		
OPK20512-16A16	25	- 16	1"	1" - 11		19,8	75,5	10,5	27,5	38		

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

BS STANDARD CONNECTIONS

OPK20592/OPK20593

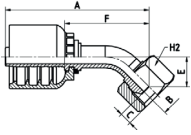
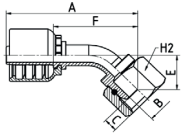
90° BSP FEMALE ELBOW 60° CONE - BS5200 /



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPK20593-06A06	10	- 6	3/8"	3/8" - 19		7	66	6	31,5	36,5	22	
OPK20593-06A08	10	- 6	3/8"	1/2" - 14		9,3	66	6,3	32	36,5	27	
OPK20592-08A06	12	- 8	1/2"	3/8" - 19		7,1	76	6	41	45	22	
OPK20593-08A08	12	- 8	1/2"	1/2" - 14		9,3	76	6,3	36,5	45	27	
OPK20592-08A10	12	- 8	1/2"	5/8" - 14		12,1	75,5	10,2	44	44	28	
OPK20592-08A12	12	- 8	1/2"	3/4" - 14		15	75,5	9	45,5	44	32	
OPK20592-10A10	16	- 10	5/8"	5/8" - 14		12,5	88	10,2	53,5	53,5	28	
OPK20592-10A12	16	- 10	5/8"	3/4" - 14		15	88	9	55	53,5	32	
OPK20592-12A12	19	- 12	3/4"	3/4" - 14		15	98	9	59,5	61,5	32	
OPK20592-12A16	19	- 12	3/4"	1" - 11		19,8	98	10,5	62	61,5	38	
OPK20592-16A16	25	- 16	1"	1" - 11		19,8	127,5	10,5	76	79,5	38	

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

BS STANDARD CONNECTIONS



OPK20542/OPK20543

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

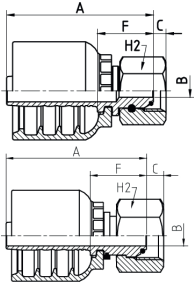
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK20543-06A06	10	- 6	3/8"	3/8" - 19		7	71,5	6	15,5	42	22	
OPK20543-06A08	10	- 6	3/8"	1/2" - 14		9,3	72	6,3	16	42,5	27	
OPK20543-08A08	12	- 8	1/2"	1/2" - 14		9,3	81	6,3	17	49,5	27	
OPK20542-08A10	12	- 8	1/2"	5/8" - 14		12,1	85,5	10,2	22,5	54,5	28	
OPK20542-10A10	16	- 10	5/8"	5/8" - 14		12,5	97,5	10,2	26	63	28	
OPK20542-10A12	16	- 10	5/8"	3/4" - 14		15	98	9	27	64	32	
OPK20542-12A12	19	- 12	3/4"	3/4" - 14		15	107	9	28,5	70,5	32	
OPK20542-12A16	19	- 12	3/4"	1" - 11		19,8	109	10,5	30	72,5	38	
OPK20542-16A16	25	- 16	1"	1" - 11		19,8	139,5	10,5	36,5	91	38	

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

BS STANDARD CONNECTIONS

OPK20812/OPK20813

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



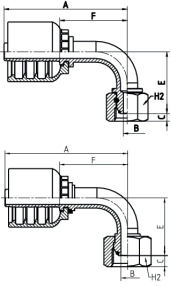
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H2		
OPK20812-06A04	10	- 6	3/8"	1/4" - 19		4,1	47,5	4,1	18	19		
OPK20813-06A06	10	- 6	3/8"	3/8" - 19		7	49	6	19,5	22		
OPK20813-08A08	12	- 8	1/2"	1/2" - 14		9,3	51,5	6,3	20,5	27		
OPK20812-10A10	16	- 10	5/8"	5/8" - 14		12,5	56,5	9,7	22	28		
OPK20812-12A12	19	- 12	3/4"	3/4" - 14		15	61,5	8,5	25	32		
OPK20812-16A16	25	- 16	1"	1" - 11		19,8	75,5	10,6	27,5	38		
OPK20812-16A20	25	- 16	1"	1.1/4" - 11		26,1	79	10,5	31	50		
OPK20812-20A20	31	- 20	1.1/4"	1.1/4" - 11		26	84	10,5	31,5	50		
OPK20812-20A24	31	- 20	1.1/4"	1.1/2" - 11		32,1	82	12,5	29,5	60		
OPK20812-24A24	38	- 24	1.1/2"	1.1/2" - 11		32	92,5	12,5	30,5	60		
OPK20812-24A32	38	- 24	1.1/2"	2"		42,1	92	16,1	30	70		
OPK20812-32A32	51	- 32	2"	2"		42	98	16,1	32	70		

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

BS STANDARD CONNECTIONS

OPK20892/OPK20893

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



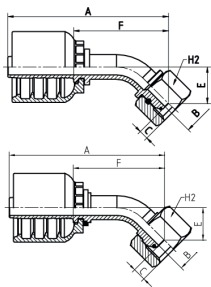
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPK20892-06A04	10	- 6	3/8"	1/4" - 19		4,1	65	4,1	33	35,5	19	
OPK20893-06A06	10	- 6	3/8"	3/8" - 19		7	66	6	31,5	36,5	22	
OPK20893-08A08	12	- 8	1/2"	1/2" - 14		9,3	76	6,3	36,5	45	27	
OPK20892-10A10	16	- 10	5/8"	5/8" - 14		12,5	87,5	9,7	55	53	28	
OPK20892-12A12	19	- 12	3/4"	3/4" - 14		15	98	8,5	60	61,5	32	
OPK20892-16A16	25	- 16	1"	1" - 11		19,8	127,5	10,6	76	79,5	38	
OPK20892-16A20	25	- 16	1"	1.1/4" - 11		26,1	127,5	10,5	78,5	79,5	50	
OPK20892-20A20	31	- 20	1.1/4"	1.1/4" - 11		26	143	10,5	83,5	90,5	50	
OPK20892-20A24	31	- 20	1.1/4"	1.1/2" - 11		32,1	143	12,5	84,5	90,5	60	
OPK20892-24A24	38	- 24	1.1/2"	1.1/2" - 11		32	170	12,5	98,5	108	60	
OPK20892-32A32	51	- 32	2"	2" - 11		42	197	16,1	110,5	131	70	

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

BS STANDARD CONNECTIONS

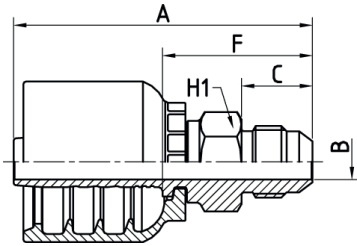
OPK20842/OPK20843

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPK20843-06A06	10	- 6	3/8"	3/8" - 19		7	71,5	6	15,5	42	22	
OPK20843-08A08	12	- 8	1/2"	1/2" - 14		9,3	81	6,3	17	49,5	27	
OPK20842-10A10	16	- 10	5/8"	5/8" - 14		12,5	98	9,7	27,5	63,5	28	
OPK20842-12A12	19	- 12	3/4"	3/4" - 14		15	107,5	8,5	29	71	32	
OPK20842-16A16	25	- 16	1"	1" - 11		19,8	138,5	10,6	35,5	90,5	38	
OPK20842-20A20	31	- 20	1.1/4"	1.1/4" - 11		26	154	10,5	39	101,5	50	
OPK20842-24A24	38	- 24	1.1/2"	1.1/2" - 11		32	180	12,5	45	118	60	
OPK20842-32A32	51	- 32	2"	2" - 11		42	200	16,1	47	134	70	

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

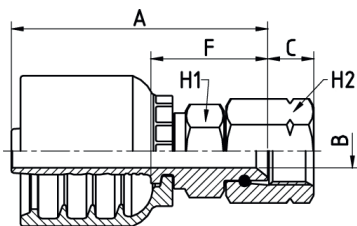


SAE STANDARD CONNECTIONS

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	59	14	29,5	17		
OPK12510-06A08	10	- 6	3/8"	3/4" - 16		9,3	63,5	16,5	34	19		
OPK12510-06A10	10	- 6	3/8"	7/8" - 14		12,5	68	19,5	38,5	24		
OPK12510-08A06	12	- 8	1/2"	9/16" - 18		7	63	14	32	19		
OPK12510-08A08	12	- 8	1/2"	3/4" - 16		9,3	65,5	16,5	34,5	19		
OPK12510-08A10	12	- 8	1/2"	7/8" - 14		12,5	70	19,5	39	24		
OPK12510-08A12	12	- 8	1/2"	1.1/16" - 12		15	74	22	43	27		
OPK12510-10A10	16	- 10	5/8"	7/8" - 14		12,5	73,5	19,5	39	24		
OPK12510-10A12	16	- 10	5/8"	1.1/16" - 12		15	77	22	42,5	27		
OPK12510-12A10	19	- 12	3/4"	7/8" - 14		12,5	78	19,5	41,5	27		
OPK12510-12A12	19	- 12	3/4"	1.1/16" - 12		15	80,5	22	44	27		
OPK12510-12A14	19	- 12	3/4"	1.3/16" - 12		15	81	22,5	44,5	32		
OPK12510-12A16	19	- 12	3/4"	1.5/16" - 12		19,8	83,5	23	47	34		
OPK12510-16A12	25	- 16	1"	1.1/16" - 12		15	93	22	45	32		
OPK12510-16A16	25	- 16	1"	1.5/16" - 12		19,8	96	23	48	34		
OPK12510-16A20	25	- 16	1"	1.5/8" - 12		26	101	24,3	53	42		
OPK12510-20A20	31	- 20	1.1/4"	1.5/8" - 12		26	106	24,3	53,5	42		
OPK12510-20A24	31	- 20	1.1/4"	1.7/8" - 12		32	113	27,5	60,5	50		
OPK12510-24A24	38	- 24	1.1/2"	1.7/8" - 12		32	122,5	27,5	60,5	50		
OPK12510-32A32	51	- 32	2"	2.1/2" - 12		42	138	34	72	65		



SAE STANDARD CONNECTIONS

OPK22712

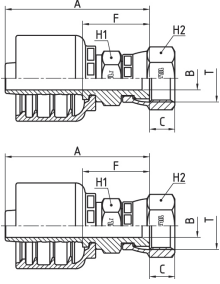
JIC FEMALE 37° CONE SEAT DOUBLE HEXAGON SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1	H2	
OPK22712-12A16	19	- 12	3/4"	1.5/16" - 12		19,8	69	15	32,5	32	38	
OPK22712-16A20	25	- 16	1"	1.5/8" - 12		26	91	16,2	43	41	50	
OPK22712-20A20	31	- 20	1.1/4"	1.5/8" - 12		26	96	16,2	43,5	41	50	
OPK22712-24A24	38	- 24	1.1/2"	1.7/8" - 12		32	113	18,8	51	50	60	
OPK22712-32A32	51	- 32	2"	2.1/2" - 12		44	117,5	24	51,5	65	75	

SAE STANDARD CONNECTIONS

OPK22711/OPK22711KR

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



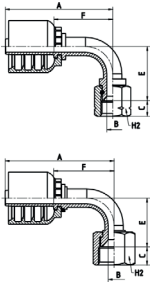
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPK22711-06A06KR	10	- 6	3/8"	9/16" - 18	7	51,5	9,5	22	17	17	
OPK22711-06A08KR	10	- 6	3/8"	3/4" - 16	9,3	56	10,7	26,5	19	22	
OPK22711-08A08KR	12	- 8	1/2"	3/4" - 16	9,3	58	10,7	27	19	22	
OPK22711-08A10KR	12	- 8	1/2"	7/8" - 14	9,3	60,5	12,5	29,5	22	25	
OPK22711-08A12KR	12	- 8	1/2"	1.1/16" - 12	15	60	14,1	28,5	27	32	
OPK22711-10A08KR	16	- 10	5/8"	3/4" - 16	9,3	62,5	10,7	28,5	22	22	
OPK22711-10A10KR	16	- 10	5/8"	7/8" - 14	12,5	64	12,5	29,5	22	25	
OPK22711-12A08KR	19	- 12	3/4"	3/4" - 16	9,3	66	10,7	29,5	27	22	
OPK22711-12A10KR	19	- 12	3/4"	7/8" - 14	12,5	67	12,5	30,5	27	25	
OPK22711-12A12KR	19	- 12	3/4"	1.1/16" - 12	15	66,5	14,1	30	27	32	
OPK22711-12A16	19	- 12	3/4"	1.5/16" - 12	19,8	71	15,3	34,5	32	38	
OPK22711-16A12KR	25	- 16	1"	1.1/16" - 12	15	80,5	14,1	32,5	32	32	
OPK22711-16A16	25	- 16	1"	1.5/16" - 12	19,8	83,5	15,3	35,5	32	38	

KR:CRIMPED-BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS

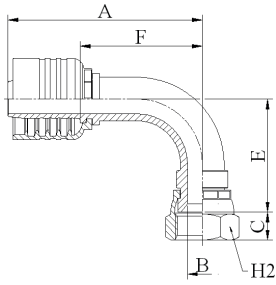
OPK22592/OPK22593

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	17	
OPK22592-06A06	10	- 6	3/8"	9/16" - 18	7	65	9,2	32,5	35,5	19	
OPK22593-06A08	10	- 6	3/8"	3/4" - 16	7	66	10,1	29,5	36,5	22	
OPK22593-06A10	10	- 6	3/8"	7/8" - 14	9,3	66	12,4	31,5	36,5	27	
OPK22592-08A06	12	- 8	1/2"	9/16" - 18	7	68	9,2	33	37	19	
OPK22592-08A08	12	- 8	1/2"	3/4" - 16	9,3	75,5	10,2	41	44	22	
OPK22593-08A10	12	- 8	1/2"	7/8" - 14	9,3	76	12,4	36	45	27	
OPK22593-08A12	12	- 8	1/2"	1.1/16" - 12	12,5	76	14,1	36	45	32	
OPK22592-10A10	16	- 10	5/8"	7/8" - 14	12,5	88	12,3	52,5	53,5	27	
OPK22593-10A12	16	- 10	5/8"	1.1/16" - 12	12,5	86	14,1	50	51,5	32	
OPK22592-12A10	19	- 12	3/4"	7/8" - 14	12,5	91,5	12,3	52,5	55	27	
OPK22592-12A12	19	- 12	3/4"	1.1/16" - 12	15	98	14,2	58	62	32	
OPK22592-12A14	19	- 12	3/4"	1.3/16" - 12	15	99	14,3	58	63	36	
OPK22592-12A16	19	- 12	3/4"	1.5/16" - 12	19,8	99	15	57,5	63	38	
OPK22592-16A16	25	- 16	1"	1.5/16" - 12	19,8	124	15	68,5	76	38	
OPK22592-16A20	25	- 16	1"	1.5/8" - 12	26	125,5	16,2	74,5	77,5	50	
OPK22592-20A20	31	- 20	1.1/4"	1.5/8" - 12	26	143	16,2	86,5	90,5	50	
OPK22592-20A24	31	- 20	1.1/4"	1.7/8" - 12	32	143	18,8	90,5	90,5	60	
OPK22592-24A24	38	- 24	1.1/2"	1.7/8" - 12	32	170	18,8	100,5	108	60	
OPK22592-32A32	51	- 32	2"	2.1/2" - 12	44	208	24	137	142	75	

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

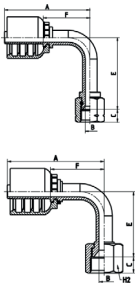


SAE STANDARD CONNECTIONS

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	65	9,5	32	35,5	17	
OPK22591-08A08KR	12	- 8	1/2"	3/4" - 16		9,3	75,5	10,7	40,5	44	22	
OPK22591-10A10KR	16	- 10	5/8"	7/8" - 14		12,5	88	12,5	47	53,5	25	
OPK22591-12A12KR	19	- 12	3/4"	1.1/16" - 12		15	98	14,1	57	62	32	



SAE STANDARD CONNECTIONS

OPK24792/OPK24793 LONG DROP

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

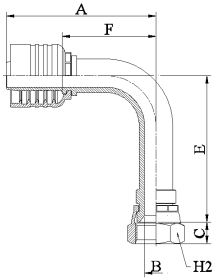
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK24792-06A06	10	- 6	3/8"	9/16" - 18		7	65	9,2	55	35,5	19	
OPK24793-06A08	10	- 6	3/8"	3/4" - 16		7	66	10,1	61,5	36,5	22	
OPK24792-08A08	12	- 8	1/2"	3/4" - 16		9,3	75,5	10,2	61	44	22	
OPK24793-08A10	12	- 8	1/2"	7/8" - 14		9,3	76	12,4	65	45	27	
OPK24792-10A10	16	- 10	5/8"	7/8" - 14		12,5	88	12,3	65,5	53,5	27	
OPK24792-12A12	19	- 12	3/4"	1.1/16" - 12		15	98	14,2	94,5	62	32	
OPK24792-16A16	25	- 16	1"	1.5/16" - 12		19,8	125,5	15	110	77,5	38	

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)

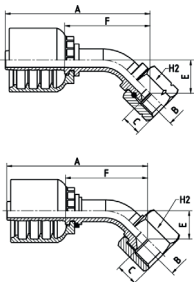


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK24791-06A06KR	10	- 6	3/8"	9/16" - 18		7	65	9,5	55	35,5	17	
OPK24791-08A08KR	12	- 8	1/2"	3/4" - 16		9,3	75,5	10,7	64	44	22	
OPK24791-10A10KR	16	- 10	5/8"	7/8" - 14		12,5	88	12,5	70	53,5	25	
OPK24791-12A12KR	19	- 12	3/4"	1.1/16" - 12		15	98	14,1	96	62	32	

SAE STANDARD CONNECTIONS

OPK22542/OPK22543

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



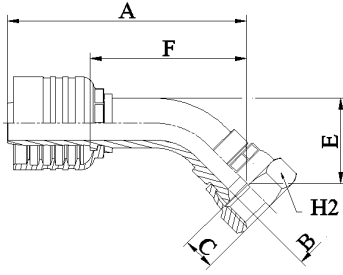
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK22542-06A06	10	- 6	3/8"	9/16" - 18		7	71,5	9,2	16,5	42	19	
OPK22543-06A08	10	- 6	3/8"	3/4" - 16		7	70,5	10,1	14	41	22	
OPK22543-06A10	10	- 6	3/8"	7/8" - 14		9,3	72	12,4	15,5	42,5	27	
OPK22542-08A08	12	- 8	1/2"	3/4" - 16		9,3	83	10,2	20	52	22	
OPK22543-08A10	12	- 8	1/2"	7/8" - 14		9,3	80,5	12,4	17	49,5	27	
OPK22543-08A12	12	- 8	1/2"	1.1/16" - 12		12,5	80,5	14,1	17	49,5	32	
OPK22542-10A10	16	- 10	5/8"	7/8" - 14		12,5	96,5	12,3	25,5	62	27	
OPK22543-10A12	16	- 10	5/8"	1.1/16" - 12		12,5	94,5	14,1	24	60	32	
OPK22542-12A12	19	- 12	3/4"	1.1/16" - 12		15	106	14,2	27,5	70	32	
OPK22542-12A14	19	- 12	3/4"	1.3/16" - 12		15	106	14,3	27,5	69,5	36	
OPK22542-12A16	19	- 12	3/4"	1.5/16" - 12		19,8	106,5	15	27,5	70	38	
OPK22542-16A16	25	- 16	1"	1.5/16" - 12		19,8	132,5	15	32	84	38	
OPK22542-16A20	25	- 16	1"	1.5/8" - 12		26	138	16,2	36	90	50	
OPK22542-20A20	31	- 20	1.1/4"	1.5/8" - 12		26	156	16,2	41,5	103,5	50	
OPK22542-20A24	31	- 20	1.1/4"	1.7/8" - 12		32	159	18,8	44,5	106,5	60	
OPK22542-24A24	38	- 24	1.1/2"	1.7/8" - 12		32	181	18,8	46,5	119	60	
OPK22542-32A32	51	- 32	2"	2.1/2" - 12		44	229	24	68	163	75	

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)**

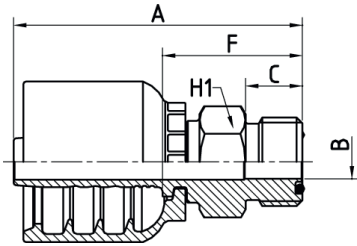


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK22541-06A06KR	10	- 6	3/8"	9/16" - 18		7	71,5	9,5	16	42	17	
OPK22541-08A08KR	12	- 8	1/2"	3/4" - 16		9,3	83	10,7	20	52	22	
OPK22541-10A10KR	16	- 10	5/8"	7/8" - 14		12,5	95,5	12,5	22,5	61	25	
OPK22541-12A12KR	19	- 12	3/4"	1.1/16" - 12		15	105,5	14,1	26,5	69	32	

SAE STANDARD CONNECTIONS

OPK12410

ORFS MALE - SAE J516 / ISO 12151-1

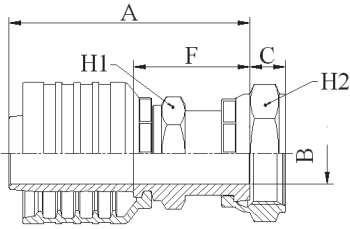


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPK12410-06A06	10	- 6	3/8"	11/16" - 16	6,7	57	11,2	27,5	19		
OPK12410-06A08	10	- 6	3/8"	13/16" - 16	9,3	59,5	12,8	30	22		
OPK12410-08A08	12	- 8	1/2"	13/16" - 16	9,3	61,5	12,8	30,5	22		
OPK12410-08A10	12	- 8	1/2"	1" - 14	12,5	66	15,5	35	27		
OPK12410-10A10	16	- 10	5/8"	1" - 14	12,5	69	15,5	34,5	27		
OPK12410-10A12	16	- 10	5/8"	1.3/16" - 12	15	72	17	37,5	32		
OPK12410-12A12	19	- 12	3/4"	1.3/16" - 12	15	75,5	17	39	32		
OPK12410-12A16	19	- 12	3/4"	1.7/16" - 12	19,8	77	17,5	40,5	38		
OPK12410-16A16	25	- 16	1"	1.7/16" - 12	19,8	90	17,5	42	38		
OPK12410-20A20	31	- 20	1.1/4"	1.11/16" - 12	26	99	17,5	46,5	46		
OPK12410-24A24	38	- 24	1.1/2"	2" - 12	32	110,5	17,5	48,5	55		

SAE STANDARD CONNECTIONS

OPK22411

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

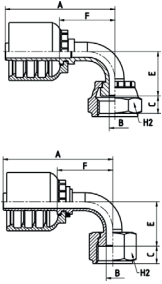


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPK22411-06A06	10	-6	3/8"	11/16" - 16	7	60,5	9,5	31	16	22	
OPK22411-06A08	10	-6	3/8"	13/16" - 16	9,3	65	11	35,5	19	24	
OPK22411-08A06	12	-8	1/2"	11/16" - 16	7	63	9,5	32	19	22	
OPK22411-08A08	12	-8	1/2"	13/16" - 16	9,3	67	11	36	19	24	
OPK22411-08A10	12	-8	1/2"	1" - 14	11,5	69,5	13,5	38,5	24	30	
OPK22411-08A12	12	-8	1/2"	1.3/16" - 12	13,9	73	14,5	42	28	36	
OPK22411-10A10	16	-10	5/8"	1" - 14	11,5	73	13,5	38,5	24	30	
OPK22411-10A12	16	-10	5/8"	1.3/16" - 12	13,9	76,5	14,5	42	28	36	
OPK22411-12A10	19	-12	3/4"	1" - 14	11,5	77,5	13,5	41	28	30	
OPK22411-12A12	19	-12	3/4"	1.3/16" - 12	13,9	80	14,5	43,5	28	36	
OPK22411-12A16	19	-12	3/4"	1.7/16" - 12	19,8	82	15	45,5	36	41	
OPK22411-16A12	25	-16	1"	1.3/16" - 12	13,9	94	13,5	48	36	36	
OPK22411-16A16	25	-16	1"	1.7/16" - 12	19,8	94,5	15	46,5	36	41	
OPK22411-16A20	25	-16	1"	1.11/16" - 12	26	97,5	14,8	49,5	41	50	
OPK22411-20A20	31	-20	1.1/4"	1.11/16" - 12	26	101,5	14,8	49	41	50	
OPK22411-24A24	38	-24	1.1/2"	2" - 12	32	116	15,8	54	50	60	

SAE STANDARD CONNECTIONS

OPK22491/OPK22493

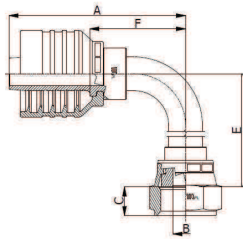
90° ORFS FEMALE ELBOW - SAE J516 / ISO 12151-1



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	59,5	9,5	24	30	22	
OPK22493-06A08	10	- 6	3/8"	13/16" - 16	9,3	59,5	11	26,5	30	24	
OPK22491-08A06	12	- 8	1/2"	11/16" - 16	7	61,5	9,5	24,5	30	22	
OPK22493-08A08	12	- 8	1/2"	13/16" - 16	9	71,5	11	30	40,5	24	
OPK22493-08A10	12	- 8	1/2"	1" - 14	11,5	71	13,5	30,5	40	30	
OPK22493-08A12	12	- 8	1/2"	1.3/16" - 12	13,9	71	14,5	37,5	39,5	36	
OPK22493-10A10	16	- 10	5/8"	1" - 14	11,5	82,5	13,5	37,5	48	30	
OPK22493-10A12	16	- 10	5/8"	1.3/16" - 12	13,9	82,5	14,5	41	48	36	
OPK22491-12A10	19	- 12	3/4"	1" - 14	11,5	85,5	13,5	38	49	30	
OPK22493-12A12	19	- 12	3/4"	1.3/16" - 12	13,9	93	14,5	48	56,5	36	
OPK22493-12A16	19	- 12	3/4"	1.7/16" - 12	19,8	93	14,8	47,5	56,5	41	
OPK22491-16A12	25	- 16	1"	1.3/16" - 12	13,9	106	14,5	48	57,5	36	
OPK22493-16A16	25	- 16	1"	1.7/16" - 12	19,8	119,5	14,8	56	71,5	41	
OPK22493-16A20	25	- 16	1"	1.11/16" - 12	26	119,5	14,8	58,5	71,5	50	
OPK22493-20A20	31	- 20	1.1/4"	1.11/16" - 12	26	135,5	14,8	66	83	50	
OPK22493-24A24	38	- 24	1.1/2"	2" - 12	32	164	14,8	79,5	102	60	

OPK22491: CRIMPED BACK-NUT / OPK22493: SLIP-ON NUT

SAE STANDARD CONNECTIONS



OPK24491 LONG DROP

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

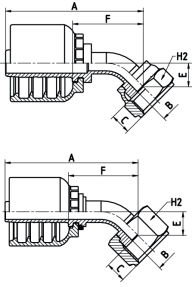
PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	F	H2
OPK24491-06A06	10	- 6	3/8"	11/16" - 16		6,7	61,5	9,5	54	32	22	
OPK24491-06A08	10	- 6	3/8"	13/16" - 16		6,7	61,5	11	54	32	24	
OPK24491-08A08	12	- 8	1/2"	13/16" - 16		9,6	68	11	64	37	24	
OPK24491-08A10	12	- 8	1/2"	1" - 14		9,6	68	12,5	64,5	37	30	
OPK24491-10A10	16	- 10	5/8"	1" - 14		12	75,5	13	70	41	30	
OPK24491-10A12	16	- 10	5/8"	1.3/16" - 12		12,7	75,5	13,5	73	41	36	
OPK24491-12A12	19	- 12	3/4"	1.3/16" - 12		15	95	13,5	96	58,5	36	
OPK24491-16A16	25	- 16	1"	1.7/16" - 12		19,8	119,5	13,5	114	71,5	41	

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

SAE STANDARD CONNECTIONS

OPK22441/OPK22443

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



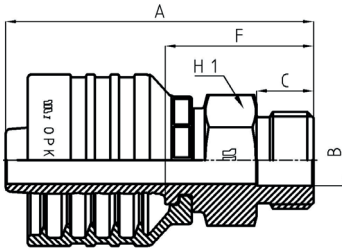
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22443-06A06	10	- 6	3/8"	11/16" - 16	6	61,5	9,5	11	32,5	22	
OPK22443-06A08	10	- 6	3/8"	13/16" - 16	9,3	63	11	12,5	34	24	
OPK22441-08A06	12	- 8	1/2"	11/16" - 16	7	63,5	9,5	11	32,5	22	
OPK22443-08A08	12	- 8	1/2"	13/16" - 16	9	73	11	13	42	24	
OPK22443-08A10	12	- 8	1/2"	1" - 14	11,5	73	13,5	13,5	42	30	
OPK22443-08A12	12	- 8	1/2"	1.3/16" - 12	13,9	78	14,5	18,5	46,5	36	
OPK22443-10A10	16	- 10	5/8"	1" - 14	11,5	83,5	13,5	16	49	30	
OPK22443-10A12	16	- 10	5/8"	1.3/16" - 12	13,9	86	14,5	18,5	51,5	36	
OPK22441-12A10	19	- 12	3/4"	1" - 14	11,5	87	13,5	16,5	50,5	30	
OPK22443-12A12	19	- 12	3/4"	1.3/16" - 12	13,9	97	14,5	21,5	60,5	36	
OPK22443-12A16	19	- 12	3/4"	1.7/16" - 12	19,8	96,5	14,8	21	60	41	
OPK22443-16A16	25	- 16	1"	1.7/16" - 12	19,8	120	14,8	23,5	72	41	
OPK22443-16A20	25	- 16	1"	1.11/16" - 12	26	122	14,8	25	74	50	
OPK22443-20A20	31	- 20	1.1/4"	1.11/16" - 12	26	134,5	14,8	27	82	50	
OPK22443-24A24	38	- 24	1.1/2"	2" - 12	32	160	14,8	31,5	98	60	

OPK22441: CRIMPED BACK-NUT / OPK22443: SLIP-ON NUT

SAE STANDARD CONNECTIONS

OPK13010

SAE MALE O'RING BOSS TYPE

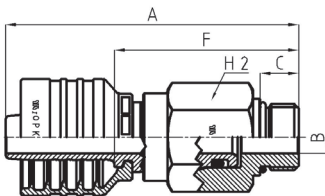


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1		
OPK13010-08A08	12	- 8	1/2"	3/4" - 16		9,9	60	11,1	29	22		
OPK13010-12A12	19	- 12	3/4"	1.1/16" - 12		15,5	76	15,1	39,5	32		
OPK13010-16A16	25	- 16	1"	1.5/16" - 12		21,5	89,5	15,1	41	38		

SAE STANDARD CONNECTIONS

OPK14310

SAE SWIVEL MALE O'RING BOSS TYPE



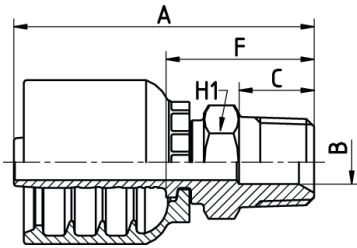
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H2		
OPK14310-08A08	12	- 8	1/2"	3/4" - 16		9,3	84	11,1	53	27		

Not to be used as a live swivel

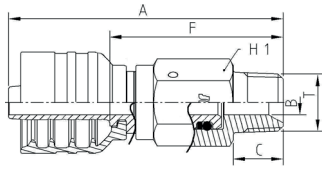
SAE STANDARD CONNECTIONS

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	14		
OPK12810-06A06	10	- 6	3/8"	3/8" - 18	9,3	58	14,5	28,5	19		
OPK12810-06A08	10	- 6	3/8"	1/2" - 14	12,5	64	19,2	34,5	24		
OPK12810-08A06	12	- 8	1/2"	3/8" - 18	9,3	60	14,5	29	19		
OPK12810-08A08	12	- 8	1/2"	1/2" - 14	12,5	66	19,2	35	24		
OPK12810-08A12	12	- 8	1/2"	3/4" - 14	15,5	66,5	19,2	35,5	27		
OPK12810-10A08	16	- 10	5/8"	1/2" - 14	12,5	73	19,2	38,5	24		
OPK12810-10A12	16	- 10	5/8"	3/4" - 14	16	74,5	19,2	40	27		
OPK12810-12A08	19	- 12	3/4"	1/2" - 14	12,5	73	19,2	36,5	27		
OPK12810-12A12	19	- 12	3/4"	3/4" - 14	16	73	19,2	36,5	27		
OPK12810-12A16	19	- 12	3/4"	1" - 11,5	19,8	82,5	24,2	46	36		
OPK12810-16A12	25	- 16	1"	3/4" - 14	15,5	87	19,2	39	32		
OPK12810-16A16	25	- 16	1"	1" - 11,5	19,8	92	24,2	44	36		
OPK12810-16A20	25	- 16	1"	1.1/4" - 11,5	26	104,5	25	56,5	46		
OPK12810-20A20	31	- 20	1.1/4"	1.1/4" - 11,5	26	109	25	56,5	46		
OPK12810-24A24	38	- 24	1.1/2"	1.1/2" - 11,5	32	119,5	26	57,5	50		
OPK12810-32A32	51	- 32	2"	2" - 11,5	45	130,5	26,5	64,5	65		



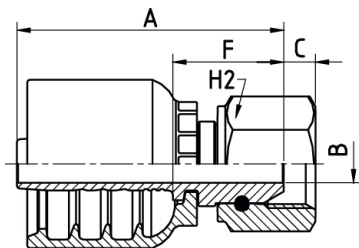
SAE STANDARD CONNECTIONS

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	H1		
OPK14110-06A06R	10	- 6	3/8"	3/8" - 18		7	80	14,5	50,5	22		
OPK14110-08A08R	12	- 8	1/2"	1/2" - 14		9,3	90	19,2	59	27		
OPK14110-12A12R	19	- 12	3/4"	3/4" - 14		16	94,5	19,2	58	32		
OPK14110-16A16R	25	- 16	1"	1" - 11,5		19,8	114	24,2	66	38		

Not to be used as a live swivel

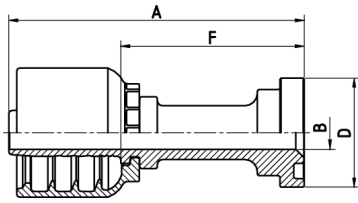


SAE STANDARD CONNECTIONS

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	50,5	6	21	22		
OPK22812-08A08	12	- 8	1/2"	1/2" - 14		9,3	54	6,5	23	27		
OPK22812-12A12	19	- 12	3/4"	3/4" - 14		15	61	9	24,5	32		
OPK22812-16A16	25	- 16	1"	1" - 11,5		19,8	75,5	10,5	27,5	38		

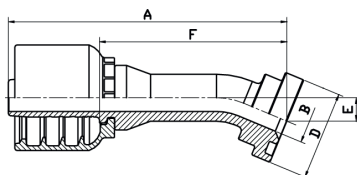


SAE STANDARD CONNECTIONS

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	30,3	51			
OPK23311-08A12	12	- 8	1/2"	3/4"	15,1	89	38	58			
OPK23311-10A12	16	- 10	5/8"	3/4"	15	100	38	65,5			
OPK23311-12A12	19	- 12	3/4"	3/4"	15	94,5	38	58			
OPK23311-12A16	19	- 12	3/4"	1"	20	94,5	44,6	58			
OPK23311-16A16	25	- 16	1"	1"	19,8	112,5	44,6	64,5			
OPK23311-16A20	25	- 16	1"	1.1/4"	26	118,5	51	70,5			
OPK23311-20A20	31	- 20	1.1/4"	1.1/4"	26	123	51	70,5			
OPK23311-20A24	31	- 20	1.1/4"	1.1/2"	32	125	60,5	72,5			
OPK23311-24A24	38	- 24	1.1/2"	1.1/2"	32	137,5	60,5	75,5			
OPK23311-24A32	38	- 24	1.1/2"	2"	42	137,5	71,6	75,5			
OPK23311-32A32	51	- 32	2"	2"	42	145	71,6	79			
OPK23311-32A40	51	- 32	2"	2.1/2"	56	147	84,3	81			

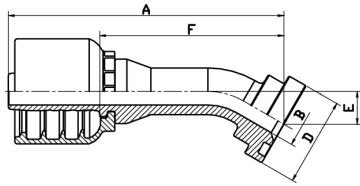


SAE STANDARD CONNECTIONS

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	30,3	8	64		
OPK23321-12A12	19	- 12	3/4"	3/4"	15	111	38	10	74,5		
OPK23321-12A16	19	- 12	3/4"	1"	20	111	44,6	10	74,5		
OPK23321-16A16	25	- 16	1"	1"	19,8	137	44,6	11,5	89		
OPK23321-20A20	31	- 20	1.1/4"	1.1/4"	26	152,5	51	12	100		
OPK23321-20A24	31	- 20	1.1/4"	1.1/2"	32	154,5	60,5	13	102		

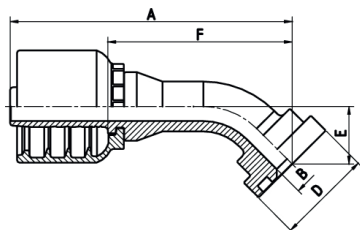


SAE STANDARD CONNECTIONS

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	62,5		
OPK23331-12A12	19	- 12	3/4"	3/4"	15	109,5	38	14	73		
OPK23331-12A16	19	- 12	3/4"	1"	20	109,5	44,6	14	73		
OPK23331-16A16	25	- 16	1"	1"	19,8	135	44,6	16,5	87		
OPK23331-20A20	31	- 20	1.1/4"	1.1/4"	26	150,5	51	17,5	98		
OPK23331-24A24	38	- 24	1.1/2"	1.1/2"	32	176,5	60,5	20	114,5		

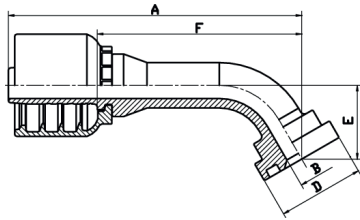


SAE STANDARD CONNECTIONS

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	30,3	18,5	58,5		
OPK23341-08A12	12	- 8	1/2"	3/4"	15	90,5	38	19	59,5		
OPK23341-10A12	16	- 10	5/8"	3/4"	15	95	38	22	61		
OPK23341-12A12	19	- 12	3/4"	3/4"	15	104,5	38	23	68,5		
OPK23341-12A16	19	- 12	3/4"	1"	20	104,5	44,6	23	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	129,5	51	27,5	81,5		
OPK23341-20A20	31	- 20	1.1/4"	1.1/4"	26	144,5	51	29,5	92		
OPK23341-20A24	31	- 20	1.1/4"	1.1/2"	32	146	60,5	31	93,5		
OPK23341-24A24	38	- 24	1.1/2"	1.1/2"	32	169,5	60,5	34,5	107,5		
OPK23341-24A32	38	- 24	1.1/2"	2"	42	169,5	71,6	34,5	107,5		
OPK23341-32A32	51	- 32	2"	2"	42	190	71,6	39	124		

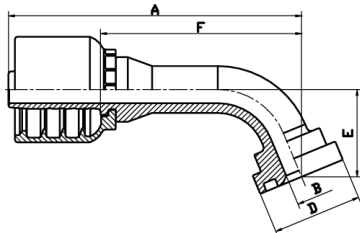


SAE STANDARD CONNECTIONS

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	71,5		
OPK23361-12A12	19	- 12	3/4"	3/4"	15	123,5	38	33	87		
OPK23361-16A16	25	- 16	1"	1"	19,8	152	44,6	39	104		
OPK23361-16A20	25	- 16	1"	1.1/4"	26	152	51	39	104		
OPK23361-20A20	31	- 20	1.1/4"	1.1/4"	26	172,5	51	43	120		
OPK23361-20A24	31	- 20	1.1/4"	1.1/2"	32	173,5	60,5	44,5	121		
OPK23361-24A24	38	- 24	1.1/2"	1.1/2"	32	205,5	60,5	50,5	143,5		

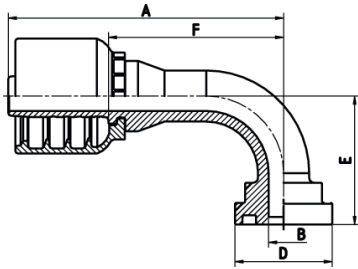


SAE STANDARD CONNECTIONS

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	30,3	29,5	68		
OPK23371-12A12	19	- 12	3/4"	3/4"	15	118,5	38	38	82		
OPK23371-12A16	19	- 12	3/4"	1"	20	118,5	44,6	38	82		
OPK23371-16A16	25	- 16	1"	1"	19,8	147	44,6	45	98,5		
OPK23371-20A20	31	- 20	1.1/4"	1.1/4"	26	166,5	51	50	114		
OPK23371-24A24	38	- 24	1.1/2"	1.1/2"	32	198,5	60,5	59	136,5		

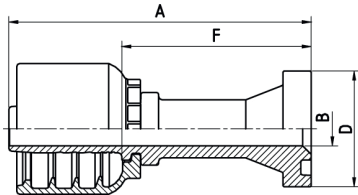


SAE STANDARD CONNECTIONS

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	54,5		
OPK23391-08A12	12	- 8	1/2"	3/4"	15	85,5	38	41	54,5		
OPK23391-10A12	16	- 10	5/8"	3/4"	15	90	38	47,5	56		
OPK23391-12A12	19	- 12	3/4"	3/4"	15	101	38	52	64,5		
OPK23391-12A16	19	- 12	3/4"	1"	20	101	44,6	52	64,5		
OPK23391-16A16	25	- 16	1"	1"	19,8	125,5	44,6	62	77,5		
OPK23391-16A20	25	- 16	1"	1.1/4"	26	125,5	51	62	77,5		
OPK23391-20A20	31	- 20	1.1/4"	1.1/4"	26	143	51	70	90,5		
OPK23391-20A24	31	- 20	1.1/4"	1.1/2"	32	143	60,5	72	90,5		
OPK23391-24A24	38	- 24	1.1/2"	1.1/2"	32	170	60,5	84	108		
OPK23391-24A32	38	- 24	1.1/2"	2"	42	170	71,6	84	108		
OPK23391-32A32	51	- 32	2"	2"	42	195	71,6	99	129		

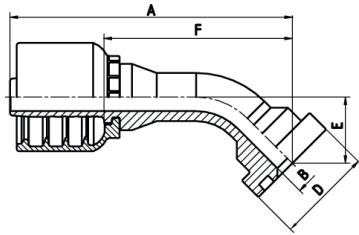


SAE STANDARD CONNECTIONS

OPK23611

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		Inch	B	A	D	F	
OPK23611-08A08	12	- 8	1/2"	1/2"	9,3	83	31,8	52		
OPK23611-08A12	12	- 8	1/2"	3/4"	15	99,5	41,5	68,5		
OPK23611-10A08	16	- 10	5/8"	1/2"	9,3	86,5	31,8	52		
OPK23611-10A12	16	- 10	5/8"	3/4"	15	104,5	41,5	70		
OPK23611-12A12	19	- 12	3/4"	3/4"	15	105,5	41,5	69		
OPK23611-12A16	19	- 12	3/4"	1"	20	117,5	47,7	81		
OPK23611-16A16	25	- 16	1"	1"	19,8	130,5	47,7	82,5		
OPK23611-16A20	25	- 16	1"	1.1/4"	26	138	54,2	90		
OPK23611-20A20	31	- 20	1.1/4"	1.1/4"	26	137	54,2	84,5		
OPK23611-20A24	31	- 20	1.1/4"	1.1/2"	32	143	63,7	90,5		
OPK23611-24A24	38	- 24	1.1/2"	1.1/2"	32	154,5	63,6	92,5		
OPK23611-32A32	51	- 32	2"	2"	42	175	79,5	109		

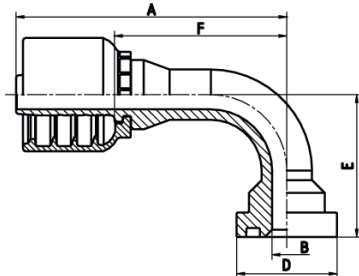


SAE STANDARD CONNECTIONS

OPK23641

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

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPK23641-08A08	12	- 8	1/2"	1/2"	9,3	93,5	31,8	22	62		
OPK23641-08A12	12	- 8	1/2"	3/4"	15	99	41,5	27,5	68		
OPK23641-10A12	16	- 10	5/8"	3/4"	15	102	41,5	31	67,5		
OPK23641-12A12	19	- 12	3/4"	3/4"	15	109	41,5	28	72,5		
OPK23641-12A16	19	- 12	3/4"	1"	20	114	47,7	32,5	77		
OPK23641-16A12	25	- 16	1"	3/4"	15	128	41,5	30	80		
OPK23641-16A16	25	- 16	1"	1"	19,8	132	47,7	32,5	83,5		
OPK23641-16A20	25	- 16	1"	1.1/4"	26	136,5	54,2	37,5	88,5		
OPK23641-20A20	31	- 20	1.1/4"	1.1/4"	26	147,5	54,2	37,5	95		
OPK23641-20A24	31	- 20	1.1/4"	1.1/2"	32	155	63,7	45	102,5		
OPK23641-24A24	38	- 24	1.1/2"	1.1/2"	32	180	63,7	44	118		
OPK23641-32A32	51	- 32	2"	2"	42	217,5	79,6	60,5	151,5		



SAE STANDARD CONNECTIONS

OPK23691

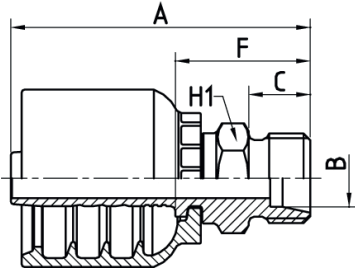
90° ISO/SAE CODE 62 FLANGE - SAE J516 / ISO 12151-3

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	54,5		
OPK23691-08A12	12	- 8	1/2"	3/4"	15	85,5	41,5	53	54,5		
OPK23691-10A12	16	- 10	5/8"	3/4"	15	87,5	41,5	60,5	53,5		
OPK23691-10A16	16	- 10	5/8"	1"	19,8	90	47,7	64	56		
OPK23691-12A12	19	- 12	3/4"	3/4"	15	100,5	41,5	59	64		
OPK23691-12A16	19	- 12	3/4"	1"	20	101	47,7	65	64,5		
OPK23691-16A16	25	- 16	1"	1"	19,8	121,5	47,7	68	73,5		
OPK23691-16A20	25	- 16	1"	1.1/4"	26	121,5	54,2	75	73,5		
OPK23691-20A20	31	- 20	1.1/4"	1.1/4"	26	138	54,2	81	85,5		
OPK23691-20A24	31	- 20	1.1/4"	1.1/2"	32	138	63,7	91,5	85,5		
OPK23691-24A24	38	- 24	1.1/2"	1.1/2"	32	168	63,7	94,5	106		
OPK23691-32A32	51	- 32	2"	2"	42	204	79,6	132	138		

DIN STANDARD CONNECTIONS

OPK11110

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

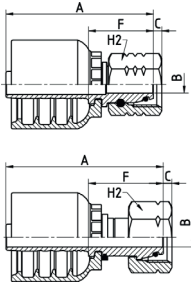


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H1
OPK11110-06A16	10	- 6	3/8"	M 16x1,5	10	7	53,5	11	24	17		
OPK11110-06A18	10	- 6	3/8"	M 18x1,5	12	9	54	11	24,5	19		
OPK11110-06A22	10	- 6	3/8"	M 22x1,5	15	10	55	12	25,5	22		
OPK11110-08A22	12	- 8	1/2"	M 22x1,5	15	10	56,5	12	25,5	22		
OPK11110-08A26	12	- 8	1/2"	M 26x1,5	18	12,5	57,5	12	26,5	27		
OPK11110-10A22	16	- 10	5/8"	M 22x1,5	15	10	60	12	25,5	22		
OPK11110-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	61	12	26,5	27		
OPK11110-12A30	19	- 12	3/4"	M 30x2	22	15	66,5	14	30	30		
OPK11110-16A36	25	- 16	1"	M 36x2	28	19,8	80,5	14	32,5	36		
OPK11110-20A45	31	- 20	1.1/4"	M 45x2	35	26	93	16	40,5	46		
OPK11110-24A52	38	- 24	1.1/2"	M 52x2	42	32	105	16	43	55		

DIN STANDARD CONNECTIONS

OPK21512/OPK21513

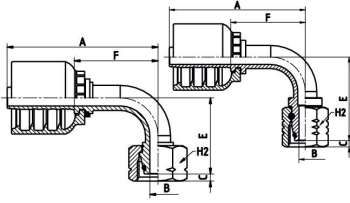
METRIC O-RING FEMALE 24° CONE LIGHT DUTY - DIN 20066 / ISO 12151-2



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	6	52,5	3	23	19		
OPK21513-06A18	10	- 6	3/8"	M 18x1,5	12	7	52	2	22,5	22		
OPK21513-06A22	10	- 6	3/8"	M 22x1,5	15	9,3	54,5	1,5	25	27		
OPK21512-08A18	12	- 8	1/2"	M 18x1,5	12	7	60	2,9	29	22		
OPK21513-08A22	12	- 8	1/2"	M 22x1,5	15	9,3	56,5	1,5	25,5	27		
OPK21513-08A26	12	- 8	1/2"	M 26x1,5	18	12,5	57	2	26	32		
OPK21513-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	60,5	2	26	32		
OPK21513-10A30	16	- 10	5/8"	M 30x2	22	15	68,5	3	34	36		
OPK21512-12A26	19	- 12	3/4"	M 26x1,5	18	12,5	67,5	2,3	31	32		
OPK21513-12A30	19	- 12	3/4"	M 30x2	22	15	64,5	3	28	36		
OPK21513-12A36	19	- 12	3/4"	M 36x2	28	20	65	3,7	28,5	41		
OPK21513-16A36	25	- 16	1"	M 36x2	28	19,8	77,5	3,7	29,5	41		
OPK21513-20A45	31	- 20	1.1/4"	M 45x2	35	26	85,5	4	33	50		
OPK21513-24A52	38	- 24	1.1/2"	M 52x2	42	32	95	4,5	33	60		

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

DIN STANDARD CONNECTIONS



OPK21592/OPK21593

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

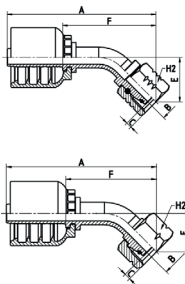
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPK21592-06A16	10	- 6	3/8"	M 16x1,5	10	6	65	3	40	35,5	19	
OPK21593-06A18	10	- 6	3/8"	M 18x1,5	12	7	66	2	33,5	36,5	22	
OPK21593-06A22	10	- 6	3/8"	M 22x1,5	15	9,3	66	1,5	35	36,5	27	
OPK21592-08A18	12	- 8	1/2"	M 18x1,5	12	7	75	2,9	48	44	22	
OPK21593-08A22	12	- 8	1/2"	M 22x1,5	15	9,3	76	1,5	39,5	45	27	
OPK21593-08A26	12	- 8	1/2"	M 26x1,5	18	12,5	76	2	40	45	32	
OPK21593-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	86	2	53	51,5	32	
OPK21593-10A30	16	- 10	5/8"	M 30x2	22	15	86	3	54	51,5	36	
OPK21593-12A30	19	- 12	3/4"	M 30x2	22	15	97,5	3	59,5	61,5	36	
OPK21593-16A36	25	- 16	1"	M 36x2	28	19,8	125	3,7	69,5	76,5	41	
OPK21593-20A45	31	- 20	1.1/4"	M 45x2	35	26	146	4	81	93,5	50	
OPK21593-24A52	38	- 24	1.1/2"	M 52x2	42	32	169,5	4,5	98	107,5	60	

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

DIN STANDARD CONNECTIONS

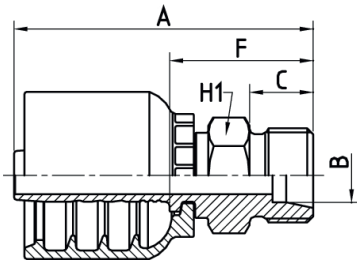
OPK21542/OPK21543

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
OPK21542-06A16	10	- 6	3/8"	M 16x1,5	10	6	77	3	21,5	47,5	19	
OPK21543-06A18	10	- 6	3/8"	M 18x1,5	12	7	73	2	16,5	43,5	22	
OPK21543-06A22	10	- 6	3/8"	M 22x1,5	15	9,3	74	1,5	18	45	27	
OPK21543-08A22	12	- 8	1/2"	M 22x1,5	15	9,3	83	1,5	19	52	27	
OPK21543-10A26	16	- 10	5/8"	M 26x1,5	18	12,5	96,5	2	26,5	62	32	
OPK21543-12A30	19	- 12	3/4"	M 30x2	22	15	107,5	3	28,5	71	36	
OPK21543-16A36	25	- 16	1"	M 36x2	28	19,8	133	3,7	32	85	41	
OPK21543-20A45	31	- 20	1.1/4"	M 45x2	35	26	152,5	4	36	100	50	
OPK21543-24A52	38	- 24	1.1/2"	M 52x2	42	32	179	4,5	44,5	117	60	

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

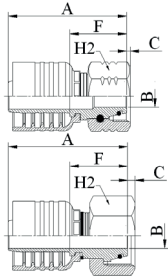


DIN STANDARD CONNECTIONS

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	7	56,5	12	27	19		
OPK11210-06A20	10	- 6	3/8"	M 20x1,5	12	7	58,5	12	29	22		
OPK11210-06A22	10	- 6	3/8"	M 22x1,5	14	8	60,5	14	31	22		
OPK11210-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	62,5	14	31,5	24		
OPK11210-10A30	16	- 10	5/8"	M 30x2	20	15	70	16	35,5	30		
OPK11210-12A30	19	- 12	3/4"	M 30x2	20	15	73,5	16	37	30		
OPK11210-12A36	19	- 12	3/4"	M 36x2	25	19,8	77,5	18	41	36		
OPK11210-16A36	25	- 16	1"	M 36x2	25	19,8	90,5	18	42,5	36		
OPK11210-16A42	25	- 16	1"	M 42x2	30	25	92,5	20	44,5	46		
OPK11210-20A52	31	- 20	1.1/4"	M 52x2	38	30	103,5	22	51	55		



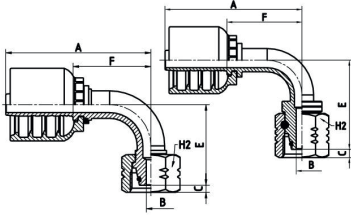
DIN STANDARD CONNECTIONS

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	7	54,5	2	25,5	24		
OPK21613-06A22	10	- 6	3/8"	M 22x1,5	14	7	62	3	32,5	27		
OPK21613-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	58	4	26,5	30		
OPK21613-10A30	16	- 10	5/8"	M 30x2	20	12,5	65	3,5	30,5	36		
OPK21612-12A30	19	- 12	3/4"	M 30x2	20	12,5	70	2,2	33,5	36		
OPK21613-12A36	19	- 12	3/4"	M 36x2	25	15	70,5	4,5	34	41		
OPK21612-16A36	25	- 16	1"	M 36x2	25	15	83,5	1,7	35,5	41		
OPK21613-16A42	25	- 16	1"	M 42x2	30	19,8	83,5	6,3	35,5	50		
OPK21613-20A52	31	- 20	1.1/4"	M 52x2	38	26	90	8	37,5	60		
OPK21613-24A52	38	- 24	1.1/2"	M 52x2	38	26	111,5	8	49,5	60		

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



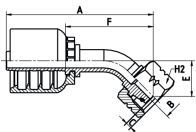
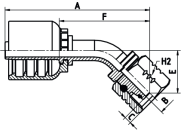
DIN STANDARD CONNECTIONS

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
OPK21693-06A20	10	- 6	3/8"	M 20x1,5	12	7	66	2	35	36,5	24	
OPK21693-06A22	10	- 6	3/8"	M 22x1,5	14	7	66	3	37	36,5	27	
OPK21693-06A24	10	- 6	3/8"	M 24x1,5	16	9,3	66	4	36	36,5	30	
OPK21693-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	76	4	40,5	45	30	
OPK21693-10A30	16	- 10	5/8"	M 30x2	20	12,5	86	3,5	57,5	51,5	36	
OPK21692-12A30	19	- 12	3/4"	M 30x2	20	12,5	98	2,2	67,5	61,5	36	
OPK21693-12A36	19	- 12	3/4"	M 36x2	25	15	97,5	4,5	64,5	61,5	41	
OPK21692-16A36	25	- 16	1"	M 36x2	25	15	127,5	1,7	86	79,5	41	
OPK21693-16A42	25	- 16	1"	M 42x2	30	19,8	127,5	6,3	74,5	79	50	
OPK21693-20A52	31	- 20	1.1/4"	M 52x2	38	26	146	8	85,5	93,5	60	

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



DIN STANDARD CONNECTIONS

OPK21642/OPK21643

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

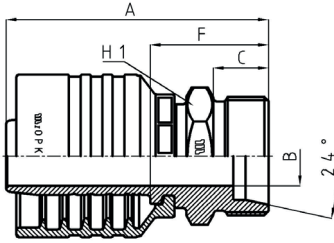
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPK21643-06A20	10	- 6	3/8"	M 20x1,5	12	7	73,5	2	17	44	24	
OPK21643-06A22	10	- 6	3/8"	M 22x1,5	14	7	75	3	18,5	45,5	27	
OPK21643-08A24	12	- 8	1/2"	M 24x1,5	16	9,3	83,5	4	20	52,5	30	
OPK21643-10A30	16	- 10	5/8"	M 30x2	20	12,5	99,5	3,5	29,5	65,5	36	
OPK21642-12A30	19	- 12	3/4"	M 30x2	20	12,5	113	2,2	34	76,5	36	
OPK21643-12A36	19	- 12	3/4"	M 36x2	25	15	111,5	4,5	32,5	75	41	
OPK21643-16A42	25	- 16	1"	M 42x2	30	19,8	138	6,3	35,5	90	50	
OPK21643-20A52	31	- 20	1.1/4"	M 52x2	38	26	155,5	8	39,5	103	60	

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

NF STANDARD CONNECTIONS

OPK11710

FRENCH METRIC MALE 24° CONE SEAT MILLIMETRIC TYPE

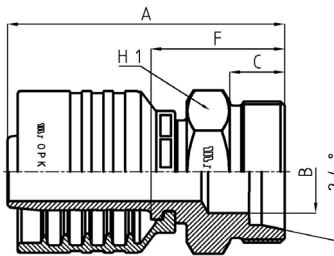


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H1
OPK11710-12A30	19	- 12	3/4"	M 30x1,5	22	15	66,5	14	30	30		

NF STANDARD CONNECTIONS

OPK11810

FRENCH METRIC MALE 24° CONE SEAT GAZ TYPE

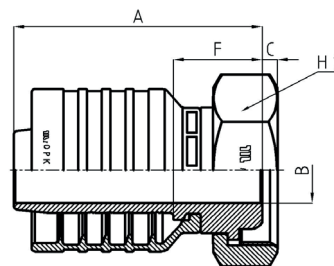


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H1
OPK11810-12A36	19	- 12	3/4"	M 36x1,5	26,8	21	70,5	14	34	36		

NF STANDARD CONNECTIONS

OPK21813

FRENCH METRIC FEMALE GAZ TYPE

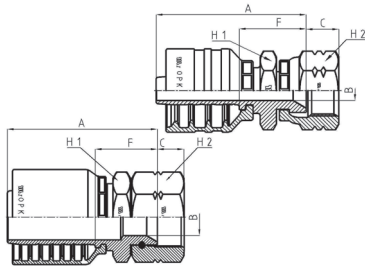


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	F	H2
OPK21813-16A45	25	- 16	1"	M 45x1,5	33,5	19,8	75	4,5	27	50		

JIS STANDARD CONNECTIONS

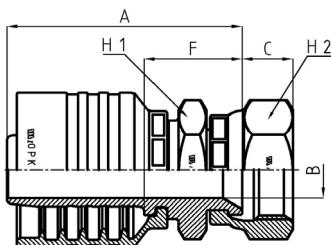
OPK24011/OPK24012

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	53	11,5	23,5	24	24	
OPK24011-08A22	12	- 8	1/2"	M 22x1,5	9,3	56	13	25	27	27	
OPK24011-10A24	16	- 10	5/8"	M 24x1,5	12,5	61	15,1	26,5	32	32	
OPK24011-12A30	19	- 12	3/4"	M 30x1,5	15	68	18,3	31,5	36	36	
OPK24011-16A33	25	- 16	1"	M 33x1,5	19,8	81,5	21,3	33,5	41	41	
OPK24012-24A42	38	- 24	1.1/2"	M 42x1,5	26	106	18,8	44	55	55	

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



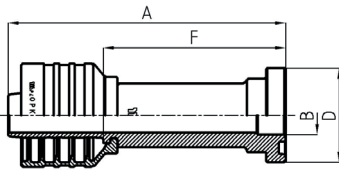
JIS STANDARD CONNECTIONS

OPK23811

JIS BSP FEMALE (TOYOTA)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPK23811-12A12	19	- 12	3/4"	3/4" - 14	15	62,5	13,5	26	32	32	
OPK23811-16A16	25	- 16	1"	1" - 11	19,8	78,5	14,5	30,5	38	38	

ORIGINAL EQUIPMENT CONNECTIONS

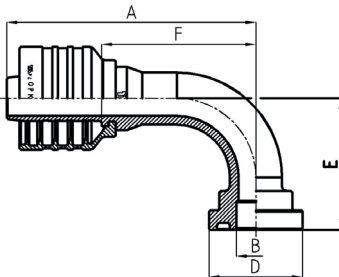


OPK24111

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	100	34	65,5			

ORIGINAL EQUIPMENT CONNECTIONS

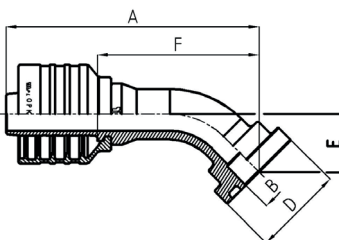


OPK24191

90° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPK24191-10A10	16	- 10	5/8"	5/8"	14	90	34	47,5	56		

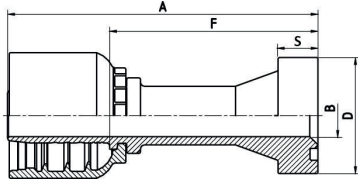
ORIGINAL EQUIPMENT CONNECTIONS



OPK24141

45° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	E	F	
OPK24141-10A10	16	- 10	5/8"	5/8"	14	95	34	22	61		



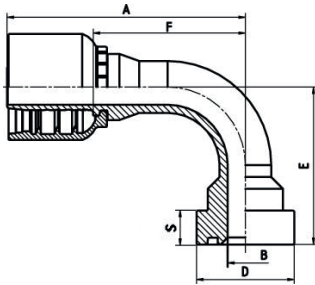
ORIGINAL EQUIPMENT CONNECTIONS

OPK23911

STRAIGHT SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			Inch	B	A	D	F	S	
OPK23911-12A12	19	- 12	3/4"	3/4"		15	111	41,5	74,5	14,3		
OPK23911-16A16	25	- 16	1"	1"		19,8	135	47,7	87	14,3		
OPK23911-16A20	25	- 16	1"	1.1/4"		26	140,5	54	92,5	14,3		
OPK23911-20A20	31	- 20	1.1/4"	1.1/4"		26	138,5	54	86	14,3		
OPK23911-24A24	38	- 24	1.1/2"	1.1/2"		32	156	63,6	94	14,3		

FITTINGS
 F 10-36

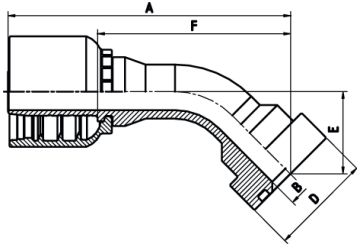


ORIGINAL EQUIPMENT CONNECTIONS

OPK23991

90° SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			Inch	B	A	D	E	F	S
OPK23991-12A12	19	- 12	3/4"	3/4"		15	101	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	123,5	54	80,5	75,5	14,3	
OPK23991-20A20	31	- 20	1.1/4"	1.1/4"		26	138	54	87	85,5	14,3	



ORIGINAL EQUIPMENT CONNECTIONS

OPK23941

45° SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			Inch	B	A	D	E	F	S
OPK23941-12A12	19	- 12	3/4"	3/4"		15	114	41,5	32	77	14,3	
OPK23941-16A16	25	- 16	1"	1"		19,8	138	47,7	36,5	89,5	14,3	
OPK23941-16A20	25	- 16	1"	1.1/4"		26	140,5	54	40,5	92,5	14,3	
OPK23941-20A20	31	- 20	1.1/4"	1.1/4"		26	151,5	54	41,5	99	14,3	

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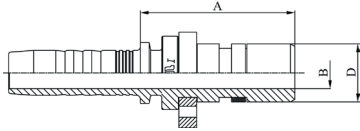
EASYFIT

FITTING CODE	SECTION	PAGE
O82H10	11	4
M12H10	11	1
M12H40	11	1
M12H90	11	2
M22H10	11	2
A52032H	11	3
A52192H	11	4
A52302H	11	3

MULTIFIT INSERT

M12H10

EF STRAIGHT MALE INSERT

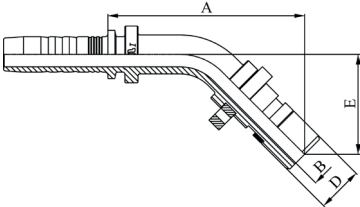


PART. REF.	HOSE BORE			W.P.	DIMENSIONS mm					
	DN	Dash	inch		Bar	B	A	D		
M12H10-04-04	6	-4	1/4"	350	4	30	10			
M12H10-04-06	6	-4	1/4"	350	7	34	13			
M12H10-05-06	8	-5	5/16"	350	7	34	13			
M12H10-06-04	10	-6	3/8"	350	4	30,5	10			
M12H10-06-06	10	-6	3/8"	350	7	34,5	13			
M12H10-06-08	10	-6	3/8"	350	9,3	34,5	16			
M12H10-08-06	12	-8	1/2"	350	7	35	13			
M12H10-08-08	12	-8	1/2"	350	9,3	35	16			
M12H10-10-08	16	-10	5/8"	350	9,3	35	16			
M12H10-10-12	16	-10	5/8"	280	15	44,5	23			
M12H10-12-12	19	-12	3/4"	280	15	44,5	23			

MULTIFIT INSERT

M12H40

EF 45° ELBOW MALE INSERT

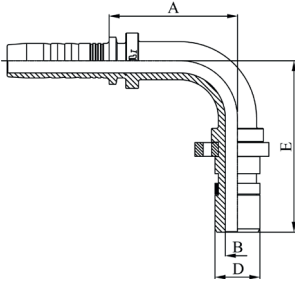


PART. REF.	HOSE BORE			W.P.	DIMENSIONS mm				
	DN	Dash	inch		Bar	B	A	D	E
M12H40-04-04	6	-4	1/4"	350	4	46	10	23,5	
M12H40-04-06	6	-4	1/4"	350	7	52	13	27	
M12H40-05-06	8	-5	5/16"	350	7	53	13	27,5	
M12H40-06-04	10	-6	3/8"	350	4	47	10	23,5	
M12H40-06-06	10	-6	3/8"	350	7	55,5	13	28	
M12H40-08-08	12	-8	1/2"	350	9,3	61,5	16	30	
M12H40-10-08	16	-10	5/8"	350	9,3	65	16	30	
M12H40-10-12	16	-10	5/8"	280	15	79	23	41	
M12H40-12-12	19	-12	3/4"	280	15	85,5	23	42,5	

MULTIFIT INSERT

M12H90

EF 90° ELBOW MALE INSERT

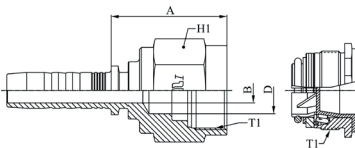


PART. REF.	HOSE BORE			W.P.	DIMENSIONS mm						
	DN	Dash	inch		Bar	B	A	D	E		
M12H90-04-04	6	- 4	1/4"	350	4	30	10	40			
M12H90-04-06	6	- 4	1/4"	350	7	32	13	45			
M12H90-05-06	8	- 5	5/16"	350	7	33,5	13	46,5			
M12H90-06-04	10	- 6	3/8"	350	4	30,5	10	40			
M12H90-06-06	10	- 6	3/8"	350	7	37	13	49,5			
M12H90-08-06	10	- 6	3/8"	350	7	37,5	13	49,5			
M12H90-08-08	12	- 8	1/2"	350	9,3	44	16	55			
M12H90-10-08	16	- 10	5/8"	350	9,3	47	16	55			
M12H90-10-12	16	- 10	5/8"	280	15	55	23	74,5			
M12H90-12-12	19	- 12	3/4"	280	15	62,5	23	79			

MULTIFIT INSERT

M22H10

EF STRAIGHT FEMALE INSERT

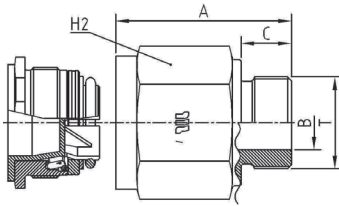


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm			
	DN	Dash	inch			T	Bar	B	A
M22H10-04-04	6	- 4	1/4"	M 18x1	350	4	30	10	22
M22H10-06-06	10	- 6	3/8"	M 22x1	350	7	33,5	13	25
M22H10-08-08	12	- 8	1/2"	M 25x1	350	9,3	34	16	28
M22H10-10-08	16	- 10	5/8"	M 25x1	350	12,5	34	23	28
M22H10-10-12	16	- 10	5/8"	M 33x1,5	280	12,5	45,5	23	38
M22H10-12-12	19	- 12	3/4"	M 33x1,5	280	15	46,5	23	38

ADAPTORS

A52032H

ADAPTOR BSP MALE O-RING BOSS TYPE ISO 1179 EF FEMALE

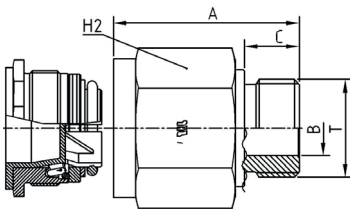


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H1
A52032H-04-04	6	- 4	1/4"	1/4" - 19	350	7,5	34	11,2	10	22		
A52032H-06-04	6	- 4	1/4"	3/8" - 19	350	9	34	11,2	10	22		
A52032H-06-06	10	- 6	3/8"	3/8" - 19	350	9,9	36,5	11,2	13	25		
A52032H-08-06	10	- 6	3/8"	1/2" - 14	350	12,3	39,5	14,5	13	27		
A52032H-08-08	12	- 8	1/2"	1/2" - 14	350	12,3	40	14,5	16	28		
A52032H-12-12	19	- 12	3/4"	3/4" - 14	280	15,5	50,5	14,5	23	38		
A52032H-16-12	19	- 12	3/4"	1" - 11	280	20	53,5	18,6	23	46		

ADAPTORS

A52302H

ADAPTOR SAE O-RING BOSS MALE ISO 11926 EF FEMALE

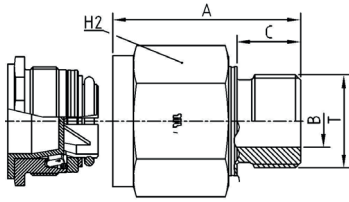


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H1
A52302H-06-04	6	- 4	1/4"	9/16" - 18	350	7	32,5	9,9	10	22		
A52302H-06-06	10	- 6	3/8"	9/16" - 18	350	7	36	9,9	13	25		
A52302H-08-06	10	- 6	3/8"	3/4" - 16	350	9,3	37	11,1	13	25		
A52302H-08-08	12	- 8	1/2"	3/4" - 16	350	9,3	37	11,1	16	28		
A52302H-10-08	12	- 8	1/2"	7/8" - 14	350	12,5	38,5	12,7	16	28		
A52302H-10-12	19	- 12	3/4"	7/8" - 14	280	12,5	49,5	12,7	23	38		
A52302H-12-12	19	- 12	3/4"	1.1/16" - 12	280	15	51	15,1	23	38		

ADAPTORS

A52192H

ADAPTOR METRIC MALE ISO 6149 EF FEMALE

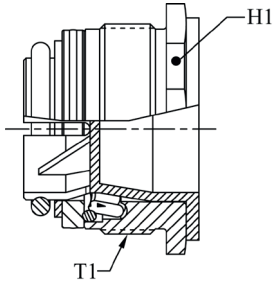


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H1
A52192H-14-04	6	- 4	1/4"	M 14x1,5	350	6	34	11	10	22		
A52192H-16-04	6	- 4	1/4"	M 16x1,5	350	7	35	12,5	10	22		
A52192H-18-06	10	- 6	3/8"	M 18x1,5	350	9	40	14	13	25		
A52192H-22-06	10	- 6	3/8"	M 22x1,5	350	12	40	15	13	27		
A52192H-22-08	12	- 8	1/2"	M 22x1,5	350	12	40	15	16	28		
A52192H-27-08	12	- 8	1/2"	M 27x2	350	15	43	18,5	16	32		
A52192H-27-12	19	- 12	3/4"	M 27x2	280	15	55	18,5	23	38		
A52192H-33-12	19	- 12	3/4"	M 33x2	280	20	54	18,5	23	41		

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	10	19					
O82H10-06	10	- 6	3/8"	M 22x1	350	13	23					
O82H10-08	12	- 8	1/2"	M 25x1	350	16	26					
O82H10-12	19	- 12	3/4"	M 33x1,5	280	23	34					

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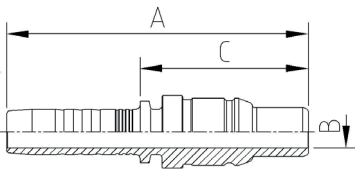
FASTFIT

FITTING CODE	SECTION	PAGE
A52013H	12	2
A52053H	12	3
A52193H	12	4
A52283H	12	3
A52323H	12	4
M13H10	12	1
M13H40	12	1
M13H90	12	2

MULTIFIT INSERT

M13H10

FAST-FIT STRAIGHT MALE INSERT

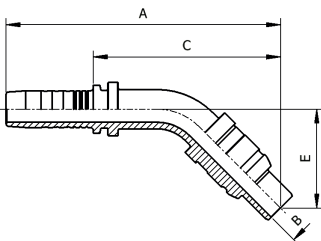


PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			B	A	C				
M13H10-04-06	6	-4	1/4"			7	63	35,5				
M13H10-06-06	10	-6	3/8"			7	66,5	37,1				
M13H10-08-08	12	-8	1/2"			9,3	74,5	43,4				
M13H10-12-12	19	-12	3/4"			15	80,5	44				
M13H10-16-16	25	-16	1"			19,8	96	47,8				

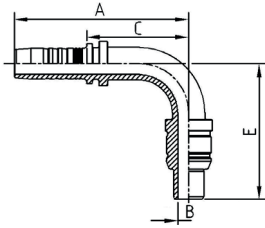
MULTIFIT INSERT

M13H40

FAST-FIT 45° ELBOW MALE INSERT



PART. REF.	HOSE BORE			DIMENSIONS mm								
	DN	Dash	inch			B	A	E	F			
M13H40-08-08	12	-8	1/2"			9,3	98	35,5	67			

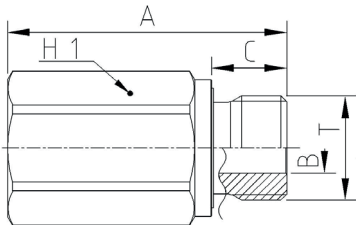


MULTIFIT INSERT

M13H90

FAST-FIT 90° ELBOW MALE INSERT

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	E				
M13H90-04-06	6	- 4	1/4"	7	57,5	30,1	45				
M13H90-06-06	10	- 6	3/8"	7	66,5	37	51				
M13H90-08-08	12	- 8	1/2"	9,3	75	43,8	62,5				
M13H90-12-12	19	- 12	3/4"	15	99	62,5	76,9				
M13H90-16-16	25	- 16	1"	19,8	119	70,6	87				



ADAPTORS

A52013H

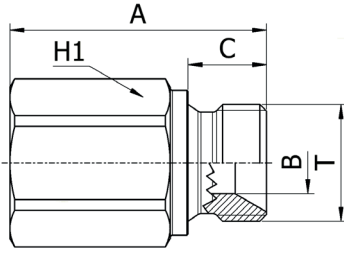
BSP MALE OR BOSS TYPE TO ISO 1179-2

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
A52013H-04-06	10	- 6	3/8"	1/4" - 19	5	45	12	19				
A52013H-06-06	10	- 6	3/8"	3/8" - 19	8	44,5	12	22				
A52013H-08-08	12	- 8	1/2"	1/2" - 14	10	47	14	27				
A52013H-12-12	19	- 12	3/4"	3/4" - 14	16	53	16	32				
A52013H-16-16	25	- 16	1"	1" - 11	20	60	18	41				

ADAPTORS

A52053H

BSP MALE 60° CONE (ISO 8434-6 / BS5200)

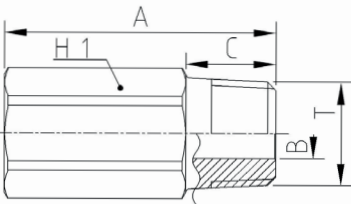


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1		
A52053H-08-08	12	- 8	1/2"	1/2" - 14		11	46	14	27			

ADAPTORS

A52283H

STRAIGHT ADAPTOR NPTF MALE TO ASME B1.20.3

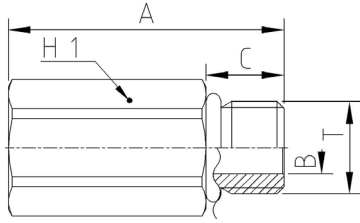


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1		
A52283H-04-06	10	- 6	3/8"	1/4" - 18		6	44,5	14,5	19			
A52283H-06-06	10	- 6	3/8"	3/8" - 18		8	43,5	14,5	19			
A52283H-08-08	12	- 8	1/2"	1/2" - 14		9,5	50	19,2	24			
A52283H-12-12	19	- 12	3/4"	3/4" - 14		15	54,5	19,2	32			
A52283H-16-16	25	- 16	1"	1"-11.1/2		19,5	62	24,2	38			

ADAPTORS

A52323H

SAE MALE OR BOSS TYPE TO ISO J1926-2

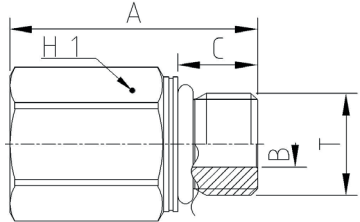


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
A52323H-04-06	10	- 6	3/8"	7/16" - 20	4,5	42	11	19			
A52323H-06-06	10	- 6	3/8"	9/16" - 18	7,5	42,5	12	19			
A52323H-08-08	12	- 8	1/2"	3/4" - 16	10	46	14	24			
A52323H-12-12	19	- 12	3/4"	1.1/16" - 12	15,5	53,5	18,5	32			
A52323H-16-16	25	- 16	1"	1.5/16" - 12	20,5	56	18,5	38			

ADAPTORS

A52193H

STRAIGHT ADAPTOR METRIC MALE ISO 6149-2



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
A52193H-14-06	10	- 6	3/8"	M 14x1,5	6	41,5	11	19			
A52193H-18-06	10	- 6	3/8"	M 18x1,5	8	43,5	14	24			
A52193H-22-08	12	- 8	1/2"	M 22x1,5	10	45	15	27			
A52193H-27-12	19	- 12	3/4"	M 27x2	15	53,5	18,5	32			
A52193H-33-16	25	- 16	1"	M 33x2	20	57	18,5	41			

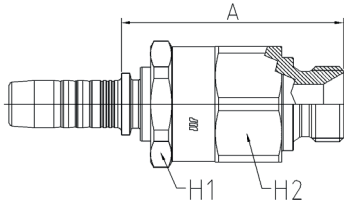


FITTING CODE	SECTION	PAGE
AR520504	13	7
AR580504	13	7
MR10510	13	1
MR11210	13	4
MR11910	13	4
MR12410	13	2
MR12810	13	2
MR20812	13	1
MR21512	13	4
MR22411	13	3
MR22510	13	2
MR22711	13	2
MR23311	13	3
MR30510	13	5
MR30510FK	13	5
MR32810	13	6
MR40812	13	5
MR42410	13	6
MR42510	13	6
MR43310	13	7

BS STANDARD CONNECTIONS

MR10510

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



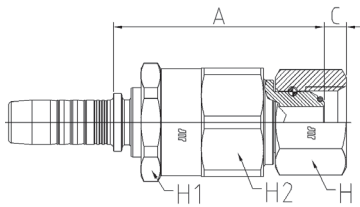
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	A	H1	H2				
MR10510-04-04	6	- 4	1/4"	1/4" - 19		57,5	24	24				
MR10510-06-06	10	- 6	3/8"	3/8" - 19		58	27	27				
MR10510-08-08	12	- 8	1/2"	1/2" - 14		61,5	32	32				
MR10510-10-10	16	- 10	5/8"	5/8" - 14		69,5	36	36				
MR10510-12-12	19	- 12	3/4"	3/4" - 14		71	41	41				
MR10510-12-12FK	19	- 12	3/4"	3/4" - 14		71	41	41				
MR10510-16-16	25	- 16	1"	1" - 11		83	50	50				
MR10510-20-20	31	- 20	1.1/4"	1.1/4" - 11		92	60	60				

FITTINGS F 13-1

BS STANDARD CONNECTIONS

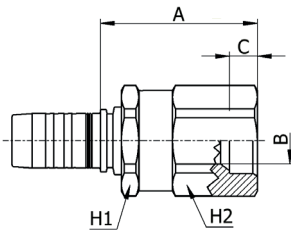
MR20812

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



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	A	C	H	H1	H2		
MR20812-04-04	6	- 4	1/4"	1/4" - 19		58	4,1	19	24	24		
MR20812-06-06	10	- 6	3/8"	3/8" - 19		59,5	5,9	22	27	27		
MR20812-08-08	12	- 8	1/2"	1/2" - 14		62,5	6,5	27	32	32		
MR20812-10-10	16	- 10	5/8"	5/8" - 14		68	9,7	28	36	36		
MR20812-12-12	19	- 12	3/4"	3/4" - 14		71	8,5	32	41	41		
MR20812-16-16	25	- 16	1"	1" - 11		81	10,6	38	50	50		

SAE STANDARD CONNECTIONS



MR22510

SWIVEL JOINT

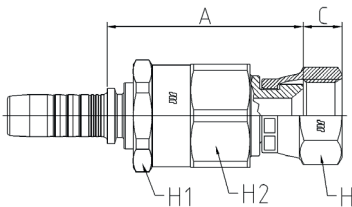
JIC FEMALE 37° CONE SEAT - SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	H1	H2			
MR22510-20-20	31	- 20	1.1/4"	1.5/8" - 12		93	60	60				

FITTINGS

F 132

SAE STANDARD CONNECTIONS

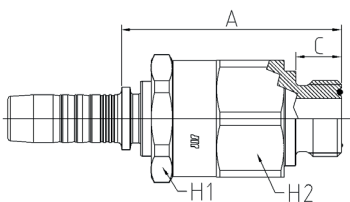


MR22711

JIC FEM DOUBLE HEXAGON 37° CONE SEAT

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	C	H	H1	H2	
MR22711-06-06	10	- 6	3/8"	9/16" - 18		56	9,5	17	27	27		
MR22711-08-08	12	- 8	1/2"	3/4" - 16		60	10,7	22	32	32		
MR22711-08-10	12	- 8	1/2"	7/8" - 14		62	12,5	25	32	32		
MR22711-10-10	16	- 10	5/8"	7/8" - 14		67	12,5	25	36	36		
MR22711-12-12	19	- 12	3/4"	1.1/16" - 12		68,5	14,1	32	41	41		
MR22711-16-16	25	- 16	1"	1.5/16" - 12		80	15,3	38	50	50		

SAE STANDARD CONNECTIONS



MR12410

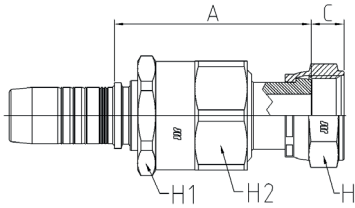
ORFS MALE - SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	C	H1	H2		
MR12410-08-08	12	- 8	1/2"	13/16" - 16		60,5	12,8	32	32			
MR12410-10-10	16	- 10	5/8"	1" - 14		69	15,5	36	36			

SAE STANDARD CONNECTIONS

MR22411

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

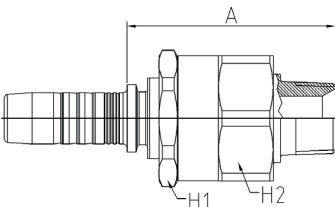


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	A	C	H	H1	H2		
MR22411-06-06	10	- 6	3/8"	11/16" - 16	64,5	9,5	22	27	27			
MR22411-08-08	12	- 8	1/2"	13/16" - 16	70	11	24	32	32			
MR22411-10-10	16	- 10	5/8"	1" - 14	77,5	13,5	30	36	36			
MR22411-12-12	19	- 12	3/4"	1.3/16" - 12	82	14,5	36	41	41			
MR22411-16-16	25	- 16	1"	1.7/16" - 12	90	15	41	50	50			

SAE STANDARD CONNECTIONS

MR12810

NPTF MALE 60° CONE SEAT - SAE J516/J514

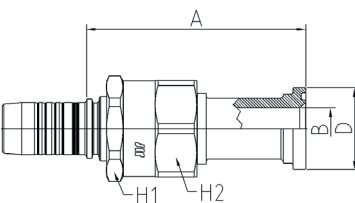


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	H1	H2			
MR12810-04-04	6	- 4	1/4"	1/4" - 18	61	24	24				
MR12810-06-06	10	- 6	3/8"	3/8" - 18	60,5	27	27				
MR12810-08-08	12	- 8	1/2"	1/2" - 14	67	32	32				
MR12810-12-12	19	- 12	3/4"	3/4" - 14	74	41	41				
MR12810-16-16	25	- 16	1"	1" - 11,5	88	50	50				

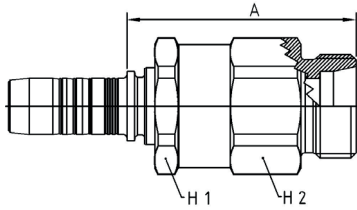
SAE STANDARD CONNECTIONS

MR23311

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



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	H1	H2	
MR23311-20-20	31	- 20	1.1/4"	1.1/4"	26	136,5	51	60	60		

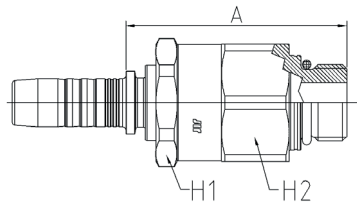


DIN STANDARD CONNECTIONS

MR11210

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

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	H1	H2			
MR11210-10-30	16	- 10	5/8"	M 30x2	66,5	36	36				

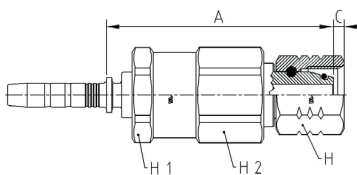


DIN STANDARD CONNECTIONS

MR11910

METRIC MALE HEAVY DUTY SERIES ISO 6149-2

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	H1	H2			
MR11910-06-18	10	- 6	3/8"	M 18x1,5	60,5	27	27				
MR11910-08-22	12	- 8	1/2"	M 22x1,5	62	32	32				



DIN STANDARD CONNECTIONS

MR21512

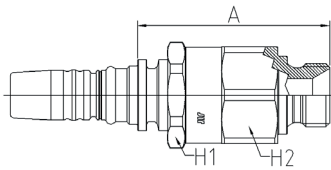
METRIC O-RING FEMALE 24° CONE LIGHT DUTY - DIN 20066 / ISO 12151-2 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	C	H	H1	H2	
MR21512-04-16	6	- 4	1/4"	M 16x1,5	63	3	19	24	24		

BS STANDARD CONNECTIONS

MR30510

BSP MALE 60° CONE SEAT BS5200

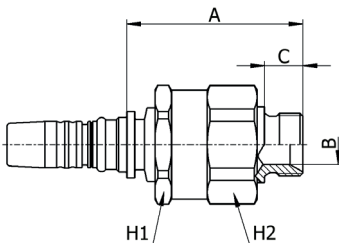


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	H1	H2			
MR30510-12-12	19	- 12	3/4"	3/4" - 14	74	46	46				
MR30510-16-16	25	- 16	1"	1" - 11	85,5	55	55				
MR30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	96	65	65				

BS STANDARD CONNECTIONS

MR30510FK

BSP MALE 60° CONE SEAT BS5200
SWIVEL JOINT (VITON)

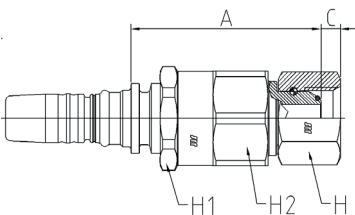


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	H1	H2			
MR30510-12-12FK	19	- 12	3/4"	3/4" - 14	74	46	46				

BS STANDARD CONNECTIONS

MR40812

BSP O-RING FEMALE 60° CONE BS5200

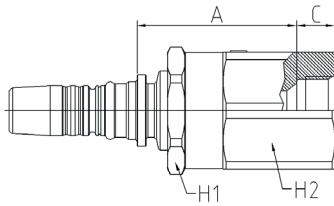


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	A	C	H	H1	H2	
MR40812-12-12	19	- 12	3/4"	3/4" - 14	73,5	8,5	32	46	46		
MR40812-16-16	25	- 16	1"	1" - 11	83,5	10,6	41	55	55		

SAE STANDARD CONNECTIONS

MR42510

JIC FEM 37° CONE SEAT SAE J514

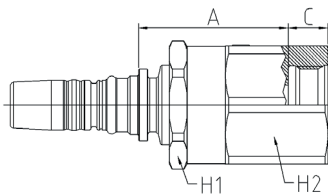


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	C	H1			
MR42510-12-12	19	- 12	3/4"	1.1/16" - 12		62,5	15	46	46			
MR42510-16-16	25	- 16	1"	1.5/16" - 12		70	16,5	55	55			

SAE STANDARD CONNECTIONS

MR42410

ORFS FEMALE ISO 8434-3 / SAE J1453

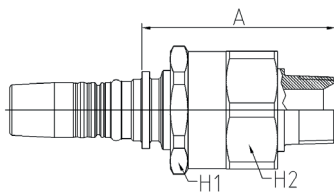


PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	C	H1			
MR42410-12-12	19	- 12	3/4"	1.3/16" - 12		58	15,5	46	46			
MR42410-16-16	25	- 16	1"	1.7/16" - 12		66	16	55	55			

SAE STANDARD CONNECTIONS

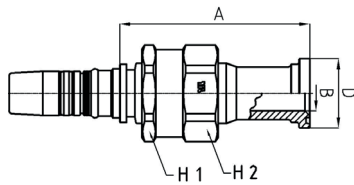
MR32810

NPTF MALE 60° CONE SEAT - SAE J516/J514



PART. REF.	HOSE BORE			Thread		DIMENSIONS mm						
	DN	Dash	inch			T	A	H1	H2			
MR32810-12-12	19	- 12	3/4"	3/4" - 14		77	46	46				
MR32810-16-16	25	- 16	1"	1" - 11,5		91	55	55				

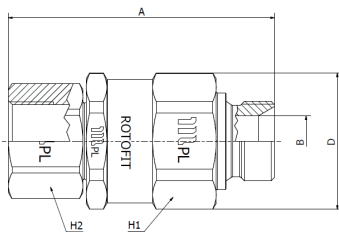
SAE STANDARD CONNECTIONS



MR43310

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

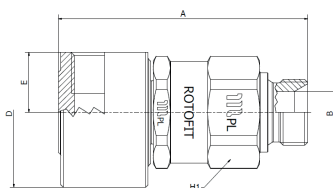
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		Inch	B	A	D	H1	H2	
MR43310-20-20	31	- 20	1.1/4"	1.1/4"	26	145,5	51	65	65		



AR520504

SWIVEL JOINT STRAIGHT
MALE BSP - FEMALE BSP

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	D	H1	H2	
AR520504-12-12				3/4" - 14	16,7	87,5	45	41	34		
AR520504-16-16				1" - 11	22,2	102	55	50	50		



AR580504

SWIVEL JOINT 90°
MALE BSP - FEMALE BSP

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	D	E	H1	
AR580504-12-12				3/4" - 14	16,7	100	60	24	41		

