



UPTIME MATTERS.

FROM PROPULSE'S PRODUCTION TO YOURS,

LINE DOWN IS NEVER AN OPTION.



The Largest Independent Converter of Hydraulic Hose in North America

ProPulse is confident that what they do better than anyone else is support OEM production lines. Uptime matters. Line down is *never* an option.



A World-Class Manufacturer of Hydraulic Thermoplastic Hose

Initially, just a converter of high-pressure hose, ProPulse began manufacturing lubrication lines & SAE 100R18 hoses in 2005 and is ISO 9001:2015 certified.



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If you have questions about the products contained in this catalog or their applications, please contact:

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www.PowerMovingForward.com

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INTRODUCTION

The next time you are in traffic, look at the back of practically any medium- and heavy-duty truck or trailer and you'll find components from ProPulse playing a key role in the fluid conveyance of power for hydraulic lift gates. If you take a broader look, you'll find we innovate, engineer and manufacture unique fluid conveyance solutions which power many well-known OEM brands. Our hoses are hard at work throughout mobile and off-highway hydraulic markets.

In fact, OEMs around the world and major OEMs in our own Midwest backyard rely on ProPulse not only for best-in-class quality to power their equipment, but for on-time delivery and service that is bar none. The core of these relationships makes ProPulse quietly confident that what they do better than anyone else is support OEM production lines. ProPulse is committed to uptime – from their line to the customer's line. Line down is never an option.

Mobile equipment manufacturers can also rely on the extensive engineering and design expertise of ProPulse. Often, it's the hose that makes or breaks the end goal when it comes to fluid power. Yet sometimes, the hose doesn't get the respect it deserves. ProPulse collaborates with customer teams to ensure the development of uncompromising solutions – given the uniqueness of each application. As a manufacturer themselves,



Hydraulic hose assemblies your production line and customers can rely on.



ProPulse offers a level of technical service far beyond that of most hose suppliers and can satisfy even the strictest OEM requirements in various industries:

- › Construction & Forestry
- › Agriculture
- › Material Handling
- › Utility
- › Recreational Vehicles
- › Transportation



HYDRAULIC HOSE



HOSE SELECTION GUIDES

ISOBARIC HOSE SELECTION

PROPULSE HOSE SERIES							
WORKING PRESSURE	DN	6	10	12	16	19	25
	DASH	-4	-6	-8	-10	-12	-16
	INCH	1/4	3/8	1/2	5/8	3/4	1
7 MPA / 1000 PSI				1SC	1SC	1SC	1SC
21 MPA / 3000 PSI		1700	1700	1700	1700	1700	1700
28 MPA / 4000 PSI		1600/1900	1600/1900	1600/1900	1600/1900	1600/1900	Coming Soon
35 MPA / 5000 PSI				Coming Soon	Coming Soon	Coming Soon	Coming Soon
42 MPA / 6000 PSI				Coming Soon	Coming Soon	Coming Soon	Coming Soon

WORKING PRESSURE HOSE SELECTION

WORKING PRESSURE (PSI)													
PROPULSE HOSE SERIES	DN	3	5	6	8	10	12	16	19	25	31	38	51
	DASH	-2	-3	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32
	INCH	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
100 SERIES			3625	3262	3117	2610	2300	1885	1522	1276	913	725	580
200 SERIES				5800	5075	4785	3987	3625	3117	2392	1812	1305	1160
400 SERIES									300	250	200	150	100
1200 SERIES						4060	4060	4060	4060	4060	3045		
1300 SERIES									5075	5075	5075	5075	5075
1400 SERIES		See Catalog Pages for Details											
1500 SERIES						6090	6090		6090	6090	6090	6090	
1600 SERIES				5800	5075	4785	3987	3687	3117	2392	1812		
1700 SERIES				3045	3045	3045	3045	3045	3045	3045			
1800 SERIES		3045	3045	3045	3045	3045	3045	3045	3045	3045			
1900 SERIES				4060		4060	4060	4060	4060				
1SC SERIES				3262	3117	2610	2320	1885	1522	1276			
2SC SERIES				5800	5075	4785	3988	3625	3118	2393			
4SH SERIES									6090	5510	4700	4200	3625
4SP SERIES						6450	6020	5075	5075	4060	3045		

HYDRAULIC HOSE (SERIES INDEX)

PROPULSE HOSE SERIES		
HOSE SERIES	DESCRIPTION	PAGE
100 SERIES	SAE 100R1 AT > EN 853 1SN > Rubber Hydraulic Hose	6
200 SERIES	SAE 100R2 AT > EN 853 2SN > Rubber Hydraulic Hose	7
400 SERIES	SAE 100R4 > Rubber Hydraulic Suction Hose	8
I200 SERIES	SAE 100R12 > EN 856 R12 > Multi-Spiral Rubber Hydraulic Hose	9
I300 SERIES	SAE 100R13 > EN 856 R13 > Multi-Spiral Rubber Hydraulic Hose	10
I400 SERIES	SAE 100R14 > SAE J517 > Stainless Steel Braided PTFE	11
I500 SERIES	SAE 100R15 > Multi-Spiral Rubber Hydraulic Hose	12
I600 SERIES	SAE 100R16 > Compact Rubber Hydraulic Hose	13
I700 SERIES	SAE 100R17 > Compact Rubber Hydraulic Hose	14
I800 SERIES	SAE 100R18 > Thermoplastic Hydraulic Hose	15
I900 SERIES	SAE 100R19 > Compact Rubber Hydraulic Hose	16
ISC SERIES	EN 857 1SC > Compact Rubber Hydraulic Hose	17
2SC SERIES	EN 857 2SC > Compact Rubber Hydraulic Hose	18
4SH SERIES	EN 856 4SH > Multi-Spiral Rubber Hydraulic Hose	19
4SP SERIES	EN 856 4SP > Multi-Spiral Rubber Hydraulic Hose	20

SAE 100R1 / EN 853 1SN ISO 1463-1 / R1AT RUBBER HYDRAULIC HOSE



100 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
100 - 03	5	-3	3/16	5.4	0.21	12.5	0.49	250	3625	500	7250	1000	14500	90	3.54
100 - 04	6	-4	1/4	7.0	0.28	14.1	0.56	225	3262	450	6524	900	13050	100	3.94
100 - 05	8	-5	5/16	8.5	0.33	15.7	0.62	215	3117	430	6234	860	12470	115	4.53
100 - 06	10	-6	3/8	10.1	0.40	18.1	0.71	180	2610	360	5220	720	10440	125	4.92
100 - 08	12	-8	1/2	13.5	0.53	21.5	0.85	160	2300	320	4600	640	9280	180	7.09
100 - 10	16	-10	5/8	16.7	0.66	24.7	0.97	130	1885	260	3770	520	7540	205	8.07
100 - 12	19	-12	3/4	19.8	0.78	28.6	1.13	105	1522	210	3044	420	6090	240	9.45
100 - 16	25	-16	1	26.4	1.04	36.6	1.44	88	1276	176	2552	352	5104	300	11.81
100 - 20	31	-20	1 1/4	33.0	1.30	44.8	1.76	63	913	126	1826	252	3654	420	16.54
100 - 24	38	-24	1 1/2	39.3	1.55	52.0	2.05	50	725	100	1450	200	2900	500	19.69
100 - 32	51	-32	2	52.0	2.05	65.9	2.59	40	580	80	1160	160	2320	630	24.80

HOSE CONSTRUCTION:

- › Inner Tube: Oil and water resistant synthetic rubber
- › Reinforcement: Two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Low to medium pressure hydraulic and return lines

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 853 1SN
- › ISO 1463-1 1SN / R1AT
- › SAE 100R1AT
- › SAE 100R1S








NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



SAE 100R2 / EN 853 2SN
ISO 1436-1 2SN / R2AT RUBBER HYDRAULIC HOSE

200 SERIES															
PROPULSE HOSE PART NO.	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
200 - 04	06	-04	1/4	7.0	0.28	15.7	0.62	400	5800	800	11600	1600	23200	100	3.94
200 - 05	08	-05	5/16	8.5	0.33	17.3	0.68	350	5075	700	10150	1400	20300	115	4.53
200 - 06	10	-06	3/8	10.1	0.40	19.7	0.78	330	4785	660	9570	1320	19140	125	4.92
200 - 08	12	-08	1/2	13.5	0.53	23.0	0.91	275	3987	550	7974	1100	15950	180	7.09
200 - 10	16	-10	5/8	16.7	0.66	26.2	1.03	250	3625	500	7250	1000	14500	205	8.07
200 - 12	19	-12	3/4	19.8	0.78	30.1	1.19	215	3117	430	6234	860	12470	240	9.45
200 - 16	25	-16	1	26.4	1.04	38.9	1.53	165	2392	330	4784	660	9570	300	11.81
200 - 20	31	-20	1 1/4	33.0	1.30	49.5	1.95	125	1812	250	3624	500	7250	420	16.54
200 - 24	38	-24	1 1/2	39.3	1.55	55.9	2.20	90	1305	180	2610	360	5220	500	19.69
200 - 32	51	-32	2	52.0	2.05	68.6	2.70	80	1160	160	2320	320	4640	630	24.80

HOSE CONSTRUCTION:

- › Inner tube made of polytetrafluoroethylene (PTFE), reinforced by single braid of 304 stainless steel wire

MAIN APPLICATIONS:

- › Extreme Heat Application
- › The tube has very high chemical resistance properties with a low coefficient of friction, and resists deterioration due to flow

TEMPERATURE RANGE:

- › -54° to +260°C
- › -65.2° to +500°F

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R14







NOTE:

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SAE 100R4 RUBBER HYDRAULIC SUCTION HOSE



400 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)				HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
400 - 12	19	-12	3/4	19.8	0.78	34.9	1.37	21	300	42	600	83	1200	125	5
400 - 16	25	-16	1	26.2	1.03	41.3	1.63	17	250	34	500	69	1000	150	6
400 - 20	31	-20	1 1/4	33.0	1.30	50.8	2.00	14	200	28	400	55	800	200	8
400 - 24	38	-24	1 1/2	39.3	1.55	57.2	2.25	10.5	150	21	300	41	600	254	10
400 - 32	51	-32	2	52.4	2.06	69.8	2.75	7	100	14	200	28	400	300	12

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: High tensile textile cords with embedded steel wire helices
- › Cover: Neoprene, oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Low pressure hydraulic return or suction line

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

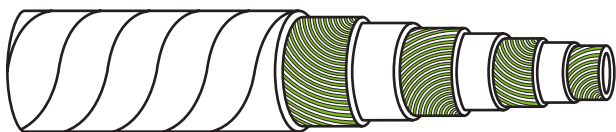
FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R4

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



SAE 100R12 / EN 856 R12 MULTI-SPIRAL RUBBER HYDRAULIC HOSE

1200 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1200 - 06	10	-06	3/8	10.1	0.40	21	0.83	280	4060	560	8120	1120	16240	125	4.92
1200 - 08	12	-08	1/2	13.5	0.53	24.6	0.97	280	4060	560	8120	1120	16240	180	7.09
1200 - 10	16	-10	5/8	16.7	0.66	28.2	1.11	280	4060	560	8120	1120	16240	200	7.87
1200 - 12	19	-12	3/4	19.8	0.78	31.5	1.24	280	4060	560	8120	1120	16240	240	9.45
1200 - 16	25	-16	1	26.4	1.04	39.2	1.54	280	4060	560	8120	1120	16240	300	11.81
1200 - 20	31	-20	1 1/4	33.0	1.30	48.6	1.91	210	3045	420	6090	840	12180	420	16.54

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Medium pressure heavy duty, high impulse and high temperature

TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

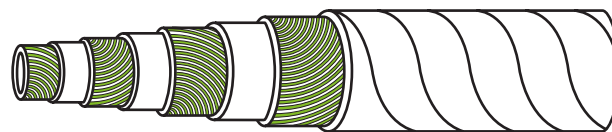
- › SAE 100R12
- › EN 856 R12
- › ISO 3862-1 R12







NOTE:

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SAE 100R13 / EN 856 R13 MULTI-SPIRAL RUBBER HYDRAULIC HOSE



I300 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)				HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1300 - 12	19	-12	3/4	19.8	0.78	33.2	1.31	350	5075	700	10150	1400	20300	240	9.45
1300 - 16	25	-16	1	26.4	1.04	39.8	1.57	350	5075	700	10150	1400	20300	300	11.81
1300 - 20	31	-20	1 1/4	33.0	1.30	51.3	2.02	350	5075	700	10150	1400	24300	420	16.54
1300 - 24	38	-24	1 1/2	39.3	1.55	58.8	2.31	350	5075	700	10150	1400	24300	500	19.69
1300 - 32	51	-32	2	52.0	2.05	72.7	2.86	350	5075	700	10150	1400	24300	640	25.20

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four or six high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › High pressure, heavy duty, high impulse and high temperature

TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R13
- › EN 856 R13
- › ISO 3862-1 R13

NOTE:

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SAE 100R14/J517 STAINLESS STEEL BRAIDED PTFE

PROPULSE HOSE PART NO.	DASH	HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE (MAX)		PROOF PRESSURE		MIN BURST PRESSURE		BEND RADIUS (MIN)	
		MM	INCH	MM	INCH	BAR	PSI	MPA	PSI	BAR	PSI	MM	INCH
1400 - 03	-3	1/8	3.35	0.252	6.4	225	3260	450	6520	900	13040	40	1.6
1400 - 04	-4	3/16	4.83	0.300	7.6	210	3000	420	6000	840	12000	50	2.0
1400 - 05	-5	1/4	6.48	0.380	9.7	210	3000	420	6000	840	12000	75	3.0
1400 - 06	-6	5/16	8.00	0.440	11.2	175	2500	350	5000	700	10000	100	4.0
1400 - 07	-7	3/8	9.65	0.495	12.6	165	2400	330	4800	660	9600	125	5.0
1400 - 08	-8	13/32	10.41	0.543	13.8	140	2000	280	4000	560	8000	135	5.3
1400 - 10	-10	1/2	12.83	0.650	16.5	120	1750	240	3000	480	7000	165	6.5
1400 - 12	-12	5/8	16.00	0.780	19.8	88	1270	176	2540	352	5080	200	8.0
1400 - 14	-14	3/4	19.18	0.900	22.9	75	1100	150	2200	300	4400	230	9.1
1400 - 16	-16	7/8	22.23	1.030	26.2	62	900	124	1800	248	3600	230	9.1
1400 - 18	-18	1	25.53	1.160	29.5	62	900	124	1800	248	3600	300	11.8
1400 - 20	-20	1.1/8	28.58	1.300	33.0	44	630	88	1260	176	2520	410	16.1

HOSE CONSTRUCTION:

- › Inner tube made of polytetrafluoroethylene (PTFE), reinforced by single braid of 304 stainless steel wire

MAIN APPLICATIONS:

- › Extreme Heat Application
- › The tube has very high chemical resistance properties with a low coefficient of friction and resists deterioration due to flow

TEMPERATURE RANGE:

- › -54° to +260°C
- › -65.2° to +500°F

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

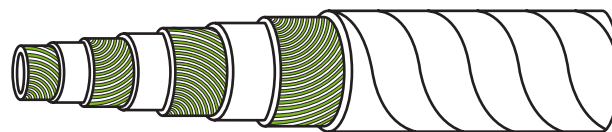
- › SAE 100R14








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SAE 100R15 MULTI-SPIRAL RUBBER HYDRAULIC



1500 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1500 - 06	10	-06	3/8	10.1	0.40	23.3	0.92	420	6090	840	12180	1680	24360	150	5.90
1500 - 08	12	-08	1/2	13.5	0.53	26.8	1.06	420	6090	840	12180	1680	24360	200	7.87
1500 - 12	19	-12	3/4	19.8	0.78	36.1	1.42	420	6090	840	12180	1680	24360	265	10.43
1500 - 16	25	-16	1	26.4	1.04	42.9	1.69	420	6090	840	12180	1680	24360	330	12.99
1500 - 20	31	-20	1 1/4	33.0	1.30	51.5	2.03	420	6090	840	12180	1680	24360	445	17.52
1500 - 24	38	-24	1 1/2	39.3	1.55	59.6	2.35	420	6090	840	12180	1680	24360	530	20.87

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four or six high tensile steel spirals
- › Cover: Abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › High pressure, heavy duty, high impulse and high temperature

TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R15
- › ISO 3862-1 R15








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SAE 100R16 COMPACT RUBBER HYDRAULIC HOSE

1600 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1600 - 04*	6	-04	1/4	7.0	0.28	14.5	0.57	400	5800	800	11600	1600	23200	50	1.97
1600 - 05	8	-05	5/16	8.5	0.33	15.7	0.62	350	5075	700	10150	1400	20300	55	2.17
1600 - 06*	10	-06	3/8	10.1	0.40	18.8	0.74	330	4780	660	9570	1320	19140	65	2.56
1600 - 08*	12	-08	1/2	13.5	0.53	22.0	0.87	280	4000	550	7975	1100	15950	90	3.54
1600 - 10	16	-10	5/8	16.7	0.66	25.4	1.00	250	3625	500	7250	1000	14500	100	3.94
1600 - 12	19	-12	3/4	19.8	0.78	29.0	1.14	215	3117	430	6235	860	12470	120	4.72
1600 - 16	25	-16	1	26.4	1.04	36.6	1.44	165	2392	330	4785	660	9570	150	5.91
1600 - 20	31	-20	1 1/4	33.0	1.30	44.3	1.74	125	1812	250	3625	500	7250	210	8.27

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Medium to high pressure applications
- › This hose is similar to the SAE100R2 / EN853 2SN, but has a smaller outside diameter which achieves a tighter bend radius while providing a lighter weight and compact design when minimal space is available

*Hose as noted above meets or exceeds ISO 18752 requirements for 28 MPa type AC hose

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R16 type S
- › ISO 11237-1 R16
- › ISO 11237-1 2SC
- › EN857 2SC
- * ISO 18752

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SAE 100R17 COMPACT RUBBER HYDRAULIC HOSE



1700 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1700 - 04*	06	-04	1/4	7.0	0.27	13.2	0.52	210	3045	420	6090	840	12180	50	1.97
1700 - 05*	08	-05	5/16	8.5	0.33	15.0	0.59	210	3045	420	6090	840	12180	55	2.17
1700 - 06*	10	-06	3/8	10.1	0.39	17.0	0.67	210	3045	420	6090	840	12180	65	2.56
1700 - 08*	12	-08	1/2	13.5	0.53	21.1	0.83	210	3045	420	6090	840	12180	90	3.54
1700 - 10*	16	-10	5/8	16.7	0.66	25.9	1.02	210	3045	420	6090	840	12180	100	3.94
1700 - 12*	19	-12	3/4	19.8	0.78	30.3	1.19	210	3045	420	6090	840	12180	120	4.72
1700 - 16*	25	-16	1	26.4	1.03	38.6	1.52	210	3045	420	6090	840	12180	150	5.91

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Medium pressure small bend radius hose that is highly flexible and specifically designed for use when installation constraints are present

*Hose as noted above meets or exceeds ISO 18752 requirements for 21 MPa type AC hose

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R17
- › ISO 11237-1 R17
- * ISO 18752








NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



SAE 100R18 THERMOPLASTIC HYDRAULIC HOSE

1800 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1800 - 02	03	-02	1/8	4.0	0.16	9.5	0.37	210	3045	420	6090	840	12180	25	0.98
1800 - 03	05	-03	3/16	5.4	0.21	10.8	0.43	210	3045	420	6090	840	12180	30	1.18
1800 - 04	06	-04	1/4	7.0	0.28	13.5	0.53	210	3045	420	6090	840	12180	45	1.77
1800 - 05	08	-05	5/16	8.5	0.33	16.6	0.65	210	3045	420	6090	840	12180	50	1.97
1800 - 06	10	-06	3/8	10.3	0.41	18.4	0.72	210	3045	420	6090	840	12180	75	2.95
1800 - 08	12	-08	1/2	13.5	0.53	22.8	0.90	210	3045	420	6090	840	12180	90	3.54

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant thermoplastic
- › Reinforcement: One or two layers of high tenacity yarn
- › Cover: Oil resistant thermoplastic elastomer with high ozone and abrasion resistance (pin pricked cover upon request)

MAIN APPLICATIONS:

- › Medium pressure hydraulic application that requires high flexibility, tight bend radius and good abrasion resistance to weather and ozone
- › This hose is dual branded — meets or exceeds all SAE 100R7 requirements

TEMPERATURE RANGE:

- › -40°F / +200°F
- › -40°C / +93°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R18/100R7

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SAE 100R19 COMPACT RUBBER HYDRAULIC HOSE



I900 SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1900 - 04*	06	-04	1/4	7.0	0.27	14.4	0.57	280	4060	560	8120	1120	16240	50	1.97
1900 - 06*	10	-06	3/8	10.1	0.39	18.0	0.71	280	4060	560	8120	1120	16240	65	2.56
1900 - 08*	12	-08	1/2	13.5	0.53	22.6	0.89	280	4060	560	8120	1120	16240	90	3.54
1900 - 10*	16	-10	5/8	16.7	0.66	27.5	1.08	280	4060	560	8120	1120	16240	100	3.94
1900 - 12*	19	-12	3/4	19.8	0.78	32.5	1.28	280	4060	560	8120	1120	16240	120	4.72

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One or two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › High pressure small bend radius hose that is highly flexible and specifically designed for use when installation constraints are present

*Hose as noted above meets or exceeds ISO 18752 requirements for 28 MPa type AC hose

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › SAE 100R19
- *ISO 18752

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



EN857 1SC COMPACT RUBBER HYDRAULIC HOSE

ISC SERIES															
PROPULSE HOSE PART NO.	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
1SC - 04	06	-04	1/4	6.9	0.27	13.5	0.53	225	3262	450	6524	900	13050	75	2.95
1SC - 05	08	-05	5/16	8.5	0.33	14.5	0.57	215	3117	430	6235	860	12470	85	3.35
1SC - 06	10	-06	3/8	10.1	0.40	16.9	0.67	180	2610	360	5220	720	10440	90	3.54
1SC - 08*	12	-08	1/2	13.5	0.53	20.4	0.80	160	2320	320	4640	640	9280	65	2.56
1SC - 10*	16	-10	5/8	16.7	0.66	23.0	0.91	130	1885	260	3770	520	7540	75	2.95
1SC - 12*	19	-12	3/4	19.8	0.78	26.7	1.05	105	1522	210	3045	420	6090	90	3.54
1SC - 16*	25	-16	1	26.4	1.04	34.9	1.37	88	1276	176	2552	352	5104	150	5.91

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: One layer of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Low to medium pressure lines that require tight bend radius
- *Hose as noted above meets or exceeds ISO 18752 requirements for 7 MPa type AC hose

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 857 1SC
- › ISO 11237-1 1SC
- *Meets ISO 18752 for half bend radius

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

EN 857 2SC COMPACT RUBBER HYDRAULIC HOSE



2SC SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
2SC - 04	06	-04	1/4	6.9	0.27	14.2	0.56	400	5800	800	11600	1600	23200	75	2.95
2SC - 05	08	-05	5/16	8.5	0.33	16.0	0.63	350	5075	700	10150	1400	20300	85	3.35
2SC - 06	10	-06	3/8	10.1	0.40	18.3	0.72	330	4785	660	9570	1320	19140	90	3.54
2SC - 08	12	-08	1/2	13.5	0.53	21.5	0.85	275	3988	550	7975	1100	15950	130	5.12
2SC - 10	16	-10	5/8	16.7	0.66	24.7	0.97	250	3625	500	7250	1000	14500	170	6.69
2SC - 12	19	-12	3/4	19.8	0.78	28.6	1.13	215	3118	430	6235	860	12470	200	7.87
2SC - 16	25	-16	1	26.4	1.04	36.6	1.44	165	2393	330	4786	660	9572	250	9.84

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Two layers of high tensile steel braid
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › Medium to high pressure lines that require tight bend radius
- › Hose is dual branded – meets or exceeds SAE 100R16 requirements

TEMPERATURE RANGE:

- › -40°F / +212°F
- › -40°C / +100°C

INTERMITTENT SERVICE:

- › -40°F / +257°F
- › -40°C / +125°C

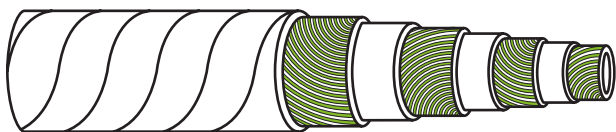
FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 857 2SC
- › ISO 11237-1 2SC
- › SAE 100 R16 type S








NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



EN 856 4SH MULTI-SPIRAL RUBBER HYDRAULIC HOSE

4SH SERIES															
	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
PROPULSE HOSE PART NO.	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
4SH - 12	19	-12	3/4	19.8	0.78	33.0	1.30	420	6090	840	12180	1680	24360	280	11.02
4SH - 16	25	-16	1	26.4	1.04	39.9	1.57	380	5510	760	11020	1520	22040	340	13.39
4SH - 20	31	-20	1 1/4	33.0	1.30	47.1	1.85	325	4700	650	9400	1296	18800	460	18.11
4SH - 24	38	-24	1 1/2	39.3	1.55	55.1	2.17	290	4200	580	8400	1160	16800	560	22.04
4SH - 32	51	-32	2	52.0	2.05	69.7	2.74	250	3625	500	7250	1000	14500	700	27.56

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four spiral wire plies wrapped in alternating directions separated by an insulating layer of synthetic rubber
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › High pressure power/drive lines
- › Severe abrasion resistance and good resistance to harsh environmental conditions

TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 856 4SH
- › ISO 3862-1 4SH

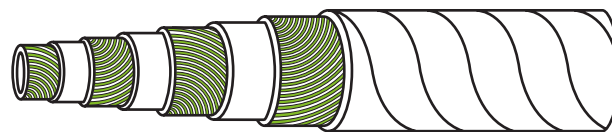
NOTE:








- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

EN856 4SP

MULTI-SPIRAL RUBBER HYDRAULIC HOSE



4SP SERIES															
PROPULSE HOSE PART NO.	HOSE SIZE			HOSE I.D. (MAX)		HOSE O.D. (MAX)		WORKING PRESSURE		PROOF PRESSURE		BURST PRESSURE		BEND RADIUS (MIN)	
	DN	DASH	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	BAR	PSI	MM	INCH
4SP - 06	10	-06	3/8	10.1	0.40	22.2	0.87	445	6450	890	12900	1780	25806	180	7.09
4SP - 08	12	-08	1/2	13.5	0.53	25.4	1.00	415	6020	830	12035	1660	24070	230	9.06
4SP - 10	16	-10	5/8	16.7	0.66	29.0	1.14	350	5075	700	10150	1400	20300	250	9.84
4SP - 12	19	-12	3/4	19.8	0.78	33.0	1.30	350	5075	700	10150	1400	20300	300	11.81
4SP - 16	25	-16	1	26.4	1.04	40.9	1.61	280	4060	560	8120	1120	16240	340	13.39
4SP - 20	31	-20	1 1/4	33.0	1.30	52.4	2.06	210	3045	420	6090	840	12180	460	18.11

HOSE CONSTRUCTION:

- › Inner Tube: Oil resistant synthetic rubber
- › Reinforcement: Four spiral wire plies wrapped in alternating directions separated by an insulating layer of synthetic rubber
- › Cover: Oil, abrasion and weather resistant synthetic rubber

MAIN APPLICATIONS:

- › High pressure power/drive lines
- › Severe abrasion resistance and good resistance to harsh environmental conditions

TEMPERATURE RANGE:

- › -40°F / +250°F
- › -40°C / +121°C

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN 856 4SP
- › ISO 3862-1 4SP

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

COVER OPTIONS (WIRE-BRAIDED RUBBER)



STANDARD



ROCK

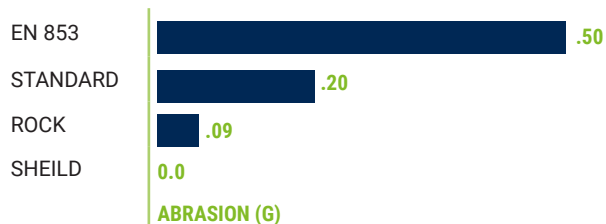


SHIELD

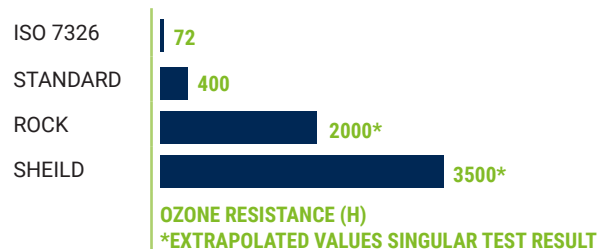
COVER COMPARISON CHART

FEATURE	STANDARD	ROCK	SHIELD
Wear and Abrasion Resistance when Compared to EN/ISO Requirements	Improved	Very High	Ultimate
Ozone Resistance Compared to EN/ISO Requirements	Improved	Very High	Outstanding
Embossed Lay Line (Rubber) for Permanence	✓	✓	✓
Quality Control Traceability on Each Hose/Assembly	✓	✓	✓
Flame Retardant		✓	✓
MSHA Approved Cover is Standard		✓	✓
Salt Water and Weather Resistant		✓	✓
Ultra High Molecular Weight Polyethylene (UHMWPE) Protection			✓

**ABRASION VALUES ACC. TO EN 853
(2SN/2000 CYCLES)**



OZONE RESISTANCE ACC. TO ISO 7326



HOSE PROTECTION OPTIONS

Hydraulic hose reliability is crucial for equipment uptime and dependability. Today's challenging environments and applications push hose designs to the limits. Hose life can greatly be extended in these demanding conditions through the use of hose protection. When rough applications are the norm, it is essential to protect and prolong hose life to keep equipment functioning. Leading causes of hose failure are abrasions and impact. Once a hose has experienced cover damage and wear, it is only a matter of time before hose failure and machine down time will occur.

ProPulse offers several solutions to help prolong hose life and combat abrasion and impact cover damage.





TEXTILE SLEEVING

Sleeving can be applied to the entire hose length or just a portion of the hose to protect the hose from abrasion prone environments. ProPulse utilizes very tight knit textile sleeving that is 50% less bulky than Cordura while still meeting or exceeding industry standards. ProPulse sleeving also meets the stringent requirements for operator line of sight protection. The heavy 1300 denier construction has been abrasion tested to over 250,000 cycles per ISO 6945 testing. Depending on the requirements needed, ProPulse also can permanently attach the sleeving by use of steel crimp collars. This adds extra insurance to guarantee hose protection stays where it is needed.

SLEEVE FEATURES:

- › Ultra tight construction contains oil spillage from pin hole leaks
- › Tight, smooth surface to resist water
- › 50% less bulky than Cordura
- › Densely twisted proprietary engineered fabric offers optimum UV & abrasion protection
- › MSHA# IC-234/1

SPECIFICATIONS:

- › Melting Point: 480°F/248°C
- › Denier: 1300
- › Material: Proprietary Engineered Fabric
- › Dim. Stability: Great resistance to sun, atmospheric agents and aging
- › Toxicity: Non-Toxic
- › Made in the USA

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality. (See page 78 for a chemical compatibility chart).

FULLY MEETS OR EXCEEDS THE FOLLOWING SPECIFICATION(S):

- › EN982 ISO norm 833 EN414
- › Australian MDG41
- › RoHS
- › ISO 6945
- › Fed-STD191-Test Method 5309 for abrasion
- › ASTM D6770 for abrasion resistance of textile webbing
- › ISO 8031

SLEEVE SIZE CHART

PROPULSE PART NO.	MIN INSIDE DIAMETER		MAX INSIDE DIAMETER	
	IN	MM	IN	MM
TS-068	.68	17	.84	21
TS-079	.79	20	.95	24
TS-091	.91	23	1.03	26
TS-098	.98	25	1.10	28
TS-106	1.06	27	1.18	30
TS-122	1.22	31	1.34	34
TS-142	1.42	36	1.54	39
TS-157	1.57	40	1.73	44
TS-163	1.63	41	1.79	45
TS-173	1.73	44	1.89	48
TS-185	1.85	47	2.01	51
TS-209	2.09	53	2.25	57
TS-219	2.19	55	2.35	60
TS-238	2.38	60	2.54	65
TS-262	2.62	66	2.78	70
TS-288	2.88	73	3.04	77
TS-315	3.15	80	3.31	84
TS-366	3.66	93	3.82	97
TS-394	3.94	100	4.10	105
TS-414	4.41	112	4.57	116
TS-494	4.94	125	5.10	130
TS-550	5.50	140	5.66	144

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SPIRAL GUARD



Spiral guarding can be applied during or after a hose is crimped. ProPulse spiral guard is made of heavy duty high density polyethylene and can be used in applications from -40°F to 280°F. Spiral guarding offers a strong flexible solution with a flat profile and beveled edges. Spiral guard can protect hose from impact, abrasion, cuts and crushing loads as well as provide for UV protection. In some applications spiral guarding is used to keep bundles of hoses together to keep routing neat and hoses protected.

SPIRAL FEATURES:

- › High Density Polyethylene

APPLICATIONS:

- › Bundling multiple hoses
- › Prevents hose wear due to impact, abrasion and friction

SPECIFICATIONS:

- › Flat profile with beveled edges for safety
- › Temperature Range: -40°F to +280°F
- › UV Resistant
- › Strong, flexible and lightweight
- › Made in the USA

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

SLEEVE SIZE CHART

PROPULSE PART NO.	MIN INSIDE DIAMETER		MAX INSIDE DIAMETER		MAX INSIDE DIAMETER		MAX INSIDE DIAMETER	
	IN	MM	IN	MM	IN	MM	IN	MM
PSG-38	0.38	10	0.06	1.5	0.4	10	165	50.3
PSG-50	0.5	11	0.06	1.5	0.48	12	66 & 100	20.1 & 30.48
PSG-62	0.62	14	0.07	1.8	0.57	14.5	66 & 100	20.1 & 30.48
PSG-95	0.875	20	0.08	2	0.82	21	66 & 100	20.1 & 30.48
PSG-1.125	1	25	0.09	2.3	0.94	24	66 & 100	20.1 & 30.48
PSG-1.50	1.5	32	0.09	2.3	1.18	30	66 & 100	20.1 & 30.48
PSG-1.75	1.75	38	0.12	3	1.38	35	66 & 100	20.1 & 30.48
PSG-2.25	2	50	0.14	3.5	1.57	40	66 & 100	20.1 & 30.48
PSG-2.62	2.63	60	0.15	3.8	1.6	40	66	20.1
PSG-3.00	3	72	0.18	4.6	1.78	45	66	20.1
PSG-4.00	4	102	0.22	5.6	2.17	55	40	12.19
PSG-5.00	5	127	0.22	5.6	2.17	55	27	8.23
PSG-6.00	6	152	0.22	5.6	2.36	60	20	6.096

⚠ WARNING: This product can expose you to chemicals including Carbon Black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.



SPRING GUARD

Plated steel spring guarding greatly protect hydraulic hoses from damage due to impacts and compression. These guards are very common on construction equipment where hoses can come in contact or be damaged in the application/environment in which the machinery is working. The spring guard also acts as a bend restrictor or “kink guard” when the hose experiences excessive movement and bending near the coupling.

SPRING FEATURES:

- › Made in the USA
- › Protects hoses from impact, bending and compression

NOTE:

- › Not all sizes stocked at all times. Some specifications may vary. Please inquire about availability. ProPulse reserves the right to make any engineering or material changes at any time to our products for enhancement, performance and quality.

SPRING GUARD SIZE CHART

PROPULSE PART NO.	MIN INSIDE DIAMETER	
	IN	MM
MSG-53	0.53	13
MSG-61	0.61	15
MSG-66	0.66	17
MSG-75	0.75	19
MSG-84	0.84	21
MSG-91	0.91	23
MSG-99	0.99	25
MSG-105	1.05	26
MSG-134	1.34	34
MSG-164	1.64	41
MSG-188	1.88	48
MSG-212	2.12	54
MSG-230	2.3	58

⚠ WARNING: This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects, or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



HYDRAULIC FITTINGS



SMART PART NUMBERING

SMART part number example with part description:

1 2 3 4 5 6 7 8
S 2 64 1 1 L -06 -06

= Female, ORFS, Straight, Hydraulic, Long "Style B", 3/8" x 3/8"

1 – PREFIX

S Schieffer

2 – FITTING GENDER

I Male

2 Female

3 Nipple

4 Banjo Fitting

5 SAE Flange

3 – FITTING SERIES

22 Metric Banjo

26 Metric DKOL

27 Metric DKOS

33 Pressure Washer Nipple

38 NPSM

42 BSP Banjo

44 BSP O-Ring Flat Seal

48 BSP 60° Cone

52 BSPT

64 ORFS

78 NPT

82 Standard ORB

89 JIC

95 Code 61 Flange

98 Code 62 Flange

4 – FITTING TYPE

I Straight

2 22.5°

4 45°

9 90°

5 – APPLICATION TYPE

I Hydraulic

3 Pressure Washer Only

6 – SPECIALTIES (OPTIONAL)

W Swivel

S Short

M Medium

L Long

D Double Hex

BH Bulk Head

7 – THREAD SIZE

-2 1/8"

-3 3/16"

-4 1/4"

-5 5/16"

-6 3/8"

-8 1/2"

-10 5/8"

-12 3/4"

-14 7/8"

-16 1"

8 – HOSE SIZE

-2 1/8"

-3 3/16"

-4 1/4"

-5 5/16"

-6 3/8"

-8 1/2"

-10 5/8"

-12 3/4"

-14 7/8"

-16 1"

9 – PLATING/ MATERIAL

(BLANK) Standard

ZN Zinc Nickel*

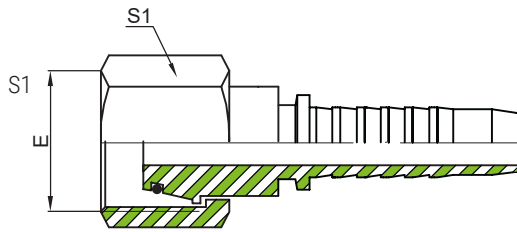
SS Stainless Steel*

HYDRAULIC FITTINGS (SERIES INDEX)

PROPULSE FITTINGS SERIES		
HOSE SERIES	DESCRIPTION	PAGE
226II SERIES	Metric Female 24° Cone O-Ring DKOL Straight > > DIN 20066/3865	31
2264I SERIES	Metric Female 24° Cone O-Ring DKOL 45° Elbow > DIN 20066/3865	32
2269I SERIES	Metric Female 24° Cone O-Ring DKOL 90° Elbow > DIN 20066/3865	33
126II SERIES	Metric Male 24° Cone Seat DKOL Straight > DIN 20066/3861	34
227II SERIES	Metric Female 24° Cone O-Ring DKOS Straight > DIN 20066/3865	35
2274I SERIES	Metric Female 24° Cone O-Ring DKOS 45° Elbow > DIN 20066/3865	36
2279I SERIES	Metric Female 24° Cone O-Ring DKOS 90° Elbow > DIN 20066/3865	37
127II SERIES	Metric Male 24° Cone Seat DKOS Straight > DIN 20066/3861	38
722II SERIES	Metric Banjo > DIN 7642	39
264IIS SERIES	ORFS Female Short Straight > SAE J1453/J516	40
264IIL SERIES	ORFS Female Long Straight > SAE J1453/J516	41
2644I SERIES	ORFS Female 45° Elbow > SAE J1453/J516	42
2649I SERIES	ORFS Female 90° Elbow > SAE J1453/J516	43
2649IM SERIES	ORFS Female 90° Elbow Medium Drop > SAE J1453/J516	44
2649IL SERIES	ORFS Female 90° Elbow Long Drop > SAE J1453/J516	45
164II SERIES	ORFS Male Straight > SAE J1453/J516	46
289IID SERIES	JIC Female 37° Cone Double Hex Straight > SAE J514/J516	47
2894I SERIES	JIC Female 37° Cone 45° Elbow > SAE J514/J516	48
2899I SERIES	JIC Female 37° Cone 90° Elbow > SAE J514/J516	49
2899IM SERIES	JIC Female 37° Cone 90° Elbow Medium Drop > SAE J514/J516	50
2899IL SERIES	JIC Female 37° Cone 90° Elbow Long Drop > SAE J514/J516	51
189II SERIES	JIC Male 37° Cone Straight > SAE J514/J516	52
238II SERIES	NPSM Female 30° Cone Straight	53
178II SERIES	NPTF Male 30° Cone Straight > SAE J516	54
178IIW SERIES	NPTF Swivel Male 30° Cone Straight > SAE J516	55
278II SERIES	NPT Female Solid Straight	56
248II SERIES	BSP Female 60° Cone Straight	57
2484I SERIES	BSP Female 60° Cone 45° Elbow	58
2489I SERIES	BSP Female 60° Cone 90° Elbow	59
148II SERIES	BSP Male 60° Cone Straight	60
144II SERIES	BSPP Male O-Ring Flat Seal Straight	61
244II SERIES	BSP Female Flat Seal Straight	62
152II SERIES	BSPT Male Straight	63
742II SERIES	BSP Banjo	64
895II SERIES	SAE Code 61 3000PSI Flange Straight > SAE J516/J518	65

HYDRAULIC FITTINGS (SERIES INDEX)

HOSE SERIES	DESCRIPTION	PAGE
8954I SERIES	SAE Code 61 3000PSI Flange 45° Elbow > SAE J516/J518	66
8959I SERIES	SAE Code 61 3000PSI Flange 90° Elbow > SAE J516/J518	67
898II SERIES	SAE Code 62 6000PSI Flange Straight > SAE J516/J518	68
8984I SERIES	SAE Code 62 6000PSI Flange 45° Elbow > SAE J516/J518	69
8989I SERIES	SAE Code 62 6000PSI Flange 90° Elbow > SAE J516/J518	70
I82II SERIES	Standard ORB Male Solid > SAE J514/J516	71
I82I IW SERIES	Standard ORB Male Swivel > SAE J514/J516	72



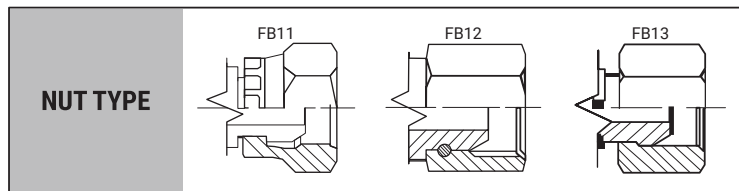
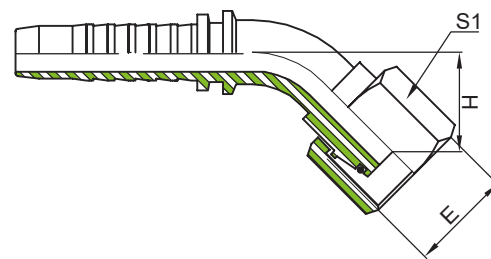
METRIC FEMALE 24° CONE O-RING DKOL STRAIGHT DIN 20066/3865

22611 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S22611-10-02	M10 x 1.0	4	2	12	
S22611-12-02	M12 x 1.5	4	2	14	
S22611-12-04	M12 x 1.5	6	4	17	
S22611-14-04	M14 x 1.5	6	4	17	
S22611-16-04	M16 x 1.5	6	4	22	
S22611-18-04	M18 x 1.5	6	4	22	
S22611-14-05	M14 x 1.5	8	5	17	
S22611-16-05	M16 x 1.5	8	5	19	
S22611-18-05	M18 x 1.5	8	5	22	
S22611-22-05	M22 x 1.5	8	5	27	
S22611-14-06	M14 x 1.5	10	6	19	
S22611-16-06	M16 x 1.5	10	6	22	
S22611-18-06	M18 x 1.5	10	6	22	
S22611-22-06	M22 x 1.5	10	6	27	
S22611-18-08	M18 x 1.5	12	8	24	
S22611-22-08	M22 x 1.5	12	8	27	
S22611-22-10	M22 x 1.5	16	10	27	
S22611-26-10	M26 x 1.5	16	10	32	
S22611-30-10	M30 x 2	16	10	36	
S22611-26-12	M26 x 1.5	19	12	32	
S22611-30-12	M30 x 2	19	12	36	
S22611-36-12	M36 x 2	19	12	41	
S22611-30-16	M30 x 2	25	16	36	
S22611-36-16	M36 x 2	25	16	41	
S22611-45-16	M45 x 2	25	16	50	
S22611-36-20	M36 x 2	32	20	41	
S22611-45-20	M45 x 2	32	20	50	
S22611-52-20	M52 x 2	32	20	60	
S22611-52-24	M52 x 2	38	24	60	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

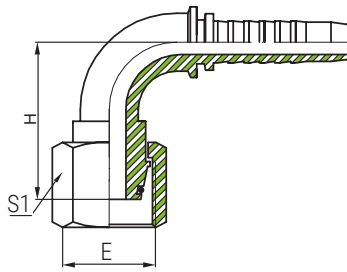
METRIC FEMALE 24° CONE O-RING DKOL 45° ELBOW DIN 20066/3865



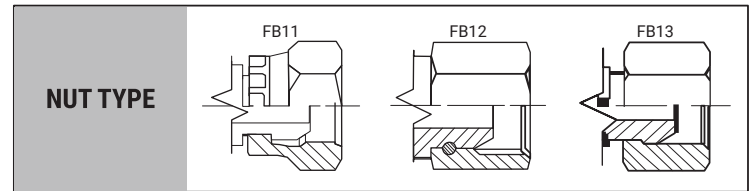
22641 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S22641-14-04	M14 x 1.5	6	4	19	16
S22641-16-05	M16 x 1.5	8	5	19	17
S22641-18-05	M18 x 1.5	8	5	22	18.5
S22641-22-05	M22 x 1.5	8	5	27	19.5
S22641-16-06	M16 x 1.5	10	6	19	17
S22641-18-06	M18 x 1.5	10	6	22	18.5
S22641-22-06	M22 x 1.5	10	6	27	19.5
S22641-22-08	M22 x 1.5	12	8	27	19.5
S22641-26-08	M26 x 1.5	12	8	32	23.5
S22641-26-10	M26 x 1.5	16	10	32	23.5
S22641-30-10	M30 x 2	16	10	36	25.5
S22641-26-12	M26 x 1.5	19	12	32	23.5
S22641-30-12	M30 x 2	19	12	36	25.5
S22641-36-12	M36 x 2	19	12	41	32
S22641-36-16	M36 x 2	25	16	41	32
S22641-45-20	M45 x 2	32	20	50	38
S22641-52-20	M52 x 2	32	20	60	44.5
S22641-52-24	M52 x 2	38	24	60	44.5

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



METRIC FEMALE 24° CONE O-RING DKOL 90° ELBOW DIN 20066/3865

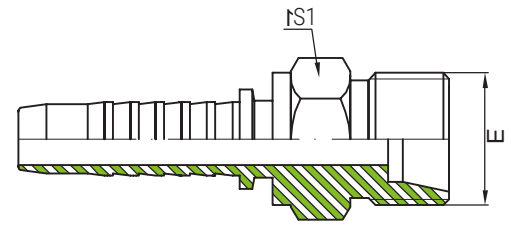


22691 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S22691-12-04	M12 x 1.5	6	4	14	30
S22691-14-04	M14 x 1.5	6	4	17	30.5
S22691-16-04	M16 x 1.5	6	4	22	33
S22691-14-05	M14 x 1.5	8	5	17	30.5
S22691-16-05	M16 x 1.5	8	5	19	33
S22691-18-05	M18 x 1.5	8	5	22	36
S22691-16-06	M16 x 1.5	10	6	19	36
S22691-18-06	M18 x 1.5	10	6	22	36
S22691-22-06	M22 x 1.5	10	6	27	40.5
S22691-22-08	M22 x 1.5	12	8	27	40.5
S22691-26-08	M26 x 1.5	12	8	32	51.5
S22691-26-10	M26 x 1.5	16	10	32	51.5
S22691-30-10	M30 x 2	16	10	36	56
S22691-26-12	M26 x 1.5	19	12	32	51.5
S22691-30-12	M30 x 2	19	12	36	56
S22691-36-12	M36 x 2	19	12	41	68.5
S22691-30-16	M30 x 2	25	16	36	56
S22691-36-16	M36 x 2	25	16	41	68.5
S22691-45-16	M45 x 2	25	16	50	78.5
S22691-36-20	M36 x 2	32	20	41	68.5
S22691-45-20	M45 x 2	32	20	50	78.5
S22691-52-20	M52 x 2	32	20	60	95
S22691-52-24	M52 x 2	38	24	60	95

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

METRIC MALE 24° CONE SEAT DKOL STRAIGHT **DIN 20066/3861**

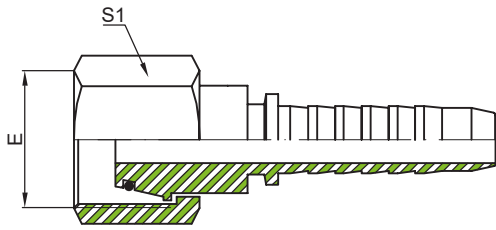


I26II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S12611-12-04	M12 x 1.5	6	4	14	
S12611-14-04	M14 x 1.5	6	4	17	
S12611-16-04	M16 x 1.5	6	4	17	
S12611-14-05	M14 x 1.5	8	5	17	
S12611-16-05	M16 x 1.5	8	5	17	
S12611-18-05	M18 x 1.5	8	5	19	
S12611-16-06	M16 x 1.5	10	6	17	
S12611-18-06	M18 x 1.5	10	6	19	
S12611-22-06	M22 x 1.5	10	6	24	
S12611-22-08	M22 x 1.5	12	8	24	
S12611-26-08	M26 x 1.5	12	8	27	
S12611-22-10	M22 x 1.5	16	10	22	
S12611-26-10	M26 x 1.5	16	10	27	
S12611-30-10	M30 x 2	16	10	32	
S12611-30-12	M30 x 2	19	12	32	
S12611-36-16	M36 x 2	25	16	41	
S12611-45-20	M45 x 2	32	20	46	
S12611-52-24	M52 x 2	38	24	55	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

METRIC FEMALE 24° CONE O-RING DKOS STRAIGHT **DIN 20066/3865**

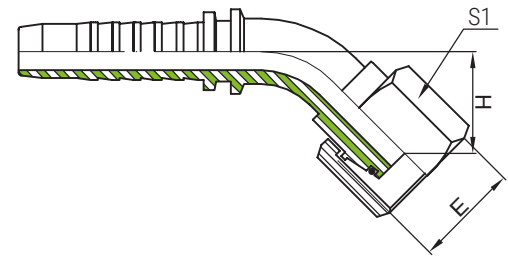
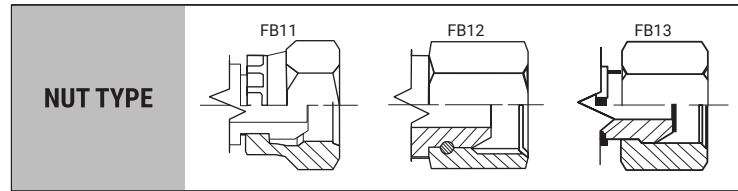


22711 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S22711-14-04	M14 x 1.5	6	4	19	
S22711-16-04	M16 x 1.5	6	4	19	
S22711-18-04	M18 x 1.5	6	4	22	
S22711-16-05	M16 x 1.5	8	5	19	
S22711-20-05	M20 x 1.5	8	5	24	
S22711-18-06	M18 x 1.5	10	6	22	
S22711-20-06	M20 x 1.5	10	6	24	
S22711-22-06	M22 x 1.5	10	6	27	
S22711-24-06	M24 x 1.5	10	6	30	
S22711-20-08	M20 x 1.5	12	8	24	
S22711-22-08	M22 x 1.5	12	8	27	
S22711-24-08	M24 x 1.5	12	8	30	
S22711-30-10	M30 x 2	16	10	36	
S22711-30-12	M30 x 2	19	12	36	
S22711-36-12	M36 x 2	19	12	46	
S22711-42-12	M42 x 2	19	12	50	
S22711-36-16	M36 x 2	25	16	46	
S22711-42-16	M42 x 2	25	16	50	
S22711-52-20	M52 x 2	32	20	60	
S22711-52-24	M52 x 2	38	24	60	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

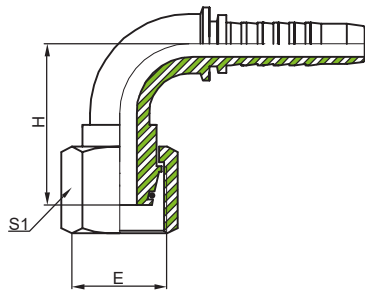
METRIC FEMALE 24° CONE O-RING DKOS 45° ELBOW DIN 20066/3865



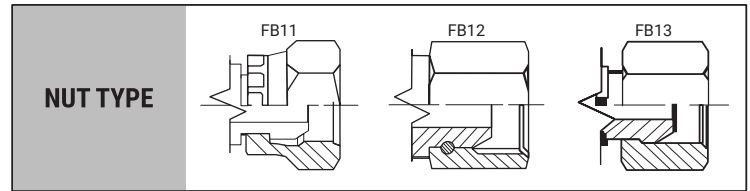
22741 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S22741-14-04	M14 x 1.5	6	4	19	17
S22741-16-04	M16 x 1.5	6	4	19	17
S22741-18-04	M18 x 1.5	6	4	22	17
S22741-16-05	M16 x 1.5	8	5	19	17
S22741-18-06	M18 x 1.5	10	6	22	17
S22741-20-06	M20 x 1.5	10	6	24	18
S22741-22-06	M22 x 1.5	10	6	27	21
S22741-20-08	M20 x 1.5	12	8	24	18.5
S22741-22-08	M22 x 1.5	12	8	27	21
S22741-24-08	M24 x 1.5	12	8	30	21
S22741-24-10	M24 x 1.5	16	10	30	21
S22741-30-10	M30 x 2	16	10	36	25
S22741-30-12	M30 x 2	19	12	36	25
S22741-36-12	M36 x 2	19	12	46	30.5
S22741-42-16	M42 x 2	25	16	50	35.5
S22741-52-20	M52 x 2	32	20	60	42
S22741-52-25	M52 x 2	38	24	60	42

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



METRIC FEMALE 24° CONE O-RING DKOS 90° ELBOW DIN 20066/3865

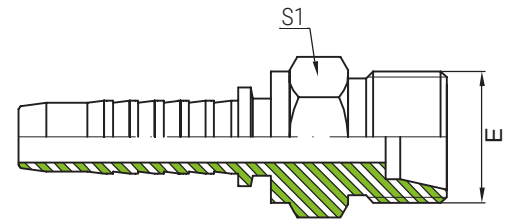


22791 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S22791-14-04	M14 x 1.5	6	4	19	32
S22791-16-04	M16 x 1.5	6	4	19	32
S22791-18-04	M18 x 1.5	6	4	22	32
S22791-16-05	M16 x 1.5	8	5	19	32
S22791-18-05	M18 x 1.5	8	5	22	32
S22791-20-05	M20 x 1.5	8	5	24	34
S22791-18-06	M18 x 1.5	10	6	22	32
S22791-20-06	M20 x 1.5	10	6	24	35.5
S22791-22-06	M22 x 1.5	10	6	27	35.5
S22791-20-08	M20 x 1.5	12	8	24	35.5
S22791-22-08	M22 x 1.5	12	8	27	35.5
S22791-24-08	M24 x 1.5	12	8	30	43
S22791-30-08	M30 x 2	12	8	36	49.5
S22791-24-10	M24 x 1.5	16	10	30	43
S22791-30-10	M30 x 2	16	10	36	49.5
S22791-30-12	M30 x 2	19	12	36	49.5
S22791-36-12	M36 x 2	19	12	46	59
S22791-42-16	M42 x 2	25	16	50	70
S22791-52-20	M52 x 2	32	20	60	87
S22791-52-24	M52 x 2	38	24	60	87

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

METRIC MALE 24° CONE SEAT DKOS STRAIGHT **DIN 20066/3861**



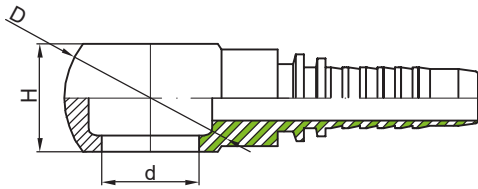
I27II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S12711-14-04	M14 x 1.5	6	4	17	
S12711-16-04	M16 x 1.5	6	4	17	
S12711-18-04	M18 x 1.5	6	4	19	
S12711-20-05	M20 x 1.5	8	5	22	
S12711-22-05	M22 x 1.5	8	5	24	
S12711-20-06	M20 x 1.5	10	6	22	
S12711-22-06	M22 x 1.5	10	6	24	
S12711-22-08	M22 x 1.5	12	8	24	
S12711-24-08	M24 x 1.5	12	8	27	
S12711-30-10	M30 x 2	16	10	32	
S12711-36-12	M36 x 2	19	12	41	
S12711-36-16	M36 x 2	25	16	41	
S12711-42-16	M42 x 2	25	16	46	
S12711-42-20	M42 x 2	32	20	46	
S12711-52-20	M52 x 2	32	20	55	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

METRIC BANJO

DIN 7642



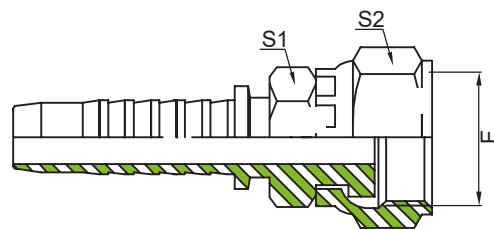
722II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)		
PROPULSE FITTING PART NO.	E	DN	DASH	D	D	H
S72211-10-03	M10 x 1	5	3	10.1	17	10
S72211-10-04	M10 x 1	6	4	10.1	17	10
S72211-12-04	M12 x 1.5	6	4	12.1	20	12
S72211-14-04	M14 x 1.5	6	4	14.1	24	14
S72211-16-04	M16 x 1.5	6	4	16.1	28	16
S72211-18-04	M18 x 1.5	6	4	18.1	32	20
S72211-12-05	M12 x 1.5	8	5	12.1	20	12
S72211-14-05	M14 x 1.5	8	5	14.1	24	14
S72211-16-05	M16 x 1.5	8	5	16.1	28	16
S72211-18-05	M18 x 1.5	8	5	18.1	32	20
S72211-12-06	M12 x 1.5	10	6	12.1	20	12
S72211-14-06	M14 x 1.5	10	6	14.1	24	14
S72211-16-06	M16 x 1.5	10	6	16.1	28	16
S72211-18-06	M18 x 1.5	10	6	18.1	32	20
S72211-22-06	M22 x 1.5	10	6	22.1	39	25
S72211-18-08	M18 x 1.5	12	8	18.1	32	20
S72211-22-08	M22 x 1.5	12	8	22.1	39	25
S72211-22-10	M22 x 1.5	16	10	22.1	39	25
S72211-26-12	M26 x 1.5	19	12	26.1	46	30
S72211-30-16	M30 x 1.5	25	16	30.1	54	36
S72211-30-20	M30 x 1.5	32	20	30.1	54	36

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ORFS FEMALE SHORT STRAIGHT

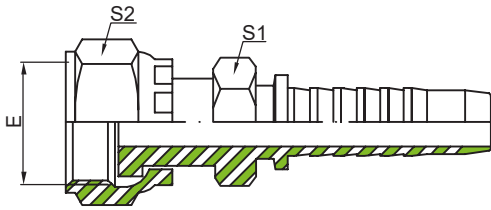
SAE J1453/J516



264IIS SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	S2
S26411S-04-04	9/16" x 18	6	4	13	17
S26411S-06-04	11/16" x 16	6	4	17	22
S26411S-04-05	9/16" x 18	8	5	17	19
S26411S-06-05	11/16" x 16	8	5	17	22
S26411S-08-05	13/16" x 16	8	5	19	24
S26411S-04-06	9/16" x 18	10	6	13	17
S26411S-06-06	11/16" x 16	10	6	17	22
S26411S-08-06	13/16" x 16	10	6	22	24
S26411S-06-08	11/16" x 16	12	8	17	22
S26411S-08-08	13/16" x 16	12	8	22	24
S26411S-10-08	1" x 14	12	8	24	30
S26411S-12-08	1.3/16" x 12	12	8	28	36
S26411S-08-10	13/16" x 16	16	10	22	24
S26411S-10-10	1" x 14	16	10	24	30
S26411S-12-10	1.3/16" x 12	16	10	28	36
S26411S-10-12	1" x 14	19	12	24	30
S26411S-12-12	1.3/16" x 12	19	12	28	36
S26411S-16-12	1.7/16" x 12	19	12	36	41
S26411S-12-16	1.3/16" x 12	25	16	28	36
S26411S-16-16	1.7/16" x 12	25	16	36	41
S26411S-20-16	1.11/16" x 12	25	16	41	50
S26411S-16-20	1.7/16" x 12	32	20	36	41
S26411S-20-20	1.11/16" x 12	32	20	41	50
S26411S-24-20	2" x 12	32	20	50	60
S26411S-20-24	1.11/16" x 12	38	24	41	50
S26411S-24-24	2" x 12	38	24	50	60

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



ORFS FEMALE LONG STRAIGHT SAE J1453/J516

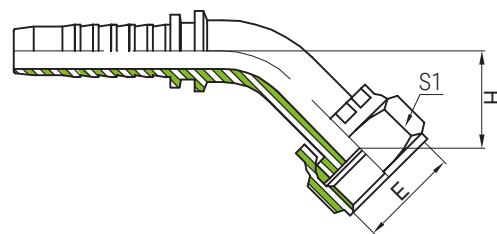
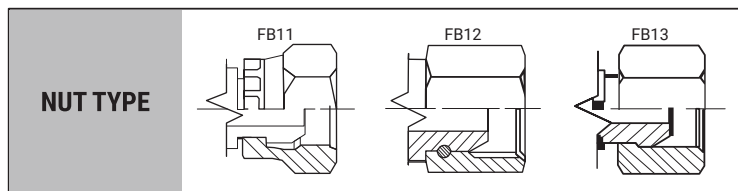
2641IL SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	S2
S26411L-04-04	9/16" x 18	6	4	13	19
S26411L-06-04	11/16" x 16	6	4	17	22
S26411L-04-05	9/16" x 18	8	5	13	17
S26411L-06-05	11/16" x 16	8	5	17	22
S26411L-06-06	11/16" x 16	10	6	17	22
S26411L-08-06	13/16" x 16	10	6	19	27
S26411L-06-08	11/16" x 16	12	8	19	22
S26411L-08-08	13/16" x 16	12	8	22	24
S26411L-10-08	1" x 14	12	8	24	30
S26411L-12-08	1.3/16" x 12	12	8	28	36
S26411L-10-10	1" x 14	16	10	24	30
S26411L-12-10	1.3/16" x 12	16	10	28	36
S26411L-10-12	1" x 14	19	12	28	30
S26411L-12-12	1.3/16" x 12	19	12	28	36
S26411L-16-12	1.7/16" x 12	19	12	36	41
S26411L-12-16	1.3/16" x 12	25	16	28	36
S26411L-16-16	1.7/16" x 12	25	16	36	41
S26411L-20-16	1.11/16" x 12	25	16	41	50
S26411L-20-20	1.11/16" x 12	32	20	41	50
S26411L-24-24	2" x 12	38	24	50	60
S26411S-20-16	1.11/16" x 12	25	16	41	50
S26411S-16-20	1.7/16" x 12	32	20	36	41
S26411S-20-20	1.11/16" x 12	32	20	41	50
S26411S-24-20	2" x 12	32	20	50	60
S26411S-20-24	1.11/16" x 12	38	24	41	50
S26411S-24-24	2" x 12	38	24	50	60

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ORFS FEMALE 45° ELBOW

SAE J1453/J516

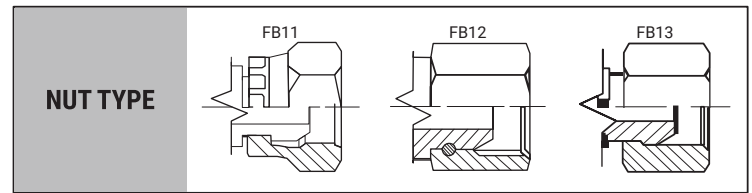
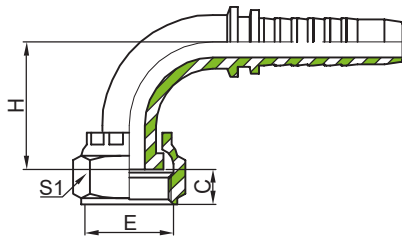


2644I SERIES	THREAD	HOSE BORE	DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	S1	H
S26441-04-04	9/16" x 18	6	19	10
S26441-06-04	11/16" x 16	6	22	11
S26441-04-05	9/16" x 18	8	19	10
S26441-06-05	11/16" x 16	8	22	11
S26441-04-06	9/16" x 18	10	19	10
S26441-06-06	11/16" x 16	10	22	11
S26441-08-06	13/16" x 16	10	24	15
S26441-06-08	11/16" x 16	12	22	11
S26441-08-08	13/16" x 16	12	24	15
S26441-10-08	1" x 14	12	30	16
S26441-12-08	1.3/16" x 12	12	36	21
S26441-08-10	13/16" x 16	16	24	15
S26441-10-10	1" x 14	16	30	16
S26441-12-10	1.3/16" x 12	16	36	21
S26441-10-12	1" x 14	19	30	16
S26441-12-12	1.3/16" x 12	19	36	21
S26441-16-12	1.7/16" x 12	19	41	24
S26441-12-16	1.3/16" x 12	25	36	21
S26441-16-16	1.7/16" x 12	25	41	24
S26441-20-16	1.11/16" x 12	25	50	25
S26441-16-20	1.7/16" x 12	32	41	24
S26441-20-20	1.11/16" x 12	32	50	25
S26441-24-20	2" x 12	32	60	27
S26441-20-24	1.11/16" x 12	38	50	25
S26441-24-24	2" x 12	38	60	27

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ORFS FEMALE 90° ELBOW SAE J1453/J516

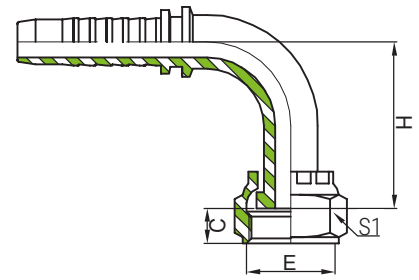
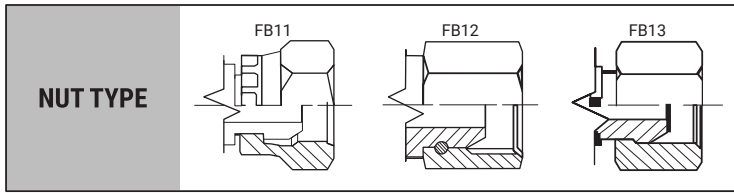


26491 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S26491-04-04	9/16" x 18	6	4	19	21
S26491-06-04	11/16" x 16	6	4	22	23
S26491-04-05	9/16" x 18	8	5	19	21
S26491-06-05	11/16" x 16	8	5	22	23
S26491-04-06	9/16" x 18	10	6	19	21
S26491-06-06	11/16" x 16	10	6	22	23
S26491-08-06	13/16" x 16	10	6	24	29
S26491-06-08	11/16" x 16	12	8	22	23
S26491-08-08	13/16" x 16	12	8	24	29
S26491-10-08	1" x 14	12	8	30	32
S26491-08-10	13/16" x 16	16	10	24	29
S26491-10-10	1" x 14	16	10	30	32
S26491-12-10	1.3/16" x 12	16	10	36	48
S26491-10-12	1" x 14	19	12	30	32
S26491-12-12	1.3/16" x 12	19	12	36	48
S26491-16-12	1.7/16" x 12	19	12	41	56
S26491-12-16	1.3/16" x 12	25	16	36	48
S26491-16-16	1.7/16" x 12	25	16	41	56
S26491-20-16	1.11/16" x 12	25	16	50	64
S26491-16-20	1.7/16" x 12	32	20	41	56
S26491-20-20	1.11/16" x 12	32	20	50	64
S26491-24-20	2" x 12	32	20	60	69
S26491-20-24	1.11/16" x 12	38	24	50	64
S26491-24-24	2" x 12	38	24	60	69

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ORFS FEMALE 90° ELBOW MEDIUM DROP SAE J1453/J516

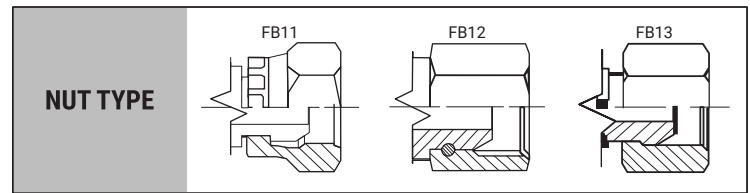
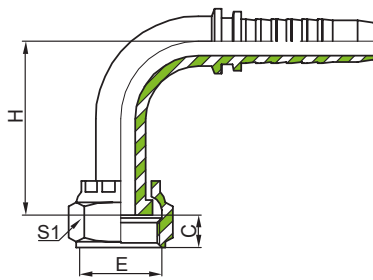


26491M SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S26491M-04-04	9/16" x 18	6	4	19	32
S26491M-06-04	11/16" x 16	6	4	22	38
S26491M-06-06	11/16" x 16	10	6	22	38
S26491M-08-06	13/16" x 16	10	6	24	41
S26491M-08-08	13/16" x 16	12	8	24	41
S26491M-10-08	1" x 14	12	8	30	47
S26491M-10-10	1" x 14	16	10	30	47
S26491M-10-12	1" x 14	19	12	30	47
S26491M-12-12	1.3/16" x 12	19	12	36	58
S26491M-16-16	1.7/16" x 12	25	16	41	71
S26491M-20-20	1.11/16" x 12	32	20	50	78
S26491M-24-24	2" x 12	38	24	60	86

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

ORFS FEMALE 90° ELBOW LONG DROP SAE J1453/J516

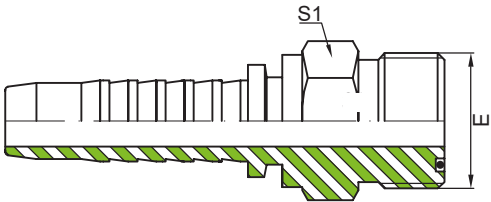


26491L SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S26491L-04-04	9/16" x 18	6	4	17	46
S26491L-06-06	11/16" x 16	10	6	22	54
S26491L-08-06	13/16" x 16	10	6	24	64
S26491L-08-08	13/16" x 16	12	8	24	64
S26491L-10-08	1" x 14	12	8	30	70
S26491L-10-10	1" x 14	16	10	30	70
S26491L-10-12	1" x 14	19	12	30	70
S26491L-12-12	1.3/16" x 12	19	12	36	96
S26491L-16-16	1.7/16" x 12	25	16	41	114
S26491L-20-20	1.11/16" x 12	31	20	50	129
S26491L-24-24	2" x 12	38	24	60	141

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

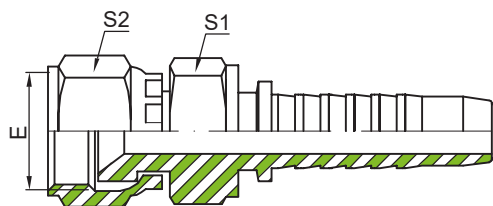
ORFS MALE STRAIGHT
SAE J1453/J516



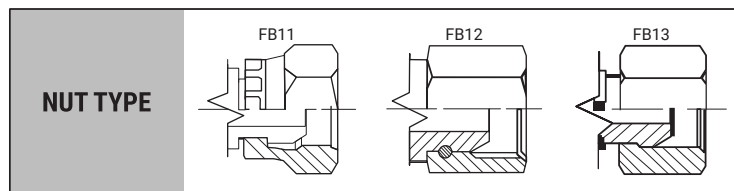
I6411 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S16411-04-04	9/16" x 18	6	4	17	
S16411-06-04	11/16" x 16	6	4	19	
S16411-06-06	11/16" x 16	10	6	19	
S16411-08-06	13/16" x 16	10	6	22	
S16411-08-08	13/16" x 16	12	8	22	
S16411-10-08	1" x 14	12	8	27	
S16411-12-08	1.3/16" x 12	12	8	32	
S16411-08-10	13/16" x 16	16	10	22	
S16411-10-10	1" x 14	16	10	27	
S16411-12-10	1.3/16" x 12	16	10	32	
S16411-12-12	1.3/16" x 12	19	12	32	
S16411-16-12	1.7/16" x 12	19	12	41	
S16411-16-16	1.7/16" x 12	25	16	41	
S16411-20-20	1.11/16" x 12	32	20	46	
S16411-24-24	2" x 12	38	24	55	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



JIC FEMALE 37° CONE DOUBLE HEX STRAIGHT SAE J514/J516

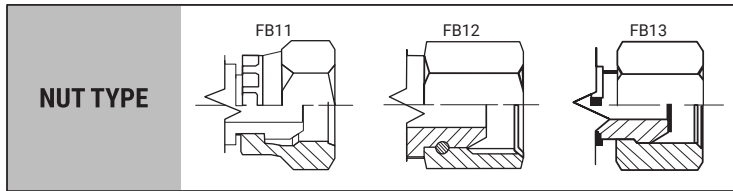
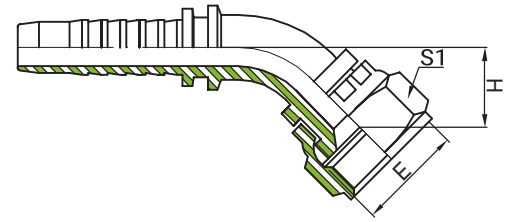


28911D SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	S2
S28911D-03-04	7/16" x 20	6	4	16	14
S28911D-04-03	7/16" x 20	5	3	17	17
S28911D-04-04	7/16" x 20	6	4	17	17
S28911D-05-04	1/2" x 20	6	4	17	17
S28911D-06-04	9/16" x 18	6	4	19	19
S28911D-05-05	1/2" x 20	8	5	17	17
S28911D-06-05	9/16" x 18	8	5	17	19
S28911D-08-05	3/4" x 16	8	5	19	24
S28911D-04-06	7/16" x 20	10	6	17	17
S28911D-05-06	1/2" x 20	10	6	17	17
S28911D-06-06	9/16" x 18	10	6	19	19
S28911D-08-06	3/4" x 16	10	6	19	24
S28911D-10-06	7/8" x 14	10	6	22	27
S28911D-06-08	9/16" x 18	12	8	19	19
S28911D-08-08	3/4" x 16	12	8	22	24
S28911D-10-08	7/8" x 14	12	8	22	27
S28911D-12-08	1.1/16" x 12	12	8	27	32
S28911D-08-10	3/4" x 16	16	10	24	24
S28911D-10-10	7/8" x 14	16	10	24	27
S28911D-12-10	1.1/16" x 12	16	10	27	32
S28911D-08-12	3/4" x 16	19	12	24	24
S28911D-10-12	7/8" x 14	19	12	27	27
S28911D-12-12	1.1/16" x 12	19	12	27	32
S28911D-16-12	1.5/16" x 12	19	12	32	41
S28911D-12-16	1.1/16" x 12	25	16	32	32
S28911D-16-16	1.5/16" x 12	25	16	41	41
S28911D-20-16	1.5/8" x 12	25	16	41	50
S28911D-20-20	1.5/8" x 12	32	20	50	50
S28911D-24-24	1.7/8" x 12	38	24	60	60
S28911D-32-32	2.1/2" x 12	50	32	75	75

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

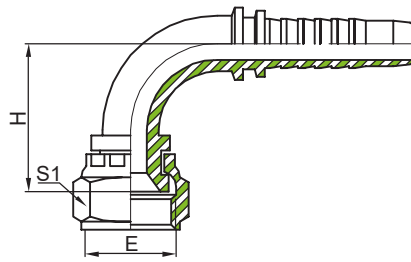
JIC FEMALE 37° CONE 45° ELBOW SAE J514/J516



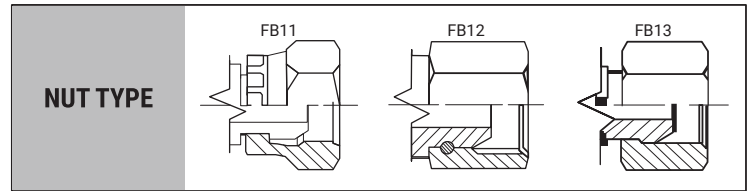
2894I SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S28941-04-03	7/16" x 20	5	3	17	10
S28941-04-04	7/16" x 20	6	4	17	10
S28941-05-04	1/2" x 20	6	4	17	10
S28941-06-04	9/16" x 18	6	4	19	11
S28941-05-05	1/2" x 20	8	5	17	10
S28941-06-05	9/16" x 18	8	5	19	11
S28941-05-06	1/2" x 20	10	6	17	10
S28941-06-06	9/16" x 18	10	6	19	11
S28941-08-06	3/4" x 16	10	6	24	15
S28941-06-08	9/16" x 18	12	8	19	11
S28941-08-08	3/4" x 16	12	8	24	15
S28941-10-08	7/8" x 14	12	8	27	16
S28941-12-08	1.1/16" x 12	12	8	32	21
S28941-10-10	7/8" x 14	16	10	27	16
S28941-12-10	1.1/16" x 12	16	10	32	21
S28941-10-12	7/8" x 14	19	12	27	16
S28941-12-12	1.1/16" x 12	19	12	32	21
S28941-14-12	1.3/16" x 12	19	12	36	21
S28941-16-12	1.5/16" x 12	19	12	41	24
S28941-12-16	1.1/16" x 12	25	16	32	21
S28941-16-16	1.5/16" x 12	25	16	41	24
S28941-16-20	1.5/16" x 12	32	20	41	24
S28941-20-20	1.5/8" x 12	32	20	50	25
S28941-24-20	1.7/8" x 12	32	20	60	27
S28941-24-24	1.7/8" x 12	38	24	60	27
S28941-32-32	2.1/2" x 12	50	32	75	34

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



JIC FEMALE 37° CONE 90° ELBOW SAE J514/J516

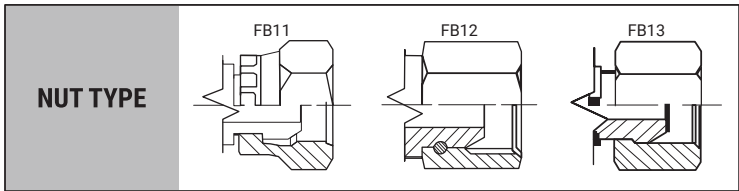
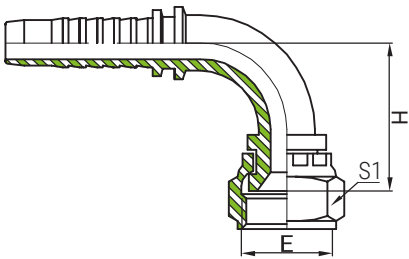


28991 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S28991-04-04	7/16" x 20	6	4	17	21
S28991-05-04	1/2" x 20	6	4	17	21
S28991-06-04	9/16" x 18	6	4	19	23
S28991-05-05	1/2" x 20	8	5	17	21
S28991-06-05	9/16" x 18	8	5	19	23
S28991-05-06	1/2" x 20	10	6	17	21
S28991-06-06	9/16" x 18	10	6	19	23
S28991-08-06	3/4" x 16	10	6	24	29
S28991-06-08	9/16" x 18	12	8	19	23
S28991-08-08	3/4" x 16	12	8	24	29
S28991-10-08	7/8" x 14	12	8	27	32
S28991-12-08	1.1/16" x 12	12	8	32	48
S28991-08-10	3/4" x 16	16	10	24	29
S28991-10-10	7/8" x 14	16	10	27	32
S28991-12-10	1.1/16" x 12	16	10	32	48
S28991-10-12	7/8" x 14	19	12	27	32
S28991-12-12	1.1/16" x 12	19	12	32	48
S28991-14-12	1.3/16" x 12	19	12	36	51
S28991-16-12	1.5/16" x 12	19	12	41	56
S28991-12-16	1.1/16" x 12	25	16	32	48
S28991-16-16	1.5/16" x 12	25	16	41	56
S28991-20-16	1.5/8" x 12	25	16	50	60
S28991-16-20	1.5/16" x 12	32	20	41	56
S28991-20-20	1.5/8" x 12	32	20	50	64
S28991-24-20	1.7/8" x 12	32	20	60	69
S28991-24-24	1.7/8" x 12	38	24	60	69
S28991-32-32	2.1/2" x 12	50	32	75	88

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

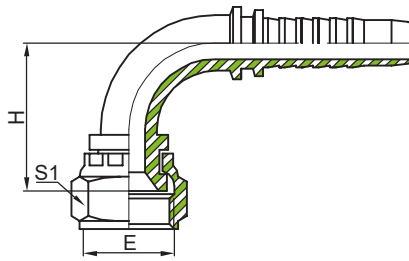
JIC FEMALE 37° CONE 90° ELBOW MEDIUM DROP
SAE J514/J516



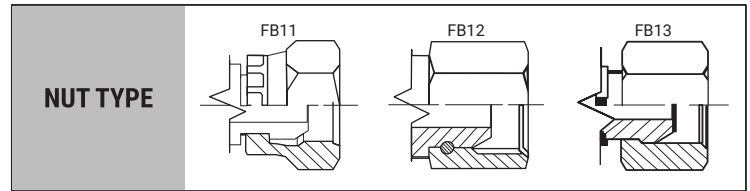
2899IM SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S28991M-04-04	7/16" x 20	6	4	17	32
S28991M-06-06	9/16" x 18	10	6	19	38
S28991M-08-06	3/4" x 16	10	6	24	41
S28991M-08-08	3/4" x 16	12	8	24	41
S28991M-12-10	1.1/16" x 12	16	10	32	58
S28991M-12-12	1.1/16" x 12	19	12	32	58

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



JIC FEMALE 37° CONE 90° ELBOW LONG DROP SAE J514/J516

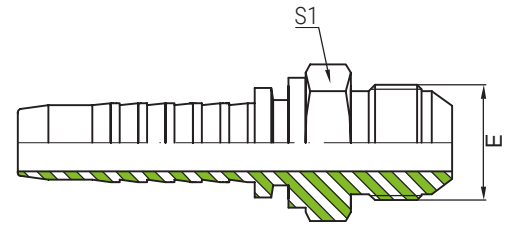


28991L SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S28991L-04-04	7/16" x 20	6	4	17	46
S28991L-05-04	1/2" x 20	6	4	17	46
S28991L-06-06	9/16" x 18	10	6	19	54
S28991L-08-06	3/4" x 16	10	6	24	64
S28991L-08-08	3/4" x 16	12	8	24	64
S28991L-10-10	7/8" x 14	16	10	27	70
S28991L-12-12	1.1/16" x 12	19	12	32	93
S28991L-14-12	1.3/16" x 12	19	12	36	100
S28991L-16-16	1.5/16" x 12	25	16	41	114
S28991L-20-20	1.5/8" x 12	32	20	50	129
S28991L-24-24	1.7/8" x 12	38	24	60	141
S28991L-32-32	2.1/2" x 12	50	32	75	222

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

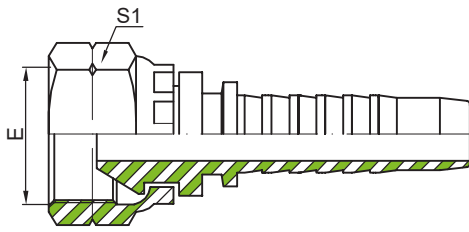
JIC MALE 37° CONE STRAIGHT SAE J514/J516



18911 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S18911-04-03	7/16" x 20	5	3	14	
S18911-04-04	7/16" x 20	6	4	14	
S18911-05-04	1/2" x 20	6	4	14	
S18911-06-04	9/16" x 18	6	4	17	
S18911-05-05	1/2" x 20	8	5	14	
S18911-06-05	9/16" x 18	8	5	17	
S18911-05-06	1/2" x 20	10	6	17	
S18911-06-06	9/16" x 18	10	6	17	
S18911-08-06	3/4" x 16	10	6	22	
S18911-10-06	7/8" x 14	10	6	24	
S18911-08-08	3/4" x 16	12	8	22	
S18911-10-08	7/8" x 14	12	8	24	
S18911-12-08	1.1/16" x 12	12	8	27	
S18911-10-10	7/8" x 14	16	10	24	
S18911-12-10	1.1/16" x 12	16	10	27	
S18911-14-10	1.3/16" x 12	16	10	32	
S18911-12-12	1.1/16" x 12	19	12	27	
S18911-14-12	1.3/16" x 12	19	12	32	
S18911-16-12	1.5/16" x 12	19	12	36	
S18911-12-16	1.1/16" x 12	25	16	27	
S18911-16-16	1.5/16" x 12	25	16	36	
S18911-20-16	1.5/8" x 12	25	16	46	
S18911-20-20	1.5/8" x 12	32	20	46	
S18911-24-20	1.7/8" x 12	32	20	50	
S18911-24-24	1.7/8" x 12	38	24	50	
S18911-32-32	2.1/2" x 12	50	32	65	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



NPSM FEMALE 30° CONE STRAIGHT

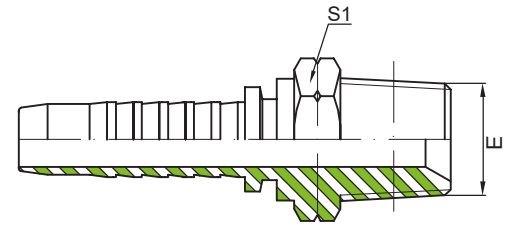
238II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S23811-04-03	1/4" x 18	5	3	19	
S23811-04-04	1/4" x 18	6	4	19	
S23811-06-04	3/8" x 18	6	4	22	
S23811-06-05	3/8" x 18	8	5	22	
S23811-04-06	1/4" x 18	10	6	19	
S23811-06-06	3/8" x 18	10	6	22	
S23811-08-08	1/2" x 14	12	8	27	
S23811-12-10	3/4" x 14	16	10	32	
S23811-12-12	3/4" x 14	19	12	32	
S23811-16-12	1" x 11.5	19	12	41	
S23811-16-16	1" x 11.5	25	16	41	
S23811-20-20	1.1/4" x 11.5	32	20	50	
S23811-24-20	1.1/2" x 11.5	32	20	55	
S23811-24-24	1.1/2" x 11.5	38	24	55	
S23811-32-32	2" x 11.5	50	32	70	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

NPTF MALE 30° CONE STRAIGHT

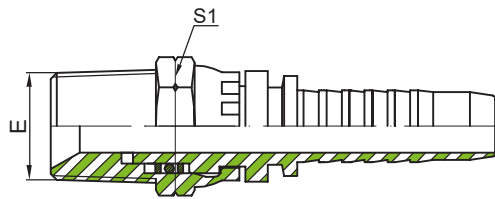
SAE J516



178II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S17811-02-03	1/8" x 27	5	3	14	
S17811-04-03	1/4" x 18	5	3	14	
S17811-02-04	1/8" x 27	6	4	14	
S17811-04-04	1/4" x 18	6	4	14	
S17811-06-04	3/8" x 18	6	4	19	
S17811-08-04	1/2" x 14	6	4	22	
S17811-04-05	1/4" x 18	8	5	17	
S17811-06-05	3/8" x 18	8	5	19	
S17811-04-06	1/4" x 18	10	6	17	
S17811-06-06	3/8" x 18	10	6	19	
S17811-08-06	1/2" x 14	10	6	22	
S17811-06-08	3/8" x 18	12	8	22	
S17811-08-08	1/2" x 14	12	8	22	
S17811-12-08	3/4" x 14	12	8	27	
S17811-08-10	1/2" x 14	16	10	22	
S17811-12-10	3/4" x 14	16	10	27	
S17811-16-10	1" x 11.5	16	10	36	
S17811-12-12	3/4" x 14	19	12	27	
S17811-16-12	1" x 11.5	19	12	36	
S17811-12-16	3/4" x 14	25	16	27	
S17811-16-16	1" x 11.5	25	16	36	
S17811-20-16	1.1/4" x 11.5	25	16	46	
S17811-20-20	1.1/4" x 11.5	32	20	46	
S17811-24-24	1.1/2" x 11.5	38	24	50	
S17811-32-32	2" x 11.5	50	32	65	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



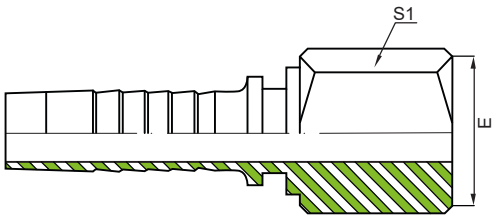
NPTF SWIVEL MALE 30° CONE STRAIGHT SAE J516

I7811W SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S17811W-02-04	1/8" x 27	6	4	14	
S17811W-04-04	1/4" x 18	6	4	17	
S17811W-06-04	3/8" x 18	6	4	19	
S17811W-06-05	3/8" x 18	8	5	19	
S17811W-04-06	1/4" x 18	10	6	17	
S17811W-06-06	3/8" x 18	10	6	19	
S17811W-08-06	1/2" x 14	10	6	22	
S17811W-08-08	1/2" x 14	12	8	22	
S17811W-12-12	3/4" x 14	19	12	27	
S17811W-16-16	1" x 11.5	25	16	36	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

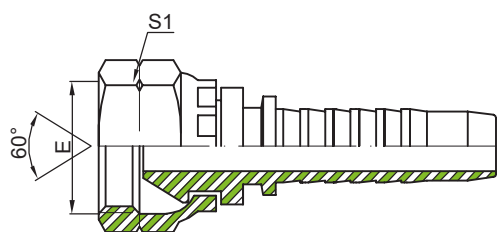
NPT FEMALE SOLID STRAIGHT



278II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S27811-04-04	1/4" x 18	6	4	19	
S27811-04-06	1/4" x 18	10	6	19	
S27811-06-06	3/8" x 18	10	6	22	
S27811-08-06	1/2" x 14	10	6	25.4	

*Dimensions provided are nominal for reference only and may vary based on current supply.

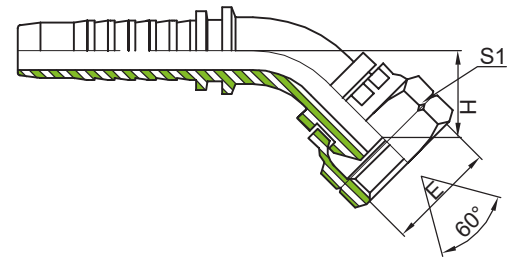
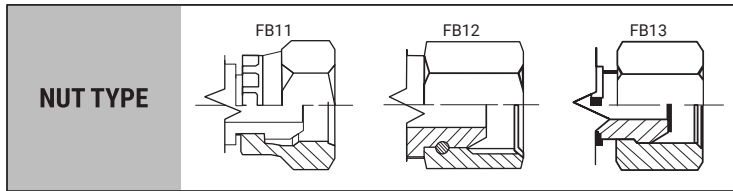
⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

**BSP FEMALE 60° CONE STRAIGHT**

248II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S24811-02-03	1/8" x 28	5	3	14	
S24811-04-03	1/4" x 19	5	3	19	
S24811-02-04	1/8" x 28	6	4	14	
S24811-04-04	1/4" x 19	6	4	19	
S24811-06-04	3/8" x 19	6	4	22	
S24811-04-05	1/4" x 19	8	5	19	
S24811-06-05	3/8" x 19	8	5	22	
S24811-04-06	1/4" x 19	10	6	19	
S24811-06-06	3/8" x 19	10	6	22	
S24811-08-06	1/2" x 14	10	6	27	
S24811-06-08	3/8" x 14	12	8	22	
S24811-08-08	1/2" x 14	12	8	27	
S24811-10-08	5/8" x 14	12	8	30	
S24811-12-08	3/4" x 14	12	8	32	
S24811-10-10	5/8" x 14	16	10	30	
S24811-12-10	3/4" x 14	16	10	32	
S24811-12-12	3/4" x 14	19	12	32	
S24811-16-12	1" x 11	19	12	41	
S24811-16-16	1" x 11	25	16	41	
S24811-20-16	1.1/4" x 11	32	16	50	
S24811-20-20	1.1/4" x 11	32	20	50	
S24811-24-20	1.1/2" x 11	32	20	60	
S24811-24-24	1.1/2" x 11	38	24	60	
S24811-32-24	2" x 11	38	24	70	
S24811-32-32	2" x 11	50	32	70	

*Dimensions provided are nominal for reference only and may vary based on current supply.

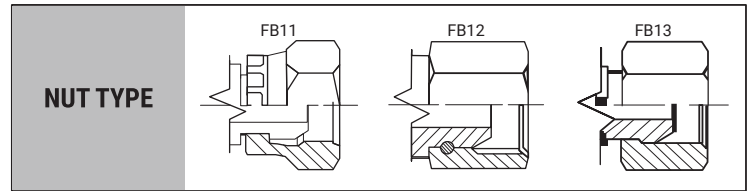
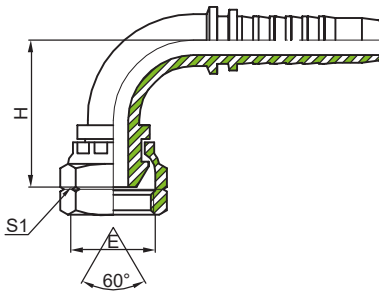
⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BSP FEMALE 60° CONE 45° ELBOW

24841 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S24841-04-04	1/4" x 19	6	4	19	15
S24841-06-04	3/8" x 19	6	4	22	16
S24841-06-05	3/8" x 19	8	5	22	15
S24841-06-06	3/8" x 19	10	6	22	15
S24841-08-06	1/2" x 14	10	6	27	16
S24841-08-08	1/2" x 14	12	8	27	17
S24841-10-08	5/8" x 14	12	8	30	22.5
S24841-12-08	3/4" x 14	12	8	32	26
S24841-10-10	5/8" x 14	16	10	30	26
S24841-12-10	3/4" x 14	16	10	32	27
S24841-12-12	3/4" x 14	19	12	32	28
S24841-16-12	1" x 11	19	12	41	30
S24841-16-16	1" x 11	25	16	41	37
S24841-20-16	1.1/4" x 11	25	16	50	31
S24841-20-20	1.1/4" x 11	32	20	50	39
S24841-24-24	1.1/2" x 11	38	24	60	45
S24841-32-32	2" x 11	50	32	70	47

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

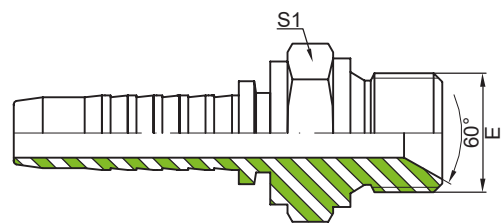
BSP FEMALE 60° CONE 90° ELBOW

24891 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	H
S24891-04-04	1/4" x 19	6	4	19	29
S24891-06-04	3/8" x 19	6	4	22	31
S24891-04-05	1/4" x 19	8	5	19	29.5
S24891-06-05	3/8" x 19	8	5	22	27.5
S24891-04-06	1/4" x 19	10	6	17	31.5
S24891-06-06	3/8" x 19	10	6	22	31.5
S24891-08-06	1/2" x 14	10	6	27	32
S24891-06-08	3/8" x 19	12	8	22	41
S24891-08-08	1/2" x 14	12	8	27	36
S24891-10-08	5/8" x 14	12	8	30	44
S24891-12-08	3/4" x 14	12	8	32	45.5
S24891-08-10	1/2" x 14	16	10	27	55
S24891-10-10	5/8" x 14	16	10	30	53.5
S24891-12-10	3/4" x 14	16	10	32	55
S24891-12-12	3/4" x 14	19	12	32	60
S24891-16-12	1" x 11	19	12	41	62
S24891-16-16	1" x 11	25	16	41	76
S24891-20-16	1.1/4" x 11	25	16	50	78
S24891-20-20	1.1/4" x 11	32	20	50	84
S24891-20-24	1.1/4" x 11	38	24	70	90
S24891-24-24	1.1/2" x 11	38	24	60	99
S24891-32-24	2" x 11	40	24	70	125
S24891-32-32	2" x 11	50	32	70	110

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

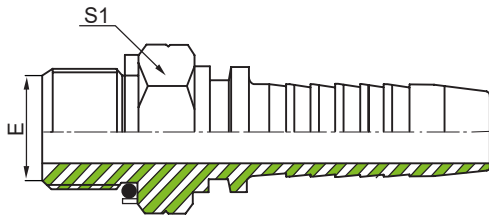
BSP MALE 60° CONE STRAIGHT



I48II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S14811-02-03	1/8" x 28	5	3	14	
S14811-02-04	1/8" x 28	6	4	14	
S14811-04-04	1/4" x 19	6	4	19	
S14811-06-04	3/8" x 19	6	4	22	
S14811-06-05	3/8" x 19	8	5	22	
S14811-04-06	1/4" x 19	10	6	19	
S14811-06-06	3/8" x 19	10	6	22	
S14811-08-06	1/2" x 14	10	6	27	
S14811-06-08	3/8" x 19	12	8	22	
S14811-08-08	1/2" x 14	12	8	27	
S14811-10-08	5/8" x 14	12	8	30	
S14811-12-08	3/4" x 14	12	8	32	
S14811-10-10	5/8" x 14	16	10	30	
S14811-12-10	3/4" x 14	16	10	32	
S14811-12-12	3/4" x 14	19	12	32	
S14811-16-12	1" x 11	19	12	41	
S14811-16-16	1" x 11	25	16	41	
S14811-20-16	1.1/4" x 11	25	16	50	
S14811-20-20	1.1/4" x 11	32	20	50	
S14811-24-20	1.1/2" x 11	32	20	60	
S14811-24-24	1.1/2" x 11	38	24	60	
S14811-32-32	2" x 11	50	32	70	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

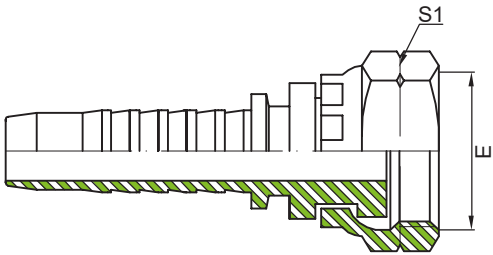
BSPP MALE O-RING FLAT SEAL STRAIGHT

I44II SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S14411-04-04	1/4" x 19	6	4	17	
S14411-08-04	1/2" x 14	6	4	27	
S14411-04-06	1/4" x 19	10	6	19	
S14411-06-06	3/8" x 19	10	6	22	
S14411-08-06	1/2" x 14	10	6	27	
S14411-08-08	1/2" x 14	12	8	27	
S14411-10-10	5/8" x 14	16	10	30	
S14411-12-10	3/4" x 14	16	10	32	
S14411-12-12	3/4" x 14	19	12	32	
S14411-12-16	3/4" x 14	25	16	32	
S14411-16-16	1" x 11	25	16	41	
S14411-20-20	1.1/4" x 11	32	20	50	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BSP FEMALE FLAT SEAL STRAIGHT

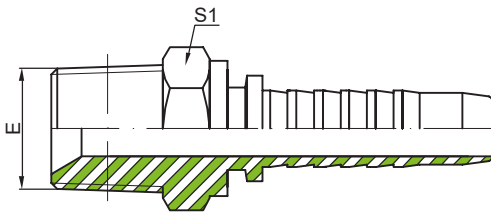


24411 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S24411-04-04	1/4" x 19	6	4	19	
S24411-06-04	3/8" x 19	6	4	22	
S24411-06-05	3/8" x 19	8	5	22	
S24411-04-06	1/4" x 19	10	6	19	
S24411-06-06	3/8" x 19	10	6	22	
S24411-08-06	1/2" x 14	10	6	27	
S24411-06-08	3/8" x 19	12	8	22	
S24411-08-08	1/2" x 14	12	8	27	
S24411-10-08	5/8" x 14	12	8	30	
S24411-12-08	3/4" x 14	12	8	32	
S24411-10-10	5/8" x 14	16	10	30	
S24411-12-10	5/8" x 14	16	10	30	
S24411-12-12	3/4" x 14	19	12	32	
S24411-16-12	1" x 11	19	12	41	
S24411-16-16	1" x 11	25	16	41	
S24411-20-20	1.1/4" x 11	32	20	50	
S24411-24-24	1.1/2" x 11	38	24	60	
S24411-32-32	2" x 11	50	32	70	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BSPT MALE STRAIGHT

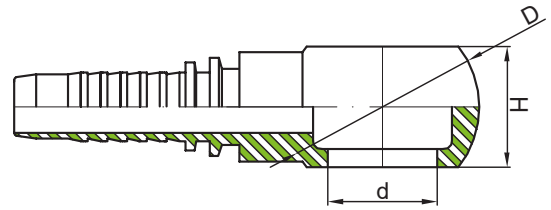


15211 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.	E	DN	DASH	S1	
S15211-02-04	1/8" x 28	6	4	12	
S15211-04-04	1/4" x 19	6	4	14	
S15211-06-04	3/8" x 19	6	4	19	
S15211-04-05	1/4" x 19	8	5	14	
S15211-06-05	3/8" x 19	8	5	19	
S15211-04-06	1/4" x 19	10	6	14	
S15211-06-06	3/8" x 19	10	6	19	
S15211-08-06	1/2" x 14	10	6	22	
S15211-06-08	3/8" x 19	12	8	19	
S15211-08-08	1/2" x 14	12	8	22	
S15211-12-08	3/4" x 14	12	8	27	
S15211-08-10	1/2" x 14	16	10	22	
S15211-12-10	3/4" x 14	16	10	27	
S15211-08-12	1/2" x 14	19	12	22	
S15211-12-12	3/4" x 14	19	12	27	
S15211-16-12	1" x 11	19	12	36	
S15211-12-16	3/4" x 14	25	16	27	
S15211-16-16	1" x 11	25	16	36	
S15211-20-20	1.1/4" x 11	32	20	46	
S15211-24-24	1.1/2" x 11	38	24	50	
S15211-32-24	2" x 11	38	24	65	
S15211-32-32	2" x 11	50	32	65	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

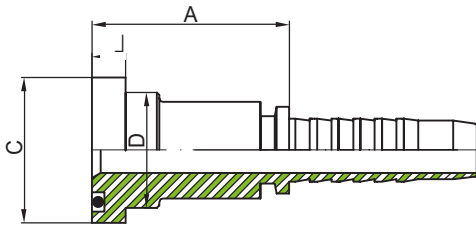
BSP BANJO



74211 SERIES	BOLT SIZE	HOSE BORE		DIMENSIONS (MM)		
PROPULSE FITTING PART NO.		DN	DASH	D	D	H
S74211-02-03	1/8" x 28	5	3	9.9	22	16
S74211-04-03	1/4" x 19	5	3	13.3	24	15
S74211-02-04	1/8" x 28	6	4	9.9	22	16
S74211-04-04	1/4" x 19	6	4	13.3	24	15
S74211-03-04	3/8" x 19	6	4	16.7	29	20
S74211-04-05	1/4" x 19	8	5	13.3	24	15
S74211-06-05	3/8" x 19	8	5	16.7	29	20
S74211-08-05	1/2" x 14	8	5	21	38	25
S74211-04-06	1/4" x 19	10	6	13.3	24	15
S74211-06-06	3/8" x 19	10	6	16.7	29	20
S74211-08-06	1/2" x 14	10	6	21	38	25
S74211-06-08	3/8" x 19	12	8	16.7	29	20
S74211-08-08	1/2" x 14	12	8	21	38	25
S74211-16-08	1" x 11	12	8	33.3	60	42
S74211-08-10	1/2" x 14	16	10	21	38	25
S74211-10-10	5/8" x 14	16	10	23	40	27
S74211-12-10	3/4" x 14	16	10	26.5	48	31
S74211-12-12	3/4" x 14	19	12	26.5	48	31
S74211-16-12	1" x 11	19	12	33.3	60	42
S74211-16-16	1" x 11	25	16	33.3	60	42

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



SAE CODE 61 3000PSI FLANGE STRAIGHT SAE J516/J518

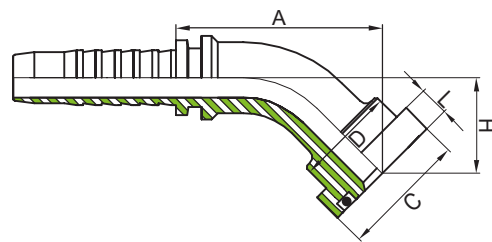
895II SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)			
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	L
S89511-08-08	1/2"	12	8	46	30.2	24	6.73
S89511-12-08	3/4"	12	8	47	38.1	31.7	6.73
S89511-12-10	3/4"	16	10	48	38.1	31.7	6.73
S89511-12-12	3/4"	19	12	48	38.1	31.7	6.73
S89511-16-12	1"	19	12	51	44.5	38	8
S89511-12-16	3/4"	25	16	49	38.1	31.7	6.73
S89511-16-16	1"	25	16	52	44.5	38	8
S89511-20-16	1.1/4"	25	16	57	50.8	43	8
S89511-16-20	1"	32	20	53	44.5	38	8
S89511-20-20	1.1/4"	32	20	58	50.8	43	8
S89511-24-20	1.1/2"	32	20	68	60.3	50	8
S89511-24-24	1.1/2"	38	24	68	60.3	50	8
S89511-32-24	2"	38	24	70	71.4	62	9.53
S89511-32-32	2"	50	32	70	71.4	62	9.53

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SAE CODE 61 3000PSI FLANGE 45° ELBOW

SAE J516/J518

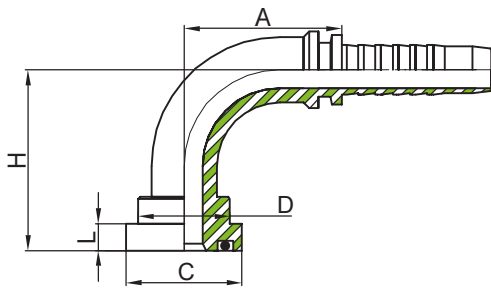


8954I SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)				
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	H	L
S89541-08-08	1/2"	12	8	58.2	30.2	24	19	6.73
S89541-12-08	3/4"	12	8	58.9	38.1	31.7	26	6.73
S89541-12-10	3/4"	16	10	70.1	38.1	31.7	26	6.73
S89541-12-12	3/4"	19	12	77	38.1	31.7	26	6.73
S89541-16-12	1"	19	12	77	44.5	38	28	8
S89541-16-16	1"	25	16	85.2	44.5	38	28	8
S89541-20-16	1.1/4"	25	16	85.2	50.8	43	32	8
S89541-16-20	1"	32	20	94.5	44.5	38	28	8
S89541-20-20	1.1/4"	32	20	94.5	50.8	43	32	8
S89541-24-20	1.1/2"	32	20	95.9	60.3	50	38	8
S89541-24-24	1.1/2"	38	24	109.9	60.3	50	38	8
S89541-32-24	2"	38	24	109.9	71.4	62	52	9.53
S89541-32-32	2"	50	32	129.3	71.4	62	52	9.53

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SAE CODE 61 3000PSI FLANGE 90° ELBOW SAE J516/J518

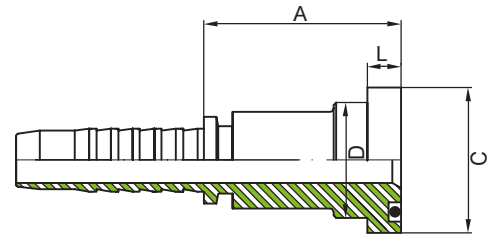


89591 SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)				
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	H	L
S89591-08-08	1/2"	12	8	41	30.2	24	40	6.73
S89591-12-08	3/4"	12	8	41	38.1	31.7	58	6.73
S89591-12-10	3/4"	16	10	56.5	38.1	31.7	58	6.73
S89591-12-12	3/4"	19	12	66.2	38.1	31.7	58	6.73
S89591-16-12	1"	19	12	66.2	44.5	38	61	8
S89591-12-16	3/4"	25	16	76.7	38.1	31.7	58	6.73
S89591-16-16	1"	25	16	78	44.5	38	61	8
S89591-20-16	1.1/4"	25	16	78	50.8	43	68	8
S89591-16-20	1"	32	20	91.5	44.5	38	61	8
S89591-20-20	1.1/4"	32	20	91.5	50.8	43	68	8
S89591-24-20	1.1/2"	32	20	91.5	60.3	50	81	8
S89591-20-24	1.1/4"	38	24	108.5	50.8	43	68	8
S89591-24-24	1.1/2"	38	24	109.4	60.3	50	81	8
S89591-32-24	2"	38	24	109.4	71.4	62	120	9.53
S89591-32-32	2"	50	32	131.8	71.4	62	120	9.53
S89591-40-32	2.1/2"	50	32	131.8	84.1	74.4	118	9.53

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

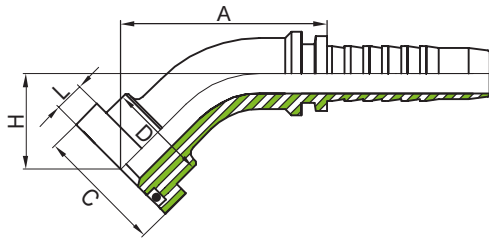
SAE CODE 62 6000PSI FLANGE STRAIGHT SAE J516/J518



898II SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)				
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	H	L
S89811-08-08	1/2"	12	8	47	31.8	24	7.75	6.73
S89811-12-10	3/4"	16	10	51	41.3	32	8.76	6.73
S89811-12-12	3/4"	19	12	51	41.3	32	8.76	6.73
S89811-16-12	1"	19	12	56	47.6	38	9.53	6.73
S89811-16-16	1"	25	16	57	47.6	38	9.53	8
S89811-20-16	1.1/4"	25	16	65	54	44	10.29	8
S89811-16-20	1"	32	20	61	47.6	38	9.53	8
S89811-20-20	1.1/4"	32	20	66	54	44	10.29	8
S89811-24-20	1.1/2"	32	20	75	63.5	51	12.57	8
S89811-24-24	1.1/2"	38	24	75	63.5	51	12.57	8
S89811-32-24	2"	38	24	85	79.4	67	12.57	8
S89811-32-32	2"	50	32	85	79.4	67	12.57	9.53

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



SAE CODE 62 6000PSI FLANGE 45° ELBOW SAE J516/J518

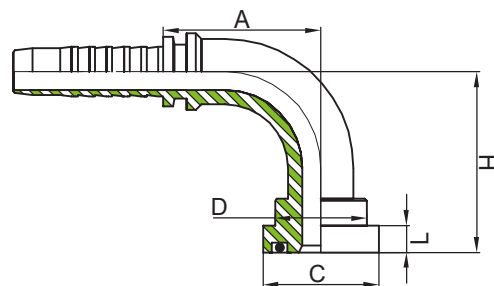
89841 SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)				
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	H	L
S89841-08-08	1/2"	12	8	58.9	31.8	24	19	7.75
S89841-12-10	3/4"	16	10	72.5	41.3	32	26	8.76
S89841-08-12	1/2"	19	12	74.9	31.8	24	26	7.75
S89841-12-12	3/4"	19	12	79.2	41.3	32	26	8.76
S89841-16-12	1"	19	12	79.2	47.6	38	28	9.53
S89841-16-16	1"	25	16	90.2	47.6	38	28	9.53
S89841-20-16	1.1/4"	25	16	96.2	54	44	32	10.29
S89841-20-20	1.1/4"	32	20	103.8	54	44	32	10.29
S89841-24-20	1.1/2"	32	20	105.8	63.5	51	38	12.57
S89841-24-24	1.1/2"	38	24	116.2	63.5	51	38	12.57
S89841-32-24	2"	38	24	125.4	79.4	67	52	12.57
S89841-32-32	2"	50	32	135.7	79.4	67	52	12.57

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SAE CODE 62 6000PSI FLANGE 90° ELBOW

SAE J516/J518

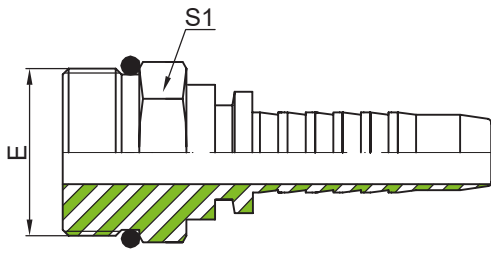


89891 SERIES	FLANGE	HOSE BORE		DIMENSIONS (MM)				
PROPULSE FITTING PART NO.	SIZE	DN	DASH	A	C	D	H	L
S89891-08-08	1/2"	12	8	41	31.8	24	40	7.75
S89891-12-10	3/4"	16	10	56.5	41.3	32	58	8.76
S89891-12-12	3/4"	19	12	66.2	41.3	32	58	8.76
S89891-16-12	1"	19	12	66.2	47.6	38	70	9.53
S89891-16-16	1"	25	16	78	47.6	38	61	9.53
S89891-20-16	1.1/4"	25	16	78	54	44	68	10.29
S89891-16-20	1"	32	20	91.5	47.6	38	61	9.53
S89891-20-20	1.1/4"	32	20	91.5	54	44	68	10.29
S89891-24-20	1.1/2"	32	20	91.5	63.5	51	81	12.57
S89891-24-24	1.1/2"	38	24	109.4	63.5	51	81	12.57
S89891-32-24	2"	38	24	109.4	79.4	67	120	12.57
S89891-32-32	2"	50	32	131.8	79.4	67	120	12.57

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

STANDARD ORB MALE SOLID SAE J514/J516

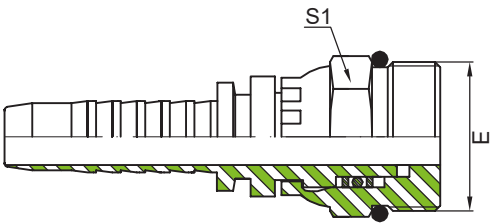


18211 SERIES	THREAD	HOSE BORE		DIMENSIONS (MM)	
PROPULSE FITTING PART NO.		DN	DASH	S1	
S18211-04-04	7/16" x 20	6	4	14	
S18211-05-04	1/2" x 20	6	4	17	
S18211-06-05	9/16" x 18	8	5	17	
S18211-06-06	9/16" x 18	10	6	17	
S18211-08-06	3/4" x 16	10	6	22	
S18211-08-08	3/4" x 16	12	8	22	
S18211-10-08	7/8" x 14	12	8	27	
S18211-10-10	7/8" x 14	16	10	27	
S18211-12-10	1.1/16" x 12	16	10	32	
S18211-12-12	1.1/16" x 12	19	12	32	
S18211-16-16	1.5/16" x 12	25	16	41	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

STANDARD ORB MALE SWIVEL
SAE J514/J516



I8211W SERIES PROPULSE FITTING PART NO.	THREAD	HOSE BORE		DIMENSIONS (MM)	
		DN	DASH	S1	
S18211W-04-04	7/16" x 20	6	4	14	
S18211W-06-04	9/16" x 18	6	4	17	
S18211W-06-06	9/16" x 18	10	6	17	
S18211W-08-06	3/4" x 16	10	6	22	
S18211W-08-08	3/4" x 16	12	8	22	
S18211W-10-08	7/8" x 14	12	8	27	
S18211W-12-08	1.1/16" x 12	12	8	32	
S18211W-10-10	7/8" x 14	16	10	27	
S18211W-12-12	1.1/16" x 12	19	12	32	

*Dimensions provided are nominal for reference only and may vary based on current supply.

⚠ WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

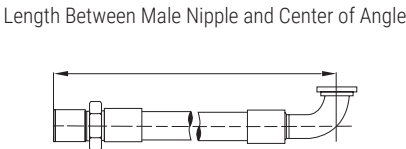
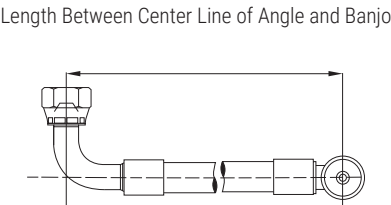
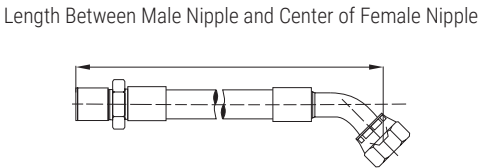
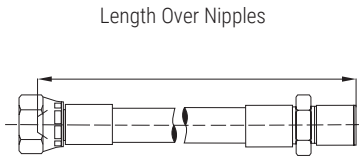


ASSEMBLIES



MEASURING THE LENGTH OF A CRIMPED HOSE ASSEMBLY

The overall length of the hose assembly is measured to the sealing surface of straight fittings or to the centerline of elbow fittings. See below:



LENGTH TOLERANCES FOR HOSE ASSEMBLIES	
OVERALL ASSEMBLY LENGTH	TOLERANCE
Up to 300mm (11.811"), included	± 3mm (±0.118")
Over 300mm (11.811") through 450mm (17.717"), included	± 5mm (± 0.197")
8 Over 450mm (17.717") through 900mm (35.433"), included	± 7mm (± 0.276")
Over 900mm (35.433")	± 1%

*When not specified by customer print the above tolerances will be applied to all hose assemblies. These tolerances are standard as specified by the SAE J517 standard for hydraulic hose.

SELECTING THE PROPER HOSE ASSEMBLY

The "STAMPED" acronym is used to help remember the most important hose attributes to consider when selecting a hose assembly: Size, Temperature, Application, Material, Pressure, Ends and Delivery.

- S SIZE**
› What is the size of the hose? Inside Diameter (I.D.)? Outside diameter (O.D.)? Coupled length (OAL)?
- T TEMPERATURE**
› What is the temperature of fluid being conveyed and the environmental conditions?
- A APPLICATION**
› How is the hose being used? Suction? Discharge? Pressure? Conditions to consider (i.e. abrasion, flexing and routing)?
- M MATERIAL**
› What material is being conveyed through the hose (composition and concentration)?
- P PRESSURE**
› What is the maximum pressure (PSI) or suction (in/HG)? SAE or DIN rating? Bend Radius?
- E ENDS**
› What fittings do you want on each end or do you want it open ended? SAE rating?
- D DELIVERY**
› When do you want the hoses? (Consider time for delivery, including testing, quality assurance and packaging.)

To assist in obtaining and conveying information regarding your hose assembly, a copy of the S.T.A.M.P.E.D. form can be downloaded from our website at <http://www.PowerMovingForward.com/support-center/>.

HOSE INSTALLATION AND BEST PRACTICES

The ProPulse team can assist customers with harsh applications by providing the proper solution to meet your need. This can include ozone and UV resistant thermoplastic hose, intermediate abrasion resistant ROCK cover, or the extreme duty shield cover. For added protection, a hose wrap or nylon cover can be added to help protect the hose from the riggers of usage.

In addition, the ProPulse team can help with routing solutions and advise with the proper use of adapters and clamps to keep your hoses “happy” for years of trouble free service.

Following is a list of basic drawings that help with every day hose routing issues customers face. This guide can help aid in the proper routing and installation of hose assemblies in various applications.

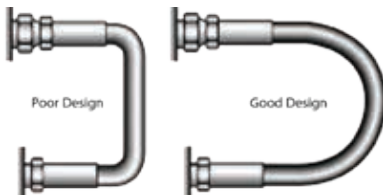


FIGURE 1. In the left image, the hose is too short not allowing for the hose to have the proper bend radius. This causes strain on the crimp joint. The top picture shows the correct hose length providing correct bend radius.

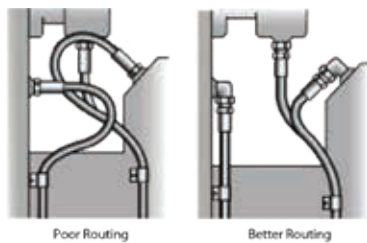


FIGURE 2. The image on the left shows a cluttered hose routing that could induce unnecessary hose wear and hose life. Better choice of end fittings and use of adapters helps clean up the routing facilitating longer hose life and is easier to maintain.

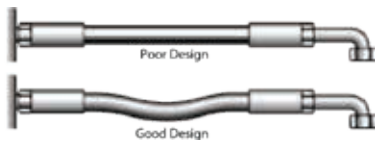


FIGURE 3. Hose length should be looked at closely to provide for the flexing of hose when there is contraction and expansion during use.

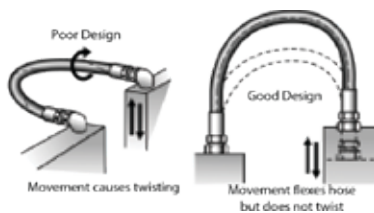


FIGURE 4. Be aware of hose routings that have torsion and twisting involved. Hoses should be routed to limit this torsion as it can have a negative effect on the crimp integrity and can reduce hose life.

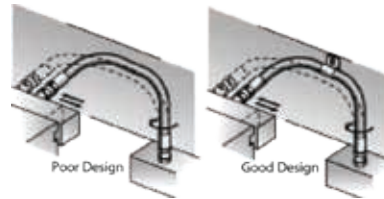


FIGURE 5. The proper use of clamps can help relax when there is movement in more than one plane. Caution must be taken that the correct clamp is used as to not damage the cover of the hose and to provide enough length of hose on either side of the clamp to provide enough room for movement.

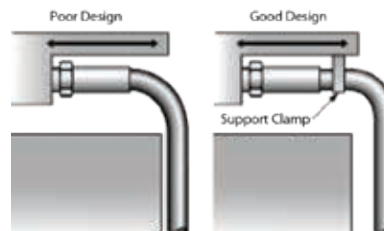


FIGURE 6. Support clamps are a good tool to use when trying to limit hose wear due to abrasion. Clamps can be used to isolate hose and hold them away from abrasive surfaces or environments.

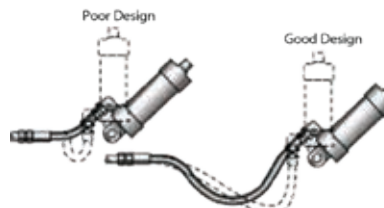


FIGURE 7. When routing hose, care must be given to note all areas that have movement and how the hose will move. No part of the system movement should cause the hose bend radius to be exceeded or cause undue stress at the crimp joint.

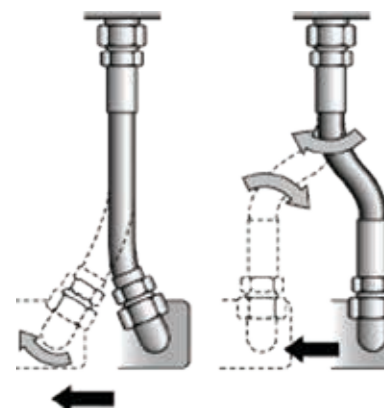


Figure 8. Choosing the correct fittings can improve the life of the hose. In this case, swivel ends are used to limit the torsion in the hose. Swivel ends can aid in maintenance and replacement.



APPENDIX



CHEMICAL RESISTANCE & APPROVED FLUID MEDIA

ProPulse hoses are suitable for most mineral and synthetic oil based hydraulic fluids. This would include HL, HLP, HLPD and HVLP. In applications for oil-water emulsions HFAE, HFAS and HFB fluids are suitable for use. Additionally, water glycol solutions (HFC) are also suitable for use with ProPulse hydraulic hoses. Vegetable and mineral oil-based lubricants area also acceptable solutions that can be used with ProPulse hydraulic hoses as well. Biodegradable hydraulic fluids such as bio-oils, HETG, HEPG and HEES can also be used with ProPulse hydraulic hoses. In individual cases there may be restrictions due to manufacturer specific oil additives.

The wire braided hydraulic hoses noted in this catalog are also capable of handling compressed air up to a maximum of 725psi (50 bar) at a maximum of 176°F (80°C) with a restricted service life.

WARNING: This information shall be intended only as reference to hose compatibility with the internal fluids. No representations, guarantees or warranties of any kind are made to its accuracy, suitability for particular applications or the results obtained. Other operational factors may also impact the service life of the hose. Improper selection of fluid media can cause irreversible damage to hose and lead to premature failure. It is advisable to test the material under actual service conditions before specification. This information must not be used in conjunction with any other compatibility information from previous or future catalog editions, bulletins or publications. Incorrect use of this information can result in death, personal injury or property damage. For compatibility questions on specific fluids or additives please contact ProPulse representatives.

CHEMICAL COMPATIBILITY OF TEXTILE SLEEVEING

Gasoline	Very Good
Oil	Very Good
Mineral & Vegetable	Very Good
Ionic Metallic Solutions	Very Good
Alcohols	Very Good
Diluted Bases	Very Good
Diluted Acids	Good
Benzene	Very Good
Ether	Very Good
Carbon Tetrachloride	Very Good
Chlorine Based Solvents	Very Good
Mold, Bacteria, Moths	Very Good
Strong & Concentrated Acids	Very Good
Concentrated Acids	May Have Some Corrosive Action

COUPLING & ADAPTER TORQUE RECOMMENDATIONS

METRIC 24°, 60° & UNIVERSAL INVERTED CONE

THREAD SIZE	TUBE DIA. (DKOS)	TUBE DIA. (DKOL)	SWIVEL NUT TORQUE RANGE	
	MM	MM	NM	FT.LBF
M12 X 1,5		6	10 – 20	7 – 15
M14 X 1,5		8	20 – 35	15 – 26
M16 X 1,5	8	10	25 – 40	18 – 30
M18 X 1,5	10	12	30 – 45	22 – 33
M20 X 1,5	12		35 – 50	26 – 37
M22 X 1,5	14	15	40 – 70	30 – 52
M24 X 1,5	16		40 – 70	30 – 52
M26 X 1,5		18	60 – 100	44 – 74
M30 X 2,0	20	22	80 – 120	59 – 89
M36 X 2,0	25	28	100 – 150	74 – 111
M42 X 2,0	30		150 – 220	74 – 163
M45 X 2,0		35	180 – 250	133 – 184
M52 X 2,0	38	42	200 – 300	148 – 221

ORFS

THREAD SIZE	DASH SIZE	SAE RECOMMENDED SWIVEL NUT TORQUE RANGE	
		NM	FT.LBF
9/16 – 18	-4	14 – 16	10 – 12
11/16 – 16	-6	24 – 27	18 – 20
13/16 – 16	-8	43 – 47	32 – 35
1 – 14	-10	60 – 68	46 – 50
1.3/16 – 12	-12	90 – 95	65 – 70
1.7/16 – 12	-16	125 – 135	92 – 100
1.11/16 – 12	-20	170 – 190	125 – 140
2 – 12	-24	200 – 225	150 – 165

COUPLING & ADAPTER

TORQUE RECOMMENDATIONS (CONTINUED)

JIC 37° & SAE 45° (MACHINED OR FLARED)

THREAD SIZE	DASH SIZE	SAE RECOMMENDED SWIVEL NUT TORQUE RANGE	
		NM	FT.LBF
5/16 – 24	-2	8 – 9	6 – 7
3/8 – 24	-3	11 – 12	8 – 9
7/16 – 20	-4	15 – 16	11 – 12
1/2 – 20	-5	19 – 21	14 – 15
9/16 – 18	-6	24 – 28	18 – 20
3/4 – 16	-8	49 – 53	36 – 39
7/8 – 14	-10	77 – 85	57 – 63
1.1/16 – 12	-12	107 – 119	79 – 88
1.3/16 – 12	-14	127 – 140	94 – 103
1.5/16 – 12	-16	147 – 154	108 – 113
1.5/8 – 12	-20	172 – 181	127 – 133
1.7/8 – 12	-24	215 – 226	158 – 167
2.1/2 – 12	-32	332 – 350	245 – 258

UNO (O-RING BOSS)

THREAD SIZE	DASH SIZE	SAE RECOMMENDED STRAIGHT FITTING OR LOCK NUT TORQUE RANGE	
		NM	FT.LBF
3/8 – 24	-3	11 – 13	8 – 10
7/16 – 20	-4	20 – 22	14 – 16
1/2 – 20	-5	24 – 27	18 – 20
9/16 – 18	-6	33 – 35	24 – 26
3/4 – 16	-8	68 – 78	50 – 60
7/8 – 14	-10	98 – 110	72 – 82
1.1/16 – 12	-12	170 – 183	125 – 135
1.5/16 – 12	-16	270 – 300	200 – 220
1.5/8 – 12	-20	285 – 380	210 – 280
1.7/8 – 12	-24	370 – 490	270 – 360

BSPP NUTS

THREAD SIZE	DASH SIZE	SWIVEL NUT TORQUE RANGE	
		NM	FT.LBF
1/8	-2	11 – 12	8 – 9
1/4	-4	25 – 28	18 – 20
3/8	-6	41 – 48	30 – 35
1/2	-8	72 – 82	55 – 60
5/8	-10	96 – 110	70 – 80
3/4	-12	124 – 137	90 – 100
1	-16	151 – 165	110 – 120
1.1/4	-20	192 – 206	140 – 150
1.1/2	-24	261 – 275	190 – 200
2	-32	343 – 357	250 – 260

CONVERSION TABLES

ENGLISH TO METRIC EQUIVALENTS

Inches x 25.4 = MilliMeters (mm)
Inches x 2.54 = CentiMeters (cm)
Feet x .3048 = Meters (m)
Yard x .9144 = Meters (m)
PSI x .0689 = Bar
PSI x .0069 = Megapascals (MPa)
PSI x .0703 = Kilogram Force per Square Centimeter (Kgf/cm)
Pound Fource x 4.448 = Newtons
Pound Inch .113 = Newton Meters N * m
Pound Foot x 1.356 = Newton Meters N * m

METRIC TO ENGLISH EQUIVALENTS

Millimeter x .0394 = Inch (in)
Centimeter x .3937 = Inch (in)
Meters x 3.281 = Feet (ft)
Meters x 1.0936 = Yards (yd)
Bar x 14.5 = PSI
Megapascals x 145.0 = PSI
Kilogram Force per Square Centimeter x 14.22 = PSI
Newtons x .2248 = Pounds Force (lbf)
Newton Meter x 8.850 = Pound * Inches (lb * in)
Newton Meter x .737 = Pound Feet (lb * ft)

HOSE SIZE CONVERSION TABLE

HOSE SIZE			
DN	DASH	MM	INCH
3	-2	3.7	1/8"
5	-3	4.8	3/16"
6	-4	6.3	1/4"
8	-5	8.0	5/16"
10	-6	9.5	3/8"
12	-8	12.7	1/2"
16	-10	16,0	5/8"
19	-12	19.0	3/4"
25	16	25.4	1"
31	-20	32.0	1 1/4"
38	-24	38.0	1 1/2"
51	-32	50,8	2"
60	-38	60.0	2 3/8"
63	-40	63,5	2 1/2"
76	-48	76.2	3"
89	-56	88.9	3 1/2"
102	-64	101,6	4"

WARNINGS

Improper selection or improper use of hose, fittings, assemblies or related accessories ("Products") can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- › Fittings thrown off at high speed.
- › High velocity fluid discharge.
- › Explosion or burning of the conveyed fluid.
- › Electrocution from high voltage electric power lines.
- › Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- › Injections by high-pressure fluid discharge.
- › Dangerously whipping Hose.
- › Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- › Sparking or explosion caused by static electricity buildup or other sources of electricity.
- › Sparking or explosion while spraying paint or flammable liquids.
- › Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any ProPulse Products, it is important that you read and understand the following:

IF YOU SEE "IT" – STOP "IT"

Failure to properly repair or replace hose after exposing braid. Reinforcement layer can cause death, personal injury and property damage. Like strands in a bridge cable, each reinforcement fiber plays an exact role in the ultimate burst strength of the hose. A minor slice or nick in the reinforcement can result in total hose failure.

The age of the hose does not matter! It is unfortunate, but even hose used one (1) time can be damaged in severe applications. These hoses must be immediately removed from service.

HOSE BASICS

1. Never exceed the maximum working pressure.
2. Never exceed the maximum working temperature.
3. Never apply pressure to a damaged hose.
4. High pressure hoses are designed to use specific fittings or tooling. Never use a different brand of fittings to tooling. Failure to do so can cause death, personal injury and/or property damage.
5. A kinked, crushed, or blistered hose will eventually fail – do not risk injury. Immediately repair or remove hose from service.
6. Follow the pump/equipment manufacturers instructions for pressurized hose testing.

PROPULSE LIMITED WARRANTY

Subject to the limitations stated herein, Schieffer Co. International, L.C., dba ProPulse (Seller) warrants that the products manufactured by Seller identified below shall be free from material defects in materials and workmanship and shall perform the services for which they are intended when properly installed, under normal use, and under ordinary conditions, for a period of 365 days from the date of shipment of the product to BUYER.

Buyer must notify Seller in writing of a potentially defective product as soon as possible, which notice must provide the appropriate marked date codes, part numbers of the product and a description of the potential defect. Upon receipt of such notice, Seller shall, at its option and at its expense, examine such product at Seller's factory or such other location as Seller shall determine. Should Seller agree to a return of the product, Buyer shall follow in every respect the packaging and transportation instructions provided by Seller. In no case shall a product be returned without first obtaining the permission of Seller. If a product is proven to the satisfaction of Seller to be defective, then Seller shall, at its option and at its expense, repair or replace such product or reimburse Buyer for the price paid by Buyer for such product, and credit will be issued to Buyer to offset the expense of the return shipment to Seller for shipments within the continental United States. The cost of shipping to Buyer a repaired or replaced product shall be paid by Seller on the same shipping terms as the original shipment of such product to Buyer. Except as stated herein, Buyer shall assume all responsibility and expense for any dismantling, removal, re-installation, and shipping in connection with this Limited Warranty, and no claims will be allowed for labor, shipping, materials, incidental, consequential, or other costs incident to the repair, replacement, or return of a product.

THIS LIMITED WARRANTY IS THE ONLY WARRANTY PROVIDED BY SELLER AND IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING.

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON PRODUCTS BUILT OR ACQUIRED WHOLLY OR PARTIALLY TO BUYER'S DESIGNS OR SPECIFICATIONS.

SELLER'S LIABILITY IS LIMITED TO REPAIR, REPLACEMENT, OR REIMBURSEMENT AS PROVIDED ABOVE, AND IN NO EVENT SHALL SELLER'S LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT(S) INVOLVED. THIS LIMITED WARRANTY PROVIDES THE EXCLUSIVE REMEDY AGAINST SELLER FOR CLAIMS RELATING TO PRODUCTS, WHETHER IN CONTRACT, IN

TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER LEGAL THEORY, AND WHETHER ARISING OUT OF WARRANTIES, REPRESENTATIONS, INSTRUCTIONS, OR DEFECTS FROM ANY CAUSE. IN NO EVENT SHALL SELLER BE LIABLE FOR OR OBLIGATED TO PAY ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO LOST PROFITS.

THIS LIMITED WARRANTY EXTENDS ONLY TO BUYERS WHO PURCHASE SELLER'S PRODUCT(S) DIRECTLY FROM SELLER ("ORIGINAL PURCHASERS"), INCLUDING MANUFACTURERS, RETAILERS, DEALERS, DISTRIBUTORS AND WHOLESALERS. THIS LIMITED WARRANTY IS NOT ASSIGNABLE OR OTHERWISE TRANSFERABLE BY THE ORIGINAL PURCHASER TO ANY OTHER PARTY. SELLER EXTENDS NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO "CONSUMERS," AS THAT TERM IS DEFINED IN THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C. SECTIONS 2301 ET SEQ.) AND THE REGULATIONS PROMULGATED THEREUNDER. IN NO EVENT SHALL THE DURATION OF ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE BE LONGER THAN THE PERIOD PRESCRIBED HEREIN.

This Limited Warranty shall not apply to product failure or defect: caused by external or internal abrasion, kinking, twisting, cutting, pulling, impact, use for the transfer or spray of flammable materials (including solvents, petroleum, and gases of any kind), use with fluids which exceed the product's labeled pressure or temperature limits, storm, fire, wind, accident, or similar casualty; where the product has been modified without the prior written authority of Seller; caused by installation or use of the product contrary to any instructions or specifications provided by Seller; caused by the improper installation, use, application, maintenance, repair, transportation, handling, or storage of the product; caused by the fault or negligence of anyone other than Seller or any other act or event beyond the control of Seller. Also seller makes no warranties as to any products or product parts or components that are not manufactured by Seller, and such items may be warranted only to the extent of the original manufacturer's warranty, if any. The limitations of liability contained in this Limited Warranty shall be effective without regard to Seller's performance or failure or delay of performance under any other term or condition of any trade customs, warranty, or other agreement. No employee, representative, or agent of Seller, nor any other person, has authority to assume or incur on behalf of Seller any liability, obligation, or responsibility in place of or in addition to this Limited Warranty.

NOTES

VALUE YOU CAN EXPECT

- › **Continued Growth and Expansion.** The company began as an importer and assembler of hoses for hydraulic actuation and high pressure cleaning applications as Schieffer Co. International in 1998. ProPulse, a Schieffer Co. (rebranded in 2014) now occupies 65,000 square feet in Peosta, IA, and is looking at yet another expansion.
- › **A Fully Integrated North American Manufacturer Partner Active in the Reshoring Renaissance.** Since 1998, the company has moved from being a simple buyer and assembler of outsourced hoses toward being a fully integrated manufacturer of value added high pressure hose systems. The manufacture of thermoplastic yarn reinforced hose started in 2005. The wire braiding process began in 2012.
- › **Factory Direct Purchasing of Finished Assemblies with a Logistical Advantage.** Our advantage is also logistical. ProPulse is located in the virtual geographic center of North America (Peosta, Iowa) which allows short delivery times to production lines. In other words: factory to factory and production line to production line. No middle man. As a manufacturer, shouldn't you be buying hose assemblies directly from the manufacturer?
- › **ISO 9001:2015 Certification.** Certified in 2015, the company continues to implement and embrace the most modern practices of quality, lean manufacturing principles and continuous process improvement.
- › **Exceptional Customer Service & Support. Another innovation for top customers is the "VIP" program, whereby, a quarterly self-assessment is supplied.** This "report card" self-assesses ProPulse performance on the basis of quality, on time delivery and customer service. Further, every report includes an opportunity for a specific Value Improvement Program (VIP). Examples of VIP include opportunities for hard cost savings by using a different product (for example), or for soft savings such as returnable packaging, Kan Ban, kitting and the like. Customers can look forward to always receiving something new and creative every quarter.
- › **Product Development Focus.** ProPulse has obtained multiple patents and applications pending for innovative high pressure hose types. Efforts to improve existing products and develop new and innovative products remains the highest priority.

Our location, outstanding products and customer support are the main ingredients that will keep your

POWER MOVING FORWARD.





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