

SAPPHIRE **HYDRAULICS**

HYDRAULIC HOSES AND FITTINGS



*Contact us for hoses and fittings not in the catalog *Only items in this catalog are carried in stock.

*Some items are subject to minimum quantities or sold in multiples of standard quantities.

*Prices subject to change without notice.

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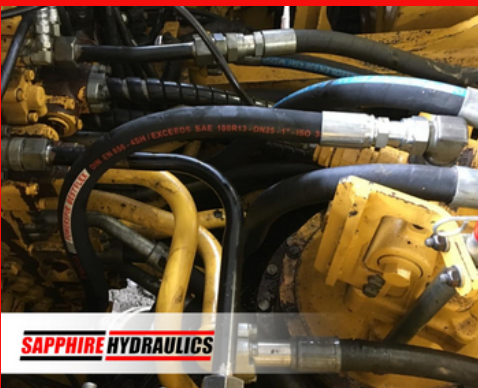
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Page 3. **FORZA DUE**

FROZA DUE- SHARK SKIN

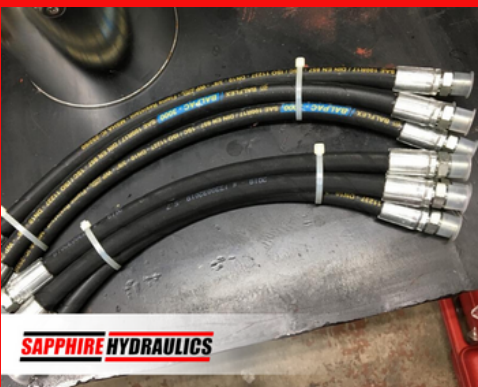
Page 4. **POWERSPIR BESTFLEX R13**



Page 5. **BALPAC PREMIUM**

BALPAC IMPACTUS

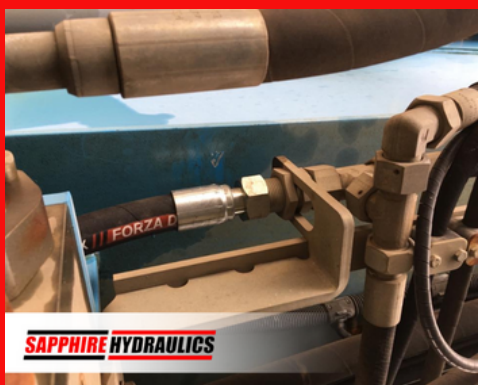
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FORZA DUE



DIN EN 853 2SN / SAE 100R2AT / ISO 1436 - 10.1004.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash								
					mm	mm	MPa	PSI	MPa	PSI	mm	kg/m
R2AT-03	10.1004.03	DN5	3/16"	-3	4,8	13,4	41.5	6100	165.0	24400	89	0,32
R2AT-04	10.1004.04	DN6	1/4"	-4	6,3	14,7	40.0	5800	160.0	23200	100	0,38
R2AT-05	10.1004.05	DN8	5/16"	-5	8,0	16,5	35.0	5100	140.0	20400	114	0,45
R2AT-06	10.1004.06	DN10	3/8"	-6	9,5	18,7	33.0	4800	132.0	19200	127	0,53
R2AT-08	10.1004.08	DN12	1/2"	-8	12,7	21,9	27.5	4000	110.0	16000	178	0,65
R2AT-10	10.1004.10	DN16	5/8"	-10	16,0	25,3	25.0	3700	100.0	14800	200	0,76
R2AT-12	10.1004.12	DN19	3/4"	-12	19,0	29,3	21.5	3200	86.0	12800	240	1,00
R2AT-16	10.1004.16	DN25	1"	-16	25,4	37,9	16.5	2400	65.0	9600	300	1,48
R2AT-20	10.1004.20	DN31	1 1/4"	-20	32,0	47,5	12.5	1900	50.0	7600	419	2,14
R2AT-24	10.1004.24	DN38	1 1/2"	-24	38,0	54,6	9.0	1400	36.0	5600	500	2,55
R2AT-32	10.1004.32	DN51	2"	-32	50,8	67,4	8.0	1200	32.0	4800	630	3,30
R2AT-40	10.1004.40	DN63	2 1/2"	-40	63,5	78,0	7.0	1100	28.0	4400	760	3,96
R2AT-48	10.1004.48	DN76	3"	-48	76,2	90,0	5.5	800	22.0	3200	900	4,96

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids
TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F)
 Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED
AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

NOTES: : Size -48 (3") not included in the standards.
 Balflex® hydraulic hose DIN EN 853 2SN / SAE 100R2AT has a very superior working and burst pressure compared with only SAE 100R2AT







BALFLEX // FORZA DUE 2SN - DN5 - DIN EN 853 / SAE 100R2AT / ISO 1436 - 3/16" - WP 41.5MPa 6100PSI - Flame Resistant - MSHA IC-252/00

FORZA DUE - SHARK SKIN



DIN EN 853 2SN / SAE 100R2AT / ISO 1436 - 10.10S4.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash								
					mm	mm	MPa	PSI	MPa	PSI	mm	kg/m
R2AT-03-SC	10.10S4.03	DN5	3/16"	-3	4,8	13,4	41.5	6100	165.0	24400	89	0,32
R2AT-04-SC	10.10S4.04	DN6	1/4"	-4	6,3	14,7	40.0	5800	160.0	23200	100	0,38
R2AT-05-SC	10.10S4.05	DN8	5/16"	-5	8,0	16,5	35.0	5100	140.0	20400	114	0,45
R2AT-06-SC	10.10S4.06	DN10	3/8"	-6	9,5	18,7	33.0	4800	132.0	19200	127	0,53
R2AT-08-SC	10.10S4.08	DN12	1/2"	-8	12,7	21,9	27.5	4000	110.0	16000	178	0,65
R2AT-10-SC	10.10S4.10	DN16	5/8"	-10	16,0	25,3	25.0	3700	100.0	14800	200	0,76
R2AT-12-SC	10.10S4.12	DN19	3/4"	-12	19,0	29,3	21.5	3200	86.0	12800	240	1,00
R2AT-16-SC	10.10S4.16	DN25	1"	-16	25,4	37,9	16.5	2400	65.0	9600	300	1,48

INNER TUBE: seamless oil resistant synthetic rubber
REINFORCEMENT: 2 high tensile steel wire braids
OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber
SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids
TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F)
 Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED
AVAILABLE VERSIONS: High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

NOTES: : Size -48 (3") not included in the standards.
 Balflex® hydraulic hose DIN EN 853 2SN / SAE 100R2AT has a very superior working and burst pressure compared with only SAE 100R2AT







BALFLEX // FORZA DUE SHARK SKIN 2SN - DN16 - DIN EN 853 / SAE 100R2AT / ISO 1436 - 5/8" - WP 35 MPa 5100 PSI - Flame Resistant - MSHA IC-252/00

POWERSPIR BESTFLEX R13



SAE 100R13 / DIN EN 856 R13 / ISO 3862 – 10.1014.-F

Very high pressure, extra flexible, four or six steel wire spirals reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	 mm	 mm	 MPa	PSI	 MPa	PSI	 MIN BEND RAD mm	 kg/m
4SH-12-R13/15-F	10.1009.12F	DN19	3/4"	-12	19,2	30,8	42,0	6100	168,0	24400	280	1,56
4SH-16-R13/15-F	10.1009.16F	DN25	1"	-16	25,6	37,6	42,0	6100	168,0	24000	340	2,09
R13-20-F	10.1014.20F	DN31	1.1/4"	-20	32,1	49,4	35,0	5100	140,0	20400	420	3,90
R13-24-F	10.1014.24F	DN38	1.1/2"	-24	38,3	56,9	35,0	5100	140,0	20400	500	4,96
R13-32-F	10.1014.32F	DN51	2"	-32	51,0	70,9	35,0	5100	140,0	20400	620	7,09

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 4 or 6 spirals of high tensile steel wire

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

COUPLINGS: Balflex® 2-piece fittings serie 24/26 with 20 serie ferrules, Balflex® Multicrimp fittings serie BW23/JJ

AVAILABLE VERSIONS: tough cover / Armourguard

NOTES: According to ISO 3862/EN 856 type R13/SAE J517 type R13, the Balflex® POWERSPIR SAE 100R13 hose is of 4 steel wire spirals on sizes -12 (3/4") and -16 (1") and of 6 steel wire spirals on sizes -20 (1.1/4"), -24 (1.1/2") and -32 (2").

*On sizes -12 (3/4") and -16 (1") the Balflex® POWERSPIR DIN EN 856 4SH and SAE 100R13 and SAE 100R15 hoses are the same. The working pressure of Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 3/4" and Balflex® POWERSPIR DIN EN 856 4SH SAE 100R13 1" are higher than standard SAE 100R13.

BALFLEX  **POWERSPIR BESTFLEX** SAE 100R13 / DIN EN 856 / ISO 3862 - DN38 - 1.1/2" - WP 35 MPa 5100 PSI - MSHA IC-252/00

BALPAC PREMIUM



DIN EN 857 2SC / SAE 100R16 / ISO 11237 – 10.1019.

High pressure, double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD	KG
R16-04	10.1019.04	DN6	1/4"	-4	6,3	13,2	42.5	6200	170	24800	50	0,27
R16-05	10.1019.05	DN8	5/16"	-5	8,0	15,1	40	5800	160	23200	57	0,30
R16-06	10.1019.06	DN10	3/8"	-6	9,5	17,0	35	5100	140	20400	65	0,42
R16-08	10.1019.08	DN12	1/2"	-8	12,7	20,5	31	4500	124	18000	90	0,52
R16-10	10.1019.10	DN116	5/8"	-10	16,0	24,2	28	4000	112	16000	100	0,63
R16-12	10.1019.12	DN19	3/4"	-12	19,0	28,2	28	4000	112	16000	120	0,80
R16-16	10.1019.16	DN25	1"	-16	25,4	35,6	21	3000	84	12000	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)

NOTE: For sizes DN16(5/8"), DN19(3/4"), DN25(1"), consider Balflex Balpac Premium. Approved at 1 000 000 impulse cycles at 1.33% WP

BALFLEX // BALPAC - PREMIUM EXCEEDS DIN EN 857 - 2SC / SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 4:1 - Flame Resistant - MSHA IC-252100

BALPAC IMPACTUS



Exceeds DIN EN 857 2SC / Exceeds SAE 100R16 – 10.1010

Extremely high pressure compact, double steel braid reinforced hydraulic hose

Balflex proprietary specification

REFERENCE	#	DN	inch	SAE Dash	mm	mm	MPa	PSI	MPa	PSI	MIN BEND RAD	KG
R16I-04	10.1010.04	DN6	1/4"	-4	6,3	13,4	45	6500	180	26000	50	0,27
R16I-05	10.1010.05	DN8	5/16"	-5	8,0	15,0	42	6100	168	24400	57	0,30
R16I-06	10.1010.06	DN10	3/8"	-6	9,5	17,2	40	5700	160	22800	65	0,42
R16I-08	10.1010.08	DN12	1/2"	-8	12,7	20,6	35	5100	140	20400	90	0,52
R16I-10	10.1010.10	DN16	5/8"	-10	16	23,9	29	4200	116	16800	100	0,63
R16I-12	10.1010.12	DN19	3/4"	-12	19	27,7	28	4100	112	16400	120	0,80
R16I-16	10.1010.16	DN25	1"	-16	25,4	35,4	20	2900	80	11600	150	1,22

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23
COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)









BALFLEX // BALPAC - IMPACTUS 2SN-8K EXCEEDS DIN EN 857 - 2SC / SAE 100R16 / ISO 11237 - DN6 - 1/4" - WP 4:1 - Flame Resistant - MSHA IC-252100

BALPAC 3000



DIN EN 857 1SC / SAE 100R17 / ISO 11237 – 10.1017.

High pressure, single or double steel braid reinforced hydraulic hose

REFERENCE	#	DN	inch	SAE Dash								
					mm	mm	MPa	PSI	MPa	PSI	mm	kg/m
1 Wire Braid												
R17-04	10.1017.04	DN6	1/4"	-4	6.3	12.5	22.5	3300	90.0	13200	51	0.22
R17-05	10.1017.05	DN8	5/16"	-5	8.0	13.8	21.5	3200	86.0	12800	60	0.27
R17-06	10.1017.06	DN10	3/8"	-6	9.5	16.2	21.0	3000	84.0	12000	64	0.34
R17-08	10.1017.08	DN12	1/2"	-8	12.7	19.4	21.0	3000	84.0	12000	89	0.42
2 Wire Braid												
R17-10	10.1017.10	DN16	5/8"	-10	15.9	24.2	21.0	3000	84.0	12000	102	0.51
R17-12	10.1017.12	DN19	3/4"	-12	19.0	28.2	21.0	3000	84.0	12000	122	0.63
R17-16	10.1017.16	DN25	1"	-16	25.4	35.6	21.0	3000	84.0	12000	152	1.00

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 2 high tensile steel wire braid on sizes 1/4", 5/16", 3/8" and 1/2" and 2 braids on sizes 5/8", 3/4" and 1"

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 23 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/BF21/P23

COVER: U.S. MSHA APPROVED

AVAILABLE VERSIONS: Smooth cover (Shark Skin) / High Temperature (Tropic) / Low Temperature (Arctic) / Tough Cover (Armourguard)







BALFLEX / BALPAC - 3000 SAE 100R17 / DIN EN 857 - 1SC / ISO 11237 - DN6 - 1/4" - WP 22.5 MPa / 3300 PSI - Flame Resistant - MSHA IC-252/00

POWERSPIR BESTFLEX 4SH



DIN EN 856 4SH / ISO 3862 - 10.1009.-F

Very high pressure, extra flexible, four steel wire spirals reinforced hydraulic hose

REFERENCE	#	inch	inch	SAE Dash	 mm	 mm	 MPa	PSI	 MPa	PSI	 MIN BEND RAD	 KG
					mm	mm	MPa	PSI	MPa	PSI	mm	kg/m
4SH-12-R13/15-F	10.1009.12F	DN19	3/4"	-12	19,2	30,8	42,0	6100	168,0	24400	280	1,56
4SH-16-R13/15-F	10.1009.16F	DN25	1"	-16	25,6	37,6	42,0	6100	168,0	24000	340	2,09
4SH-20-F	10.1009.20F	DN31	1.1/4"	-20	32,1	44,5	35,0	5100	140,0	20400	460	2,57
4SH-24-F	10.1009.24F	DN38	1.1/2"	-24	38,3	51,7	30,0	4400	120,0	17600	560	3,44
4SH-32-F	10.1009.32F	DN51	2"	-32	51,0	66,0	25,0	3700	100,0	14800	700	4,90

INNER TUBE: seamless oil resistant synthetic rubber

REINFORCEMENT: 4 spirals of very high tensile steel wire

OUTER TUBE: black wrapped, oil, weather and abrasion resistant synthetic rubber

SAFETY FACTOR: 4:1

APPLICATION: petroleum base hydraulic fluids

COUPLINGS: Balflex® 2-piece fittings serie 24/26 with 20 serie ferrules. Balflex® Multicrimp fittings serie BW23/JJ

AVAILABLE VERSIONS: tough cover / Armourguard

TEMPERATURE RANGE: -40°C (-40°F) +100°C (+212°F); Intermittent service: +120°C (+248°F) Max. temperature recommended for water base hydraulic fluids: +70°C (+158°F) Max. temperature recommended for air: +60°C (+140°F)

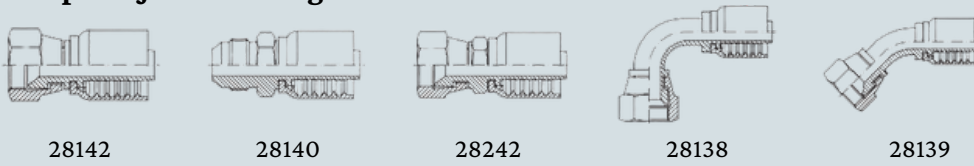
*On sizes - 12 (3/4") and - 16 (1") the Balflex® POWERSPIR DIN EN 856 4SH and SAE 100R13 and SAE 100R15 hoses are the same. The working pressure of Balflex® POWERSPIR DIN EN 856 4SH / SAE 100R13 / SAE 100R15 3/4" and 1" are higher than standard SAE 100R13.

BALFLEX  POWERSPIR BESTFLEX BK DIN EN 856 4SH / EQUIV. SAE 100R13 / SAE 100R15 - DN25 - 1" - ISO 3862 - 10.1009.12F - 16F - 20F - 24F - 32F - Flame Resistant - BS EN ISO 1522/06

Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece JIC 37° fittings

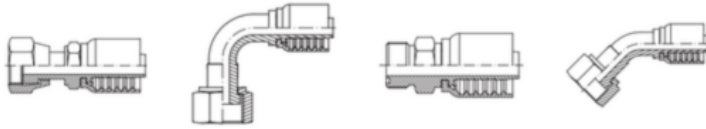
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28142 28140 28242 28138 28139

One piece ORFS fittings

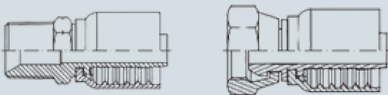
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One piece NPT- NPSM fittings

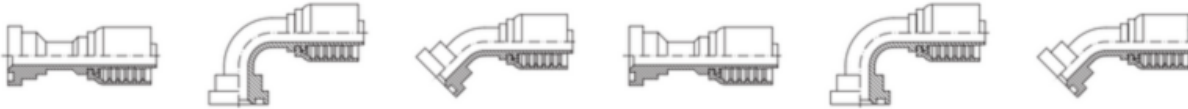
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28161 28261

One piece SAE Flanges fittings 3000/6000 PSI

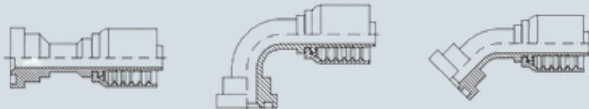
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28182 28183 28184 28282 28283 28284

One piece SAE Flanges fittings 9000 PSI

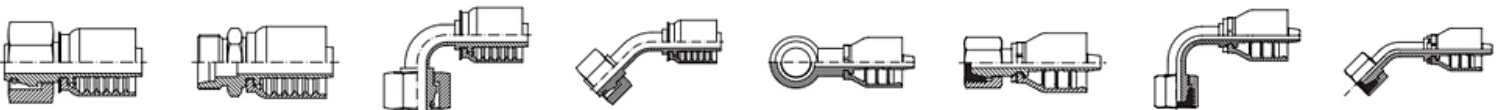
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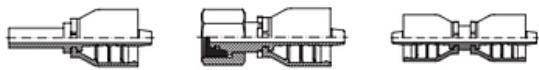
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One piece Metric fittings

14-16



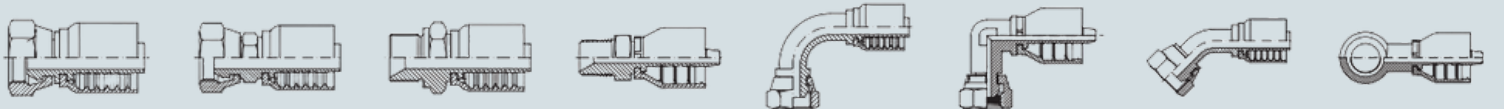
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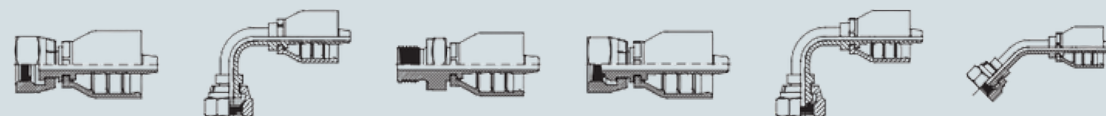
28158 28804 28300

One piece BSP fittings

17-19



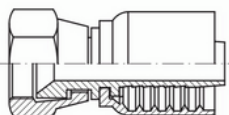
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28200 28207 28212 28110 28117 28118

Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece JIC 37° female



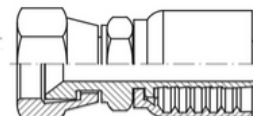
Hose I.D.	Thread (inch)	Part Number
1/4"	7/16" 20h UNF	281420704
1/4"	1/2" 20h UNF	281420804
5/16"	1/2" 20h UNF	281420805
1/4"	9/16" 18h UNF	281420904
5/16"	9/16" 18h UNF	281420905
3/8"	9/16" 18h UNF	281420906
3/8"	5/8" 18h UNF	281421006
5/16"	3/4" 16h UNF	281421205
3/8"	3/4" 16h UNF	281421206
1/2"	3/4" 16h UNF	281421208
3/8"	7/8" 14h UNF	281421406
1/2"	7/8" 14h UNF	281421408
5/8"	7/8" 14h UNF	281421410
1/2"	1"1/16 12h UNF	281421708
5/8"	1"1/16 12h UNF	281421710
3/4"	1"1/16 12h UN	281421712
1"	1"1/16 12h UNF	281421716
3/4"	1"5/16 12h UNF	281422112
1"	1"5/16 12h UN	281422116
1"	1"5/8 12h UNF	281422616
1"1/4	1"5/8 12h UN	281422620
1"1/4	1"7/8 12h UNF	281423020
1"1/2	1"7/8 12h UN	281423024
2"	2"1/2 12h UN	281424032

One piece JIC 37° male



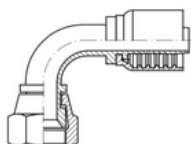
Hose I.D.	Thread (inch)	Part Number
1/4"	7/16" 20h UNF	281400704
1/4"	1/2" 20 H UNF	281400804
5/16"	1/2" 20h UNF	281400805
1/4"	9/16" 18h UNF	281400904
5/16"	9/16" 18h UNF	281400905
3/8"	9/16" 18h UNF	281400906
3/8"	3/4" 16 h UNF	281401206
1/2"	3/4" 16h UNF	281401208
3/8"	7/8" 14h UNF	281401406
1/2"	7/8" 14h UNF	281401408
5/8"	7/8" 14h UNF	281401410
1/2"	1" 1/16 12h UNF	281401708
5/8"	1" 1/16-12h UNF	281401710
3/4"	1"1/16 12h UN	281401712
3/4"	1" 5/16 12h UNF	281402112
1"	1"5/16 12h UN	281402116
1"	1" 5/8 12h UNF	281402616
1"1/4	1"5/8 12h UN	281402620
1" 1/4	1" 7/8 12h UNF	281403020
1"1/2	1"7/8 12h UN	281403024
2"	2"1/2 12h UN	281404032

One piece double hexagonal JIC 37° female



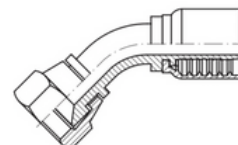
Hose I.D.	Thread (inch)	Part Number
1/4"	7/16" 20h UNF	282420704
1/4"	1/2" 20h UNF	282420804
5/16"	9/16" 18h UNF	282420905
3/8"	9/16" 18h UNF	282420906
3/8"	3/4" 16h UNF	282421206
1/2"	3/4" 16h UNF	282421208
1/2"	7/8" 14h UNF	282421408
3/4"	1"1/16 12h UN	282421712
1"	1"5/16 12h UN	282422116
1"1/4	1"5/8 12h UN	282422620
1"1/2	1"7/8 12h UN	282423024
2"	2"1/2 12h UN	282424032

One piece JIC 37° Female (90° Elbow)



Hose I.D.	Thread (inch)	Part Number
1/4"	7/16" 20h UNF	281380704
1/4"	1/2" 20h UNF	281380804
1/4"	9/16" 18h UNF	281380904
5/16"	9/16" 18h UNF	281380905
3/8"	9/16" 18h UNF	281380906
3/8"	5/8" 18h UNF	281381006
3/8"	3/4" 16h UNF	281381206
1/2"	3/4" 16h UNF	281381208
3/8"	7/8" 14h UNF	281381406
1/2"	7/8" 14h UNF	281381408
5/8"	7/8" 14h UNF	281381410
1/2"	1"1/16 12h UNF	281381708
5/8"	1"1/16 12h UNF	281381710
3/4"	1"1/16 12h UN	281381712
3/4"	1"5/16 12h UNF	281382112
1"	1"5/16 12h UN	281382116
1"	1"5/8 12h UNF	281382616
1"1/4	1"5/8 12h UN	281382620
1" 1/4	1"7/8 12h UNF	281383020
1"1/2	1"7/8 12h UN	281383024
2"	2"1/2 12h UN	281384032

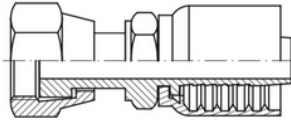
One piece JIC 37° Female (45° Elbow)



Hose I.D.	Thread (inch)	Part Number
1/4"	7/16" 20h UNF	281390704
1/4"	1/2" 20h UNF	281390804
1/4"	9/16" 18h UNF	281390904
5/16"	9/16" 18h UNF	281390905
3/8"	9/16" 18h UNF	281390906
3/8"	3/4" 16h UNF	281391206
1/2"	3/4" 16h UNF	281391208
1/2"	7/8" 14h UNF	281391408
5/8"	7/8" 14h UNF	281391410
1/2"	1"1/16 12h UNF	281391708
5/8"	1"1/16 12h UNF	281391710
3/4"	1"1/16 12h UN	281391712
3/4"	1"5/16 12h UNF	281392112
1"	1"5/16 12h UN	281392116
1"	1"5/8 12h UNF	281392616
1"1/4	1"5/8 12h UN	281392620
1" 1/4	1"7/8 12h UNF	281393020
1"1/2	1"7/8 12h UN	281393024
2"	2"1/2 12h UN	281394032

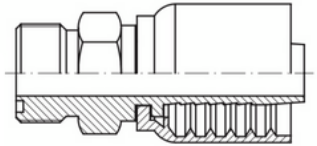
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece ORFS female



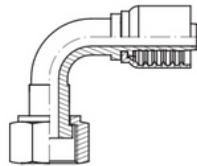
Hose I.D.	Thread (inch)	Part Number
1/4"	9/16" 18h	289000904
1/4"	11/16" 16h	289001104
5/16"	11/16" 16h	289001105
3/8"	11/16" 16h	289001106
3/8"	13/16" 16h	289001306
1/2"	13/16" 16h	289001308
1/2"	1" 14h	289001608
5/8"	1" 14h	289001610
1/2"	1"3/16 12h	289001908
3/4"	1"3/16 12h	289001912
3/4"	1"7/16 12h	289002312
1"	1"7/16 12h	289002316
1"1/4	1"11/16 12h	289002720
1"1/2	2" 12h	289003224

One piece ORFS male



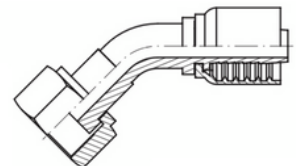
Hose I.D.	Thread (inch)	Part Number
1/4"	9/16" 18h	289120904
1/4"	11/16" 16h	289121104
5/16"	11/16" 16h	289121105
3/8"	11/16" 16h	289121106
3/8"	13/16" 16h	289121306
1/2"	13/16" 16h	289121308
1/2"	1" 14h	289121608
5/8"	1" 14h	289121610
1/2"	1"3/16 12h	289121908
3/4"	1"3/16 12h	289121912
3/4"	1"7/16 12h	289122312
1"	1"7/16 12h	289122316
1"1/4	1"11/16 12h	289122720

One piece ORFS female (90° Elbow)



Hose I.D.	Thread (inch)	Part Number
1/4"	9/16" 18h	289070904
1/4"	11/16" 16h	289071104
5/16"	11/16" 16h	289071105
3/8"	11/16" 16h	289071106
3/8"	13/16" 16h	289071306
1/2"	13/16" 16h	289071308
1/2"	1" 14h	289071608
5/8"	1" 14h	289071610
1/2"	1"3/16 12h	289071908
3/4"	1"3/16 12h	289071912
3/4"	1"7/16 12h	289072312
1"	1"7/16 12h	289072316
1"1/4	1"11/16 12h	289072720
1"1/2	2" 12h	289073224

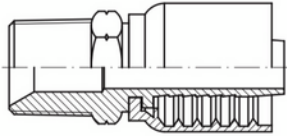
One piece ORFS female (45° Elbow)



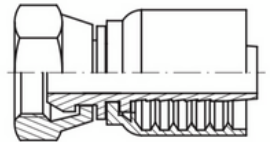
Hose I.D.	Thread (inch)	Part Number
1/4"	9/16" 18h	289080904
1/2"	1" 14h UNF	289081008
1/4"	11/16" 16h	289081104
5/16"	11/16" 16h	289081105
3/8"	11/16" 16h	289081106
3/8"	13/16" 16h	289081306
1/2"	13/16" 16h	289081308
5/8"	1" 14h	289081610
1/2"	1"3/16 12h	289081908
3/4"	1"3/16 12h	289081912
3/4"	1"7/16 12h	289082312
1"	1"7/16 12h	289082316
1"1/4	1"11/16 12h	289082720
1"1/2	2" 12h	289083224

Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece NPT male



One piece NPSM female 60° cone

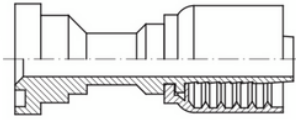


Hose I.D.	Thread (inch)	Part Number
1/4"	1/8" NPT	281610204
1/4"	1/4" NPT	281610404
5/16"	1/4" NPT	281610405
3/8"	1/4" NPT	281610406
1/4"	3/8" NPT	281610604
5/16"	3/8" NPT	281610605
3/8"	3/8" NPT	281610606
1/2"	3/8" NPT	281610608
3/8"	1/2" NPT	281610806
1/2"	1/2" NPT	281610808
5/8"	1/2" NPT	281610810
1/2"	3/4" NPT	281611208
5/8"	3/4" NPT	281611210
3/4"	3/4" NPT	281611212
1"	3/4" NPT	281611216
3/4"	1" NPT	281611612
1"	1" NPT	281611616
1"	1" 1/4 NPT	281612016
1" 1/4	1" 1/4 NPT	281612020
1" 1/4	1" 1/2 NPT	281612420
1" 1/2	1" 1/2 NPT	281612424
1" 1/2	2" NPT	281613224
2"	2" NPT	281613232

Hose I.D.	Thread (inch)	Part Number
1/4"	1/4" 18h NPSM	282610404
3/8"	3/8" 18h NPSM	282610606
1/2"	1/2" 14h NPSM	282610808
3/4"	3/4" 14h NPSM	282611212
1"	1" - 11 1/2 h NPSM	282611616

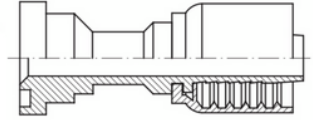
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece 3000 PSI SAE Straight Flange / Code 61



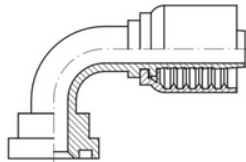
Hose I.D.	∅	Part Number
1/2"	30.2	281820808
1/2"	38.1	281821208
5/8"	38.1	281821210
3/4"	38.1	281821212
3/4"	44.5	281821612
1"	44.5	281821616
1"	50.8	281822016
1"1/4	50.8	281822020
1" 1/4	60.3	281822420
1"1/2	60.3	281822424
1" 1/2	71.4	281823224
2"	71.4	281823232

One piece 6000 PSI SAE Straight Flange / Code 62



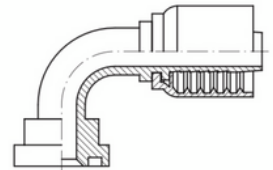
Hose I.D.	∅	Part Number
1/2"	31.8	282820808
1/2"	41.3	282821208
5/8"	41.3	282821210
3/4"	41.3	282821212
3/4"	47.6	282821612
1"	47.6	282821616
1"	54	282822016
1"1/4	54	282822020
1" 1/4	63.5	282822420
1"1/2	63.5	282822424
1" 1/2	79.4	282823224
2"	79.4	282823232

One piece 3000 PSI SAE 90° Flange / Code 61



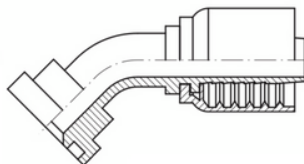
Hose I.D.	∅	Part Number
1/2"	30.2	281830808
1/2"	38.1	281831208
5/8"	38.1	281831210
3/4"	38.1	281831212
3/4"	44.5	281831612
1"	44.5	281831616
1"	50.8	281832016
1"1/4	50.8	281832020
1" 1/4	60.3	281832420
1"1/2	60.3	281832424
1" 1/2	71.4	281833224
2"	71.4	281833232

One piece 6000 PSI SAE 90° Flange / Code 62



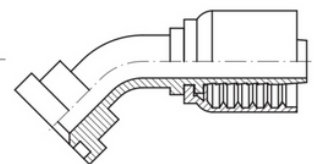
Hose I.D.	∅	Part Number
1/2"	31.8	282830808
1/2"	41.3	282831208
5/8"	41.3	282831210
3/4"	41.3	282831212
3/4"	47.6	282831612
1"	47.6	282831616
1"	54	282832016
1"1/4	54	282832020
1" 1/4	63.5	282832420
1"1/2	63.5	282832424
1" 1/2	79.4	282833224

One piece 3000 PSI SAE 45° Flange / Code 61



Hose I.D.	∅	Part Number
1/2"	30.2	281840808
1/2"	38.1	281841208
5/8"	38.1	281841210
3/4"	38.1	281841212
3/4"	44.5	281841612
1"	44.5	281841616
1"	50.8	281842016
1"1/4	50.8	281842020
1" 1/4	60.3	281842420
1"1/2	60.3	281842424
1" 1/2	71.4	281843224
2"	71.4	281843232

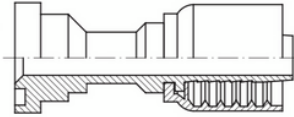
One piece 6000 PSI SAE 45° Flange / Code 62



Hose I.D.	∅	Part Number
1/2"	31.8	282840808
1/2"	41.3	282841208
5/8"	41.3	282841210
3/4"	41.3	282841212
3/4"	47.6	282841612
1"	47.6	282841616
1"	54	282842016
1"1/4	54	282842020
1" 1/4	63.5	282842420
1"1/2	63.5	282842424
1" 1/2	79.4	282843224
2"	79.4	282843232

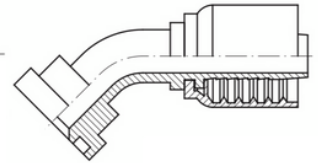
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece 9000 PSI SAE Straight Flange / Code 61



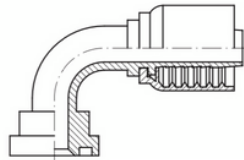
Hose I.D.	∅	Part Number
1/2"	41.3	482821212
3/4"	47.6	482821612
1"	47.6	482821616
1"	54	482822016
1" 1/4	54	482822020
1" 1/2	63.5	482822424

One piece 9000 PSI SAE 45° Flange / Code 61



Hose I.D.	∅	Part Number
1/2"	41.3	482841212
3/4"	47.6	482841612
1"	47.6	482841616
1"	54	482842016
1" 1/4	54	482842020
1" 1/2	63.5	482842424

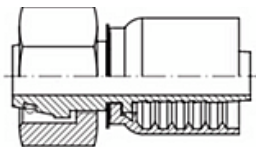
One piece 9000 PSI SAE 90° Flange / Code 61



Hose I.D.	∅	Part Number
1/2"	41.3	482831212
3/4"	47.6	482831612
1"	47.6	482831616
1"	54	482832016
1" 1/4	54	482832020
1" 1/2	63.5	482832424

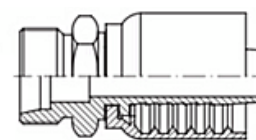
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece Metric female cone 24°



Hose I.D.	Pipe	Serie	Thread	Part Number
1/4"	6	L	M12x1.5	28804120604
1/4"	8	L	M14x1.5	28804140804
1/4"	10	L	M16x1.5	28804161004
5/16"	10	L	M16x1.5	28804161005
3/8"	10	L	M16x1.5	28804161006
1/4"	12	L	M18x1.5	28804181204
5/16"	12	L	M18x1.5	28804181205
3/8"	12	L	M18x1.5	28804181206
3/8"	15	L	M22x1.5	28804221506
1/2"	15	L	M22x1.5	28804221508
1/2"	18	L	M26x1.5	28804261808
5/8"	18	L	M26x1.5	28804261810
3/4"	22	L	M30x2	28804302212
1"	28	L	M36x2	28804362816
1 1/4"	35	L	M45x2	28804453520
1 1/2"	42	L	M52x2	28804524224
1/4"	8	S	M16x1.5	28804160804
1/4"	10	S	M18x1.5	28804181004
5/16"	12	S	M20x1.5	28804201205
3/8"	12	S	M20x1.5	28804201206
1/2"	12	S	M20x1.5	28804201208
3/8"	14	S	M22x1.5	28804221406
1/2"	16	S	M24x1.5	28804241608
5/8"	20	S	M30x2	28804302010
3/4"	20	S	M30x2	28804302012
3/4"	25	S	M36x2	28804362512
1"	25	S	M36x2	28804362516
1"	30	S	M42x2	28804423016
1 1/4"	38	S	M52x2	28804523820

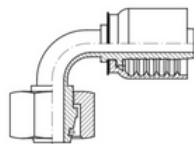
One piece Metric male cone 24°



Hose I.D.	Pipe	Serie	Thread	Part Number
1/4"	6	L	M12x1.5	28203120604
1/4"	8	L	M14x1.5	28203140804
1/4"	10	L	M16x1.5	28203161004
5/16"	10	L	M16x1.5	28203161005
3/8"	10	L	M16x1.5	28203161006
1/4"	12	L	M18x1.5	28203181204
5/16"	12	L	M18x1.5	28203181205
3/8"	12	L	M18x1.5	28203181206
3/8"	15	L	M22x1.5	28203221506
1/2"	15	L	M22x1.5	28203221508
1/2"	18	L	M26x1.5	28203261808
5/8"	18	L	M26x1.5	28203261810
3/4"	22	L	M30x2	28203302212
1"	28	L	M36x2	28203362816
1 1/4"	35	L	M45x2	28203453520
1 1/2"	42	L	M52x2	28203524224
1/4"	8	S	M16x1.5	28203160804
1/4"	10	S	M18x1.5	28203181004
5/16"	10	S	M18x1.5	28203181005
3/8"	10	S	M18x1.5	28203181006
5/16"	12	S	M20x1.5	28203201205
3/8"	12	S	M20x1.5	28203201206
3/8"	14	S	M22x1.5	28203221406
1/2"	16	S	M24x1.5	28203241608
5/8"	20	S	M30x2	28203302010
3/4"	20	S	M30x2	28203302012
3/4"	25	S	M36x2	28203362512
1"	25	S	M36x2	28203362516
1"	30	S	M42x2	28203423016
1 1/4"	38	S	M52x2	28203523820

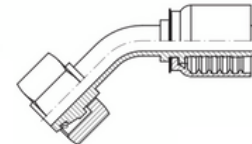
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece Metric female cone 24° (90° Elbow)



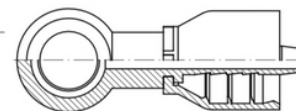
Hose I.D.	Pipe	Serie	Thread	Part Number
1/4"	6	L	M12x1.5	28305120604
1/4"	8	L	M14x1.5	28305140804
1/4"	10	L	M16x1.5	28305161004
5/16"	10	L	M16x1.5	28305161005
3/8"	10	L	M16x1.5	28305161006
5/16"	12	L	M18x1.5	28305181205
3/8"	12	L	M18x1.5	28305181206
3/8"	15	L	M22x1.5	28305221506
1/2"	15	L	M22x1.5	28305221508
5/8"	18	L	M26x1.5	28305261810
3/4"	22	L	M30x2	28305302212
1"	28	L	M36x2	28305362816
1 1/4"	35	L	M45x2	28305453520
1 1/2"	42	L	M52x2	28305524224
1/4"	8	S	M16x1.5	28305160804
1/4"	10	S	M18x1.5	28305181004
5/16"	10	S	M18x1.5	28305181005
5/16"	12	S	M20x1.5	28305201205
3/8"	12	S	M20x1.5	28305201206
3/8"	14	S	M22x1.5	28305221406
1/2"	16	S	M24x1.5	28305241608
5/8"	20	S	M30x2	28305302010
3/4"	20	S	M30x2	28305302012
3/4"	25	S	M36x2	28305362512
1"	25	S	M36x2	28305362516
1"	30	S	M42x2	28305423016
1 1/4"	38	S	M52x2	28305523820

One piece Metric female cone 24° (45° Elbow)



Hose I.D.	Pipe	Serie	Thread	Part Number
1/4"	6	L	M12x1.5	28306120604
1/4"	8	L	M14x1.5	28306140804
1/4"	10	L	M16x1.5	28306161004
5/16"	10	L	M16x1.5	28306161005
3/8"	10	L	M16x1.5	28306161006
5/16"	12	L	M18x1.5	28306181205
3/8"	12	L	M18x1.5	28306181206
1/2"	15	L	M22x1.5	28306221508
5/8"	18	L	M26x1.5	28306261810
3/4"	22	L	M30x2	28306302212
1"	28	L	M36x2	28306362816
1 1/4"	35	L	M45x2	28306453520
1 1/2"	42	L	M52x2	28306524224
1/4"	8	S	M16x1.5	28306160804
1/4"	10	S	M18x1.5	28306181004
5/16"	12	S	M20x1.5	28306201205
3/8"	12	S	M20x1.5	28306201206
3/8"	14	S	M22x1.5	28306221406
1/2"	16	S	M24x1.5	28306241608
5/8"	20	S	M30x2	28306302010
3/4"	20	S	M30x2	28306302012
3/4"	25	S	M36x2	28306362512
1"	25	S	M36x2	28306362516
1"	30	S	M42x2	28306423016
1 1/4"	38	S	M52x2	28306523820

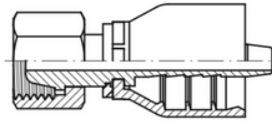
One piece Banjo metric



Hose I.D.	∅	Part Number
3/16"	M10x1	281161003
1/4"	M10x1	281161004
1/4"	M12x1.5	281161204
1/4"	M14x1.5	281161404
5/16"	M14x1.5	281161405
3/8"	M14x1.5	281161406
5/16"	M16x1.5	281161605
3/8"	M16x1.5	281161606
3/8"	M18x1.5	281161806
1/2"	M18x1.5	281161808
1/2"	M22x1.5	281162208
5/8"	M22x1.5	281162210
3/4"	M30x2	281163012

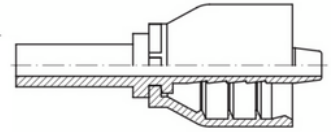
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece Female metric swivel 24°/60° cone



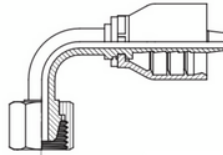
Hose I.D.	Pipe	Thread	Part Number
1/4"	8L	M14X1.5	284049511
1/4"	10L	M16X1.5	284049520
5/16"	10L	M16X1.5	284049523
3/8"	10L	M16X1.5	284049524
5/16"	12L	M18X1.5	284049525
3/8"	12L	M18X1.5	284049535
3/8"	15L	M22X1.5	284049552
1/2"	15L	M22X1.5	284049555
5/8"	18L	M26X1.5	284049571

One piece Metric standpipe



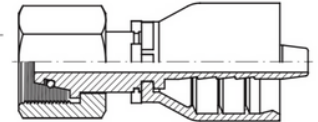
Hose I.D.	Pipe	Part Number
1/4"	6	281580604
1/4"	8	281580804
5/16"	8	281580805
1/4"	10	281581004
5/16"	10	281581005
3/8"	10	281581006
1/4"	12	281581204
5/16"	12	281581205
3/8"	12	281581206
1/2"	12	281581208
3/8"	14	281581406
1/2"	14	281581408
3/8"	15	281581506
1/2"	15	281581508
1/2"	16	281581608
1/2"	18	281581808
5/8"	18	281581810
3/4"	20	281582012
3/4"	22	281582212
1"	25	281582516
1"	28	281582816
1"	30	281583016
1 1/4"	35	281583520
1 1/2"	42	281584224

One piece Female metric swivel 24°/60° cone (90° Elbow)



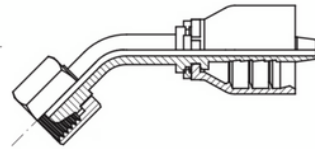
Hose I.D.	Pipe	Thread	Part Number
1/4"	8L	M14X1.5	284059511
1/4"	10L	M16X1.5	284059520
5/16"	10L	M16X1.5	284059523
3/8"	10L	M16X1.5	284059524
5/16"	12L	M18X1.5	284059525
3/8"	12L	M18X1.5	284059535
3/8"	15L	M22X1.5	284059552
1/2"	15L	M22X1.5	284059555
5/8"	18L	M26X1.5	284059571

One piece Komatsu swivel female 60° cone



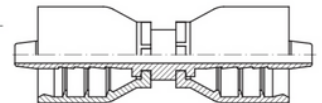
Hose I.D.	Thread	Part Number
1/4"	M14X1.5	288049625
3/8"	M18X1.5	288049635
1/2"	M22X1.5	288049655
5/8"	M24X1.5	288049665
3/4"	M30X1.5	288049684
1"	M33X1.5	288049685

One piece Female metric swivel 24°/60° cone (45° Elbow)



Hose I.D.	Pipe	Thread	Part Number
1/4"	8L	M14X1.5	284069511
5/16"	10L	M16X1.5	284069523
3/8"	10L	M16X1.5	284069524
5/16"	12L	M18X1.5	284069525
3/8"	12L	M18X1.5	284069535
1/2"	15L	M22X1.5	284069555
5/8"	18L	M26X1.5	284069571

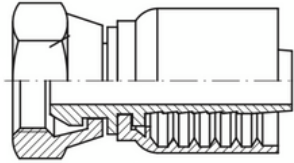
One piece Double crimp standpipe



Hose I.D.	Part Number
1/4"	283000404
5/16"	283000505
3/8"	283000606
1/2"	283000808
3/4"	283001212
1"	283001616

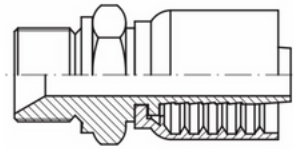
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece BSP female 60° cone



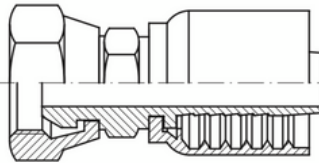
Hose I.D.	Thread	Part Number
1/4"	1/8" BSP	281000204
3/16"	1/4" BSP	281000403
5/16"	1/4" BSP	281000405
3/8"	1/4" BSP	281000406
1/4"	3/8" BSP	281000604
5/16"	3/8" BSP	281000605
1/2"	3/8" BSP	281000608
1/4"	1/2" BSP	281000804
3/8"	1/2" BSP	281000806
1/2"	5/8" BSP	281001008
1/2"	3/4" BSP	281001208
3/4"	1" BSP	281001612
1/4"	1/4" BSP	281000404
3/8"	3/8" BSP	281000606
1/2"	1/2" BSP	281000808
5/8"	1/2" BSP	281000810
5/8"	5/8" BSP	281001010
3/4"	3/4" BSP	281001212
1"	1" BSP	281001616

One piece BSP male 60° cone



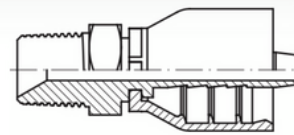
Hose I.D.	Pipe	Part Number
1/4"	1/8" BSP	281120204
1/4"	1/4" BSP	281120404
3/8"	1/4" BSP	281120406
1/4"	3/8" BSP	281120604
5/16"	3/8" BSP	281120605
3/8"	3/8" BSP	281120606
1/2"	3/8" BSP	281120608
1/4"	1/2" BSP	281120804
3/8"	1/2" BSP	281120806
1/2"	1/2" BSP	281120808
1/2"	5/8" BSP	281121008
5/8"	5/8" BSP	281121010
1/2"	3/4" BSP	281121208
5/8"	3/4" BSP	281121210
3/4"	3/4" BSP	281121212
3/4"	1" BSP	281121612
1"	1" BSP	281121616
1"	1"1/4 BSP	281122016
1"1/4"	1"1/4 BSP	281122020
1"1/2"	1"1/2 BSP	281122424
2"	2" BSP	281123232

One piece double hexagonal BSP female 60° cone



Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	284000404
5/16"	3/8" BSP	284000605
3/8"	3/8" BSP	284000606
1/2"	1/2" BSP	284000808
3/4"	3/4" BSP	284001212
1"	1" BSP	284001616
1"1/4"	1"1/4 BSP	284002020
1"1/2"	1"1/2 BSP	284002424
2"	2" BSP	284003232

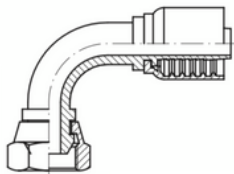
One piece BSPT Male tapered



Hose I.D.	Thread	Part Number
1/4"	1/8" BSPT	281140204
1/4"	1/4" BSPT	281140404
1/4"	3/8" BSPT	281140604
5/16"	3/8" BSPT	281140605
3/8"	3/8" BSPT	281140606
3/8"	1/2" BSP	281140806
1/2"	1/2" BSP	281140808
5/8"	3/4" BSPT	281141210
3/4"	3/4" BSPT	281141212
3/4"	1" BSPT	281141612
1"	1" BSPT	281141616
1"	1"1/4 BSPT	281142016
1" 1/4"	1"1/4 BSPT	281142020
1" 1/2"	1" 1/2 BSPT	281142424
2"	2" BSPT	281143232

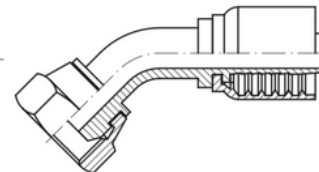
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece BSP female cone 60° (90° Elbow)



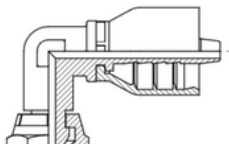
Hose I.D.	Thread	Part Number
1/4"	1/8" BSP	281070204
1/4"	1/4" BSP	281070404
1/4"	3/8" BSP	281070604
5/16"	3/8" BSP	281070605
3/8"	3/8" BSP	281070606
1/4"	1/2" BSP	281070804
3/8"	1/2" BSP	281070806
1/2"	1/2" BSP	281070808
1/2"	5/8" BSP	281071008
5/8"	5/8" BSP	281071010
1/2"	3/4" BSP	281071208
3/4"	5/8" BSP	281071210
3/4"	3/4" BSP	281071212
1"	3/4" BSP	281071612
1"	1" BSP	281071616

One piece BSP female 60° cone (45° Elbow)



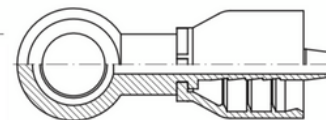
Hose I.D.	Pipe	Part Number
1/4"	1/8" BSP	281080204
1/4"	1/4" BSP	281080404
1/4"	3/8" BSP	281080604
5/16"	3/8" BSP	281080605
3/8"	3/8" BSP	281080606
3/8"	1/2" BSP	281080806
1/2"	1/2" BSP	281080808
1/2"	5/8" BSP	281081008
5/8"	5/8" BSP	281081010
5/8"	3/4" BSP	281081210
3/4"	3/4" BSP	281081212
3/4"	1" BSP	281081612
1"	1" BSP	281081616

One piece BSP Swivel female 60° cone compact (90° Elbow)



Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	281270404
3/8"	3/8" BSP	281270606
1/2"	1/2" BSP	281270808
3/4"	3/4" BSP	281271212

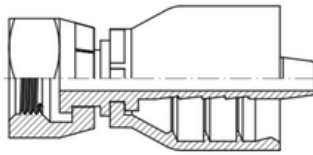
One piece Banjo BSP



Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	281110404
5/16"	1/4" BSP	281110405
3/8"	1/4" BSP	281110406
1/4"	3/8" BSP	281110604
5/16"	3/8" BSP	281110605
3/8"	3/8" BSP	281110606
1/2"	3/8" BSP	281110608
3/8"	1/2" BSP	281110806
1/2"	1/2" BSP	281110808
5/8"	5/8" BSP	281111010
1/2"	3/4" BSP	281111208
5/8"	3/4" BSP	281111210
3/4"	3/4" BSP	281111212
1"	1" BSP	281111616

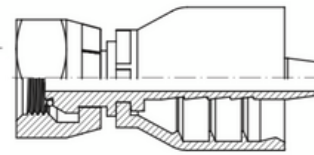
Hydraulic one piece fittings 43 Series carbon steel R1AT / R2AT / 1 SN / 2SN / R16 / R17 / 2SC/ 3TE

One piece BSP Swivel female flat seat



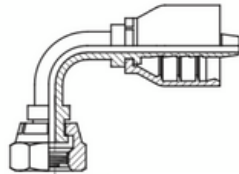
Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	282000404
5/16"	3/8" BSP	282000605
3/8"	3/8" BSP	282000606
1/4"	1/2" BSP	282000804
3/8"	1/2" BSP	282000806
1/2"	1/2" BSP	282000808
1/2"	3/4" BSP	282001208
3/4"	3/4" BSP	282001212
1"	1" BSP	282001616
1" 1/4	1" 1/4 BSP	282002020
1" 1/2	1" 1/2	282002424

One piece BSP female 60° cone +o'ring



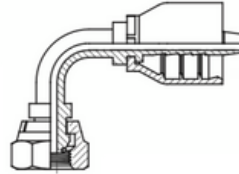
Hose I.D.	Pipe	Part Number
1/4"	1/4" BSP	281100404
3/8"	3/8" BSP	281100606
1/2"	1/2" BSP	281100808
5/8"	5/8" BSP	281101010
5/8"	3/4" BSP	281101210
3/4"	3/4" BSP	281101212
1"	1" BSP	281101616
1"	1" 1/4 BSP	281102016
1" 1/4	1" 1/2 BSP	281102420
1" 1/2	2" BSP	281103224
1" 1/4	1" 1/4 BSP	281102020
1" 1/2	1" 1/2 BSP	281102424
2"	2" BSP	281103232

One piece BSP Swivel female flat seat (90° Elbow)



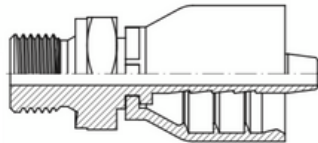
Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	282070404
3/8"	3/8" BSP	282070606
1/2"	1/2" BSP	282070808
3/4"	3/4" BSP	282071212
1"	1" BSP	282071616

One piece BSP female cone 60° (90° Elbow) +o'ring



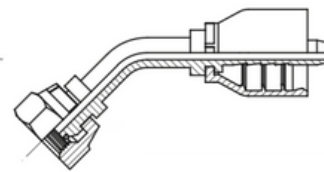
Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	281170404
3/8"	3/8" BSP	281170606
1/2"	1/2" BSP	281170808
5/8"	5/8" BSP	281171010
3/4"	3/4" BSP	281171212
1"	1" BSP	281171616
1"	1" 1/4 BSP	281172016
1" 1/4	1" 1/4 BSP	281172020
1" 1/4	1" 1/2 BSP	281172420
1" 1/2	1" 1/2 BSP	281172424
2"	2" BSP	281173232

One piece BSP Male flat seat



Hose I.D.	Thread	Part Number
1/4"	1/4" BSP	282120404
3/8"	3/8" BSP	282120606
3/8"	1/2" BSP	282120806
1/2"	1/2" BSP	282120808
3/4"	3/4" BSP	282121212
1"	1" BSP	282121616

One piece BSP female 60° cone (45° Elbow) +o'ring



Hose I.D.	Thread	Part Number
3/8"	3/8" BSP	281180606
1/2"	1/2" BSP	281180808
5/8"	5/8" BSP	281181010
3/4"	3/4" BSP	281181212
1"	1" BSP	281181616
1" 1/4	1" 1/4 BSP	281182020
1" 1/2	1" 1/2 BSP	281182424
1" 1/2	2" BSP	281183224
2"	2" BSP	281183232

CRIMPING CHART FOR CARBON STEEL COMPACT FITTINGS

	Hose type		Ferrule Series	DN mm	6	8	10	12	16	19	25	31	38	51
				Inches	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
43 SERIES	SAE R1AT EN 853 1SN	PFC2212...	Crimping Ø	16,2	17,9	21	24,2	27,5	31,6	39,4	47,9	56,3	70,8	
			Insert leght	22,5	23	23,5	26,4	29,8	34,9	42	53,5	53,5	65,7	
	SAE 100 R2AT EN 853 2SN	PFC2212...	Crimping Ø	17,5	19,4	22,5	25,3	28,5	32,9	41	51	59,7	73,3	
			Insert leght	22,5	23	23,5	26,4	29,8	34,9	42	53,5	53,5	65,7	
EN 857 2SC	PFC2212...	Crimping Ø	17	18,8	21,7	24,4	28	32,2	40,2					
		Insert leght	22,5	23	23,5	26,4	29,8	34,9	42					
BW SERIES	SAE 100 R9R EN 856 4SP	AC68010...	Crimping Ø						34,7	42	54	60,5	74,9	
			Insert leght						43	48,5	60,5	60	76	
	SAE 100 R12 EN 856 R12		Crimping Ø						34,5	42,5	51,8	59,5	74,5	
			Insert leght						43	48,5	60,5	60	76	
	EN 856 4SH		Crimping Ø						35,4	41,8	51	58,5	74	
			Insert leght						43	48,5	60,5	60	76	

	Hose type		Ferrule Series	DN mm	6	8	10	12	16	19	25	31	38	51
				Inches	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
43 SERIES	SAE R1AT EN 853 1SN	PFC2212...	Crimping Ø	0,638	0,705	0,827	0,953	1,083	1,244	1,551	1,886	2,217	2,787	
			Insert leght	0,886	0,906	0,925	1,039	1,173	1,374	1,654	2,106	2,106	2,587	
	SAE 100 R2AT EN 853 2SN	PFC2212...	Crimping Ø	0,689	0,764	0,886	0,996	1,122	1,295	1,614	2,008	2,350	2,886	
			Insert leght	0,886	0,906	0,925	1,039	1,173	1,374	1,654	2,106	2,106	2,587	
EN 857 2SC	PFC2212...	Crimping Ø	0,669	0,740	0,854	0,961	1,102	1,268	1,583					
		Insert leght	0,886	0,906	0,925	1,039	1,173	1,374	1,654					
BW SERIES	SAE 100 R9R EN 856 4SP	AC68010...	Crimping Ø						1,366	1,654	2,126	2,382	2,949	
			Insert leght						1,693	1,909	2,382	2,362	2,992	
	SAE 100 R12 EN 856 R12		Crimping Ø						1,358	1,673	2,039	2,343	2,933	
			Insert leght						1,693	1,909	2,382	2,362	2,992	
	EN 856 4SH		Crimping Ø						1,394	1,646	2,008	2,303	2,913	
			Insert leght						1,693	1,909	2,382	2,362	2,992	