

FD96 Series

High Pressure Thread to Connect Flush Face



The FD96 High Pressure Thread Together Flush Face Series is designed for high pressure and high impulse applications for hydraulic circuits. The FD96 design provides low connect and disconnect force in hydraulic circuits where trapped residual pressure must be addressed. The flush face design limits contamination and unwanted fluid loss. The FD96 Series is available in sizes 1/4" through 2" to best meet your specific size requirements.

Product Features

- Thread together design allows connection and disconnection under pressure up to 4,300 psi
- Low connection force
- Dual flush-face valving with non-spill design
- Working pressures up to 8,500 psi
- Body material – High resistance carbon steel with zinc trivalent chromate plating and black oxide plating

Applications

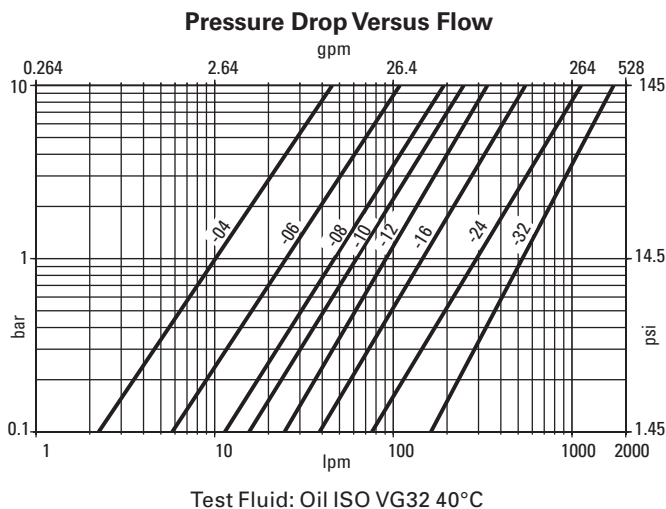
- Hydraulic fluid transfer
- High impulse hydraulics
- Oil field
- Mining



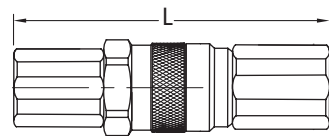
Physical Characteristics

Body Size	Max. Operating Pressure			Min. Burst Pressure			Rated Flow L/min (gpm)	Fluid Loss cc.	Req. Torque to Connect	
	Connected	Male Half	Female Half	Connected	Male Half	Female Half			lbs.	(N)
	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)				
1/4	600 (8,700)	600 (8,700)	420 (6,090)	1,500 (21,750)	1,500 (21,750)	1,260 (18,270)	12 (3.2)	.012	29-37	(40-50)
3/8	550 (7,980)	550 (7,980)	330 (4,785)	1,400 (20,300)	1,400 (20,300)	1,000 (14,500)	23 (6.1)	.040	37-44	(50-60)
1/2	550 (7,980)	550 (7,980)	330 (4,785)	1,400 (20,300)	1,400 (20,300)	1,000 (14,500)	45 (11.9)	.025	48-55	(65-75)
3/4	550 (7,980)	550 (7,980)	330 (4,785)	1,400 (20,300)	1,400 (20,300)	1,000 (14,500)	74 (19.6)	.033	52-59	(70-80)
1	500 (7,250)	500 (7,250)	330 (4,785)	1,250 (18,125)	1,250 (18,125)	1,000 (14,500)	100 (26.5)	.018	66-81	(90-110)
1 1/4	470 (6,800)	470 (6,800)	300 (4,350)	1,200 (17,400)	1,200 (17,400)	800 (11,600)	189 (50.1)	.060	92-107	(125-145)
1 1/2	400 (5,800)	400 (5,800)	270 (3,915)	1,700 (15,950)	1,100 (15,950)	800 (11,600)	288 (76.3)	.200	114-129	(155-175)
2	350 (5,080)	350 (5,080)	270 (3,915)	1,100 (15,950)	1,100 (15,950)	800 (11,600)	379 (100.4)	.350	236-258	(320-355)

Flow Data



Connected Length



Body Size	Port Size	Connected Length "L"	
		mm	(in)
1/4	3/8	90.0	(3.54)
3/8	3/8	131.0	(5.16)
3/8	1/2	131.0	(5.16)
1/2	1/2	155.0	(6.10)
1/2	3/4	160.0	(6.30)
3/4	3/4	165.0	(6.50)
1	1	190.4	(7.50)
1	1 1/4	170.0	(6.69)
1 1/2	1 1/2	256.0	(10.08)
2	2	363.5	(14.31)

FD96 Series

High Pressure Thread to
Connect Flush Face

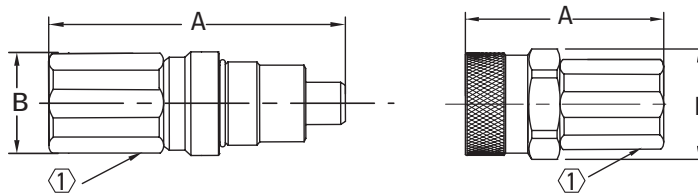


Figure 1

Figure 2

Dimensions (Female NPT)

Part Number	Coupling Type	Body Size	Port Size	Thread	Type	Fig.	Dimensions					
							A	B	Hex ①			
							mm	(in)	mm	(in)	mm	(in)
FD96-1001-06-06	Female	3/8	3/8	3/8-18	Female NPT	2	65.8	(2.59)	41.8	(1.65)	30	(1.18)
FD96-1002-06-06	Male	3/8	3/8	3/8-18	Female NPT	1	82.5	(3.25)	37.8	(1.49)	27	(1.06)
FD96-1001-08-06	Female	3/8	1/2	1/2-14	Female NPT	2	70.8	(2.79)	41.8	(1.65)	30	(1.18)
FD96-1002-08-06	Male	3/8	1/2	1/2-14	Female NPT	1	85.0	(3.35)	37.8	(1.49)	27	(1.06)
FD96-1001-08-08	Female	1/2	1/2	1/2-14	Female NPT	2	77.8	(3.06)	49.8	(1.96)	36	(1.42)
FD96-1002-08-08	Male	1/2	1/2	1/2-14	Female NPT	1	95.0	(3.74)	45.8	(1.80)	36	(1.42)
FD96-1001-12-08	Female	1/2	3/4	3/4-14	Female NPT	2	84.8	(3.06)	49.8	(1.96)	36	(1.42)
FD96-1002-12-08	Male	1/2	3/4	3/4-14	Female NPT	1	97.4	(3.83)	45.8	(1.80)	36	(1.42)
FD96-1001-12-12	Female	3/4	3/4	3/4-14	Female NPT	2	84.9	(3.34)	53.8	(2.12)	41	(1.61)
FD96-1002-12-12	Male	3/4	3/4	3/4-14	Female NPT	1	99.0	(3.90)	49.8	(1.96)	36	(1.42)
FD96-1001-12-16	Female	1	3/4	3/4-14	Female NPT	2	96.7	(3.81)	58.8	(2.31)	46	(1.81)
FD96-1002-12-16	Male	1	3/4	3/4-14	Female NPT	1	113.6	(4.47)	54.8	(2.16)	46	(1.81)
FD96-1001-16-16	Female	1	1	1-11 1/2	Female NPT	2	99.7	(3.93)	58.8	(2.31)	46	(1.81)
FD96-1002-16-16	Male	1	1	1-11 1/2	Female NPT	1	113.6	(4.47)	54.8	(2.16)	46	(1.81)
FD96-1001-16-20	Female	1 1/4	1	1-11 1/2	Female NPT	2	105.8	(4.17)	69.8	(2.75)	55	(2.17)
FD96-1002-16-20	Male	1 1/4	1	1-11 1/2	Female NPT	1	123.4	(4.86)	64.5	(2.54)	55	(2.17)
FD96-1001-20-20	Female	1 1/4	1 1/4	1 1/4-11 1/2	Female NPT	2	106.8	(4.20)	69.8	(2.75)	55	(2.17)
FD96-1002-20-20	Male	1 1/4	1 1/4	1 1/4-11 1/2	Female NPT	1	123.4	(4.86)	64.5	(2.54)	55	(2.17)
FD96-1001-20-24	Female	1 1/2	1 1/4	1 1/4-11 1/2	Female NPT	2	133.5	(5.26)	92.0	(3.62)	65	(2.56)
FD96-1002-20-24	Male	1 1/2	1 1/4	1 1/4-11 1/2	Female NPT	1	150.0	(5.91)	89.8	(3.54)	65	(2.56)
FD96-1001-24-24	Female	1 1/2	1 1/2	1 1/2-11 1/2	Female NPT	2	133.5	(5.26)	92.0	(3.62)	65	(2.56)
FD96-1002-24-24	Male	1 1/2	1 1/2	1 1/2-11 1/2	Female NPT	1	150.0	(5.91)	89.8	(3.54)	65	(2.56)
FD96-1001-32-32	Female	2	2	2-11 1/2	Female NPT	2	224.8	(8.85)	200.0	(7.87)	90	(3.54)
FD96-1002-32-32	Male	2	2	2-11 1/2	Female NPT	1	218.4	(8.60)	145.0	(5.71)	90	(3.54)

Dimensions (Female SAE O-ring)

Part Number	Coupling Type	Body Size	Port Size	Thread	Type	Fig.	Dimensions					
							A	B	Hex ①			
							mm	(in)	mm	(in)	mm	(in)
FD96-1004-06-04	Female	1/4	3/8	9/16-18 UNF	Female SAE O-ring	2	57.1	(2.25)	38.8	(1.53)	27	(1.06)
FD96-1005-06-04	Male	1/4	3/8	9/16-18 UNF	Female SAE O-ring	1	72.8	(2.87)	34.8	(1.37)	22	(.87)
FD96-1004-08-06	Female	3/8	1/2	3/4-16 UNF	Female SAE O-ring	2	70.8	(2.79)	41.8	(1.65)	30	(1.18)
FD96-1005-08-06	Male	3/8	1/2	3/4-16 UNF	Female SAE O-ring	1	87.0	(3.43)	37.8	(1.49)	27	(1.06)
FD96-1004-12-08	Female	1/2	3/4	11/16-12 UNF	Female SAE O-ring	2	84.8	(3.06)	49.8	(1.96)	36	(1.42)
FD96-1005-12-08	Male	1/2	3/4	11/16-12 UNF	Female SAE O-ring	1	100.4	(3.95)	45.8	(1.80)	36	(1.42)
FD96-1004-12-12	Female	3/4	3/4	11/16-12 UNF	Female SAE O-ring	2	84.9	(3.34)	53.8	(2.12)	41	(1.61)
FD96-1005-12-12	Male	3/4	3/4	11/16-12 UN	Female SAE O-ring	1	102.0	(4.02)	49.8	(1.96)	36	(1.42)
FD96-1004-12-16	Female	1	3/4	11/16-12 UN	Female SAE O-ring	2	99.7	(3.93)	58.8	(2.31)	46	(1.81)
FD96-1005-12-16	Male	1	3/4	11/16-12 UN	Female SAE O-ring	1	115.6	(4.55)	54.8	(2.16)	46	(1.81)
FD96-1004-16-16	Female	1	1	15/16-12 UN	Female SAE O-ring	2	99.7	(3.93)	58.8	(2.31)	46	(1.81)
FD96-1005-16-16	Male	1	1	15/16-12 UN	Female SAE O-ring	1	113.6	(4.47)	54.8	(2.16)	46	(1.81)
FD96-1004-16-20	Female	1 1/4	1	15/16-12 UN	Female SAE O-ring	2	105.8	(4.17)	69.8	(2.75)	55	(2.17)
FD96-1005-16-20	Male	1 1/4	1	15/16-12 UN	Female SAE O-ring	1	125.4	(4.94)	64.5	(2.54)	55	(2.17)
FD96-1004-20-20	Female	1 1/4	1 1/4	15/8-12 UN	Female SAE O-ring	2	106.8	(4.20)	69.8	(2.75)	55	(2.17)
FD96-1005-20-20	Male	1 1/4	1 1/4	15/8-12 UN	Female SAE O-ring	1	123.4	(4.86)	64.5	(2.54)	55	(2.17)
FD96-1004-20-24	Female	1 1/2	1 1/4	15/8-12 UN	Female SAE O-ring	2	133.5	(5.26)	92.0	(3.62)	65	(2.56)
FD96-1005-20-24	Male	1 1/2	1 1/4	15/8-12 UN	Female SAE O-ring	1	150.0	(5.91)	89.8	(3.54)	65	(2.56)
FD96-1004-24-24	Female	1 1/2	1 1/2	17/8-12 UN	Female SAE O-ring	2	133.5	(5.26)	92.0	(3.62)	65	(2.56)
FD96-1005-24-24	Male	1 1/2	1 1/2	17/8-12 UN	Female SAE O-ring	1	150.0	(5.91)	89.8	(3.54)	65	(2.56)
FD96-1004-32-32	Female	2	2	21/2-12 UN	Female SAE O-ring	2	224.8	(8.85)	200.0	(7.87)	90	(3.54)
FD96-1005-32-32	Male	2	2	21/2-12 UN	Female SAE O-ring	1	218.4	(8.60)	145.0	(5.71)	90	(3.54)

Dust Caps and Dust Plugs

Body Size	Part Number	Coupling Type	Cap Material	Body Size	Part Number	Coupling Type	Cap Material
1/4	FD96-1009-04	Female	Aluminum	1/4	FD96-1010-04	Male	Aluminum
3/8	FD96-1009-06	Female	Aluminum	3/8	FD96-1010-06	Male	Aluminum
1/2	FD96-1009-08	Female	Aluminum	1/2	FD96-1010-08	Male	Aluminum
3/4	FD96-1009-12	Female	Aluminum	3/4	FD96-1010-12	Male	Aluminum
1	FD96-1009-16	Female	Aluminum	1	FD96-1010-16	Male	Aluminum
1 1/4	FD96-1009-20	Female	Aluminum	1 1/4	FD96-1010-20	Male	Aluminum
1 1/2	FD96-1009-24	Female	Aluminum	1 1/2	FD96-1010-24	Male	Aluminum
2	FD96-1009-32	Female	Aluminum	2	FD96-1010-32	Male	Aluminum