

Fractional Size Codes

Know your Adapter Sizes, and the corresponding number and letter codes that commonly represent them.

North American Fluid Power Thread Sizes are Measured in 1/16" Increments, and are used throughout industry, and this catalog.

Hydraulic adapters and Malleable iron fittings are Identified with Number Codes representing each size, while brass pipe thread fittings use Letter Codes to represent each size, both systems are commonly used throughout the industry.

Nominal Thread Size (Inches.)	SAE Number Dash Sizes	NPT Letter Dash Sizes	Fraction Size
1/16	1		0.0625
1/8	2	A	0.1250
3/16	3		0.1875
1/4	4	B	0.2500
5/16	5		0.3125
3/8	6	C	0.3750
1/2	8	D	0.5000
5/8	10		0.6250
3/4	12	E	0.7500
7/8	14		0.8750
1	16	F	1.000
1 1/4	20	G	1.250
1 1/2	24	H	1.500
2	32	I	2.000
2 1/2	40	J	2.500
3	48	K	3.000
4	64	L	4.000

Hydraulic Adapter - Pressure Ratings

SAE J514 Working Pressure Ratings - Capable of 4-1 Minimum Burst

SAE and NPT Fittings

Note: In the case of a fitting that is a jump size, it is recommend that the lower pressure of the two ends must be recognized as the working pressure rating for that fitting. This is also the case if the fitting has one or more different style ends. For example, straight threads to pipe threads. In this case it is also recommended that the lower pressure rating of the two different style ends must be recognized as the working pressure rating for that fitting.

Nom SAE Dash Size	Nom Tube O.D. in M.M.	Nom Tube O.D. in Inch	Straight Thread Size	Nom Pipe Size	Rigid SAE St. Thread Unions & Bulkhead MPa	Rigid SAE St. Thread Unions & Bulkhead PSI	Adjustable SAE Std. Thread & Female Swivel MPa	Adjustable SAE Std. Thread & Female Swivel PSI	Fittings with Pipe Thread MPa	Fittings with Pipe Thread PSI	NPSM Std. Pipe Thread Maximum Operating Pressure MPa	NPSM Std. Pipe Thread Maximum Operating Pressure MPa
2	3.18	0.250	5/16 24	1/8	34.5	5,000	34.5	5,000	34.5	5,000	34.5	5,000
3	4.76	0.188	3/8 24	1/8	34.5	5,000	34.5	5,000	34.5	5,000	34.5	5,000
4	6.35	0.250	7/16 20	1/8	34.5	5,000	31.0	4,500	34.5	5,000	34.5	5,000
5	7.94	0.313	1/2 20	1/8	34.5	5,000	27.5	4,000	34.5	5,000	34.5	5,000
6	9.52	0.375	9/16 18	1/4	34.5	5,000	27.5	4,000	27.5	4,000	27.5	4,000
8	12.70	0.500	3/4 16	3/8	31.0	4,500	27.5	4,000	21.0	3,000	24.1	3,500
10	15.88	0.625	7/8 14	1/2	24.0	3,500	21.0	3,000	21.0	3,000	21.0	3,000
12	19.05	0.750	1 1/16 12	3/4	24.0	3,500	21.0	3,000	17.0	2,500	15.5	2,250
14	22.22	0.875	1 3/16 12	3/4	21.0	3,000	17.0	2,500	17.0	2,500	17.0	2,500
16	25.40	1.000	1 5/16 12	1	21.0	3,000	17.0	2,500	14.0	2,000	13.8	2,000
20	31.75	1.250	1 5/8 12	1 1/4	17.0	2,500	14.0	2,000	8.0	1,150	11.2	1,625
24	38.10	1.500	1 7/8 12	1 1/2	14.0	2,000	10.5	1,500	7.0	1,000	8.6	1,250
32	50.30	2.000	2 1/2 12	2	10.5	1,500	8.0	1,125	7.0	1,000	7.8	1,125

MPa (Mega Paskels) - 1 Mpa = 145 PSI

Pressure Ratings for Hydraulic Adapters

SAE J514 (JIC / O-Ring Boss) and NPT

NPT Pressure Ratings for Hydraulic Adapters

Note: In the case of a fitting that is a jump size, it is recommend that the lower pressure of the two ends must be recognized as the working pressure rating for that fitting. This is also the case if the fitting has one or more different style ends. For example, straight threads to pipe threads. In this case it is also recommended that the lower pressure rating of the two different style ends must be recognized as the working pressure rating for that fitting.

Nominal Pipe Size	Fittings with Pipe Thread MPa	Fittings with Pipe Thread PSI	Max. Oper. Pressure MPa	NPSM Std. Pipe Thread Maximum Operating Pressure PSI
1/8	34.5	5,000	34.5	5,000
1/4	27.5	4,000	27.5	4,000
3/8	21.0	3,000	24.1	3,500
1/2	21.0	3,000		
3/4	17.0	2,500	15.5	2,250
1	14.0	2,000	13.8	2,000
1 1/4	8.0	1,150	11.2	1,625
1 1/2	7.0	1,000	8.6	1,250
2	7.0	1,000	7.8	1,125

MPa (Mega Paskels) - 1 Mpa = 145 PSI

JIC and O-Ring Boss Pressure Ratings for Hydraulic Adapters

Note: In the case of a fitting that is a jump size, it is recommend that the lower pressure of the two ends must be recognized as the working pressure rating for that fitting. This is also the case if the fitting has one or more different style ends. For example, straight threads to pipe threads. In this case it is also recommended that the lower pressure rating of the two different style ends must be recognized as the working pressure rating for that fitting.

Nom SAE Dash Size	Nom Tube O.D. in M.M.	Nom Tube O.D. in Inch	Straight Thread Size	Rigid SAE St. Thread Unions & Bulkhead MPa	Rigid SAE St. Thread Unions & Bulkhead PSI	Adjustable SAE Std. Thread & Female Swivel MPa	Adjustable SAE Std. Thread & Female Swivel PSI
2	3.18	0.250	5/16 24	34.5	5,000	34.5	5,000
3	4.76	0.188	3/8 24	34.5	5,000	34.5	5,000
4	6.35	0.250	7/16 20	34.5	5,000	31.0	4,500
5	7.94	0.313	1/2 20	34.5	5,000	27.5	4,000
6	9.52	0.375	9/16 18	34.5	5,000	27.5	4,000
8	12.70	0.500	3/4 16	31.0	4,500	27.5	4,000
10	15.88	0.625	7/8 14	24.0	3,500	21.0	3,000
12	19.05	0.750	1 1/16 12	24.0	3,500	21.0	3,000
14	22.22	0.875	1 3/16 12	21.0	3,000	17.0	2,500
16	25.40	1.000	1 5/16 12	21.0	3,000	17.0	2,500
20	31.75	1.250	1 5/8 12	17.0	2,500	14.0	2,000
24	38.10	1.500	1 7/8 12	14.0	2,000	10.5	1,500
32	50.30	2.000	2 1/2 12	10.5	1,500	8.0	1,125

MPa (Mega Paskels) - 1 Mpa = 145 PSI

Hydraulic Adapter - Pressure Ratings

SAE J1453 Working Pressure Ratings - Capable of 4-1 Minimum Burst Face Seal Fittings

Note: In the case of a fitting that is a jump size, it is recommended that the lower pressure of the two ends must be recognized as the working pressure rating for that fitting. This is also the case if the fitting has one or more different style ends. For example, Face Seal to pipe threads. In this case it is also recommended that the lower pressure rating of the two different style ends must be recognized as the working pressure rating for that fitting.

Nom SAE Dash Size	Straight Fittings Working MPa	Straight Fittings Working PSI	Straight Fitting Proof MPa	Straight Fitting Proof PSI	Straight Fitting Min.Burst MPa	Straight Fitting Min.Burst PSI	Adjustable Fittings Working MPa	Adjustable Fittings Working PSI	Adjustable Fittings Proof MPa	Adjustable Fittings Proof PSI	Adjustable Fittings Min Burst MPa	Adjustable Fittings Min Burst MPa
4	41.3	6,000	82.5	12,000	165	24,000	41.3	6,000	82.5	12,000	165.0	24,000
6	41.3	6,000	82.5	12,000	165	24,000	41.3	6,000	82.5	12,000	165.0	24,000
8	41.3	6,000	82.5	12,000	165	24,000	41.3	6,000	82.5	12,000	165.0	24,000
10	41.3	6,000	82.5	12,000	165	24,000	41.3	6,000	82.5	12,000	165.0	24,000
12	41.3	6,000	82.5	12,000	165	24,000	41.3	6,000	82.5	12,000	165.0	24,000
16	41.3	6,000	82.5	12,000	165	24,000	34.5	5,000	69.9	10,000	138.0	20,000
20	27.5	4,000	55.0	8,000	110	16,000	27.5	4,000	55.0	8,000	110.0	16,000
24	27.5	4,000	55.0	8,000	110	16,000	20.7	3,000	41.3	6,000	82.5	12,000

MPa (Mega Paskels) - 1 Mpa = 145 PSI

SAE J518 Working Pressure Ratings - Capable of 4-1 Minimum Burst Code 61 & Code 62 Flange Fittings

Nom SAE Dash Size	Code 61 Nominal Flange Size Inch	Maximum recommended Working Pressure MPa	Maximum recommended Working Pressure PSI	Code 62 Nominal Flange Size Inch	Maximum recommended Working Pressure MPa	Maximum recommended Working Pressure PSI
8	1/2	34.5	5,000	1/2	41.4	6,000
12	3/4	34.5	5,000	3/4	41.4	6,000
16	1	34.5	5,000	1	41.4	6,000
20	1 1/4	27.6	4,000	1 1/4	41.4	6,000
24	1 1/2	20.7	3,000	1 1/2	41.4	6,000
32	2	20.7	3,000	2	41.4	6,000

MPa (Mega Paskels) - 1 Mpa = 145 PSI