

Technical Datas

Measures

1 inch =25.4mm=2.54cm
 1 mm=0.039 inch
 1 U.S gallon=3.785 litres
 1 imperial gallon=4.546 litres

Pressure

1bar =1.02 kg/cm²=0.98 atm=
 10⁵Pa=100 kPa=0.1 Mpa
 1bar=14.51 Psi
 1Psi=0.0689 bar=0.0703 kg/cm²

Flow rate

Kv in L/min/ Δ P=1 bar
 Cv in gpm/ Δ P=1 Psi
 1 cv=0.07 kv
 1 kv=14.28 cv

 1 gpm (U.S gallon)=3.785 L/min
 1 L/min=0.0353 SCFM

Torque

1 in. lb.=0.113 Nm
 1 Nm=8.25 in. lb.

Designation of sealing materials

ASTM Designation	Commercial Designation
NBR	Nitrile rubber Buna-N, petbunan
FKM	Fluoroelastomer
EPDM	Ethylene propylene
PTFE	Teflon®
CR	Neoprene
PUR	Polyurethane

Size

mm	inches	decimal Inches
0.79	1/32	0.031
1.59	1/16	0.063
2.38	3/32	0.094
3.18	1/8	0.125
3.97	5/32	0.156
4.76	3/16	0.188
5.56	7/32	0.219
6.35	1/4	0.250
7.14	9/32	0.281
7.94	5/16	0.313
8.73	11/32	0.344
9.53	3/8	0.375
10.3	13/32	0.406
11.1	7/16	0.438
11.9	15/32	0.469
12.7	1/2	0.500
13.5	17/32	0.531
14.3	9/16	0.563
15.1	19/32	0.594
15.9	5/8	0.625
16.7	21/32	0.656
17.5	11/16	0.688
18.3	23/32	0.719
19.1	3/4	0.750
19.8	25/32	0.781
20.6	13/16	0.813
21.4	27/32	0.844
22.2	7/8	0.875
23.0	29/32	0.906
23.8	15/16	0.938
24.6	31/32	0.969
25.4	1	1.000

Temperature

°C	°F	°C	°F	°C	°F
340	644	75	167	18	64.4
330	626	70	158	17	62.6
320	608	65	149	16	60.8
310	590	60	140	15	59
300	570	55	131	14	57.2
290	554	50	122	13	55.4
280	536	45	113	12	53.6
270	517	40	104	11	51.8
260	500	39	102.2	10	50
250	482	38	100.4	9	48.2
240	464	37	98.6	8	46.4
230	446	36	96.8	7	44.6
220	428	35	95	6	42.8
210	410	34	93.2	5	41
200	392	33	91.4	4	39.2
190	374	32	89.6	3	37.4
180	356	31	87.8	2	35.6
170	338	30	86	1	33.8
160	320	29	84.2	ZERO	32
150	302	28	82.4	-1	30.2
140	284	27	80.6	-2	28.4
130	266	26	78.8	-3	26.6
120	248	25	77	-4	24.8
110	230	24	75.2	-5	23
100	212	23	73.4	-6	21.2
95	203	22	71.6	-7	19.4
90	194	21	69.8	-8	17.6
85	185	20	68	-9	15.8
80	176	19	66.2	-10	14

CENTIGRADE
=5/9(F-32)FAHRENHEIT=9/5C+32

Flow rate

Liquids

The flow through a pipe or valve is
 Given by:

$$Q = 14.28cv \sqrt{\frac{\Delta P}{\gamma}}$$

Where Q = flow (L/min)
 ΔP = pressure drop
 γ = density of fluid (kg/dm³)
 cv = flow rating of valve
 water γ = 1 kg/dm³

Gases

$$Q = 400cv \sqrt{(P_2+1.013) \cdot \Delta P} \cdot \sqrt{\frac{273}{273+t}}$$

P₂ = outlet pressure
 t = gases temperature