



Application Guide - Diaphragms

GRADE	POLYMER TYPE	GENERAL APPLICATION
D10 Natural Rubber	<u>Natural Rubber Polyisoprene/SBR</u> Sulphur cured and carbon black reinforced	Inorganic salt solutions, dilute mineral acids, alkalis and salts. Abrasive services Not resistant to Oxidizing media, oils or most organic solvents will attack it.
D15 White Natural Rubber	<u>Natural Rubber Polyisoprene/SBR</u> Sulphur cured and white reinforced	Food and pharmaceuticals, toothpaste, brewing, dairy
D20 EPDM	<u>Ethylene Propylene Diene (EPDM)</u> Organic peroxide cured, carbon black reinforced	Salts in water, acids and alkalis, ozone, intermitten steam. Sterilisation
D30 Butyl Rubber	<u>Isobutylene Isoprene (IIR)</u> Sulphur cured and carbon black reinforced	Dilute mineral acids and alkalis, gases, acidic slurries, chlorine free hydrochloric acid, resistance to concentrated acids is good with some important exceptions as nitric or sulphuric acids
D40 Nitrile	<u>Butadiene Acrylonitrile</u>	Oily air, lubricating oil, cutting oils, fuel oils, animal and vegetable oils, aviation kerosen, LPG Generally resistant to oils and solvents.
D50 Neoprene®	<u>Polychloroprene</u> Non sulphur cured carbon black reinforced	Abrasive slurries containing hydrocarbons, oily air, natural gas Resistant to attack by ozone, sunlight, oils, gasoline, and aromatic or halogenated solvents but easily permeated by water
D60 Hypalon®	<u>Chlorosuphonated polyethylene</u> Non sulphur cured carbon black reinforced	Outstanding resistance to ozone and oxidizing agents except fuming nitric and sulfuric acids. Oil resistance is good. Dilute / Medium acids, sodium hypochlorite, chlorine gas
D70 Viton®	<u>Vinylidene fluoride-hexafluoro propyleneco-polymer</u> Carbon black reinforced	Strong sulphuric acid, chlorine gas, oils, certain aromatic solvents
D92 PTFE/EPDM	<u>Virgin PTFE + Ethylene Propylene Diene</u> Two piece Bayonet fitting	Strong acids, alkalis and salts in water at high temperature, Biopharmaceuticals
D93 PTFE/BUTYL	<u>Virgin PTFE + IIR</u> Two piece Bayonet fitting	Strong acids at low-medium temperature
D97 PTFE/Viton®	<u>Virgin PTFE + Vinylidene fluoride-hexafluoro propylene copolymer</u> Two piece Bayonet fitting	Strong acids, solvents, chlorine, bromine at higher temperature

Vacuum reinforced diaphragms are available and will contain a steel stud and be designated by additional code letter (V) e.. D10V Because of the steel stud these diaphragms can be used on services where conventional bronze studs are prohibited e.g. use of D40V on acetylene.

*Other speciality customised diaphragm material available to suit individual requirement made out of various polymers

Main Duties / Limits of use

Liquids compatible with materials of construction, acc. to Directive 2014/68/EU Annex II tables 8 (group 1*) & 9 (group 2*) up to category I

Rubber Diaph.

- PS:16 bar DN10-50 (Art.4-Parr.3)
- PS:10 bar DN65-150 (Art.4-Parr.3)
- PS:6 bar DN200 (Art.4-Parr.3)
- PS:5 bar DN250 (Art.4-Parr.3)
- PS:4 bar DN300 (Art.4-Parr.3)

PTFE Diaph.

- PS:10 bar DN10-125 (Art.4-Parr.3)
- PS:6 bar DN150 (Art.4-Parr.3)

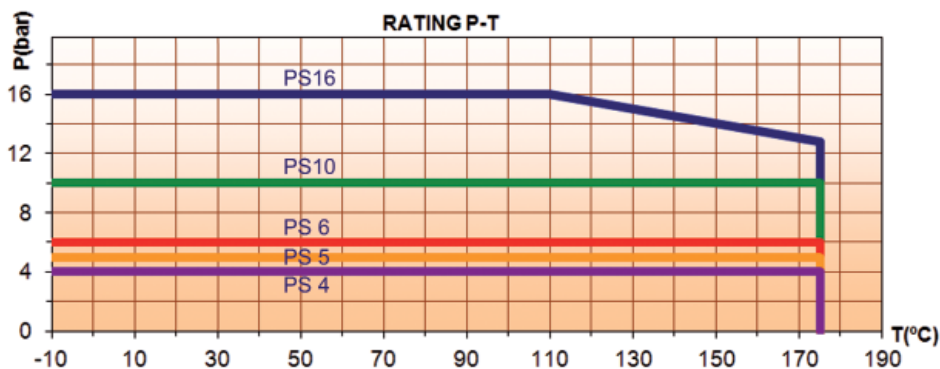
Combination of Body + Lining + Diaphragm determines the P-T limit of use of the valve

Questions referring to chemical resistance, please consult us

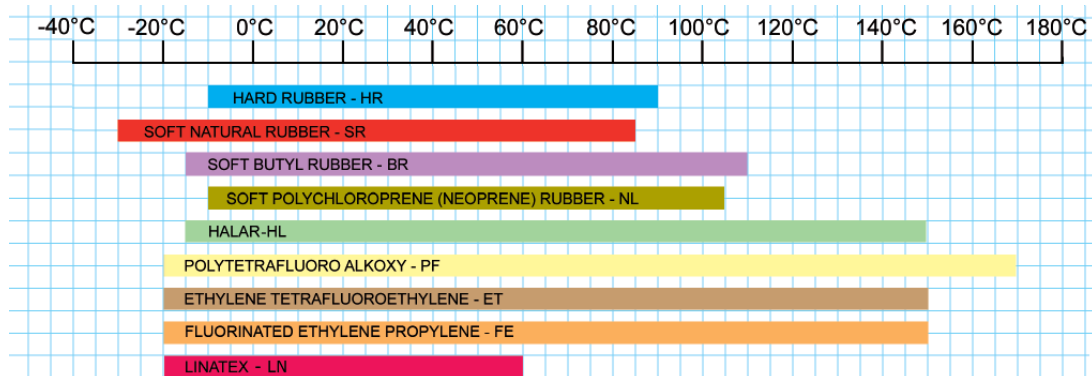
Observe also pressure/temperature limits on diagrams under

*Classification of fluids (group 1 or 2) acc. to Directive 2014/68/EU, Article 13

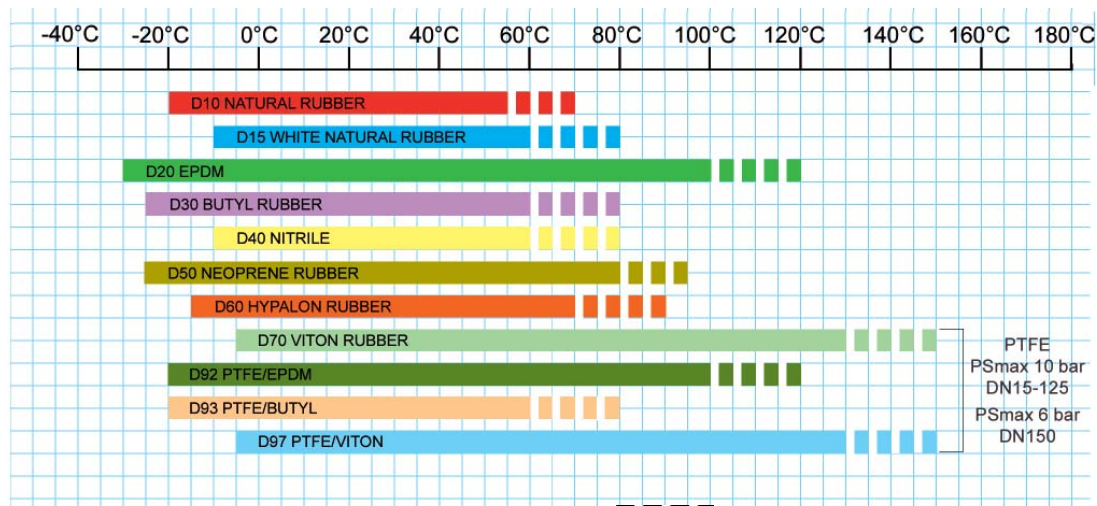
Bodies (Ductile iron)



Linings



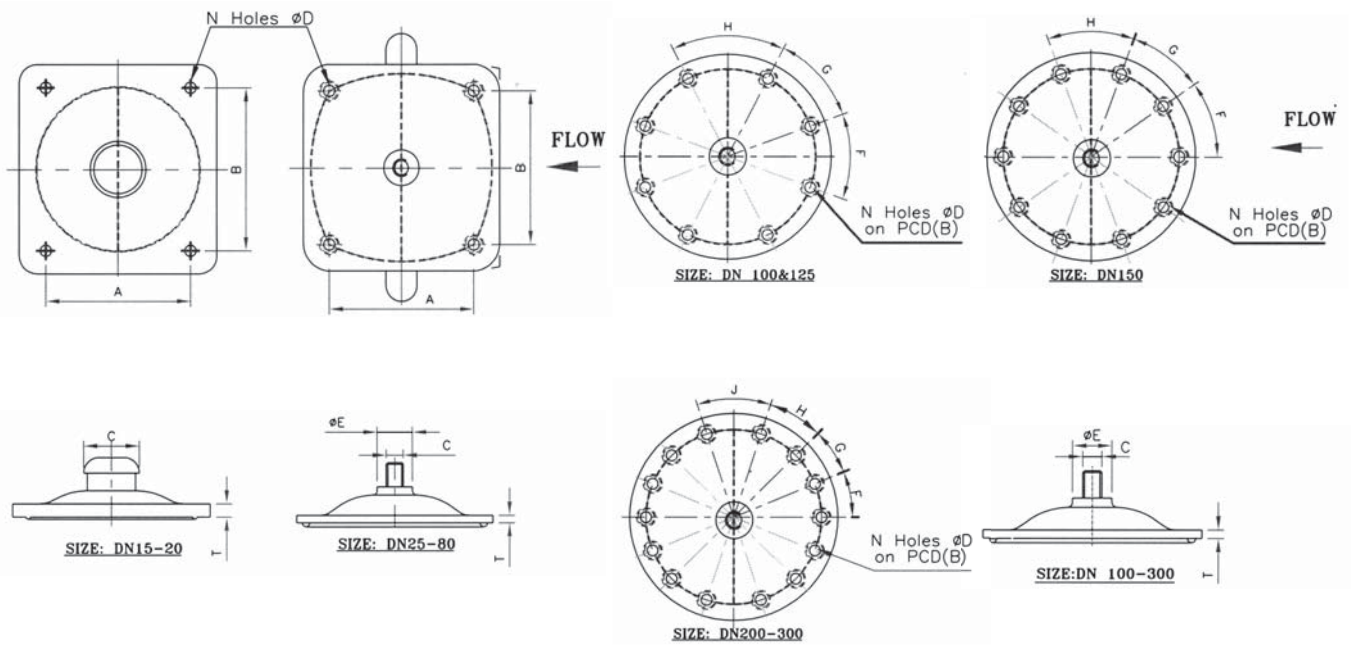
Diaphragms



■ ■ ■ ■ Brief Peak Temperature (less than one hour)

Temperature Values are for neutral fluids and not plotted against any pressure parameter, the application engineer should consider that working limits are affected by the actual pressure / temperature relationship. Temperature values also depends on medium through the valve.

Main Spare Diaphragms Dimensions



DN	DIMENSIONS OF DIAPHRAGM						ANGLES BETWEEN THE HOLES				
	A	B	C	ØE	ØD	N° HOLES	T	F	G	H	J
15	33	37	Ø12.7	---	7.0	4	6.0	---	---	---	---
20	40	44	Ø12.7	---	8.5	4	6.5	---	---	---	---
25	46	54	1/4" BSW	18.0	9.5	4	6.15	---	---	---	---
32	60	67	1/4" BSW	18.0	10.0	4	7.5	---	---	---	---
40	65	70	1/4" BSW	22.2	11.5	4	7.5	---	---	---	---
50	78	83	1/4" BSW	25.6	11.5	4	7.5	---	---	---	---
65	95	102	5/16" BSW	29.0	14.0	4	7.5	---	---	---	---
80	114	127	5/16" BSW	32.0	18.0	4	8.0	---	---	---	---
100		Ø194	5/16" BSW	37.0	16.0	8	10.0	40°	42°	56°	---
125		Ø222	3/8" BSW	44.5	17.3	8	11.5	43°20'	43°20'	50°	---
150		Ø273	3/8" BSW	50.0	18.5	10	11.5	35°	35°	40°	---
200		Ø381	7/8" BSW	63.0	20.0	14	10.0	22°30'	22°30'	27°	36°
250		Ø438	7/8" BSW	76.0	22.0	14	14.0	22°30'	22°30'	22°30'	45°
300		Ø508	7/8" BSW	89.0	25.0	14	15.5	24°	24°	24°	36°

Dimensions in mm subject to manufacturing tolerance