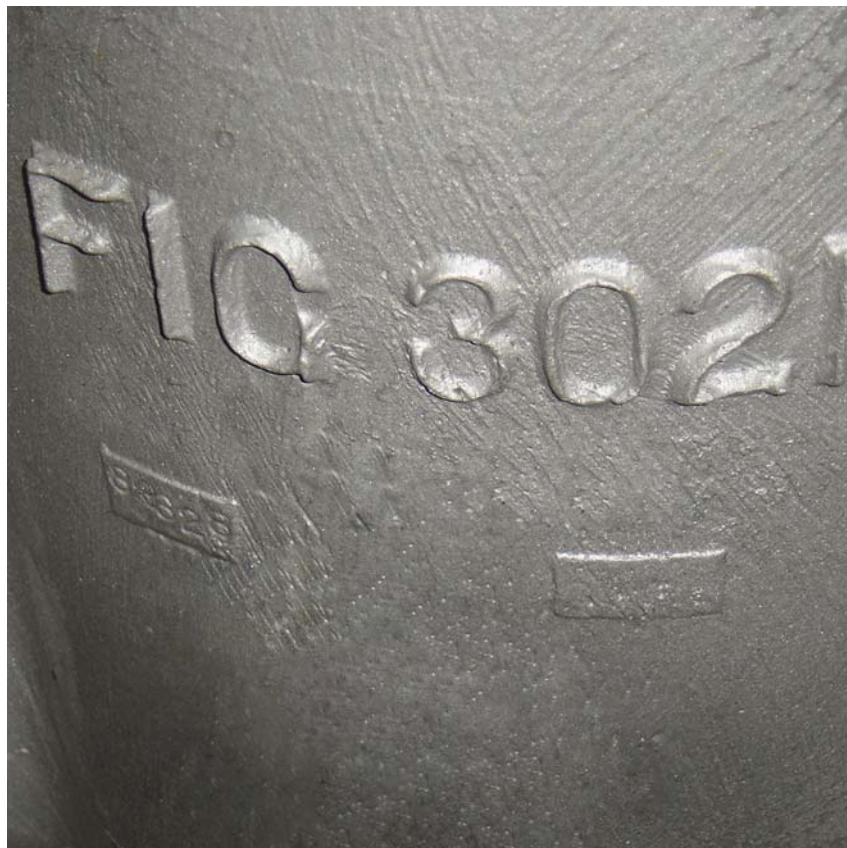


FluoroSeal Specialty Valves



ENGINEERED SOLUTIONS DIVISION (ESD)

Our Engineered Solutions Division (ESD) is staffed with highly skilled engineers, technicians and draftsmen specialized in modifying existing designs to meet your specific needs.

OUR ENGINEERING COMMITMENT

We will assist you in making the most appropriate selection of alloys and polymers to suit your application.

We will provide you with CV factors and other necessary flow calculations, therefore making your decision process as easy as possible.

We will work together with you to develop the best valve possible, no matter what your industry sector:



CHEMICAL



PULP & PAPER



MINING



POWER GENERATION



OIL & GAS

QUALITY ASSURANCE



ISO 9001:2000 Certificate

FluoroSeal® DIN Sleeved Plug Valves possess all of the best design features presently available in a non-lubricated valve. They are inspected throughout the full manufacturing process from foundry to final assembly and packaging to assure high quality and consistency in every unit.

All valves are pressure tested prior to shipment and fully compliant to DIN EN 12266-1 shell test requirements. All high nickel alloy valves are helium tested on a standard basis.

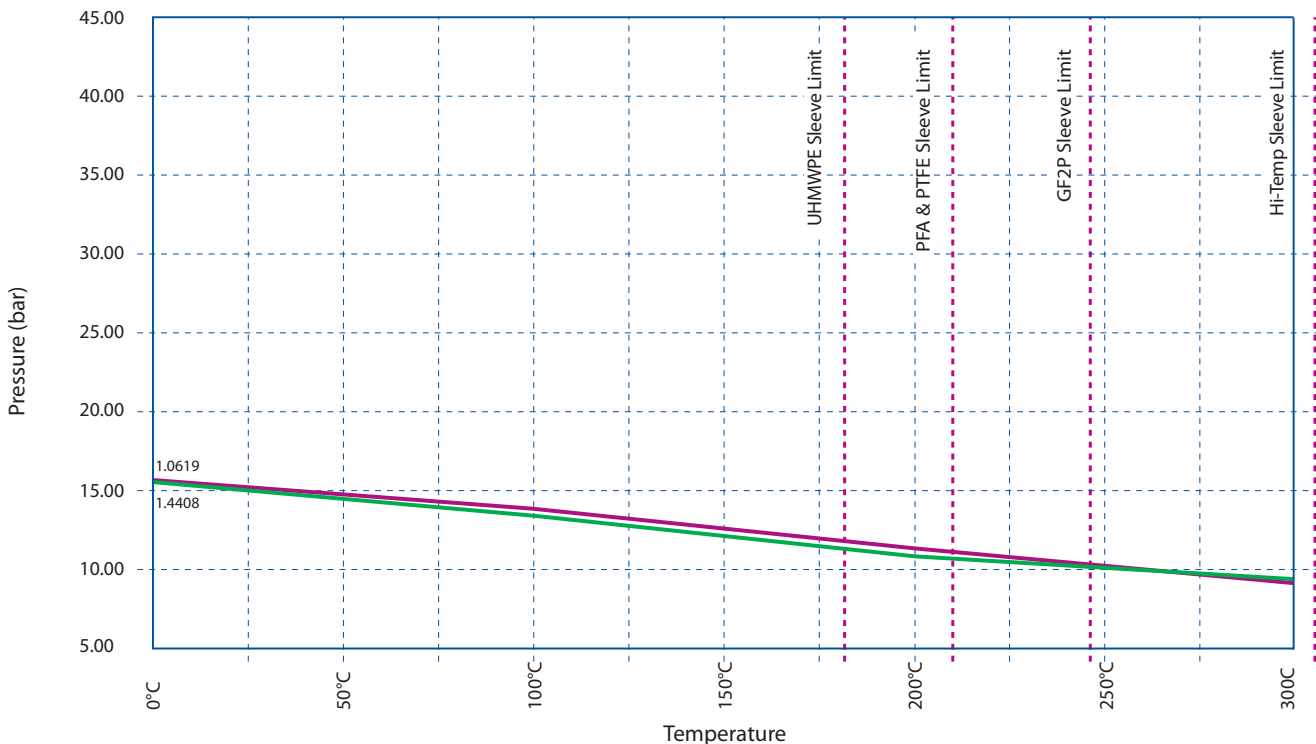
TESTING

- All our valves are tested with dry air to 1.5 times the full rated pressure as per DIN EN 12266-1
- All our valves are tested in full compliance with DIN EN 12266-2
- Our Fire Seal Valves are tested to API 607 Fifth Edition (ISO 10497-5)

MATERIAL PROPERTIES

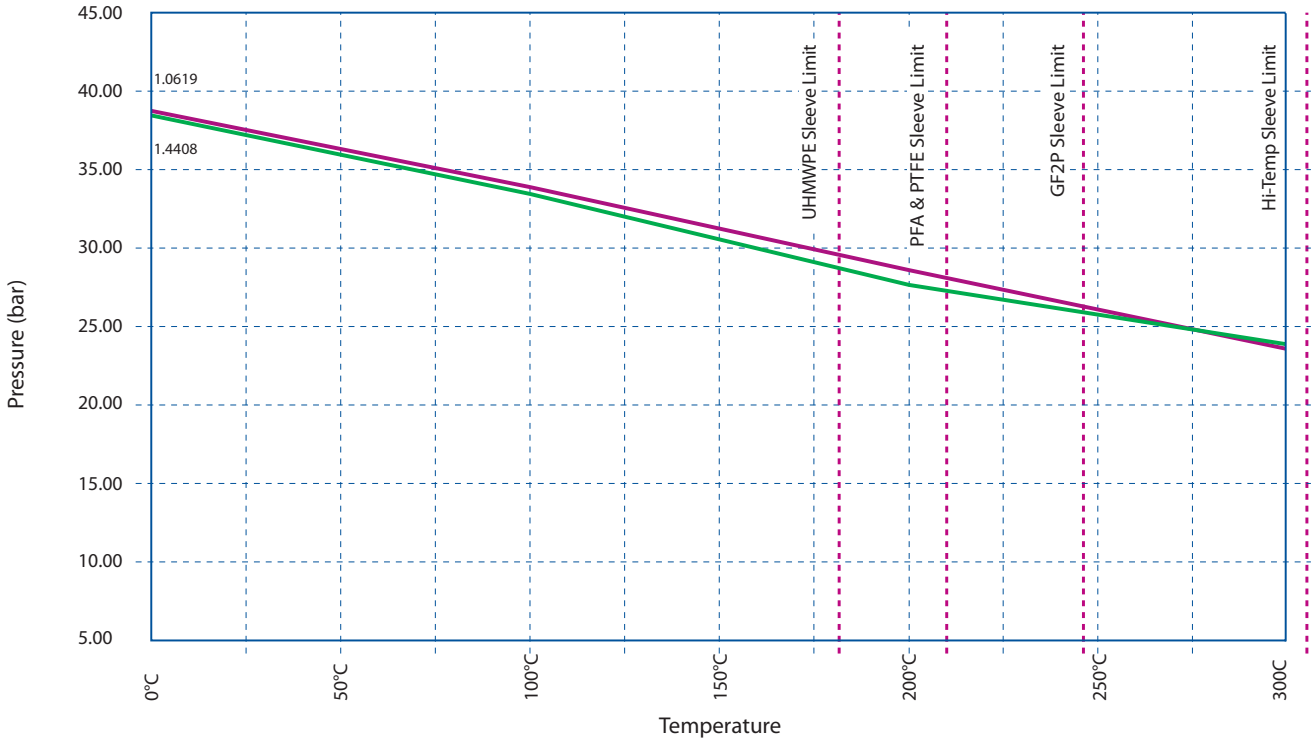


Pressure-Temperature Chart
PN 16





Pressure-Temperature Chart
PN 40



CV VALUES — 2-WAY PLUG VALVES

SIZE	OPEN								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN 15	0.00	0.00	0.20	0.40	0.90	1.60	2.70	5.40	9.00
DN 20	0.00	0.00	0.20	0.40	0.90	1.60	2.70	5.40	9.00
DN 25	0.00	0.00	1.10	1.70	4.30	7.70	13.00	26.00	43.00
DN 40	0.00	0.20	2.70	6.70	12.50	25.00	37.00	58.00	89.00
DN 50	0.00	1.90	6.90	12.00	21.00	34.00	55.00	101.00	172.00
DN 80	0.00	5.00	8.80	21.00	44.00	60.00	103.00	182.00	294.00
DN 100	0.00	9.80	30.00	56.00	99.00	145.00	208.00	345.00	548.00
DN 150	0.00	13.00	45.00	90.00	140.00	245.00	380.00	634.00	1075.00

CV VALUES — MULTI-PORT PLUG VALVES

SIZE	FA	FA4	FA4
	1, 2, 3, 5	Positions A & C	Position B
DN 15	9.00	6.00	6.00
DN 20	9.00	6.00	6.00
DN 25	20.00	11.00	17.00
DN 40	36.00	19.00	33.00
DN 50	68.00	37.00	43.00
DN 80	88.00	47.00	78.00
DN 100	154.00	86.00	139.00
DN 150	315.00	189.00	227.00

CV VALUES — CAGED CONTROL PLUG VALVES

SIZE	OPEN								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN 25	0.00	0.00	1.70	3.40	6.30	10.00	18.00	32.00	40.90
DN 40	0.00	0.80	3.60	7.20	12.50	20.60	34.00	55.00	80.30
DN 50	0.00	1.70	5.50	11.10	25.00	30.00	52.00	90.00	138.00
DN 80	0.00	4.50	9.40	21.00	35.00	54.00	103.00	162.00	235.00
DN 100	0.00	9.80	30.00	55.00	82.00	138.00	193.00	336.00	439.00
DN 150	0.00	12.90	45.00	86.00	138.00	232.00	378.00	593.00	860.00

PLUG-DIN-R001-2007

CV VALUES — STANDARD V-PORT PLUG VALVES

SIZE	PIPE SIZE	OPEN									
		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
DN 25	DN 50	0.31	1.15	2.47	4.27	6.51	9.20	12.31	15.68	19.82	24.20
	DN 40	0.35	1.29	2.78	4.80	7.32	10.34	13.84	17.83	22.28	27.20
DN 40	DN 25	0.38	1.42	3.06	5.27	8.04	11.36	15.22	19.59	24.49	29.90
	DN 80	0.38	1.39	3.01	5.18	7.91	11.17	14.96	19.27	24.08	29.40
DN 50	DN 50	0.39	1.45	3.13	5.39	8.23	11.63	15.57	20.05	25.07	30.60
	DN 40	0.40	1.48	3.20	5.52	8.42	11.89	15.93	20.51	25.64	31.30
	DN 100	0.64	2.37	5.11	8.81	13.45	19.00	25.44	32.77	40.96	50.00
DN 80	DN 80	0.67	2.48	5.34	9.20	14.04	19.84	26.56	34.21	42.76	52.20
	DN 50	0.69	2.55	5.50	9.48	14.47	20.44	27.38	35.26	44.07	53.80
	DN 150	1.43	5.31	11.45	19.75	30.13	42.56	57.59	73.40	91.74	112.01
DN 100	DN 100	1.51	5.60	12.06	20.80	31.75	44.84	60.09	77.33	95.66	117.01
	DN 80	1.54	5.74	12.37	21.33	32.55	45.98	61.57	79.30	99.12	121.01
	DN 150	2.35	8.73	18.81	32.44	49.50	69.92	93.63	120.58	150.72	184.01
DN 150	DN 100	2.42	9.01	19.42	33.50	51.12	72.20	96.69	124.51	155.64	190.01
	DN 150	5.10	18.97	40.89	70.52	107.62	152.01	203.55	262.13	327.65	400.03

OPERATING TORQUE — STANDARD PLUG VALVES

SIZE	PORT TYPE	Break Torque	Seating Torque	Running Torque
		N.m	N.m	N.m
DN 15 & DN 20	Standard	15.82	9.04	7.91
DN 25	Standard	45.19	28.25	22.60
DN 40	Standard	90.39	56.49	45.19
DN 50	Standard	124.28	73.44	62.14
DN 80	Standard	135.58	86.43	50.84
DN 100	Standard	271.16	163.83	135.58
DN 150	Standard	564.92	338.95	282.46

Torque Adjustment Factors

1. For UHMWPE and RTFE sleeves, multiply value by 2
2. For slurry or abrasive service, multiply value by 1.5

Note: Torque values are the same for 2-way and multiport valves