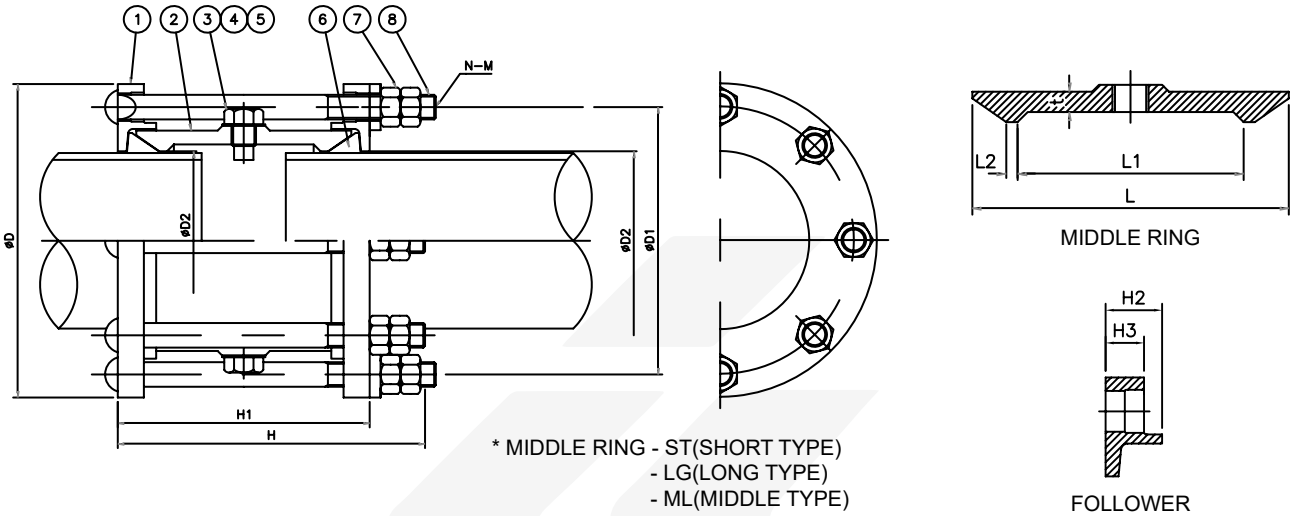


Expansion Joint (Dresser Type)



NOTE

1. PACKING - N.B.R : NITRYL BUTADIEN RUBBER
-VITON : FLUORO RUBBER
2. PAINT - HOT DIPPED GALV'D/ZINC PRIMER
3. PIPE TYPE - API TYPE

- DESIGN TEMPERATURE : -10~+80°C (NBR)
-20~+120°C (VITON)
- BURST TEST RPESSURE : 84kg/cm²
- HYDRO TEST PRESSURE : 31kg/cm²
- MAX WORKING PRESSURE : 21kg/cm²
- FIRE RESISTANCE TYPE

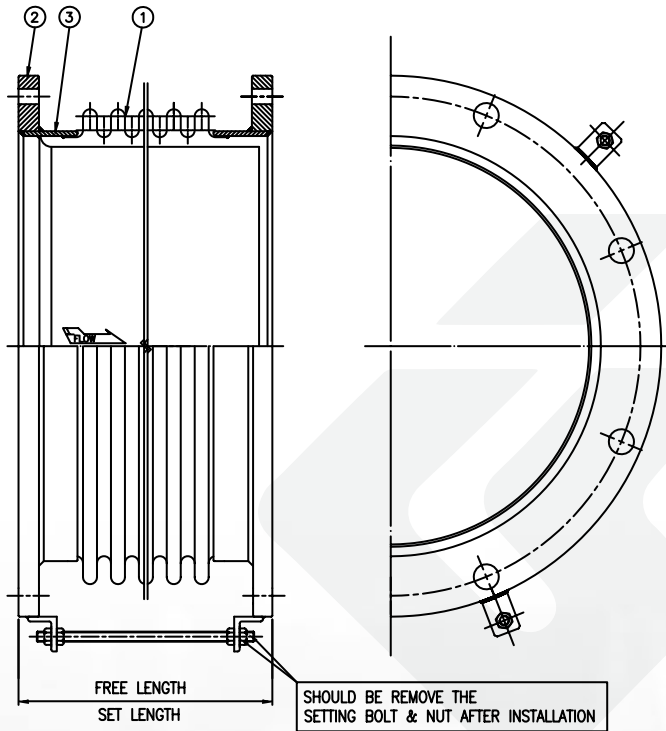
No.	PARTS	MATERIAL	Q'TY	REMARK
1	FOLLOWER	FCD450/SS400/SC410/SC480	2	
2	MIDDLE RING	FCD450/SS400/SC410/SC480	1	
3	STOP BOLT	SUS304/SUS316/SUS316L	2	
4	WASHER	SUS304/SUS316	5~22	
5	GASKET	N.B.R/VITON	2	
6	PACKING	N.B.R/VITON	2	CONDUCTIVE TYPE
7	NUT	SS400/SUS304/SUS316/SUS316L	6~40	
8	BOLT	SS400/SUS304/SUS316/SUS316L	3~20	

Dimension

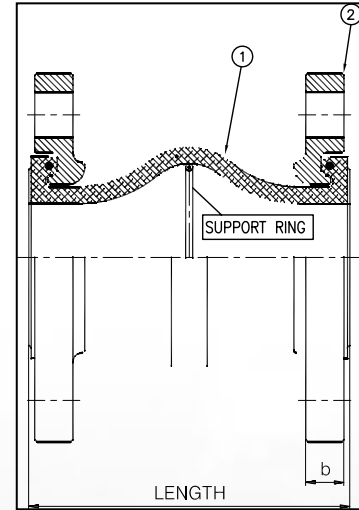
(Unit:mm)

PIPE N.D	O.D	øD	øD1	øD2	L			L1			L2	H			H1			H2	H3	t			N-M
					ST	LG	ML	ST	LG	ML		ST	LG	ML	ST	LG	ML						
40	48.26	118	94	50.3	132	252	178	100	220	140	5	185	305	231	153	273	199	15	10	5.2	5.2	5.2	3-M12
50	60.32	132	108	62.3	132	252	178	100	220	140	5	185	305	231	153	273	199	15	10	6	6	6	3-M12
65	73.02	149	125	75	132	252	178	100	220	140	5	185	305	231	154	273	200	15	10	7	7	7	4-M12
80	88.90	176	146	90.9	140	260	178	100	220	140	5	200	320	238	162	282	200	20	12	7.5	7.5	7.5	4-M16
100	114.3	204	174	116.3	140	260	178	100	220	140	5	200	320	240	164	284	202	25	17	9	9	9	4-M16
125	141.3	230	200	143.8	150	266	178	100	220	140	5	210	330	244	174	294	206	25	17	10	10	10	6-M16
150	168.3	262	230	170.8	156	270	178	100	220	140	5	215	335	246	180	300	208	27	18	11	11	11	6-M16
200	219.08	320	286	221.6	156	276	178	100	220	140	5	225	345	247	187	307	209	27	18	13	13	13	6-M16
250	273.05	373	339	275.6	156	276	178	100	220	140	5	225	345	249	189	309	211	30	18	13	13	13	8-M16
300	323.8	426	390	327.3	156	276	178	100	220	140	5	230	350	251	191	311	213	30	18	13	13	13	8-M16
350	355.6	466	430	359.1	156	276	178	100	220	140	5	230	350	251	191	311	213	32	21	13	13	13	10-M16
400	406.4	520	482	409.9	156	276	178	100	220	140	5	230	350	251	191	311	213	32	21	13	13	13	10-M16
450	457.2	578	538	461	156	276	178	100	220	140	5	235	355	253	195	315	215	32	21	13	14	13	12-M16
500	508.0	634	592	512	178	298	178	122	242	140	5	255	375	253	215	340	215	32	21	14	14	14	12-M16
550	558.8	686	644	564	178	298	178	122	242	140	5	255	375	253	215	340	215	32	21	14	15	14	14-M16
600	609.6	736	694	615	178	298	178	122	242	140	5	265	385	253	215	340	215	32	21	14	15	14	14-M16
650	660.4	790	746	666	178	298	178	122	242	140	5	265	385	253	215	340	215	32	21	14	15	14	16-M16
700	711.2	842	798	717	178	298	178	122	242	140	5	265	385	253	215	340	215	32	23	14	15	14	16-M16
750	762.0	894	850	768	178	298	178	122	242	140	5	265	385	253	215	340	215	32	23	14	15	14	16-M16
800	812.8	948	904	818	178	298	178	122	242	140	5	265	385	253	215	340	215	32	23	14	15	14	16-M16
900	914.4	1057	1013	921	188	308	178	132	252	140	5	275	395	253	225	350	215	33	24	15	16	15	18-M16
1000	1016	1162	1116	1022	198	318	178	142	262	140	5	285	405	253	235	360	215	34	25	16	17	16	20-M16

Expansion Joint (Bellows Type)



METAL BELLOWS



RUBBER BELLOWS

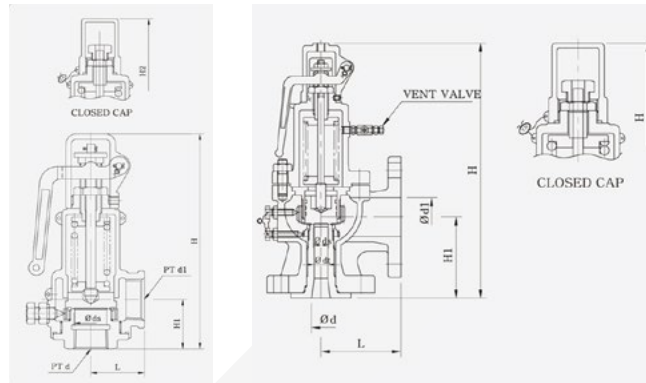
IL SHIN CO., LTD.
TOTAL SOLUTION PROVIDER

Specification

No.	PARTS	MATERIAL
1	BELLOWS	STAINLESS STEEL / RUBBER
2	FLANGE	CARBON STEEL / STAINLESS STEEL
3	END PIPE	CARBON STEEL / STAINLESS STEEL

TYPE	METAL / RUBBER
SIZE	25A ~ 3200A
APPLICABLE	JIS / ANSI / DIN / ETC.
APPLICATION	AIR / STEAM / WATER / EXHAUST GAS
DESIGN PRESS.	1 ~ 19 (kgf / cm ²)
DESIGN TEMP.	up to 480°C

Special Valves Safety Relief Valve



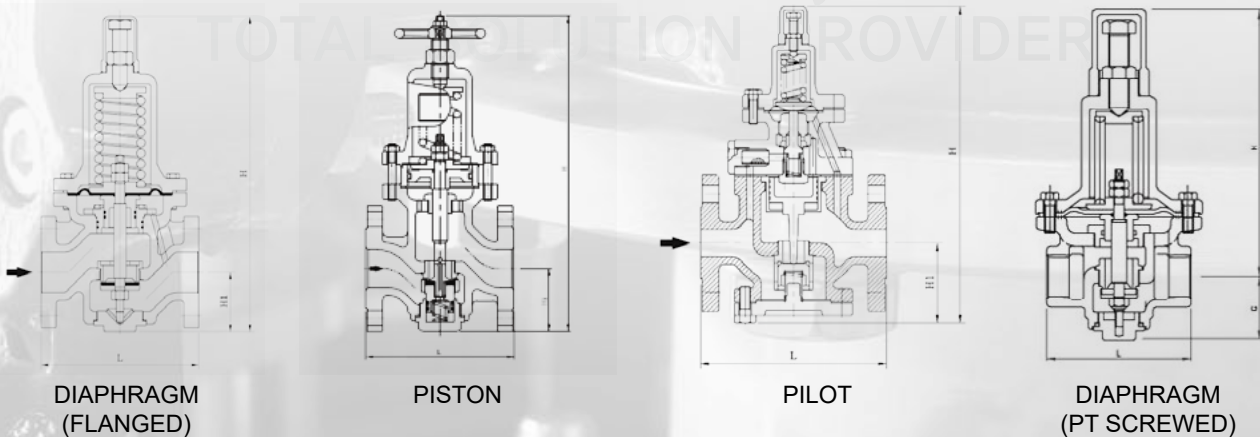
LIFT TYPE

FULL BORE TYPE

Specification

TYPE	LIFT	FULL BORE
SIZE	½" up to 2" (DN15 ~ DN50)	½" up to 12" (DN15 ~ DN300)
CLASS RATING	-	JIS 10K / 20K / 30K
APPLICABLE	-	JIS / ANSI / DIN
END CONN.	PT SCREWED	PT SCREWED / FLANGED
FLUID	LEVER : STEAM / AIR NO LEVER : WATER / LIQUID	LEVER : STEAM / AIR NO LEVER : WATER / LIQUID
SET PRESS.	0.5 ~ 33 (kgf / cm ²)	0.5 ~ 33 (kgf / cm ²)
WORKING TEMP.	MAX. 220°	220° / 250° / -196~400°
BODY MAT'L	BRONZE STAINLESS STEEL	CAST IRON CAST STEEL
TRIM MAT'L	- BRASS STAINLESS STEEL	STAINLESS STEEL STAINLESS STEEL
FEATURES	SUITABLE FOR SMALL AND MEDIUM CAPACITY QUICK POPPING REACTION AND CORRECT RE-SETTING	SUITABLE FOR LARGE CAPACITY LARGER DISCHARGE

Special Valves Pressure Reducing Valve



DIAPHRAGM (FLANGED)

PISTON

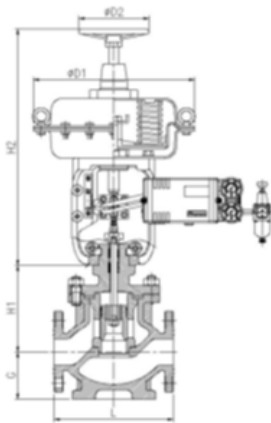
PILOT

DIAPHRAGM (PT SCREWED)

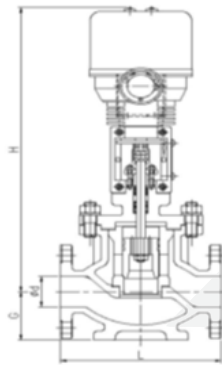
Specification

TYPE	DIAPHRAGM	PISTON	PILOT
SIZE	½" up to 8" (DN15 ~ DN200)	½" up to 8" (DN15 ~ DN200)	½" up to 10" (DN15 ~ DN250)
CLASS RATING	JIS 10K / 20K / 30K / 40K	JIS 10K / 16K / 20K / 30K / 40K	JIS 10K / 20K
APPLICABLE	JIS / ANSI / DIN	JIS / ANSI / DIN	JIS / ANSI / DIN
END CONN.	PT SCREWED / FLANGED	FLANGED	FLANGED
FLUID	STEAM / GAS / WATER	GAS / WATER	STEAM
INLET / OUTLET PRESS.	≤ 40 / 0.5 ~ 10 (kgf / cm ²)	≤ 20 / 0.5 ~ 15 (kgf / cm ²)	≤ 20 / 0.5 ~ 15 (kgf / cm ²)
MAX. WORKING TEMP.	80°C / 220°C	150°C	220°C / 250°C
BODY MAT'L	CAST IRON CAST STEEL STAINLESS STEEL	CAST IRON CAST STEEL STAINLESS STEEL	CAST IRON CAST STEEL STAINLESS STEEL
TRIM MAT'L	BRONZE STAINLESS STEEL	-	STAINLESS STEEL

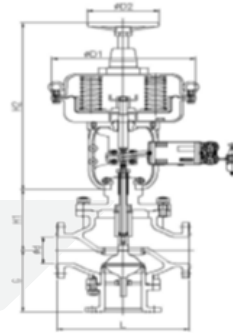
Special Valves Control Valve



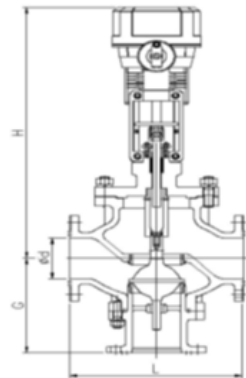
2WAY DIAPHRAGM



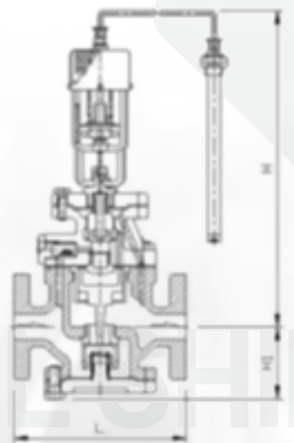
2WAY MOTOR



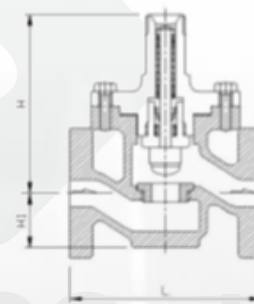
3WAY DIAPHRAGM



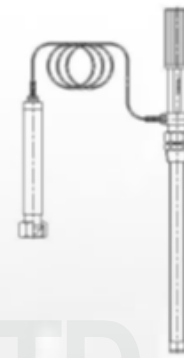
3WAY MOTOR



TEMP.REGULATING



TEMP. REGULATING



Specification

TYPE	2WAY	3WAY	TEMP. REGULATING
SIZE	½" up to 10" (DN15 ~ DN250)	1" up to 8" (DN25 ~ DN200)	½" up to 6" (DN15 ~ DN150)
APPLICABLE	JIS / ANSI / DIN	JIS / ANSI / DIN	JIS / ANSI / DIN
END CONN.	FLANGED	FLANGED	FLANGED
FLUID	DIAPHRAGM / MOTOR	DIAPHRAGM / MOTOR	PILOT / DIRECT
FLUID	STEAM / WATER / OIL	WATER / LIQUID	STEAM / WATER / LIQUID
MAX. WORKING PRESS.	20 (kgf / cm ²)	16 (kgf / cm ²)	10 (kgf / cm ²)
MAX. WORKING TEMP.	220°C	180°C	TEMP. RANGE : 40~100°C
BODY MAT'L	CAST IRON	CAST IRON	CAST IRON
	CAST STEEL	CAST STEEL	CAST STEEL
	STAINLESS STEEL	STAINLESS STEEL	BRONZE
	BRONZE	BRONZE	-
TRIM MAT'L	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
FEATURES	PRECISE CONTROL		EASY INSTALLATION
	FEW CHANGE OF DIFFERENTIAL PRESSURE		SUITABLE FOR LARGE TANK, H/E