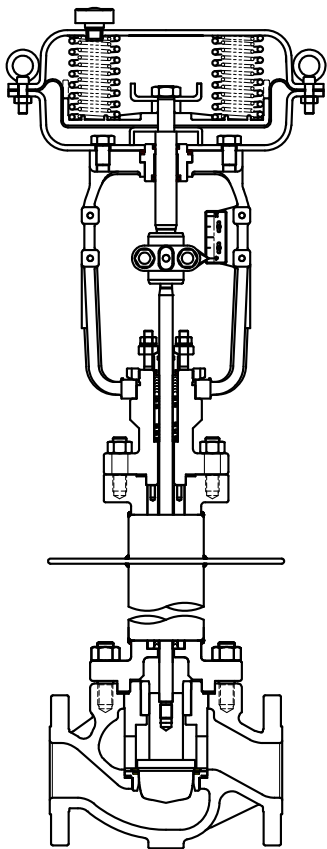


1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)

MODEL NAME VM-1500/1510	GLOBE VALVE	BALL VALVE	BUTTERFLY VALVE	DESUPERHEATER	SPECIAL PRODUCTS	ACTUATOR	ACCESSORY	TECHNICAL DATA
----------------------------	-------------	------------	-----------------	---------------	------------------	----------	-----------	----------------

1. INTRODUCTION : CRYOGENIC TYPE



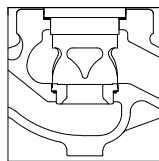
1500 Series : Cryogenic globe valve has been designed and engineered for use at pressure up to 750 psi (52 bar) and temperature down to -320°F (-196°C).

(Stainless steel extended needle valve with the non-rotating disc design for bubble tight shut-off.)

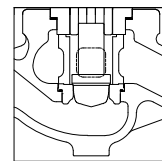
The cryogenic globe valve is a bolted bonnet type.

And It is economical, Because it does not require many accessories. Wide selection of plug seal will achieve tight shut-off. And it can be applied to system that requires quick cut-off during emergency.

In addition, It is designed to minimize pressure loss at low temperature due to its "S" type design from the IEC Standards thus allowing greater amount of fluids to flow.

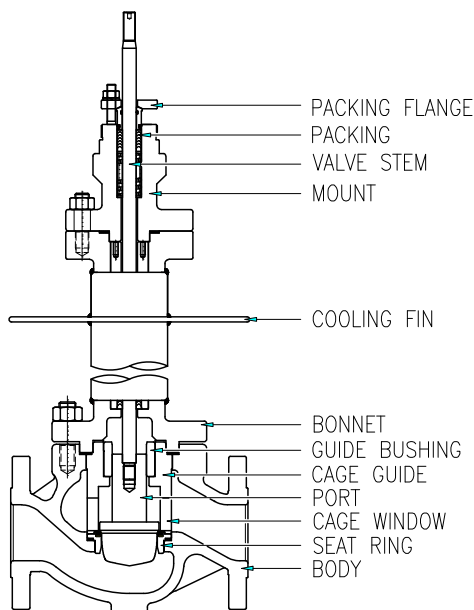


BALANCE TYPE
(VM-1500)



UNBALANCE TYPE
(VM-1510)

2. INNER STRUCTURE & STANDARD SPECIFICATIONS



PRESSURE RATING

JIS/KS 10K, 16K, 20K, 30K, 40K, 63K

ANSI CLASS 150, 300, 600, 900, 1500

END CONNECTION

Flanged End : FF, RF, RTJ, SW, BW, etc.

MATERIAL

BODY : SCPH2, SCS13A, SCS14A, SCS16, etc.

TRIM : SUS304, SUS316, SUS316L

GASKET : SUS316+Graphite Spiral Wound, etc.

1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)

MODEL NAME
VM-1500/1510

GLOBE VALVE

BALL VALVE

BUTTERFLY VALVE

DESUPERHEATER

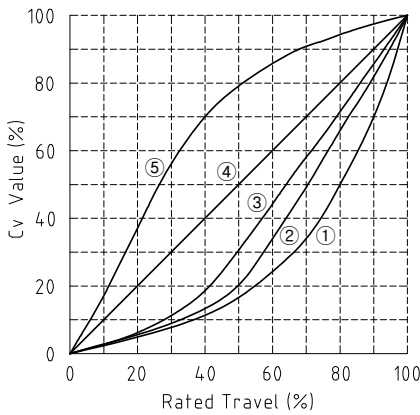
SPECIAL PRODUCTS

ACTUATOR

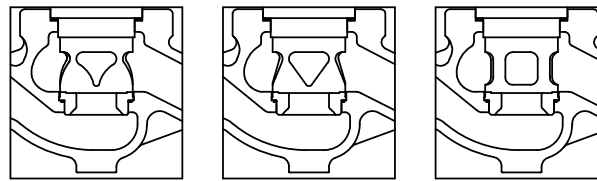
ACCESSORY

TECHNICAL DATA

3. CAGE TYPE & CHARACTERISTICS

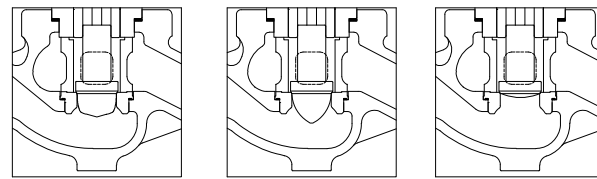


- ① Equal Percentage
- ② Parabolic
- ③ Modified Parabolic
- ④ Linear
- ⑤ Quick Change



EQ% TYPE LINEAR TYPE ON-OFF TYPE

PRESSURE BALANCED CAGE TYPE



EQ% TYPE LINEAR TYPE ON-OFF TYPE

PRESSURE UNBALANCED CAGE TYPE

4. PRINCIPLE OF OPERATION

* All valves except check valves are supplied with extended bonnet with a sufficient gas column length, usually specified by the user, to keep the stem seal packings exposed only to vapor and not the cold liquid to ensure functional integrity.

TYPE	BOILING POINT		LIQUID DENSITY
	0°C	0°F	
Natural Gas (LNG)	-168	-270	26
Methane (CH ₄)	-161.5	-258	26.2
Oxygen (O ₂)	-182.9	-296	71.2
Argon (A)	-185.9	-303	87.4
Carbon Dioxide (CO ₂)	-78.5	-109	50.6

TYPE	BOILING POINT		LIQUID DENSITY
	0°C	0°F	
Air	-194.4	-318	57.87
Nitrogen (N ₂)	-195.8	-320	50.45
Hydrogen (H ₂)	-252.7	-423	4.43
Helium (He)	-268.9	-452	7.82
Absolute Zero	-273.16	-460	-

5. STANDARD SIZE & Cv VALUE

Valve Type		2 Way Globe For Cryogenic Type											REMARK		
Size	inch	1½	2	2½	3	4	5	6	8	10	12	14			
	mm	40	50	65	80	100	125	150	200	250	300	350			
Rated Travel (mm)		25	25	25	38	38	50	50	75	100	100	100			
Cv Value (Full)	Control Type	28	40	55	70	90	130	180	280	480	660	1200	1600	2000	
	On-off Type	50	60	80	140	190	300	500	700	1250	1680	2100			

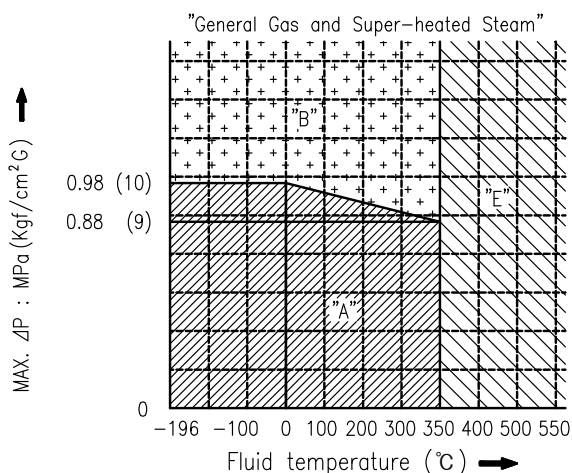
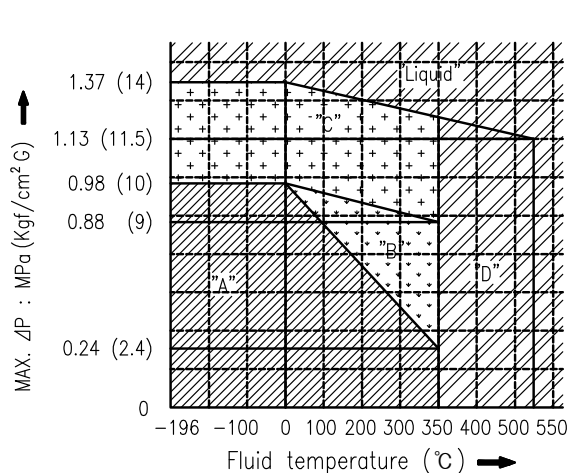
1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)

MODEL NAME VM-1500/1510
GLOBE VALVE
BALL VALVE
BUTTERFLY VALVE
DESUPERHEATER
SPECIAL PRODUCTS
ACTUATOR
ACCESSORY
TECHNICAL DATA

6. COMBINING THE VALVE BODY, BONNET AND TRIM MATERIAL.

PARTS NAME		MATERIALS
BODY, BONNET		SUS304, SUS316, SUS316L (= SCS13, SCS14, SCS16)
TRIM	VALVE PLUG	SUS316 (+STELLITE) , SUS316 (+STELLITE)
	CAGE	SUS316 (Hard Cr Plated) , SUS316L (Hard Cr Plated)
	SEAT RING	SUS316 (+ STELLITE WELDING) , PTFE , CTFE , RTFE , etc.
	VALVE STEM	SUS316 (hard Cr Plated)
PACKING		V-PTFE , GRAFOIL
PACKING & LANTERN RING		SUS304

7. TRIM TREATMENT & MATERIAL VS OPERTING PRESSURE-TEMPERATURE RATINGS



NOTE

- (1) Seat ring of on-off control valve and of throttling control valve for tight shut off is hard faced at the area of Stellite seat and cover.
- (2) In case of flushing fluid, seat ring is hard faces at the area of Stellite area.
- (3) In case of fluid sort, at 350°C and over, guide bushing and guide post is hard faced be Stellite treatment.
- (4) In case of saturated steam, if inlet pressure is 0.69Mpa (7Kg/cm²G) and over, seat ring is hard faced at area of Stellite seat and over.

1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)

MODEL NAME
VM-1500/1510

GLOBE VALVE

BALL VALVE

BUTTERFLY VALVE

DESUPERHEATER

SPECIAL PRODUCTS

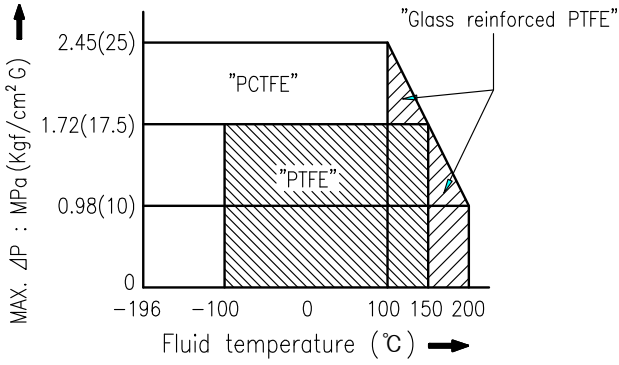
ACTUATOR

ACCESSORY

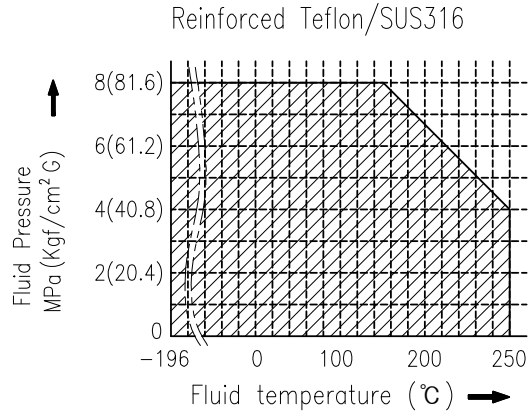
TECHNICAL DATA

8. OPERATING PRESSURE-TEMPERATURE RATINGS

< SOFT SEAT >

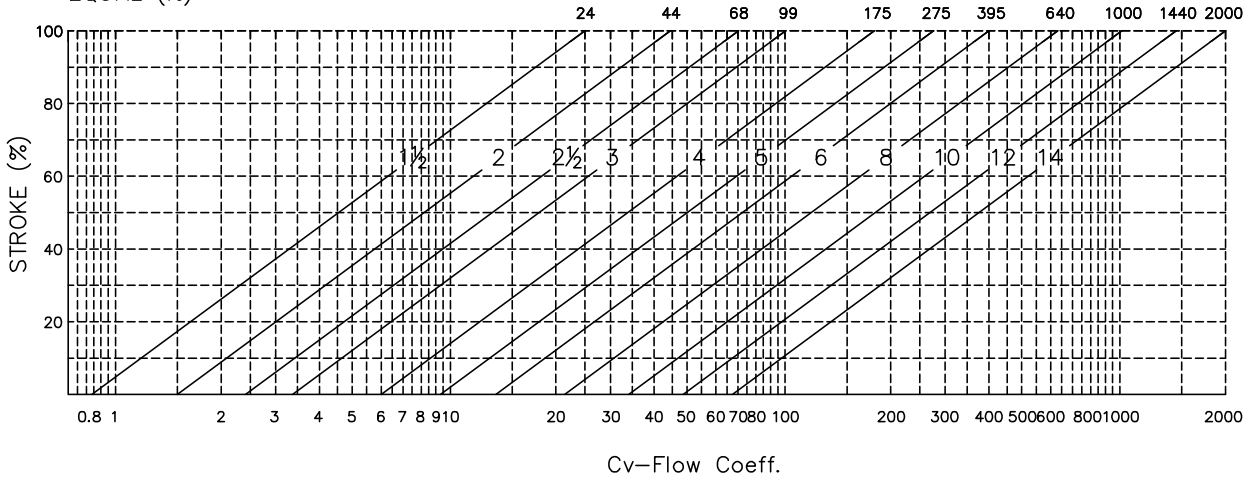


< BALANCE SEAL >

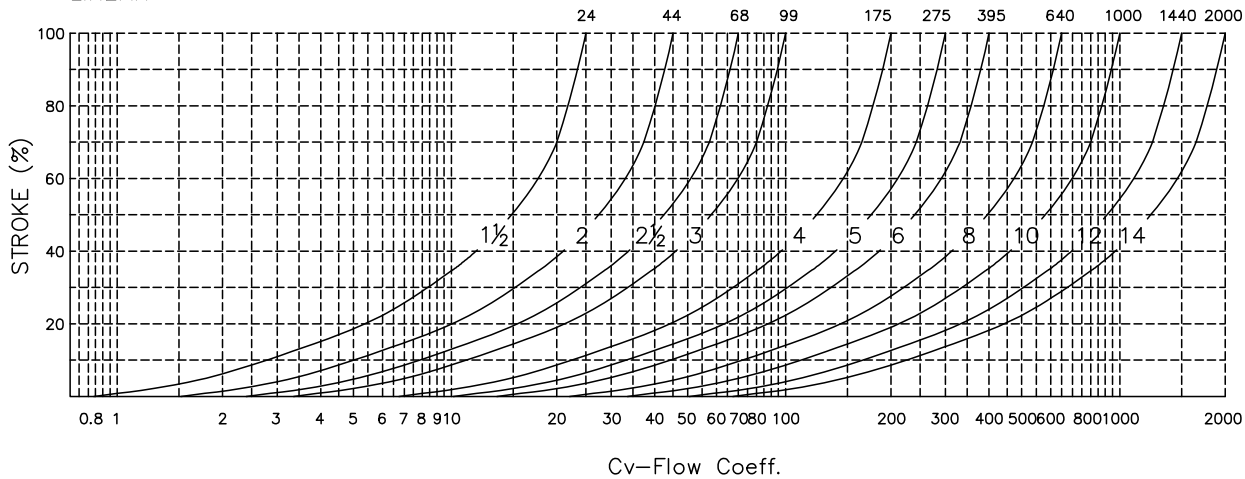


9. FLOW CHARACTERISTICS

EQUAL (%)

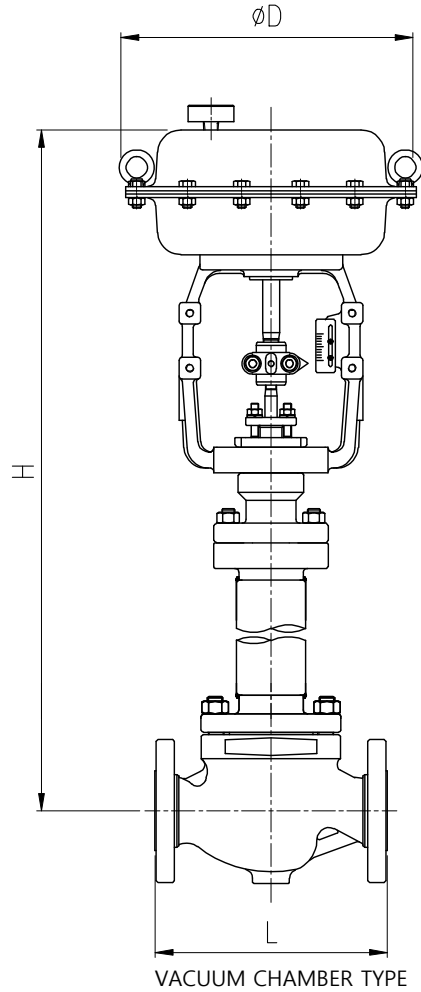
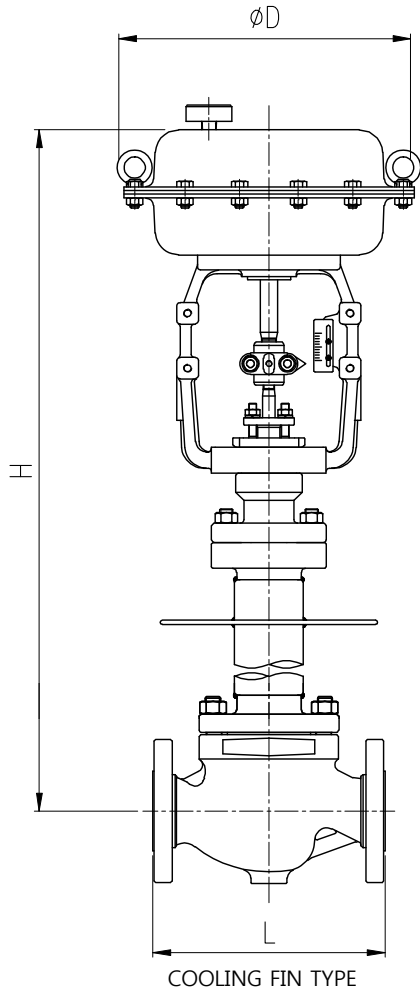


LINEAR



1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)

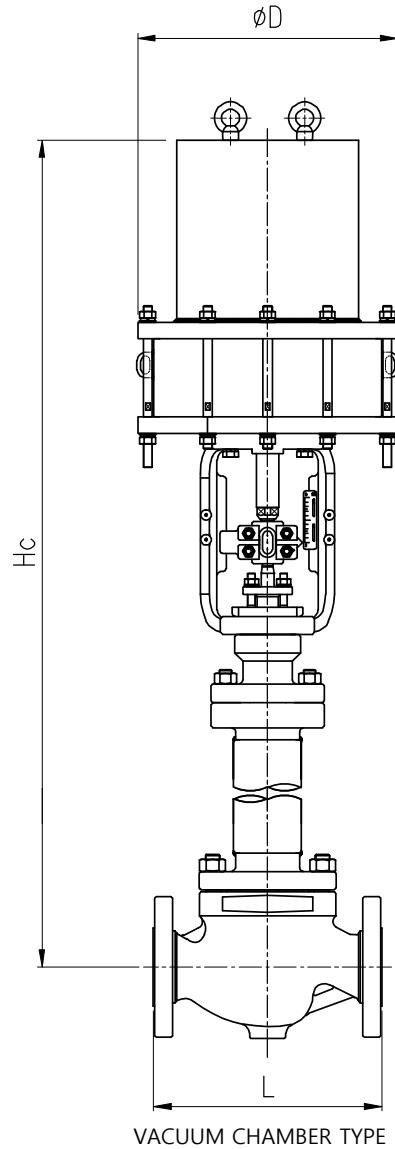
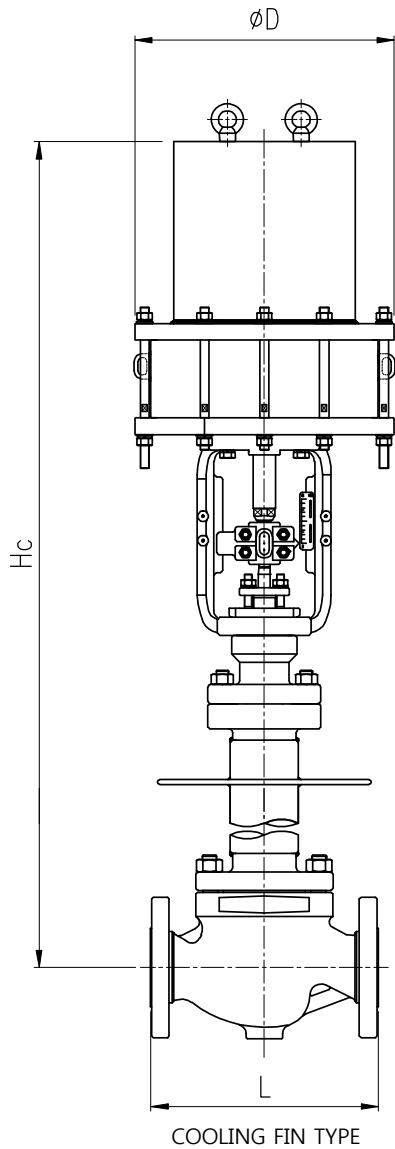
10. STANDARD EXTERNAL DIMENSIONS



UNIT : mm

Size		L	H	L	H	L	H	L	H	L	H	ΦD
inch	mm	150Lb RF (JIS/KS 10K)		300Lb RF (JIS/KS 20K)		600Lb RF (JIS/KS 40K)		900Lb RF (JIS/KS 63K)		1500Lb RF		
½	15	184	435	190	435	203	435	273	465	273	470	220
¾	20	184	435	184	435	206	435	273	465	273	470	220
1	25	184	510	197	510	210	510	273	535	273	540	270
1½	40	222	590	235	590	251	590	311	615	311	620	270
2	50	254	600	267	600	286	600	340	625	340	630	270
2½	65	276	730	292	730	311	730	365	760	375	770	365
3	80	298	755	318	755	337	755	387	780	406	795	365

1. GLOBE VALVE (2 WAY CRYOGENIC TYPE)



UNIT : mm

Size		L	H	L	H	L	H	L	H	L	H	ΦD
inch	mm	150Lb RF (JIS/KS 10K)		300Lb RF (JIS/KS 20K)		600Lb RF (JIS/KS 40K)		900Lb RF (JIS/KS 63K)		1500Lb RF		
4	100	352	780	368	780	394	780	464	800	483	810	365
5	125	403	990	425	990	457	990	587	1010	632	1020	450
6	150	451	1095	473	1095	508	1095	600	1115	692	1130	450
8	200	543	1140	568	1140	610	1140	781	1170	838	1190	450
10	250	673	1280	708	1280	752	1280	864	1310	991	1330	450
12	300	737	1505	775	1505	819	1505	1016	1540	1130	1560	620
14	350	889	1570	927	1570	972	1570	1257	1600	1257	1625	620

MODEL NAME
VM-1500/1510

GLOBE VALVE

BALL VALVE

BUTTERFLY VALVE

DESUPERHEATER

SPECIAL PRODUCTS

ACTUATOR

ACCESSORY

TECHNICAL DATA