



High Purity Cast Ball Valve, Tube Bore, 1000/720psi

Fig No:MD-928EB DIN DIMENSIONS
1/2"- 4" DN15 ~ DN100



- Tube bore: The ID for the valve flow path (ball, seats, ends) are the same ID as the tubing as per ASME/BPE 2002 DT-1
- Size range: 1/2"~4"
- 3pc design and removable swing-out center section
- With Integral ISO5211 Actuator Mounting Pad

Materials of construction

- CF3M with Ferrite content less than 3%; Sulfur content 0.005~0.017%
- Capable of withstanding the temperature, pressure and chemical corrosiveness assuring the purity and integrity of the product

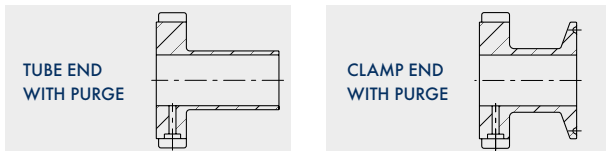
Seats

- Non-slotted design to meet ASME/BPE 2002 SD-3.6.1, SG-4.1.1.1.6, SG-4.1.1.8
- Material complies with the requirement of FDA USP 23 CLASS V1
- Cavity filler upon request

End connections

- Butt weld have tangent lengths for automatic welding

Purge ports on end caps upon the users' request



Purge ports type and size are provided as per following

- Valve size 1-1/2" and less 1/4" VCR female compression fitting
- Valve size 2" and up 1/2" VCR female compression fitting

Body rating

- 1/2"~2" 1000psi
- 2-1/2"~4" 720psi
- Steam Pressure of 150 psig at 350°F

Temperature Rating

- -70°F to 475°F

Interior finish

- Electro-Polishing to SFV4 Ra 10 u-in (0.25 um)
- Mechanical Polishing to SFV1 Ra 15u-in (0.375um)

Markings

- Valves will be marked and tagged for the traceability to conform with ASME/BPE 2002 DT-3

Testing

- All valves are cleaned, dried, assembled, 100% leak tested in the clean room.

Packing

- All valves are finally packed in a hermetically sealed bag filled with dry nitrogen in the clean room.
- Conforming to ASME BPE 2002 DT-13

MTR

- Each valve is individually tagged for traceability and material certification will be provided on request.

MATERIALS LIST

NO.	PART NAME	MATERIAL
1	BODY	CF3M
2	BALL	CF3M
3	STEM	SS316
4	END CAP	CF3M
5	SEAT	TFM 1600
6	THRUST WASHER	TFM 1600
7	STEM PACKING	TFM 1600
8	GLAND BUSH	SS304
9	HANDLE	SS304
10	HANDLE COVER	PLASTIC
11	NUT	SS304
12	STEM HALF NUT	SS304
13	BELLEVILLE WASHER	SS301
14	TAB WASHER	SS304
15	STEM O-RING	VITON
16	PACKING FOLLOWER	15% RTFE
17	LEVER STOP	SS304
18	BODY BOLT / STUD	SS304
19	BOLT WASHER	SS304
20	BOLT NUT	SS304

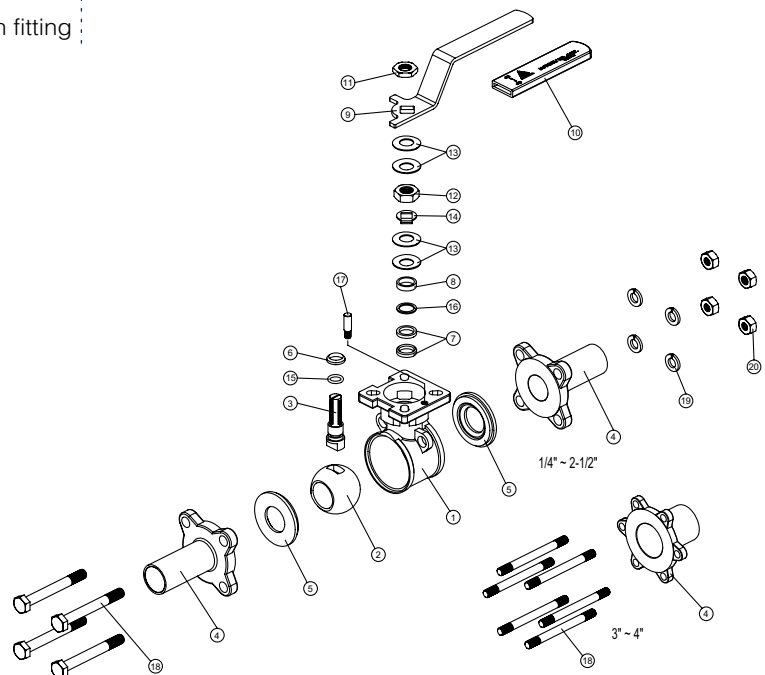




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•) Table Sf-5 Acceptance Criteria For Interior Surface Finishes Of Valve Bodies

Anomaly or Indication	Acceptance Criteria
Cluster of pits	None accepted
Demarcation	If < 5% of the total area when visually inspected and Ra is met
Grit lines	If Ra is met
Nicks	If depth < 0.010 in.
Oxides	None accepted
Pits	If diameter < 0.020 in. and bottom is shiny
Porosity	If diameter < 0.010 in. and bottom is shiny
Scratches	If length < 0.25 in., depth < 0.003 in., and Ra is met
Surface cracks	None accepted
Surface inclusions	If Ra is met and there is no liquid penetrant indication
Surface residuals	None accepted, visual inspection without magnification
Surface roughness (Ra)	See Table SF-6
Weld slag	None accepted

•) Table Sf-6 Readings for Valves

Mechanically Polished						
Surface Designation ASME BPE			Ra, Average [Note (1)]		Ra, Max.	
			GRIT	μ-in.	μm	μ-in.
SFV 1			320	15	0.375	20 0.5
SFV 2			240	20	0.5	25 0.625
SFV 3			180	25	0.625	30 0.75

Mechanically Polished and Electropolished						
Surface Designation ASME BPE			Ra, Average [Note (1)]		Ra, Max.	
			GRIT	μ-in.	μm	μ-in.
SFV 4			320	10	0.25	15 0.375
SFV 5			240	15	0.375	20 0.5
SFV 6			180	20	0.5	25 0.625

※ Table SF-5, SF-6 from ASME/BPE 2002

•) Surface Roughness for Grit Finishes (Ra.)

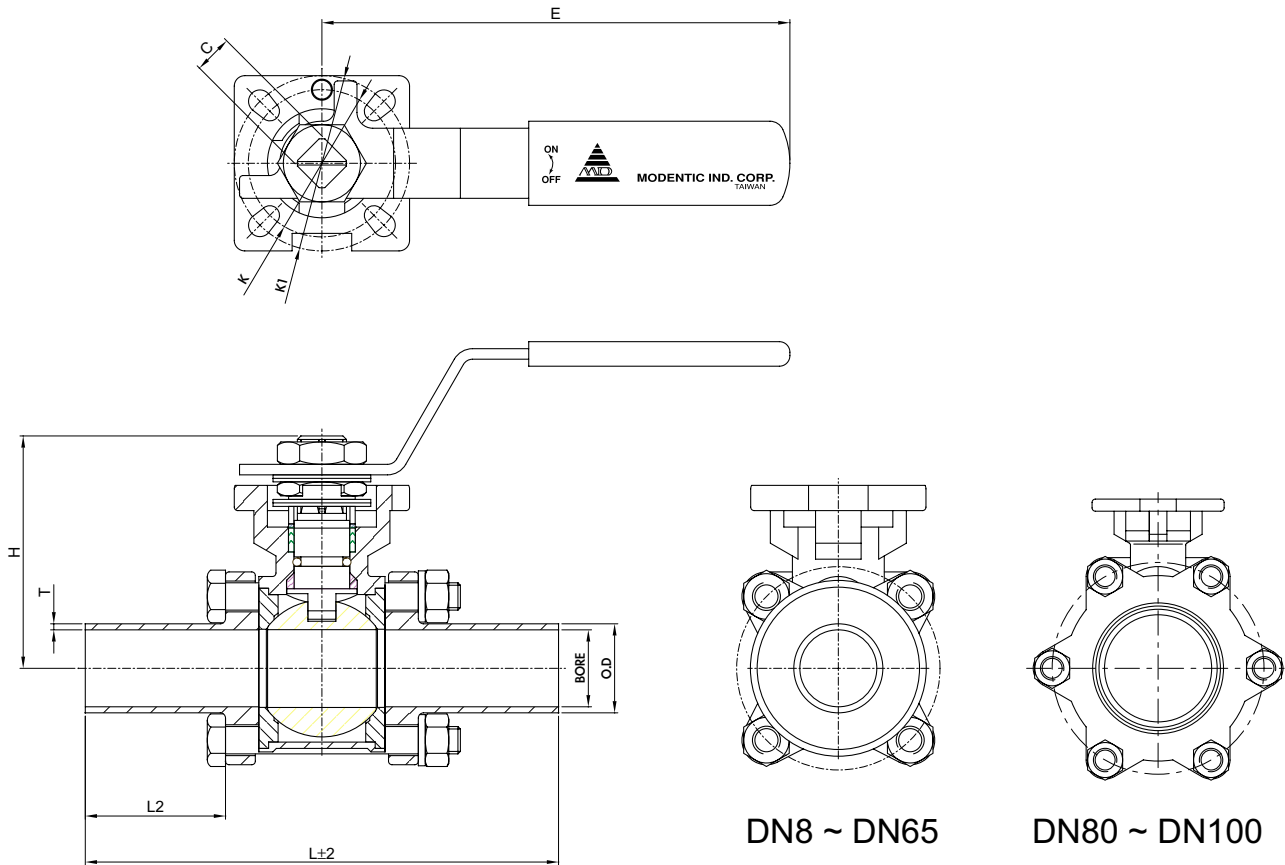
Abrasive grit No.	Ra, Max.	
	μ-in.	μm
500	4 to 10	0.10 to 0.25
320	6 to 15	0.15 to 0.38
240	8 to 20	0.20 to 0.51
180	25 max	0.64 max
120	45 max	1.14 max
60	140 max	3.56 max

Grit: Measures the number of scratches per liner inch of abrasive pad. Higher numbers indicate a smoother finish.

RMS: Defined as Root Mean Square roughness, this method measure a sample for peaks and valleys. Lower numbers indicate a smoother finish.

Ra: Know as the Arithmetic Mean, this measurement represents the average value of all peaks and valleys. Lower numbers indicate a smooth finish.

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DIMENSIONS

Units MM

SIZE	BORE	O.D	L	L2	T	E	H	C	K	K1
DN15	16.00	19.00	123.50	40.00	1.50	112.00	77.30	9.00	36.00	42.00
DN20	20.00	23.00	128.00	40.00	1.50	112.00	81.30	9.00	36.00	42.00
DN25	26.00	29.00	135.00	40.00	1.50	133.50	93.20	11.00	42.00	50.00
DN40	38.00	41.00	155.00	40.00	1.50	202.00	116.50	14.00	50.00	70.00
DN50	50.00	53.00	168.50	40.00	1.50	202.00	125.00	14.00	50.00	70.00
DN65	66.00	70.00	191.00	40.00	2.00	257.00	149.50	17.00	70.00	102.00
DN80	81.00	85.00	230.00	50.00	2.00	257.00	157.50	17.00	70.00	102.00
DN100	100.0	104.0	253.50	50.00	2.00	335.00	203.70	22.00	102.00	125.00