

Ultra High Purity **REGULATORS**



Regulators

Ordering Information

*Additional configurations available upon request.

A	B	-	C	D	-	E	F	-	G	H	I	-	J	Standard feature
SM	PR1	-	VF	4	-	06	03	-	06	C	03	-	P	Optional

A	Materials
SM	316L Stainless steel
DM	316L Stainless steel VAR

B	Type
PR1	Regulator PR1 series
PR2	Regulator PR2 series
PRL1	Regulator (Tied Type) PRL1 series
PRL2	Regulator (Tied Type) PRL2 series

C	Connection Type
VM	Male BVC
VF	Female BVC
TW	Butt Weld
S	SUPERLOK Tube Fitting

D	Connection Size		
Designator	Nominal Size	Outside Diameter	Wall Thickness
4	1/4 in.	6.35 mm	1.00 mm
6	3/8 in.	9.53 mm	1.00 mm
8	1/2 in.	12.7 mm	1.24 mm

E	Maximum Inlet Pressure
06	600 psig (41.4 bar)
10	1000 psig (69 bar)
35	3500 psig (241 bar)

F	Outlet Pressure
03	30 psig (2.1 bar)
06	60 psig (4.14 bar)
10	100 psig (6.9 bar)
15	150 psig (10.3 bar)
25	250 psig (17.3 bar)

G	Inlet Gauge
Leave Blank : regulator <i>without</i> gauge.	
06	600 psig
10	1000 psig
35	3500 psig
40	4000 psig

H	Gauge Port
See Gauge Port Configuration for the figures on Page 11.	
A	Figure A
B	Figure B
C	Figure C
D	Figure D

I	Outlet Gauge
03	0 ~ 30 psig
06	0 ~ 60 psig
10	0 ~ 100 psig
16	0 ~ 160 psig
20	0 ~ 200 psig
30	0 ~ 300 psig

J	Wetted Surface Grade
BA is standard. No part designator needed.	
P	EP

Part Number Examples

	SMPRL1-VF4-0603-B03		DMPR1-VM4-1010-10C16-P	
Material	SM	316L Stainless Steel	DM	316L Stainless Steel VAR
Type	PRL1	PRL1 series	PR1	PR1 series
Connection Type	VF	BVC Female	VM	BVC Male
Connection Size	4	1/4"	4	1/4"
Max. Inlet Pressure	06	600 psig (41.4 bar)	10	1000 psig (69 bar)
Outlet Pressure	03	30 psig (2.1 bar)	10	100 psig (6.9 bar)
Inlet Gauge		W/O inlet gauge	10	1000 psig
Gauge Port*	B	Fig.B of Gauge Port Configurations , Page 11	C	Fig.C of Gauge Port Configurations , Page 11
Outlet Gauge	03	0 ~ 30psig	16	0 ~ 160 psig
Grade		BA grade (<i>standard</i>)	P	EP grade

PR1 Regulators

Standard Type



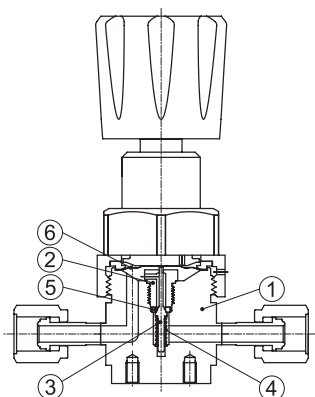
Part Number Examples

	DMPR1-VF4-0603-B03		DMPR1-VM4-1010-10C16-P	
Material	DM	316L Stainless Steel VAR	DM	316L Stainless Steel VAR
Type	PR1	PR1 series	PR1	PR1 series
Connection Type	VF	BVC Female	VM	BVC Male
Connection Size	4	1/4"	4	1/4"
Max. Inlet Pressure	06	600 psig (41.4 bar)	10	1000 psig (69 bar)
Outlet Pressure	03	30 psig (2.1 bar)	10	100 psig (6.9 bar)
Inlet Gauge		W/O inlet gauge	10	1000 psig
Gauge Port*	B	Fig.B of <i>Gauge Port Configurations</i> , Page 11	C	Fig.C of <i>Gauge Port Configurations</i> , Page 11
Outlet Gauge	03	0 ~ 30 psig	16	0 ~ 160 psig
Grade		BA grade (<i>standard</i>)	P	EP grade

Specifications

Size	1/4"
Cv Value	0.06 or 0.2
Surface finish (Ra)	10 µm or 5 µm
Max. rated inlet pressure	600, 1000, 3500 psig (41.4, 69, 241 bar)
Outlet pressure ranges	30, 60, 100, 150, 250 psig (2.1, 4.1, 6.9, 10.3, 17.3 bar)
Design proof pressure	150% of Maximum rated pressure
Max. Working Temperature	PCTFE: -26 ~ 80°C (-15 ~ 176°F) / PFA, PI: -26 ~ 150°C (-15 ~ 302°F)
Inboard Leakage Allowance (He) (Holding Time ≥ 15 sec.)	≤1x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) (0.1µm and Larger)	No count
Inner Surface Roughness	BA: Ra ≤ 10 µm, Ry ≤ 3 µm EP: Ra ≤ 5 µm, Ry ≤ 0.7 µm

Material

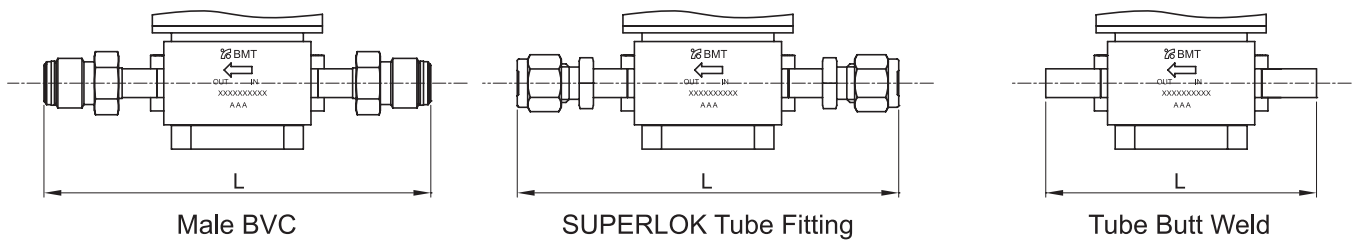
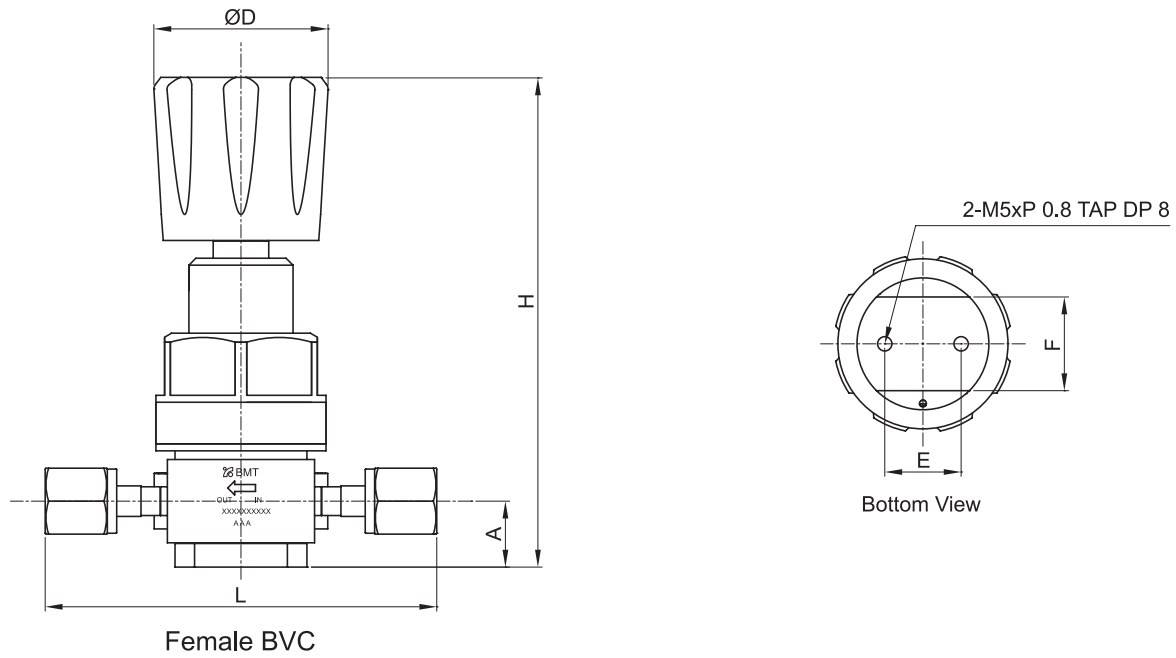


No.	Component	Material
1	Body	316L Stainless Steel 316L Stainless Steel VAR
2	Seat Holder	316L Stainless Steel
3	Main Valve	316L Stainless Steel
4	Valve Spring	Inconel 750
5	Seat	PCTFE (<i>standard</i>) / PFA / PI
6	Diaphragm	Ni-Co Alloy

NOTE:

- Dimensions and Drawings are for reference only and are subject to change without prior notice.
- Unless otherwise specified, all dimensions are in millimeters.

Dimensions



End Connection	Part No.	Dimensions (mm)					
		L	H	A	E	F	D
Male BVC	SMPR1-VM4	114	134	19	22	27	52
Female BVC	SMPR1-VF4	94					
SUPERLOK Tube Fitting	SMPR1-S4	111					
Butt Weld	SMPR1-TW4	76					

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PR2 Regulators

Standard Type



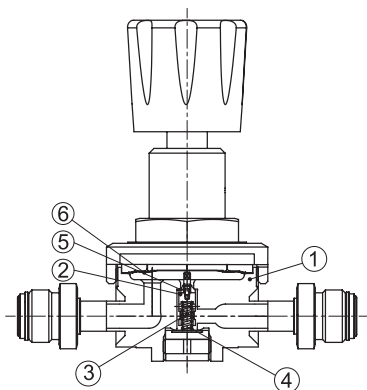
Part Number Examples

	DMPR2-VM8-3525-40C30-P		SMR2-S8-0603-A	
Material	DM	316L Stainless Steel VAR	SM	316L Stainless Steel
Type	PR2	PR2 series	PR2	PR2 series
Connection Type	VM	BVC Male	S	Lok
Connection Size	8	1/2"	8	1/2"
Max. Inlet Pressure	35	3500 psig (241 bar)	06	600 psig (41.4 bar)
Outlet Pressure	25	250 psig (17.3 bar)	03	30 psig (2.1 bar)
Inlet Gauge	40	4000 psig		W/O inlet gauge
Gauge Port*	C	Fig.C of <i>Gauge Port Configurations</i> , Page 11	A	Fig.A of <i>Gauge Port Configurations</i> , Page 11
Outlet Gauge	30	0 ~ 300 psig		W/O outlet gauge
Grade	P	EP grade		BA grade (standard)

Specifications

Size	1/2"
Cv Value	0.5
Surface finish (Ra)	10 µm or 5 µm
Max. rated inlet pressure	600, 1000, 3500 psig (41.4, 69, 241 bar)
Outlet pressure ranges	30, 60, 100, 150, 250 psig (2.1, 4.1, 6.9, 10.3, 17.3 bar)
Design proof pressure	150% of Maximum rated pressure
Max. Working Temperature	PCTFE: -26 ~ 80°C (-15 ~ 176°F) / PFA, PI: -26 ~ 150°C (-15 ~ 302°F)
Inboard Leakage Allowance (He) (Holding Time ≥ 15 sec.)	≤1x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) (0.1µm and Larger)	No count
Inner Surface Roughness	BA: Ra ≤ 10 µm, Ry ≤ 3 µm EP: Ra ≤ 5 µm, Ry ≤ 0.7 µm

Material

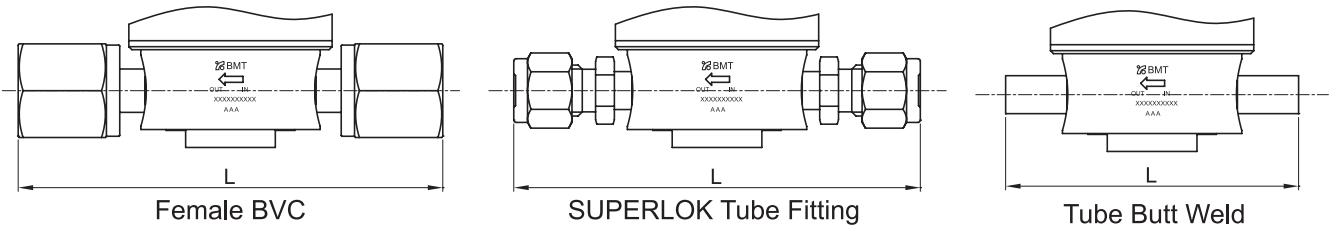
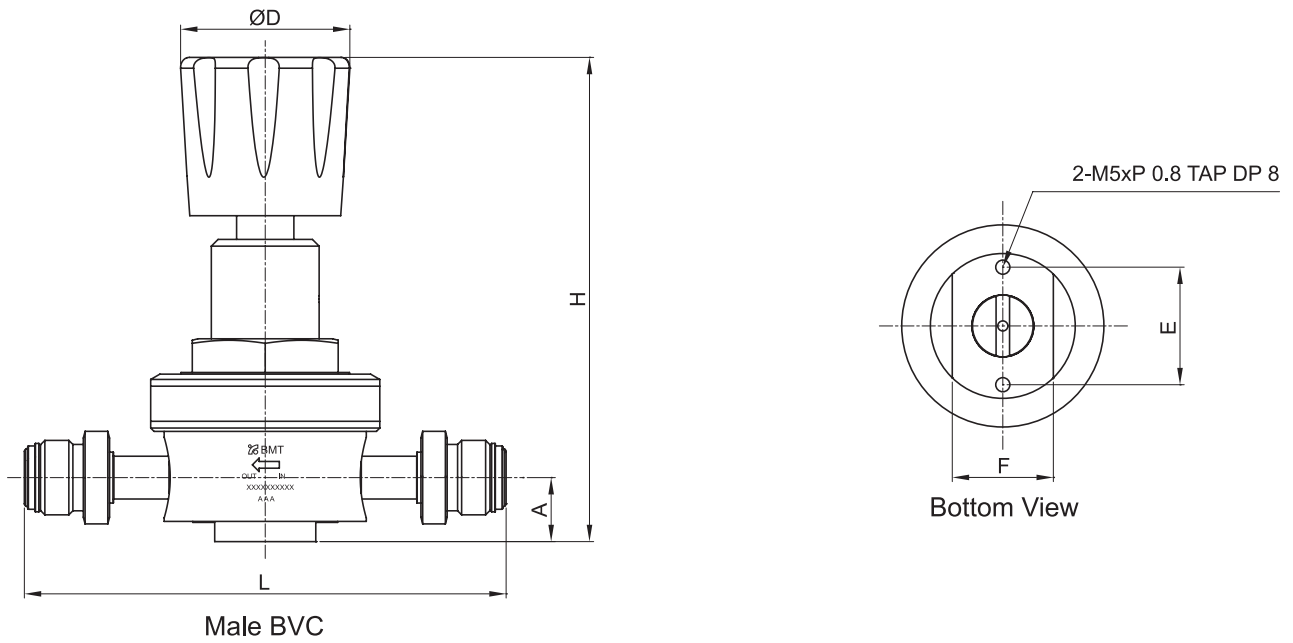


No.	Component	Material
1	Body	316L Stainless Steel 316L Stainless Steel VAR
2	Seat Holder	316L Stainless Steel
3	Main Valve	316L Stainless Steel
4	Valve Spring	Inconel 750
5	Seat	PCTFE (standard) / PFA / PI
6	Diaphragm	Ni-Co Alloy

NOTE:

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- Unless otherwise specified, all dimensions are in millimeters.

Dimensions



End Connection	Part No.	Dimensions (mm)					
		L	H	A	E	F	D
Male BVC	SMPR2-VM8	142	142	19	34.9	30	52
Female BVC	SMPR2-VF8	142					
SUPERLOK Tube Fitting	SMPR2-S8	136.8					
Butt Weld	SMPR2-TW8	94					

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PRL1 Regulators

Tied Type



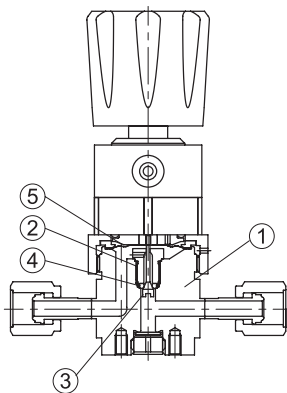
Part Number Examples

	SMPRL1-VF4-0603-B03	
Material	SM	316L Stainless Steel
Type	PRL1	PRL1 series
Connection Type	VF	BVC Female
Connection Size	4	1/4"
Max. Inlet Pressure	06	600 psig (41.4 bar)
Outlet Pressure	03	30 psig (2.1 bar)
Inlet Gauge		W/O inlet gauge
Gauge Port*	B	Fig.B of <i>Gauge Port Configurations</i> , Page 11
Outlet Gauge	03	0 ~ 30 psig
Grade		BA grade (standard)

Specifications

Size	1/4"
Cv Value	0.06 or 0.2
Surface finish (Ra)	10µin or 5µin
Max. rated inlet pressure	600, 1000, 3500 psig (41.4, 69, 241 bar)
Outlet pressure ranges	30, 60, 100, 150, 250 psig (2.1, 4.1, 6.9, 10.3, 17.3 bar)
Design proof pressure	150% of Maximum rated pressure
Max. Working Temperature	PCTFE: -26 ~ 80°C (-15 ~ 176°F) / PFA, PI: -26 ~ 150°C (-15 ~ 302°F)
Internal Leakage Allowance (He) (Holding Time ≥ 15 sec.)	≤1x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) (0.1µm and Larger)	No Count
Inner Surface Roughness	BA: Ra ≤ 10 µin, Ry ≤ 3 µm EP: Ra ≤ 5 µin, Ry ≤ 0.7 µm

Material

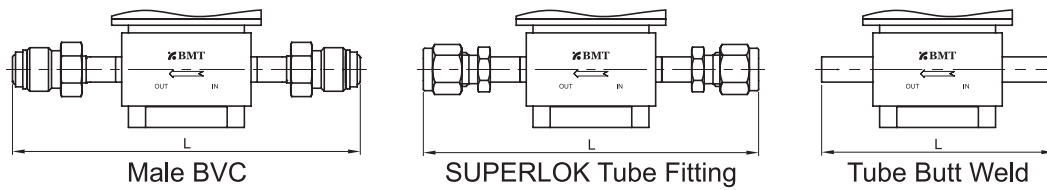
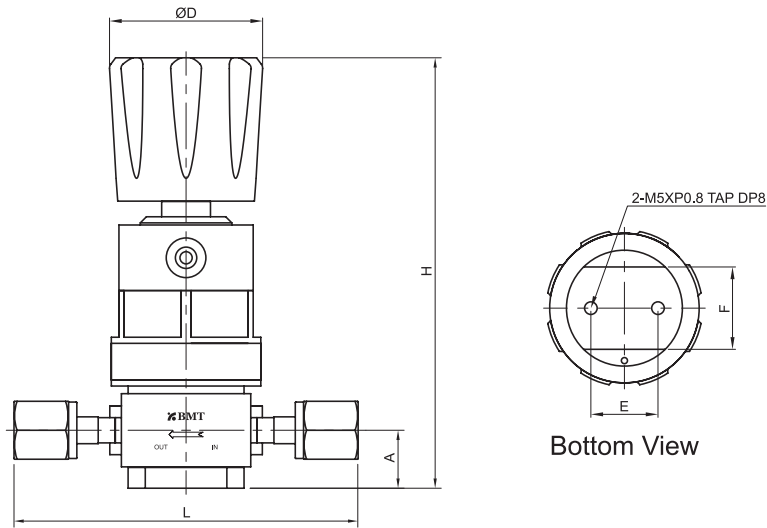


No.	Component	Material
1	Body	316L Stainless Steel 316L Stainless Steel VAR
2	Seat Holder	316L Stainless Steel
3	Main Valve	316L Stainless Steel
4	Seat	PCTFE (Standard) / PFA / PI
5	Diaphragm	Ni-Co Alloy

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Dimensions



End Connection	Part No.	Dimensions (mm)					
		L	H	A	E	F	D
Male BVC	SMPRL1-VM4	114	134	19	22	27	52
Female BVC	SMPRL1-VF4	94					
SUPERLOK Tube Fitting	SMPRL1-S4	111					
Butt Weld	SMPRL1-TW4	76					

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PRL2 Regulators

Tied Type



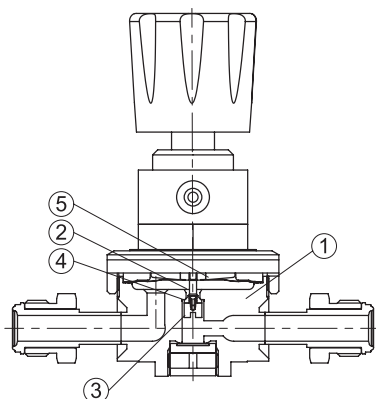
Part Number Examples

	SMPRL2-VM8-1010-10C16-P	
Material	SM	316L Stainless Steel
Type	PRL2	PRL2 series
Connection Type	VM	BVC Male
Connection Size	8	1/2"
Max. Inlet Pressure	10	1000 psig (69 bar)
Outlet Pressure	10	100 psig (6.9 bar)
Inlet Gauge	10	1000 psig (69 bar)
Gauge Port*	C	Fig.B of <i>Gauge Port Configurations</i> , Page 11
Outlet Gauge	16	0 ~ 160 psig
Grade	P	EP grade

Specifications

Size	1/2"
Cv Value	0.5
Surface finish (Ra)	10µin or 5µin
Max. rated inlet pressure	600, 1000, 3500 psig (41.4, 69, 241 bar)
Outlet pressure ranges	30, 60, 100, 150, 250 psig (2.1, 4.1, 6.9, 10.3, 17.3 bar)
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Internal Leakage Allowance (He) (Holding Time ≥ 15 sec.)	≤1x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) (0.1µm and Larger)	No Count
Inner Surface Roughness	BA: Ra ≤ 10 µin, Ry ≤ 3 µm EP: Ra ≤ 5 µin, Ry ≤ 0.7 µm

Material

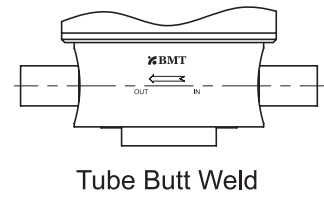
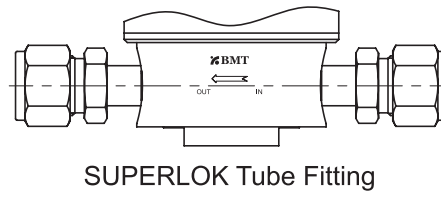
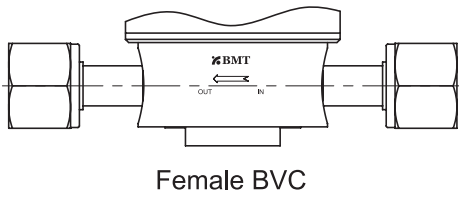
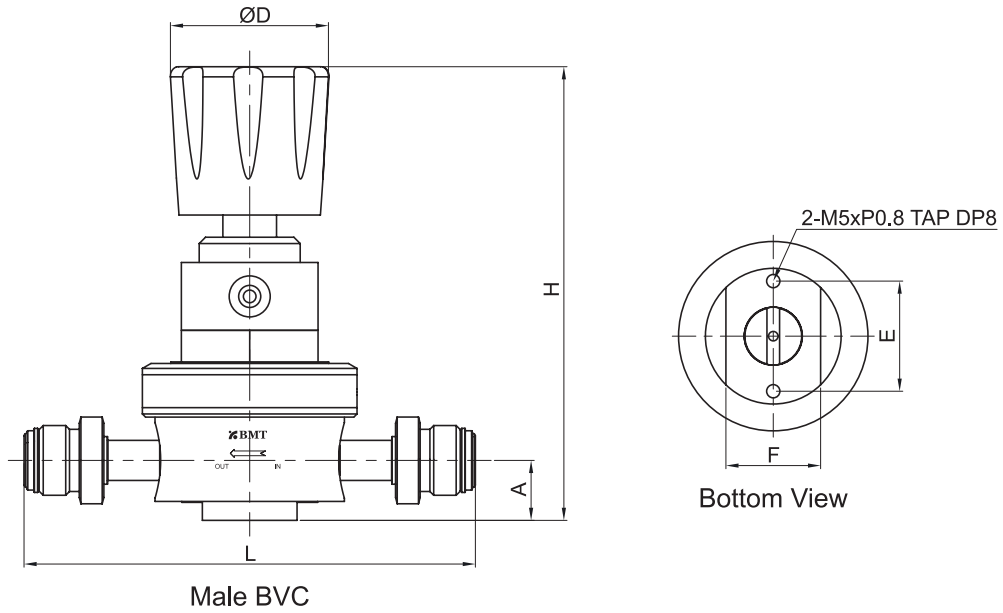


No.	Component	Material
1	Body	316L Stainless Steel 316L Stainless Steel VAR
2	Seat Holder	316L Stainless Steel
3	Main Valve	316L Stainless Steel
4	Seat	PCTFE (<i>Standard</i>) / PFA / PI
5	Diaphragm	Ni-Co Alloy

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Dimensions



End Connection	Part No.	Dimensions (mm)					
		L	H	A	E	F	D
Male BVC	SMPRL2-VM8	142	142	19	34.9	30	52
Female BVC	SMPRL2-VF8	142					
SUPERLOK Tube Fitting	SMPRL2-S8	136.8					
Butt Weld	SMPRL2-TW8	94					

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Gauge Port Configurations



Figure A

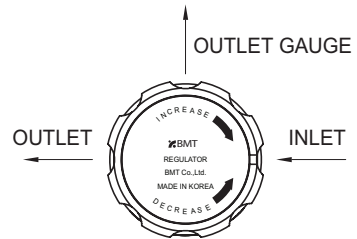


Figure B

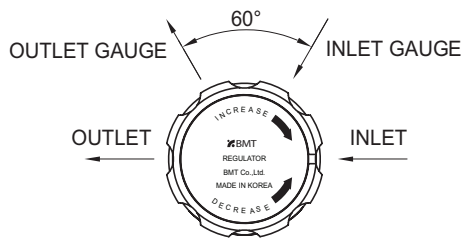


Figure C

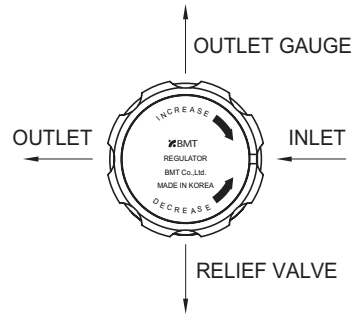


Figure D

BMT Co., Ltd.

Headquarters

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HGS® : Trademark registered in Republic of Korea, Japan and United States (as of May 2025)

Electric & Energy

Metal Clad Switchgear (MCSG)

Compact Switchboard

Motor Control Center (MCC)

Smart Distribution Board

Energy Management System (EMS)