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S-LOK[®] Metering Valves

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.

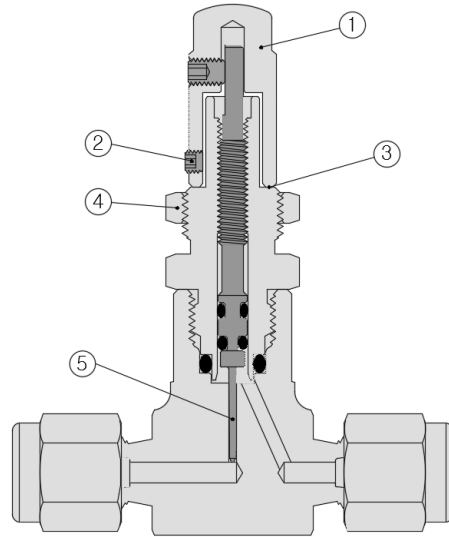


Low Pressure Metering Valves

SMTV1, SMTV2, and SMTV3 Series

Features

1. **Variety of handle options**
-knurled, round, vernier, slotted, and adjustable torque handles
 2. **Flow setting lock system**
-knurled and slotted handles
 3. **handle stop design**
-Prevent damage to stem and orifice
 4. **Panel mounting is standard for all valves**
 5. **Tapered stem tip**
-provide a wide flow range with ultrafine metering control
- **Forged body SS316 or brass material**
 - **Forged body with straight and angle patterns**
 - **Variety of end connections include S-LOK, NPT & ISO threads Male/Female**



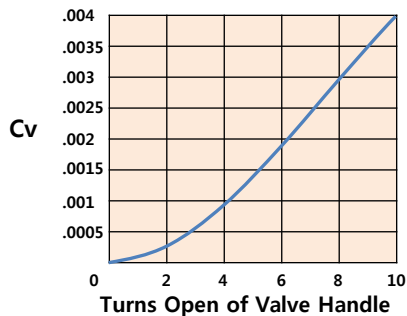
Technical Data

Valve Series	Temperature Ratings with O-Ring Material °F (°C)			Pressure Rating psig (bar)	Orifice mm (in.)	Cv	Stem Taper	Flow Shut off
	FKM	NBR	Kalrez					
SMTV1				2000 (137)	0.81 (0.032)	0.004	1°	No
SMTV2	-10 to 400 (-23 to 204)	-10 to 300 (-23 to 148)	0 to 300 (-17 to 148)	1000 (68.9)	1.42 (0.056)	0.03	3°	No
SMTV3				1000 (68.9)	3.25 (0.128)	0.16	6°	Yes

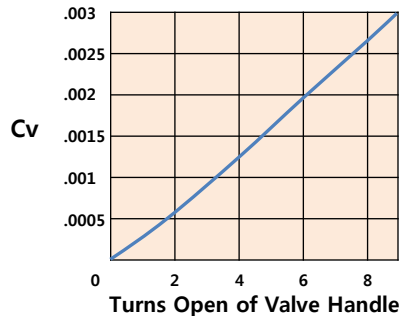
* FKM standard for SS316 body / NBR standard for brass body / optional Kalrez

Flow Coefficient(Cv) with Number of Handle Turns

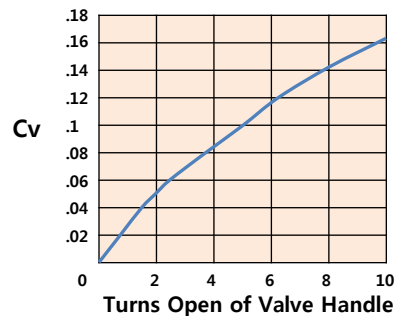
SMTV1 Series



SMTV2 Series



SMTV3 Series



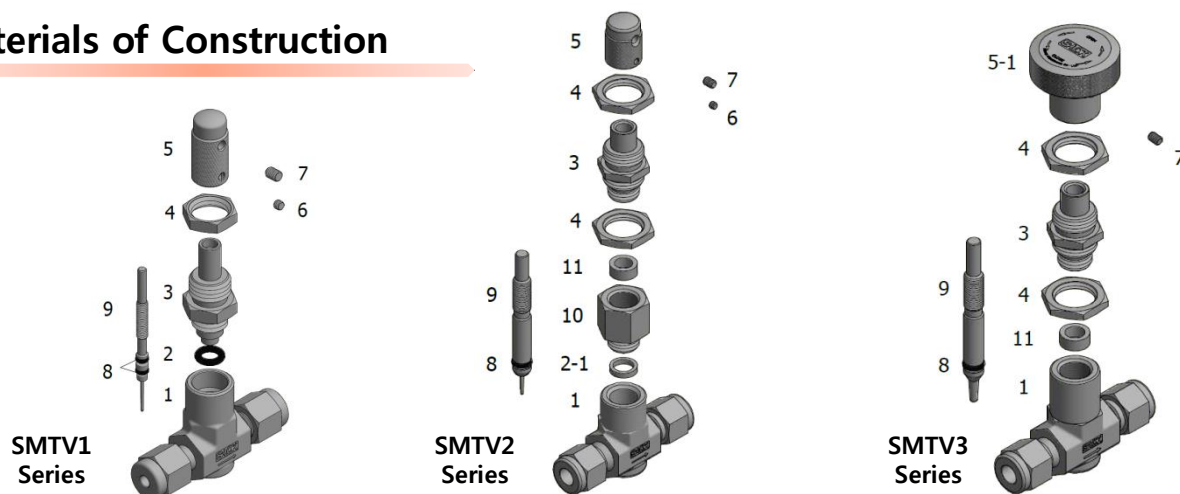
Pressure Drop@ Atmosphere psi (bar)	Air Flow Std. ft ³ /min. (std.L/min.)	Water Flow U.S. gal/min. (L/min.)
10 (0.68)	0.04 (1.1)	0.01 (0.03)
50 (3.4)	0.1 (2.8)	0.02 (0.07)
100 (6.8)	0.2 (5.6)	0.04 (0.15)

Pressure Drop@ Atmosphere psi (bar)	Air Flow Std. ft ³ /min. (std.L/min.)	Water Flow U.S. gal/min. (L/min.)
10 (0.68)	0.33 (9.3)	0.09 (0.34)
50 (3.4)	0.9 (25.4)	0.21 (0.79)
100 (6.8)	1.5 (42.4)	0.3 (1.1)

Pressure Drop@ Atmosphere psi (bar)	Air Flow Std. ft ³ /min. (std.L/min.)	Water Flow U.S. gal/min. (L/min.)
10 (0.68)	2.0 (56.6)	0.51 (1.9)
50 (3.4)	6.4 (181)	1.2 (4.5)
100 (6.8)	11.4 (323)	1.7 (6.4)

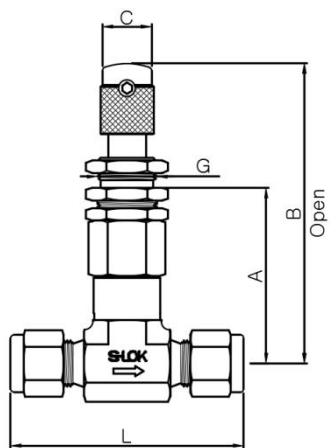
Low Pressure Metering Valves

Materials of Construction



Item	Description	Material / ASTM Specification	
		SS316	Brass
1	Body	A182 / F316	B283 / C37700
2	Body O-Ring	FKM	NBR
2-1	Body Seal	PTFE	
3	Bonnet	A276 / SS316	Chrome plated Brass
4	Lock Nut	A276 / SS316	Chrome plated Brass
5	Handle	Stainless Steel	Chrome plated Brass
5-1	Round Handle	Aluminum 6061	
6	Lock Screw	Stainless Steel	
7	Set Screw	Stainless Steel	
8	Stem O-Ring	FKM	NBR
9	Stem	SMTV1 : A564 / S17400 SMTV2, SMTV3 : A276 / SS316	
10	Body Extension	A276 / SS316	Chrome plated Brass
11	Stem Guide Ring	PTFE	

Ordering Information and Dimensions

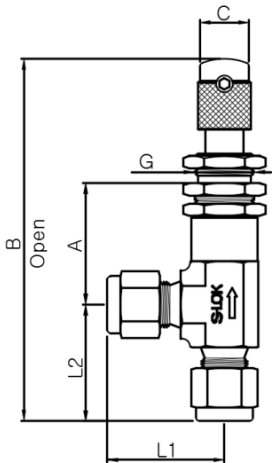


Unit : mm

Series	G Panel hole	Panel Max Thick.
SMTV1	11.4	4.1
SMTV2	14.7	3.3
SMTV3	14.7	3.3

Ordering Number	End Connection		Dimensions (mm)			
	Inlet	Outlet	A	B	C	L
Straight Pattern						
SMTV1	S-1T	1/16" S-LOK	23.9	58	9.6	39.6
	S-2T	1/8" S-LOK	23.9	58	9.6	48.2
	S-4T	1/4" S-LOK	23.9	58	9.6	51.8
	S-3M	3mm S-LOK	23.9	58	9.6	48.2
	S-6M	6mm S-LOK	23.9	58	9.6	51.8
SMTV2	S-2T	1/8" S-LOK	42.2	72	12.7	51.3
	S-4T	1/4" S-LOK	42.2	72	12.7	55.8
	S-3M	3mm S-LOK	42.2	72	12.7	51.3
	S-6M	6mm S-LOK	42.2	72	12.7	55.8
	M-2N	1/8" Male NPT	42.2	72	12.7	38.1
	M-4N	1/4" Male NPT	42.2	72	12.7	49.8
	F-2N	1/8" Female NPT	42.2	72	12.7	49.3
SMTV3	S-4T	1/4" S-LOK	34.4	73	28.7	59.4
	S-6T	3/8" S-LOK	34.4	73	28.7	62.5
	S-6M	6mm S-LOK	34.4	73	28.7	59.4
	M-4N	1/4" Male NPT	34.4	73	28.7	50.8

Low Pressure Metering Valves



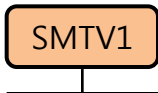
Unit : mm

Series	G Panel hole	Panel Max Thick.
SMTV1	11.4	4.1
SMTV2	14.7	3.3
SMTV3	14.7	3.3

Ordering Number	End Connection		Dimensions (mm)				
	Inlet	Outlet	A	B	C	L1	L2
Angle Pattern							
SMTV1	S-1T-A	1/16" S-LOK	23.9	80.4	9.6	20.6	22.4
	S-2T-A	1/8" S-LOK	23.9	82.1	9.6	24.1	
	S-4T-A	1/4" S-LOK	23.9	83.9	9.6	25.9	
	S-3M-A	3mm S-LOK	23.9	83.1	9.6	24.9	25.1
SMTV2	S-2T-A	1/8" S-LOK	29.2	84.6	12.7	25.6	
	S-4T-A	1/4" S-LOK	29.2	86.9	12.7	27.9	
	S-3M-A	3mm S-LOK	29.2	84.6	12.7	25.6	
	S-6M-A	6mm S-LOK	29.2	86.9	12.7	27.9	
	M-2N-A	1/8" Male NPT	29.2	78.5	12.7	19.5	
	M-4N-A	1/4" Male NPT	29.2	83.9	12.7	24.9	
SMTV3	F-2N-A	1/8" Female NPT	29.2	83.2	12.7	24.2	
	S-4T-A	1/4" S-LOK	28.8	97.1	28.7	29.7	
	S-6M-A	6mm S-LOK	28.8	97.1	28.7	29.7	

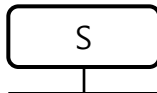
Ordering Information

- Selection of the applicable options from the designators are listed below



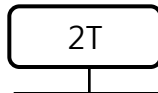
Valve Series Designator

- SMTV1
- SMTV2
- SMTV3

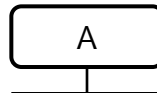


End Connection Designator

- S : S-LOK Tube Fitting
- M : Male Thread
- F : Female Thread

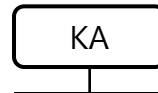


Inlet-outlet Size Designator



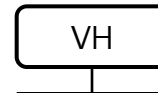
Flow Pattern Designator

- Nil : Straight Pattern
- A : Angle Pattern



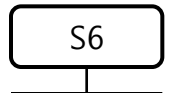
O-Ring Material Designator

- Nil : SS316 - FKM
Brass - NBR
- VT : FKM
- NBR : NBR
- KA : Kalrez



Handle Designator

(1)



Body Material Designator

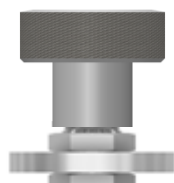
- S6 : SS316
- BS : Brass

(1) Handle Designator

- Nil : SMTV1,2 Series Standard for Locking Screw Handle
SMTV3 Series Standard for Round Handle
- SH : SMTV1 and 2 Series
- AH : SMTV1 Series
- VH : SMTV1,2 and 3 Series



SMTV1,2 Standard
Locking Screw Handle



SMTV3 Standard
Round Handle



-SH-
Slotted Handle



-AH-
Adjustable Torque Handle



-VH-
Vernier Handle

Testing

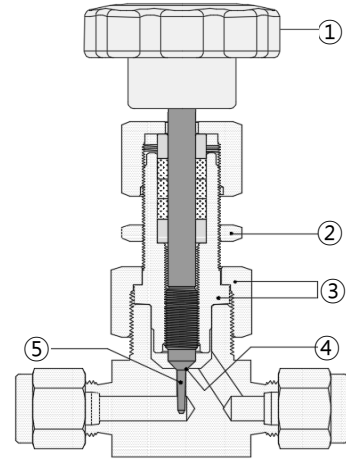
- Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi (69bar).
- Hydraulic shell test is performed at 1.5 times the working pressure.

High Pressure Metering Valves

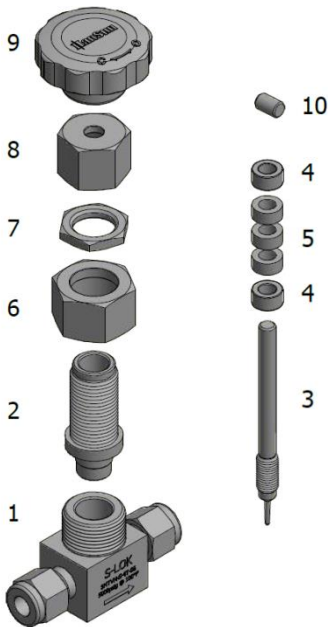
SMTVH Series

Features

1. Phenolic knob round handle
 2. Panel mounting is standard for all valves
 3. Union nut-prevents accidental disassembly of the valve in its service
 4. Metal to metal flow shut off
 5. 2° Tapered stem tip
 - provide a wide flow range with ultra fine metering control
- SS316 bar stock body with straight and angle patterns
 - Variety of end connections include S-LOK, NPT & ISO threads Female



Material of Construction



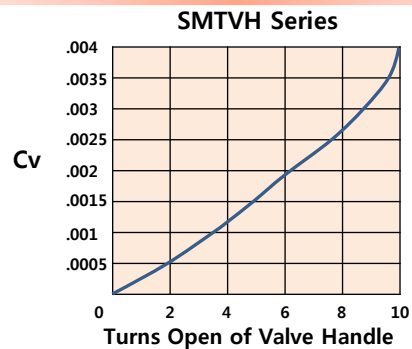
Item	Description	Material / ASTM Specification
1	Body	A276 / SS316
2	Bonnet	A276 / SS316
3	Stem	A564 / S17400
4	Gland	A276 / SS316
5	Packing	PTFE
6	Union Nut	A276 / SS316
7	Panel Nut	A276 / SS316
8	Packing Nut	A276 / SS316
9	Handle	Nylon with brass insert
10	Set screw	Stainless Steel

Temperature-Working pressure

ASME Material Group	TABLE 2-2.2	
ASME CLASS Rating	2080	
Material Name	SS316	
Temperature @ Pressure °F(°C)	Psig	(bar)
-65 (-54) ~ 100 (38)	5000	(344)
200 (93)	4295	(295)
300 (148)	3875	(266)
400 (204)	3560	(245)
450 (232)	3435	(236)
500 (260)	3310	(228)
600 (315)	3130	(215)
650 (343)	3080	(212)
700 (371)	3000	(206)
750 (398)	2930	(201)
800 (426)	2880	(198)
850 (454)	2815	(193)

* Standard PTFE packing is up to 450°F (232°C), optional grafoil packing is up to 850°F (454°C)

Turns Open and Flow Data



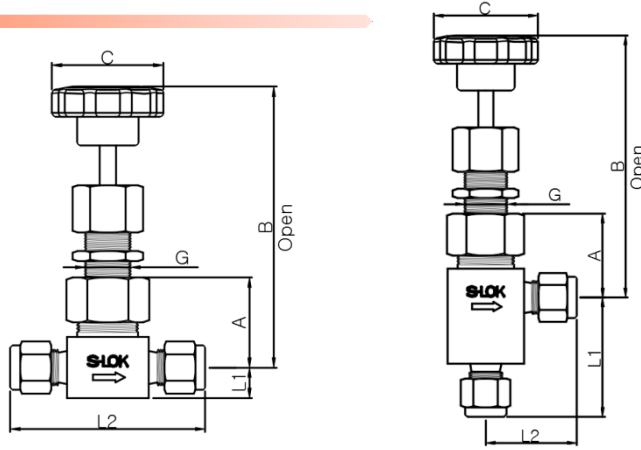
Pressure Drop@ Atmosphere psi (bar)	Air Flow Std. ft ³ /min. (std.L/min.)	Water Flow U.S. gal./min. (L/min.)
10 (0.68)	0.04 (1.1)	0.01 (0.03)
50 (3.4)	0.1 (2.8)	0.02 (0.07)
100 (6.8)	0.2 (5.6)	0.04 (0.15)

High Pressure Metering Valves

Ordering Information and Dimensions

Unit : mm

G	Panel Max Thick.
15	9.6



Ordering Number	End Connection		Dimensions (mm)				
	Inlet	Outlet	A	B	C	L1	L2
Straight Pattern							
SMTVH	S-4T	1/4" S-LOK	28.1	87.8	35	9.6	60.6
	S-6M	6mm S-LOK	28.1	87.8	35	9.6	60.6
	F-2N	1/8" Female NPT	28.1	87.8	35	9.6	50.8
	F-4N	1/4" Female NPT	28.1	87.8	35	9.6	52.3
Angle Pattern							
SMTVH	S-4T-A	1/4" S-LOK	28.1	87.8	35	37.6	29.5
	S-6M-A	6mm S-LOK	28.1	87.8	35	37.6	29.5
	F-2N-A	1/8" Female NPT	32.9	92.9	35	25.4	23.1
	F-4N-A	1/4" Female NPT	32.9	92.9	35	25.4	23.1

Ordering Information

• Selection of the applicable options from the designators are listed below

SMTVH

Valve Series Designator

S

End Connection Designator

2T

Inlet-outlet Size Designator

A

Flow Pattern Designator

GF

O-Ring Material Designator

S6

Body Material Designator

- S : S-LOK Tube Fitting
- M : Male Thread
- F : Female Thread

- Nil : Straight Pattern
- A : Angle Pattern

- Nil : PTFE
- GF : Grafoil

- S6 : SS316
- BS : Brass

Testing

- Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi (69bar).
- Hydraulic shell test is performed at 1.5 times the working pressure.



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