

# Responding to the latest demands SMC High Purity Series

High levels of purity are increasingly required in the handling of fluids for advanced processing applications of semiconductors, pharmaceuticals, medicine, instrumentation, cleaning and food processing. SMC high purity series products incorporate many new and unique innovations that minimize both particulate and chemical contamination to levels compatible with the most demanding requirements. Cleaning, assembly and packaging are performed in a clean room to ensure the ultimate in product integrity.



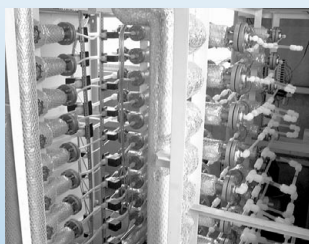
# in process control

## Complete laboratory facilities to support high quality and high reliability

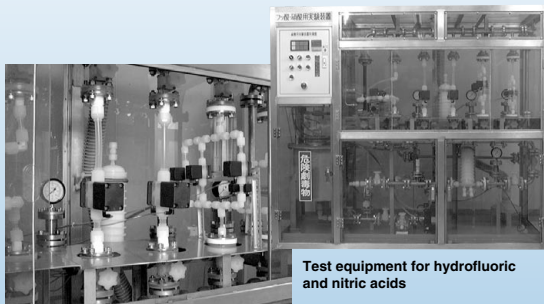
Complete laboratory facilities, including a chemicals lab, a high temperature lab and a clean room, back up the high quality and high reliability of the LV Series by performing precise confirmation and verification of the product's performance and life.



Laboratory



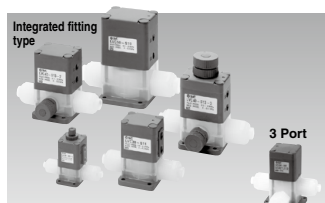
High temperature test line



Test equipment for hydrofluoric and nitric acids

# Series Variations

High Purity Chemical Liquid Valve Air Operated Integrated Fitting Type



## LVC Series

P.683

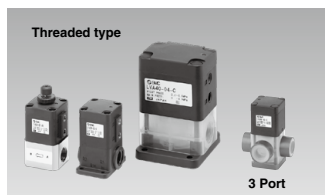
2 Port

Model	LVC2□	LVC3□	LVC4□	LVC5□	LVC6□
Orifice diameter	ø4	ø8	ø10	ø16	ø22
Tubing size	mm size	3, 4, 6	6, 8, 10	10, 12	12, 19
	inch size	1/8, 3/16, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4

3 Port

Model	LVC20□	
Orifice diameter	ø4	
Tubing size	mm size	4, 6
	inch size	1/8, 3/16, 1/4

High Purity Chemical Liquid Valve Air Operated Threaded Type



## LVA Series

P.701

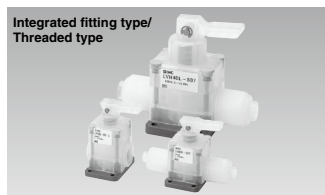
2 Port

Model	LVA1□	LVA2□	LVA3□	LVA4□	LVA5□	LVA6□
Orifice diameter	ø2	ø4	ø8	ø12	ø20	ø22
Port size	1/8	1/4	1/8	1/4	3/8	1/2
	1/4	1/8	1/4	3/8	3/8	1/2
Body material	Stainless steel 316	○	○	○	○	○
	PPS	○	○	○	○	○
	PFA	○	○	○	○	○
		○	○	○	○	○

3 Port

Model	LVA2□0
Orifice diameter	ø4
Port size	1/4
Body material	PFA

High Purity Chemical Liquid Valve Manually Operated Integrated Fitting Type/Threaded Type



## LVH Series

P.719

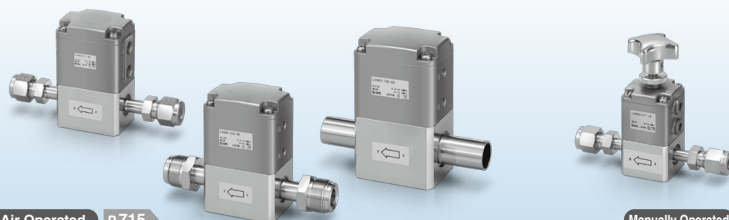
Integrated fitting type

Model	LVH20	LVH30	LVH40
Orifice diameter	ø4	ø8	ø10
Tubing size	mm size	3, 4, 6	6, 8, 10
	inch size	1/8, 3/16, 1/4	1/4, 3/8

Threaded port type

Model	LVH20			LVH30			LVH40		
Orifice diameter	ø4			ø8			ø12		
Body material	Stainless steel 316	PPS	PFA	Stainless steel 316	PPS	PFA	Stainless steel 316	PPS	PFA
	1/8	1/4	1/4	1/4	3/8	3/8	3/8	1/2	1/2

### For Organic Solvents



Air Operated P.715

LVA-D-AD/AN Series

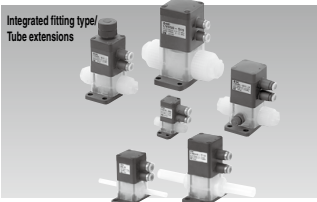
Manually Operated P.728

LVH-M-D-AD/AN Series

## High Purity Chemical Liquid Valve Air Operated Compact Type

### LVD Series

P.737



#### Integrated fitting type

Model	LVD10	LVD20	LVD30	LVD40	LVD50	
Orifice diameter	ø2	ø4	ø8	ø10	ø16	
Tubing size	mm size	3, 4	4, 6	6, 8, 10	10, 12	12, 19
	inch size	1/8	1/8, 3/16, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4

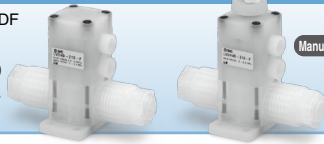
#### Tube extensions

Model	LVD20	LVD30	LVD40	LVD50	
Orifice diameter	ø4	ø8	ø10	ø16	
Tubing size	mm size	6	10	12	19
	inch size	1/4	3/8	1/2	3/4

#### Improved Corrosion Resistance

Actuator section: PVDF

Air operated  
P.750

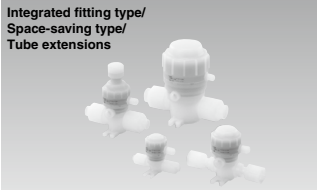


Manually operated  
P.760

## High Purity Chemical Liquid Valve Non-Metallic Exterior

### LVQ Series

P.771



#### Integrated fitting type

Model	LVQ20	LVQ30	LVQ40	LVQ50	LVQ60	
Orifice diameter	ø4	ø8	ø10	ø16	ø22	
Tubing size	mm size	3, 4, 6	6, 8, 10	10, 12	12, 19	19, 25
	inch size	1/8, 3/16, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4	3/4, 1

#### Space-saving type

Model	LVQ20	LVQ30	LVQ40	LVQ50	LVQ60
Orifice diameter	ø4	ø8	ø10	ø16	ø22
Fitting size	2	3	4	5	6

#### Tube extensions

Model	LVQ20	LVQ30	LVQ40	LVQ50	LVQ60	
Orifice diameter	ø4	ø8	ø10	ø16	ø22	
Tubing size	mm size	6	10	12	19	25
	inch size	1/4	3/8	1/2	3/4	1

## Vinyl Chloride Air Operated Valve

### LVP Series

P.847



Model	LVP5□	LVP6□
Applicable tubing O.D.	O.D. ø22 (Nominal dia.16A)	O.D. ø26 (Nominal dia.20A)   O.D. ø32 (Nominal dia.25A)
Orifice diameter	ø16	ø22
Valve type	N.C./N.O./Double acting	
Option	With flow rate adjustment	

## PVC Quick Drain Valve

### LVW Series

P.851



Model	LVW60	LVW80	LVW90
Applicable tubing O.D.	ø32 (Nominal dia. 25A)	ø38 (Nominal dia. 32A)	ø48 (Nominal dia. 40A)   ø60 (Nominal dia. 50A)   ø75 (Nominal dia. 65A)   ø89 (Nominal dia. 80A)
Orifice diameter	ø25	ø40	ø65
Valve type	N.C.		

LVC

LVA

LVB

LVD

LVQ

LVP

LVW

LQ1

LQ3

LVN

LQHB

TL

TIL

TLM

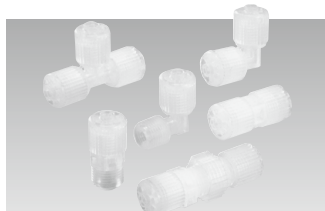
TD

TID

TH

TIH

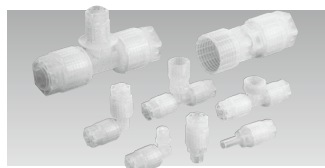
## Series Variations

Fluoropolymer  
Hyper Fittings

## LQ1 Series

P.857

Model		LQ1□10	LQ1□20	LQ1□30	LQ1□40	LQ1□50	LQ1□60
Max. operating pressure (at 20°C)		1.0 MPa					
Operating temperature		0 to 200°C					
Applicable tubing size	mm size	ø3 to ø25					
	inch size	1/8" to 1"					

Fluoropolymer Hyper Fittings  
Flare Type

## LQ3 Series

P.912

Model		LQ3□10	LQ3□20	LQ3□30	LQ3□40	LQ3□50	LQ3□60	LQ3□70
Material		NEW PFA						
Max. operating pressure (at 20°C)		1.0 MPa						
Operating temperature	Nut material PVDF	0 to 150°C						
	Nut material PFA	0 to 200°C						
Applicable tubing size	mm size	ø3 to ø25						
	inch size	1/8" to 1 1/4", 1 1/2" (LQ3□8)						

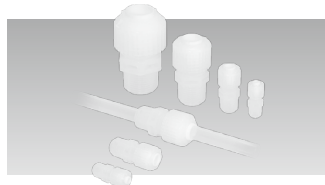
## Fluoropolymer Needle Valve



## LVN Series

P.938

Model		LVN20	LVN30	LVN40
Orifice diameter		ø4.4	ø8	ø10
Tubing size	mm size	4, 6	6, 8, 10	10, 12
	inch size	1/8, 3/16, 1/4	1/4, 3/8	3/8, 1/2

Fluoropolymer Bore Through  
Connector

## LQHB Series

P.941

Model		LQHB
Applicable tubing O.D.	mm size	3 to 25
	inch size	1/8 to 1
Operating temperature		0 to 200°C

## Fluoropolymer Tubing

## TL/TIL Series

P.947



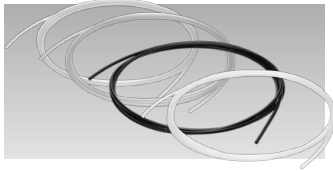
Model	TL (mm size)					
Tubing Model	<b>TL0403</b>	<b>TL0604</b>	<b>TL0806</b>	<b>TL1008</b>	<b>TL1210</b>	<b>TL1916</b>
O.D. x I.D. (mm)	ø4 x ø3	ø6 x ø4	ø8 x ø6	ø10 x ø8	ø12 x ø10	ø19 x ø16

Model	TIL (inch size)							
Tubing Model	<b>TIL01</b>	<b>TILB01</b>	<b>TIL05</b>	<b>TIL07</b>	<b>TIL11</b>	<b>TIL13</b>	<b>TIL19</b>	<b>TIL25</b>
Nominal size (inch)	1/8"	1/8"	3/16"	1/4"	3/8"	1/2"	3/4"	1"
O.D. x I.D. (inch)	1/8" x 0.086"	1/8" x 1/16"	3/16" x 1/8"	1/4" x 5/32"	3/8" x 1/4"	1/2" x 3/8"	3/4" x 5/8"	1" x 7/8"

## Fluoropolymer Tubing (PFA)

## TLM/TILM Series

From P.949



Model	TLM (mm size)						
Tubing Model	<b>TLM0201</b>	<b>TLM0302</b>	<b>TLM0425</b>	<b>TLM0403</b>	<b>TLM0604</b>	<b>TLM0806</b>	<b>TLM1075</b>
Tubing size	ø2 x ø1	ø3 x ø2	ø4 x ø2.5	ø4 x ø3	ø6 x ø4	ø8 x ø6	ø10 x ø7.5
O.D.	mm	2	3	4	6	8	10
I.D.	mm	1	2	2.5	3	4	7.5

Model	TLM (mm size)					
Tubing Model	<b>TLM1008</b>	<b>TLM1209</b>	<b>TLM1210</b>	<b>TLM1613</b>	<b>TLM1916</b>	<b>TLM2522</b>
Tubing size	ø10 x ø8	ø12 x ø9	ø12 x ø10	ø16 x ø13	ø19 x ø16	ø25 x ø22
O.D.	mm	10	12	16	19	25
I.D.	mm	8	9	12	13	16

Model	TILM (inch size)					
Tubing Model	<b>TILM01</b>	<b>TILMB01</b>	<b>TILM05</b>	<b>TILM07</b>	<b>TILM11</b>	
Tubing size	1/8" x 0.086"	1/8" x 1/16"	3/16" x 1/8"	1/4" x 5/32"	3/8" x 1/4"	
O.D.	inch	1/8"	1/8"	3/16"	1/4"	3/8"
	mm	3.18		4.75	6.35	9.53
I.D.	inch	0.086"	1/16"	1/8"	5/32"	1/4"
	mm	2.18	1.58	3.15	3.95	6.33

Model	TILM (inch size)				
Tubing Model	<b>TILM13</b>	<b>TILM19</b>	<b>TILM25</b>	<b>TILM32</b>	
Tubing size	1/2" x 3/8"	3/4" x 5/8"	1" x 7/8"	1-1/4" x 1-1/10"	
O.D.	inch	1/2"	3/4"	1"	1-1/4"
	mm	12.7	19.05	25.4	31.75
I.D.	inch	3/8"	5/8"	7/8"	1-1/10"
	mm	9.5	15.85	22.2	27.95

LVG

LVA

LVH

LVD

LVQ

LVP

LWV

LQ1

LQ3

LVN

LQHB

TL

TIL

TLM

TID

TIH

# Series Variations

## Soft Fluoropolymer Tubing



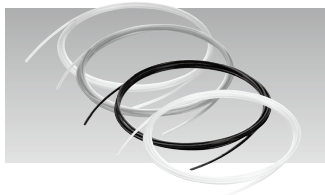
## TD/TID Series

From P.952

Model		TD (mm size)				
Tubing Model		<b>TD0425</b>	<b>TD0604</b>	<b>TD0806</b>	<b>TD1075</b>	<b>TD1209</b>
O.D.	mm	4	6	8	10	12
I.D.	mm	2.5	4	6	7.5	9

Model		TID (inch size)				
Tubing Model		<b>TID01</b>	<b>TID05</b>	<b>TID07</b>	<b>TID11</b>	<b>TID13</b>
O.D.	inch	1/8"	3/16"	1/4"	3/8"	1/2"
	mm	3.18	4.75	6.35	9.53	12.7
I.D.	inch	0.086"	0.124" (1/8")	0.156" (5/32")	0.25" (1/4")	0.374" (3/8")
	mm	2.18	3.15	3.95	6.33	9.5

## FEP Tubing (Fluoropolymer)



## TH/TH Series

From P.954

Model		TH (mm size)							
Tubing Model		<b>TH0402</b>	<b>TH0425</b>	<b>TH0604</b>	<b>TH0806</b>	<b>TH1075</b>	<b>TH1008</b>	<b>TH1209</b>	<b>TH1210</b>
O.D.	mm	4	4	6	8	10	10	12	12
I.D.	mm	2	2.5	4	6	7.5	8	9	10

Model		TIH (inch size)										
Tubing Model		<b>TIHA01</b>	<b>TIHB01</b>	<b>TIHC01</b>	<b>TIHA05</b>	<b>TIHB05</b>	<b>TIHA07</b>	<b>TIHB07</b>	<b>TIHA11</b>	<b>TIHB11</b>	<b>TIH13</b>	<b>TIH19</b>
O.D.	inch	1/8"			3/16"		1/4"		3/8"		1/2"	3/4"
	mm	3.18			4.75		6.35		9.53		12.7	19.05
I.D.	inch	0.093"	0.086"	0.065"	0.137"	0.124" (1/8")	0.16"	0.156" (5/32")	0.275"	0.25" (1/4")	0.374" (3/8")	0.624" (5/8")
	mm	2.36	2.18	1.65	3.48	3.15	4.57	3.95	6.99	6.33	9.5	15.85

## Related Products

P.956-1

### Tube Cutter: TK-5



As this product is made of stainless steel it can be used inside clean rooms.  
 \* However, this product is packaged regularly, not in double packaging.