

A total component solution, from source to process

## M4 -1 VB IN LINE VALVE VEE BLOCK

4-1 VB

BLOCKS



# FEATURE a unique proven design

# M4-1 VB

Controlled (PC) electropolishing for better corrosion resistance

Developed from proven M4.1 valve technology

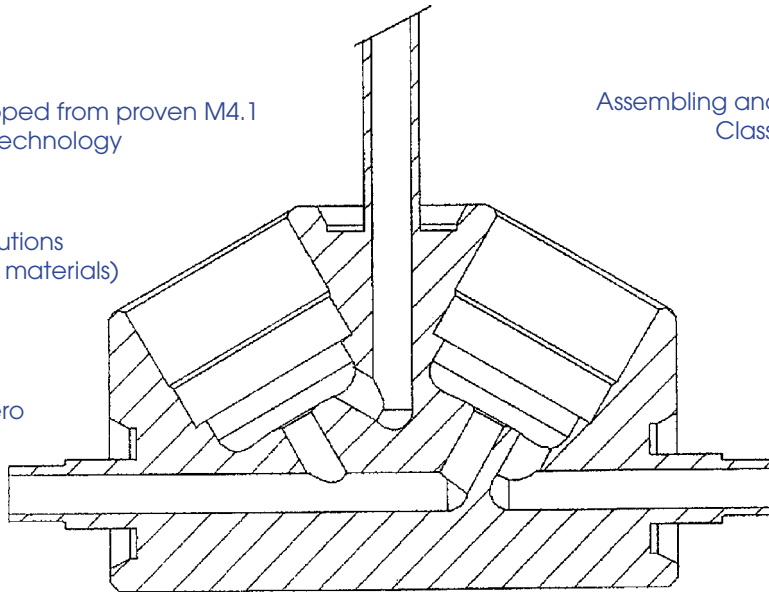
Assembling and packaging in Class 10 cleanroom

Gas specific solutions (body and seat materials)

Unique high pressure leak test ports

No spring in the wetted area for zero particle emission

Pneumatic and manual actuation available



Manufactured to the **THREE STAR PROCESS**®

## CONSTRUCTION MATERIALS

		<i>Valve Grade &amp; Materials</i>			
		<i>Parts</i>	M4-1VB <b>S</b>	M4-1VB <b>V</b>	M4-1VB <b>U</b>
Wetted parts	Body		SS 316L	SS 316L	SS 316L/AOD-VAR
	Surface Finish		< 0,4 µm non EP (15 Ra)	< 0,4 µm EP (15 Ra)	< 0,15 µm EP (6 Ra)
	Diaphragm		Hastelloy®		
	Seat Material		Kel-F® (PI Vespel®, PVDF, metal on request)		
Non-wetted parts	Backup diaphragms		Elgiloy®		
	all others		Stainless Steel or alloys		

### Manual Actuation

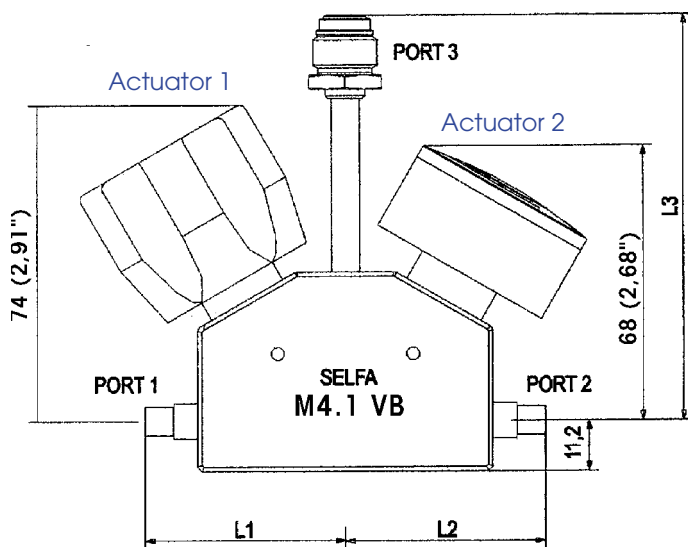
<i>Parts for all valve grades</i>	
Upper spindle	Stainless Steel
Handle	Aluminum or Extruded Plastic
All others	Stainless Steel or Alloys

### Pneumatic Actuation

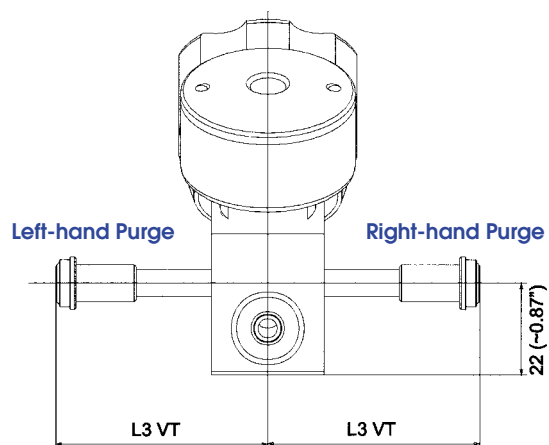
<i>Parts</i>	<i>Low Pressure</i>	<i>High Pressure</i>
Actuator Body	SS 316	Aluminum
Piston	Aluminum	
O-rings	NBR - PC 851	
All others	Stainless Steel or Alloys	

TECHNICAL DATA		
Fluid Media		Standard, High and Ultra High Purity, corrosive and non-corrosive gases
Max working pressure	M4-1VB Manual - Multi-turn - 1/4 Turn	240 bar (3500 PSI)
	M4-1VB Pneumatic - Low Pressure	17 bar (250 PSI)
Operating pressure		5-7 bar (75 PSI - 105 PSI)
Temperature range		-20°C to + 80°C (-2F to 176F)
Burst Pressure		850 bar (12500 PSI)
Flow Capacity (C <sub>v</sub> )	M4-1VB Manual	C <sub>v</sub> = 0.24 (QT), 0.28 (MT)
	M4-1VB Pneumatic	C <sub>v</sub> = 0.24
Certified max. Helium inboard leak rate		< 2.10 <sup>-10</sup> sccs
Certified max. Helium outboard leak rate (at max. pressure)		< 2.10 <sup>-11</sup> sccs
Certified max. Helium across the seat leak rate (at max. pressure)		< 2.10 <sup>-10</sup> sccs
Wetted volume		< 1.2 cc

## DIMENSIONS

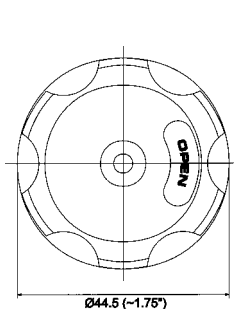


Refer to last page for L1, L2, L3 and L3VT

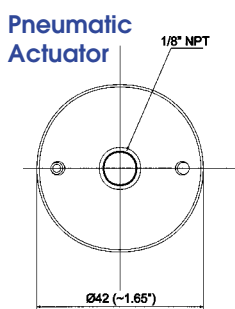


For Right-hand Purge only, please order under ref. M4.1 VTD

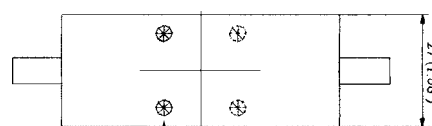
For Left-hand Purge only, order under ref. M4.1 VTG



Handwheel with on/off window



Pneumatic Actuator



4 mounting holes M5 thread located 45° from centre line on a 1.00" (25.4) circle

PART NUMBER						
Example : M4-1VB U	1:MT/2:LP	3V	I / K	A/B : B1/4 C : V1/4M	MS	
1	2	3	4	5	6	7

1 - Valve Series and Surface Finish	
M4-1VB U	Ra 0,15µm EP (6 Ra)
M4-1VB V	Ra 0,4µm EP (15 Ra)
M4-1VB S	Ra 0,4µm nonEP (15Ra)

VB = Standard vertical purge block  
 VT = Vee-Block with transverse purge  
 VTD = Vee-Block with Righthand purge port  
 VTG = Vee-Block with Left-hand purge port

3 - Valve Port Configuration	
3V18	3 ports, vertical purge Other configurations on request

5 - Seat Material	
K	PCTFE (Kel-F®)
V	PI (Vespe®)
P	PVDF
M	Metal

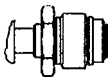
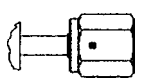
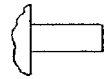
7 - Options	
MS	Valve fitted with locking service
FT	Panel mounting
FP	Back mounting

2 - Valve Actuation	
MT	Multi-Turn
QT	Quarter-Turn
LP	Pneumatic actuator, Low Pressure
HP	Pneumatic actuator, High Pressure

4 - Body Material (others on request)	
I	AISI 316L
A	AISI 316L AOD/VAR
H	Hastelloy®

6 - End Connections - Port 1-2-3	
V 1/4-F	VAC-U-FAST® 1/4" - Female (Face Seal*)
V 1/4-M	VAC-U-FAST® 1/4" - Male (Face Seal*)
B 1/4	BWO 1/4" - Standard (Butt Weld Orbital)
B 1/4-S	BWO 1/4" - Short (Butt Weld Orbital)
B 6	BWO 6 mm (Butt Weld Orbital)
C 1/4	1/4" Compression Fitting (Double Ring)
C 6	6 mm Compression Fitting (Double Ring)

A = Inlet Connection  
 B = Outlet Connection  
 C = Vertical Purge (righthand purge for VT versions)  
 D = Left-hand Purge

End Connection	Dimensions mm(inches)			
	L1	L2	L3	L3VT
 VAC-U-FAST® Male (face seal)*	61 (2.40")	61 (2.40")	91 (3.58")	35,3 (1.39")
 VAC-U-FAST® Female (face seal)*	52 (2.05")	52 (2.05")	75 (2.95")	35,3 (1.39")
 BWO 1/4" (Orbital Weld)	46 (1.81")	46 (1.81")	83,2 (3.27")	35,3 (1.39")
	top port			side port

**Note:**  
 All purge ports  
 in 1/4" !!

**SELFA Valves & Fittings** (part of the **ROTAREX Group**), incorporates the manufacturing capabilities of **SELFA**, **SELFA-PURETEC** and **CEODEUX-PURETEC**. These companies have supplied components to the Semiconductor and Allied Industries for many years. **CEODEUX-PURETEC** is one of the world-wide leaders in the supply of HP & UHP cylinder valves and cylinder connections. **SELFA-PURETEC** products line includes HP & UHP line valves, regulators and fittings. Therefore they are one of the only companies that can truly supply a total component solution, from source to process.

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