

INTEGRAL VCB VALVES

I. FEATURES

- Pressure rating up to 413 bar (6000 psig) 20°C (70 °F)
- Temperature rating up to 190°C (375°F) with Viton seal standard
- Suitable for gas and liquids
- Blow-out resistant and stop reversing flow design
- SS316 body material as standard
- 100% factory tested

II. MATERIAL OF CONSTRUCTION

Item	Component	Valve Body Materials
		Material Grade / ASTM Specification
1	Inlet Body	SS / ASTM479
2	Poppet	Viton - bonded SS / A479
3	Poppet Stopper	SS / ASTM479
4	Spring	SS302 / ASTM 313
5	O-Ring	Viton Standard
6	Back Up Ring	PTFE
7	Indicator Ring	Stainless Stell
8	Outlet Body	SS / ASTM479

Seal Materials

Material	Temperature rating, °C (°F)
NBR	-10°C to 250°C (-23°F to 121°F)
Ethylene Propylene	-50°C to 300°C (-16°F to 149°F)

Cracking Pressure and Reseal Pressure at 20°C (70 °F)

Nominal Spring Range	Cracking Pressure Range	Min. Reseal Pressure psig
0.02 bar (½ psig)	0 to 0.2 bar	0.41 bar
0.068 bar (1 psig)	0 to 0.27 bar	0.34 bar
0.34 bar (5 psig)	0.20 to 0.62 bar	0.068 bar
0.68 bar (10 psig)	0.48 to 1.0 bar	0.2 bar
1.7 bar (25 psig)	1.3 to 2.0 bar	1.1 bar

III. TECHNICAL DATA

Material	SS316		
Series	VCB1	VCB2	VCB3
Working Pressure	414 bar		345 bar
Cv	0.67	1.8	4.7
Operating Temperature Range	Viton: -23 °C to 190 °C		
Nominal Cracking Pressure	0.02, 0.06, 0.34, 0.68, 1.7 bar		

Poppet

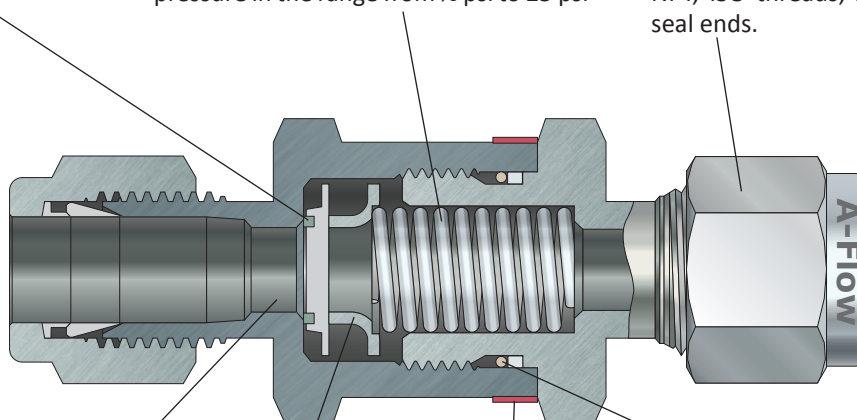
- provides leak tight shut-off with elastomer seal

Springs

- are available for the cracking pressure in the range from ½ psi to 25 psi

Variety of End Connection

- include Hy-Lok tube fittings, male and female NPT, ISO threads, ZCO ends and metal gasket seal ends.



Orifice

- is max. flow design for min. pressure drop.
- include flow dia from 4.8mm to 15.2mm

Poppet Stopper

- provides minimizes spring stress.

Indicator Ring

- is easy identify the cracking pressure.
- available in replacement

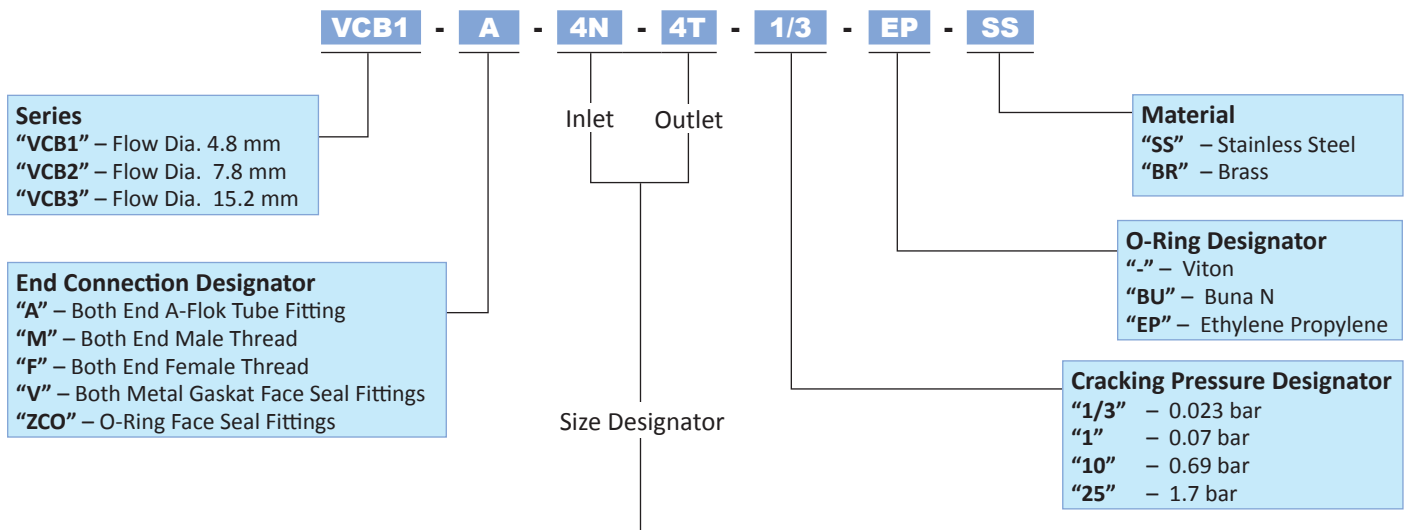
O-ring and Back Up Rings

- are halves for ensures closure to the rated pressure

IV. TABLE OF DIMENSIONS

Part number	Flow Dia	Cv	End Connection		Pressure Rating, bar			Dimensions				
			Inlet	Outlet	SS316	CS	Mo	L	I	H	H1	
VCB1	-A-2T	4.8	0.67	1/8" A-Flok		414	-	345	58.3	27.5	11.1	17.5
	-A-4T	4.8	0.67	1/4" A-Flok		414	-	345	61.7	26.4	14.2	17.5
	-A-6M	4.8	0.67	6 mm NPT Male		414	-	345	61.7	26.4	14.0	17.5
	-F-4N	4.8	0.67	1/4" NPT Female		414	-	345	54.1	54.1	-	-
	-F-4G	4.8	0.67	1/4" BSPP Female		414	-	345	54.3	54.3	-	18.5
	-M-2N	4.8	0.67	1/8" NPT Male		414	-	345	45.5	26.4	-	17.5
	-M-4N	4.8	0.67	1/4" NPT Male		414	-	345	55.1	26.4	-	17.5
VCB2	-A-6T	7.8	1.8	3/8" A-Flok		414		345	69.9	31.2	17.5	25.4
	-A-8T	7.8	1.8	1/2" A-Flok		414		345	75.2	31.2	22.2	25.4
	-A-8M	7.8	1.8	8 mm A-Flok		414		345	68.6	31.2	16.0	25.4
	-A-10M	7.8	1.8	10 mm A-Flok		414		345	71.1	31.2	19.0	25.4
	-A-12M	7.8	1.8	12 mm A-Flok		414		345	75.2	31.2	22.0	25.4
	-A-14M	7.8	1.8	14 mm A-Flok		414		345	79.5	36	24.8	25.3
	-A-16M	7.8	1.8	16 mm A-Flok		414		345	80	36	25	25.3
	-A-18M	7.8	1.8	18 mm A-Flok		414		345	87	42.3	30	40.9
	-F-6N	7.8	1.8	3/8" NPT Female		345	365	345	64.8	64.8	-	-
	-F-8N	7.8	1.8	1/2" NPT Female		316	337	316	77.0	77.0	-	26.9
	-F-8G	7.8	1.8	1/2" BSSP Female		316	337	316	77.0	77.0	-	25.0
	-M-6N	7.8	1.8	3/8" NPT Male		413		345	59.9	31.2	-	25.4
	-M-8N	7.8	1.8	1/2" NPT Male		413		345	69.3	31.2	-	25.4
VCB3	-A-12T	15.0	4.7	3/4" A-Flok		345		323	89.4	45.2	28.6	41.3
	-A-16T	15.0	4.7	1" A-Flok		345		323	98.6	45.5	38.1	41.3
	-A-18M	15.0	4.7	18 mm A-Flok		345		323	87	42.3	30	40.9
	-A-22M	15.0	4.7	22 mm A-Flok		345		323	88.4		32.0	41.3
	-A-25M	15.0	4.7	25 mm A-Flok		345		323	98.6		40.0	41.3
	-F-12N	15.0	4.7	3/4" NPT Female		296			82.0	82.0	-	41.3
	-F-16N	15.0	4.7	1" NPT Female		282			97.3	97.3	-	41.3
	-M-12N	15.0	4.7	3/4" NPT Male		345		323	83.6	45.5	-	41.3
	-M-16N	15.0	4.7	1" NPT Male		345		323	93.2	45.7	-	41.3

V. ORDERING INFORMATION



Pipe Thread NPT (ISO/BSP)				Tube											
Thread	1/8"	1/4"	3/8"	Metric Tube	O.D. (mm)	3	6	8	10	12	14	18	20	25	
NPT	4N	6N	8N		Designator	3M	6M	8M	10M	12M	14M	18M	20M	25M	
RT (BSPT)	4R	6R	8R	Fractional Tube	O.D. (in)	1/8	1/4	3/8	1/2	3/4	1				
G (BSPP)	4GR	6G	8G		Designator	2T	4T	6T	8T	12T	16T				