

Minimum Pressure Valve

Type: MPVL

Application

For oil-injected, oil-lubricated screw compressors and other rotary compressors: to uphold the minimum oil pressure required for cooling and lubrication during start-up, off-load and when user ports are fully open.

Function

Spring loaded two way valves with built-in check valve

Installation

The minimum pressure valve is installed either at the outlet of the separator or in the discharge line after the separator.

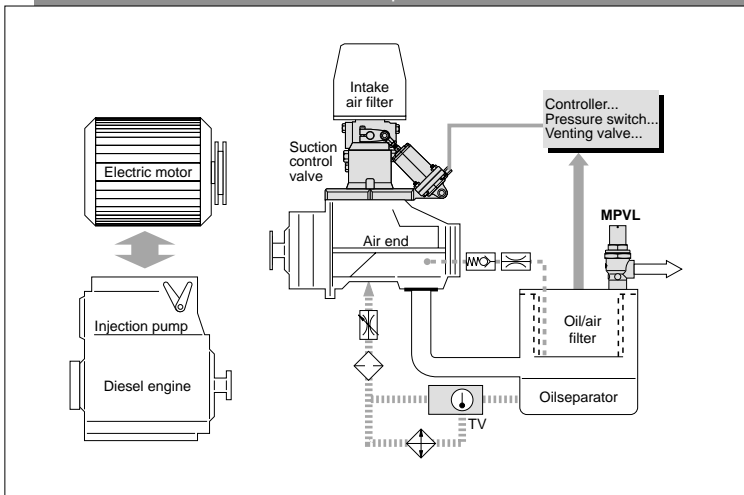
Operation

Valve opening

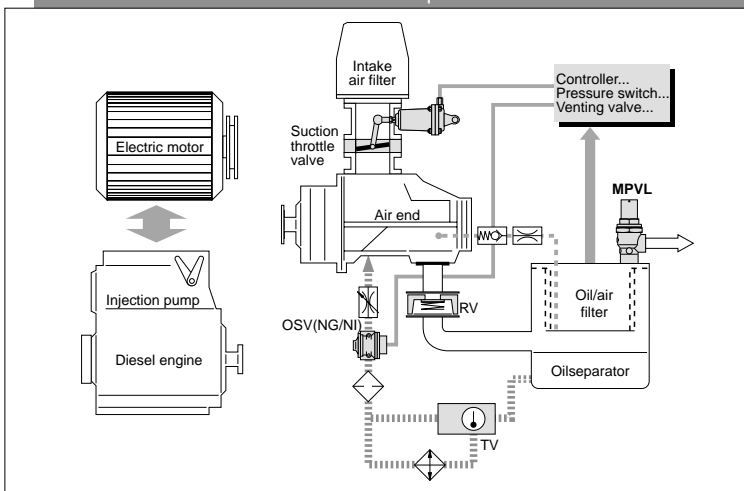
The valve opens when the increasing pressure in the valve exceeds the adjusted opening pressure. Both the non-return (check) valve assembly (5) and the piston (4) are opened by the pressure in the oil/air separator against the force of the spring (7).

⚠ Attention! Never attempt to disassemble a cylinder whilst under pressure!

Installation for air ends which can be pressurized at the suction duct



Installation for air ends which cannot be pressurized at the suction duct.



The valves are adjusted in our works, if there is no special order "function tested only". The pressure, at which the valve starts opening is stated by the extension of the article No. on the HOERBIGER label.

Load position

The minimum pressure valve is fully opened and flow characteristics and pressure drop values are as specified in the detail table, if the discharge pressure of the compressor exceeds the opening pressure plus 1.5 to 2 bar.

Valve closing

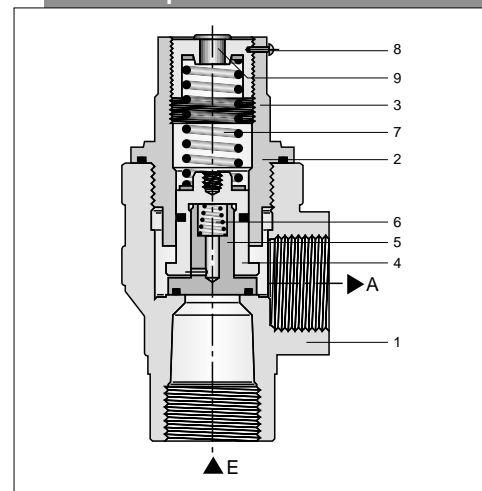
The minimum pressure valve begins to close, when the pressure at either valve inlet or valve outlet decreases to less than the opening pressure plus 1 to 1.5 bar. The MPVL's are designed and adjusted to maximum safety:

- If the compressor is loading, the oil separator will be higher than the opening pressure
- If the compressor is idling, the oil separator will be maintained at approx. the opening pressure
- If the compressor is stopped, the non-return valve will close automatically. The non-return valve (5) closes if there is no air demand or the compressor is stopped. It is shut tight, if the pressure at the valve inlet is lower than the pressure at the valve outlet by more than 0.5 to 1 bar.

Ordering Details:

Type, opening pressure (minimum pressure) and article no.

Minimum pressure valve MPVL



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Data Table

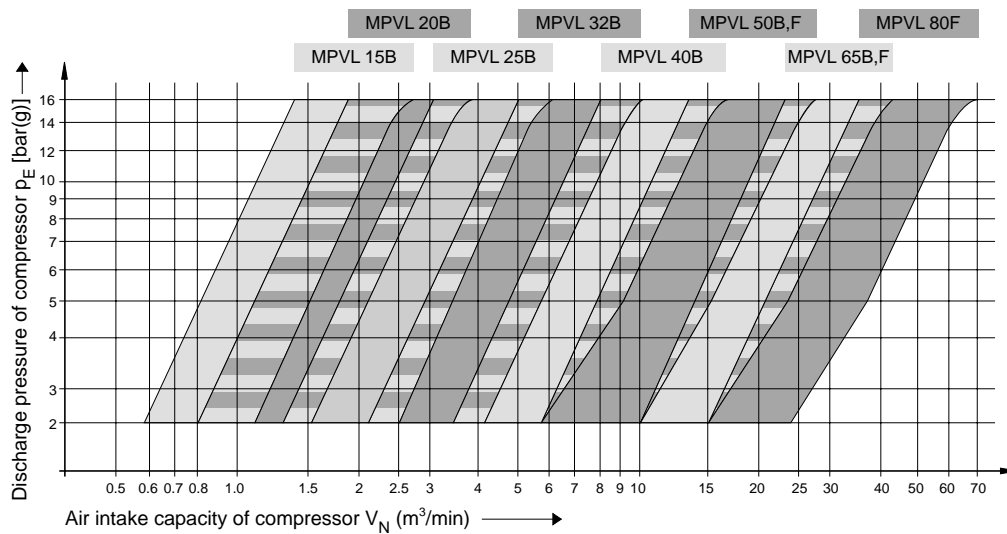
Type		MPVL15B	MPVL20B	MPVL25B	MPVL32B	MPVL40B	MPVL50B	MPVL50F	MPVL65B	MPVL65F	MPVL80F	
Nominal diameter DN	mm	15	20	25	32	40	50	50	65	65	80	
Max. work. press. PS	bar (g)	16										
Connections ¹⁾		G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	–	G2 1/2	–	–	
Flange design connections		-	-	-	-	-	-	G2	-	G2 1/2	G3	
Weight	kg	0.35	0.45	0.8	1.1	1.5	3.3	5.7	5.8	9.5	13	
K _v -value of the fully opened valve ²⁾	m ³ /h	4	5.5	9	15	24	40	40	64	64	100	
Air intake capacity of the compressor	m ³ /min	recommended application range for pressure losses from 0.03 to 0.2 bar (g)										
Discharge pressure of the compressor	bar (g)	5 to 16										
Medium		oily pressurized air, filtered • recommended compressed air quality according to DIN ISO 8573-1, class 5 Reference oil: see www.hoerbigerkompressortechnik.de										
Start of opening ³⁾	bar (g)	3 to 5, standard settings (±0.25 bar): 3.5 and 4.75										
Fully opened at ³⁾	bar (g)	opening pressure plus 1.5 to 2										
Closed at ³⁾	bar (g)	opening pressure minus 0.5 to 1										
Temperature range	°C	0 to 100 • short periods: - 25, +130 emergency stop (max. 10% working period at max.)										
Installation dimensions	mm	see dimension table, others upon request										
Installation attitude		optional										
Materials		Aluminum alloy, Steel, Viton/NBR, PTFE										

¹⁾ DIN ISO 228, other thread executions upon request

²⁾ Valve fully open, measured to DIN IEC534 (values refer to specific weight 1000 kg/m³)

³⁾ see operation

Diagramm 1, Recommended Ranges of Application ranges



Maintenance

The service manual W283RCC contains information regarding the maintenance intervals. While disassembling the valve for inspection, cleaning or retrofitting purposes, also refer to the respective information contained in the service manual W283RCC. For the actual service manuals visit our homepage www.hoerbigerkompressortechnik.de.

Pressure setting

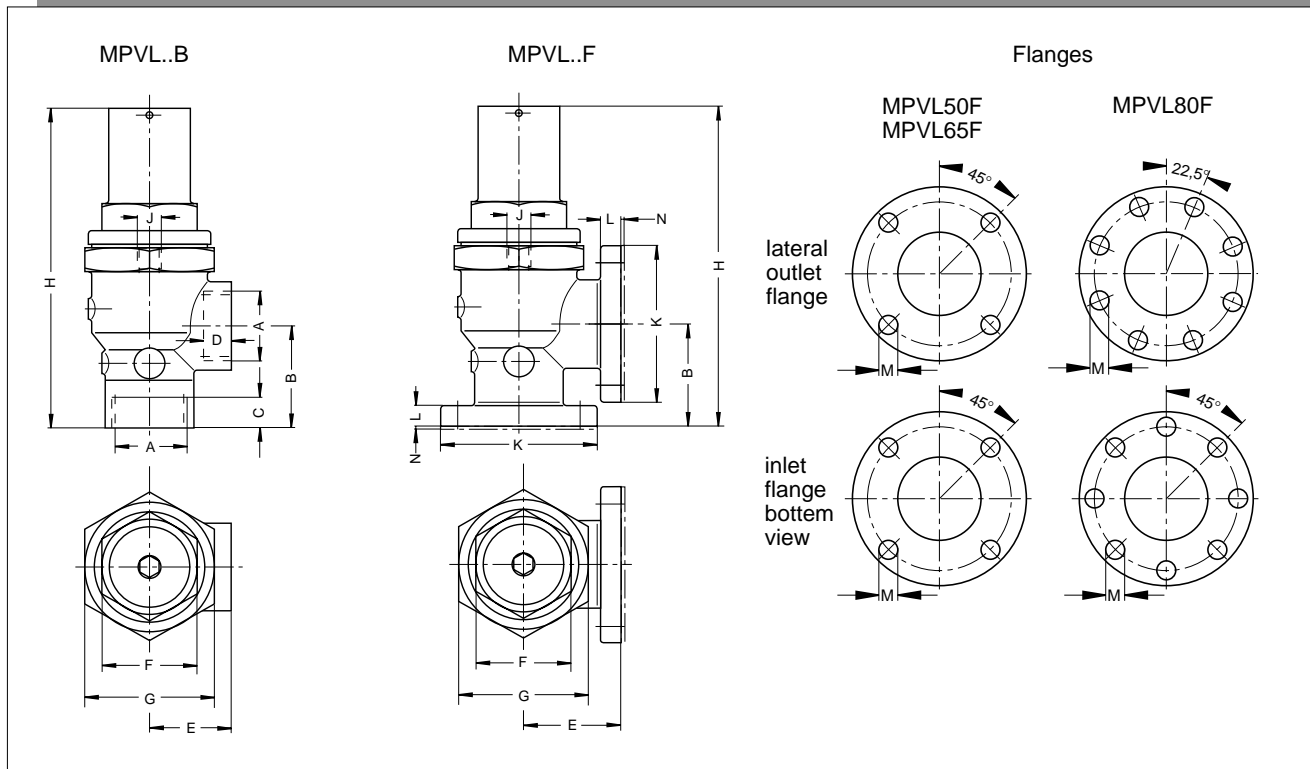
Opening pressure:

Valves supplied by HOERBIGER are set to the opening pressure. Precaution: The correct minimum pressure is vital for the function of the compressor. Tampering with adjustment may cause a compressor breakdown. Valves should be adjusted by authorized personal of the compressor manufacturer by using the accurate pressure gauge.

For adjustment:

Remove the plastic plug (9) and the pin (8) with a pair of pliers. Increase first the opening / minimum pressure by turning the ring (3) clockwise, one or two turns of the wrench. Then decrease the opening / minimum pressure by turning the ring (3) slowly and gradually counterclockwise. Secure the new setting by inserting the pin (8) into a new hole (to be drilled 2,5 mm into the ring 3). Check proper valve function on the compressor after maintenance or adjustment.

Dimensions



Main dimensions, inlet and outlet connections

Dim.	MPVL15B	MPVL20B	MPVL25B	MPVL32B	MPVL40B	MPVL50B	MPVL50F	MPVL65B	MPVL65F	MPVL80F
A	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	–	G2 1/2	–	–
B	43	50.5	56.5	67.5	67.5	78	100	93	103	125
C	13	15	15	20	20	24	–	27	–	–
D	13	15	15	20	20	24	–	27	–	–
E	31	36	42.5	48	55	66	120	76	150	125
F	36	46	55	50	65	85	85	95	95	115
G	46	55	65	70	85	100	100	130	130	145
H	110	124	138	175	214	240	262	317	321	389
J	–	M5	M5	M8	M8	M10	M10	M10	M10	M12
K	–	–	–	–	–	–	165	–	185	190,5
L	–	–	–	–	–	–	22	–	24	24
M	–	–	–	–	–	–	4xø18 TKø125	–	4xø18 TKø145	8xø18 TKø160
N ¹⁾	–	–	–	–	–	–	–	–	–	2

¹⁾ Valve is supplied with seals for installation between flanges without recesses.

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