

# Minimum Pressure Check Valves

Type: MPVL15-80, MPVL3"  
and MPVL4"

Technical Data Sheet



## Application

For oil- and water-injected screw compressors and other rotary compressors to uphold the minimum 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.

## Maintenance

For maintenance follow the recommendation and instruction of the compressor manufacturer.

## Operation

### Valve opening:

The main piston and the non-return (check) valve opens when the pressure increases beyond the defined opening pressure and the MPVL inlet pressure is above the discharge pressure.

### Load position:

Load position is reached when pressure exceeds set opening pressure plus  $\Delta P$ .

Flow characteristics and pressure drop for load position are specified in the technical details.

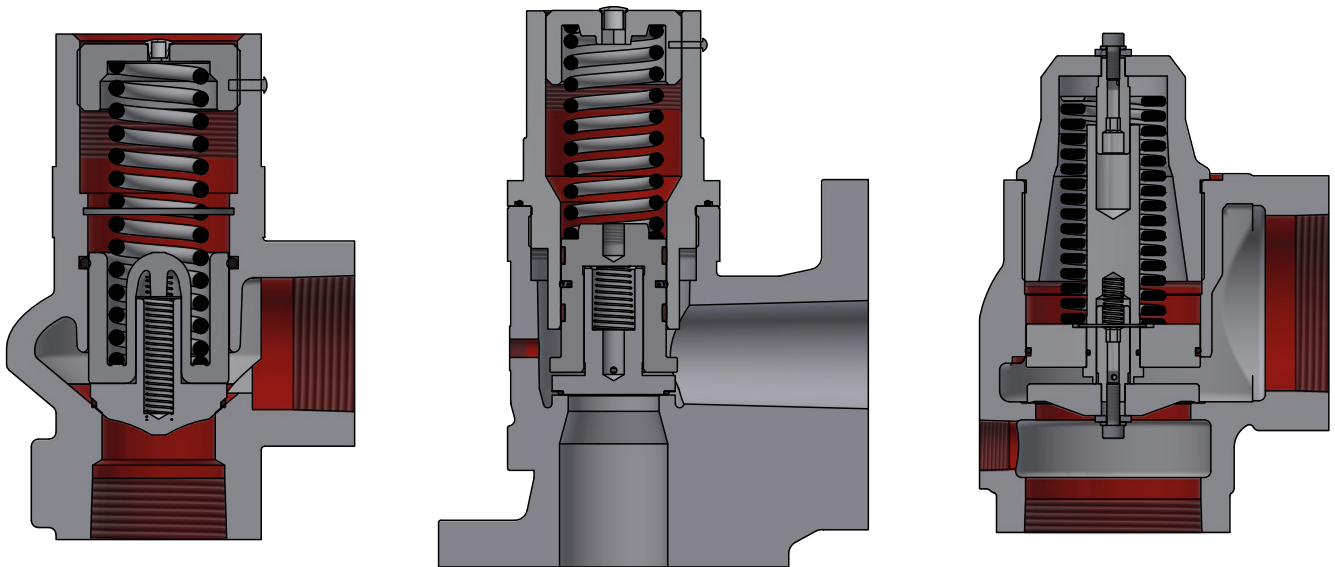
### Valve closing:

If MPVL inlet pressure is dropping, check valve closes to prevent back-flow.

If discharge pressure falls below the defined opening pressure plus  $\Delta P$ , MPVL starts closing to ensure the minimum pressure for cooling and lubrication.



**Attention! Never attempt to disassemble a valve whilst under pressure!**



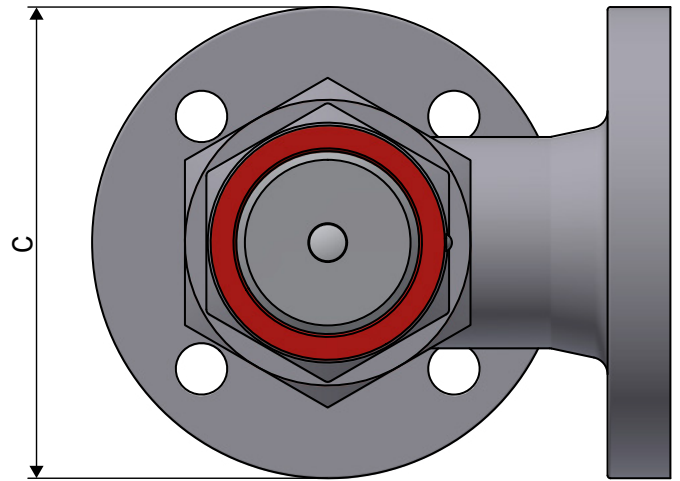
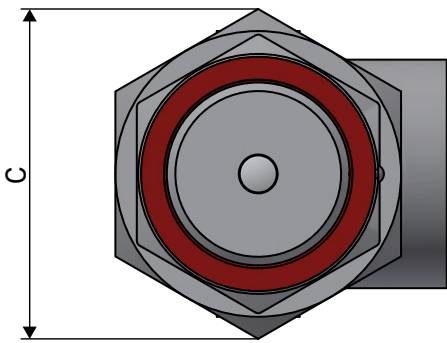
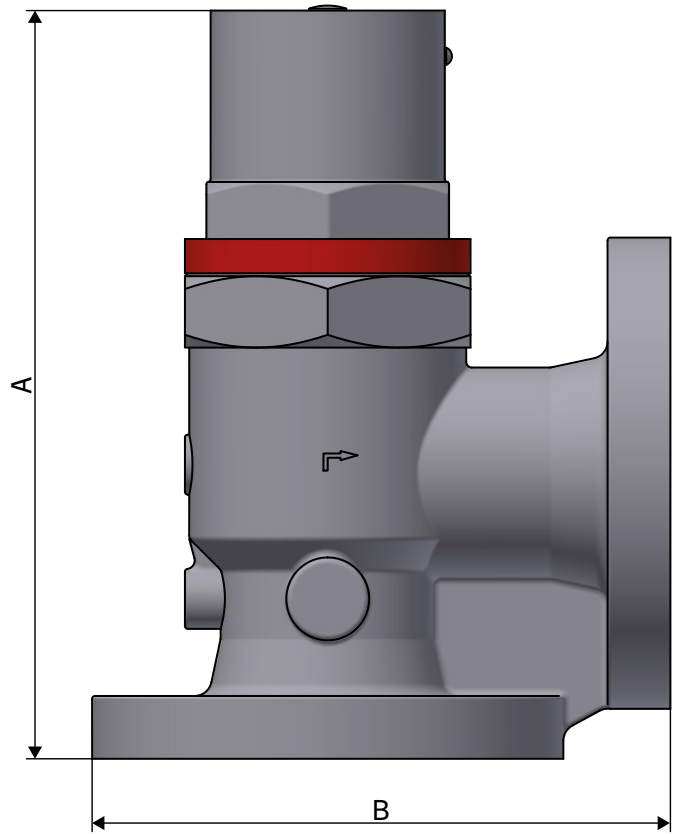
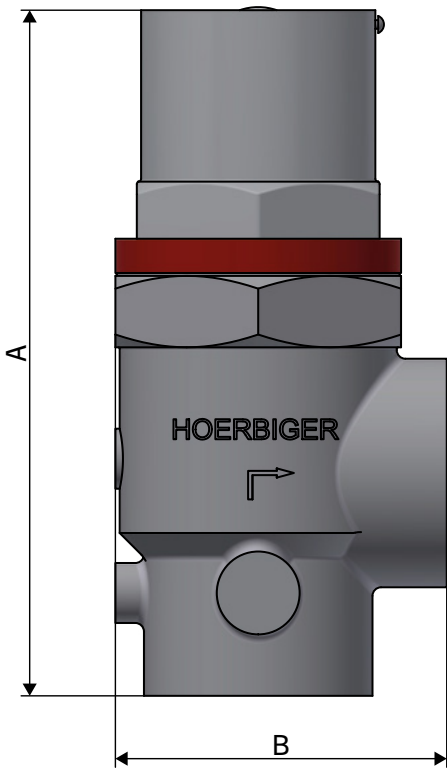
## Technical details

MPVL	15	C20	C25	C32	40	50	65	80	3"	4"
Nominal diameter mm	15	20	25	32	40	50	65	80	80	107
Max. working pressure barg psig	16 232									
Temperature range °C °F	-20 to +120 -4 to +248									
Kv value of the fully opened valve <sup>1)</sup> m <sup>3</sup> /h	4	9	14	23	24	40	64	100	144	184
Volume air flow	For pressure losses caused by MPVL from 0.03 to 0.20 barg (0.44 to 2.90 psig) see recommended ranges of application diagram.									
Connections <sup>2)</sup>	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	G2 1/2	–	3"-8NPT	–
Flange design connections	–	–	–	–	–	4x Ø 18, PCD 125	4x Ø 18, PCD 145	8x Ø 18, PCD 160	4 x Ø 18, 150 x 70 (inlet) / 4 x M16, 130 x 70 (outlet)	5" SAE flange (inlet) / 4" SAE flange (outlet)
Set opening pressure	Variable setting between 2 to 5 barg Variable setting between 29 to 73 psig								Fixed setting: 2.4±0.35 barg 3.4±0.35 barg 4.5±0.5 barg 5.2±0.5 barg	2.3±0.2 barg 4.1±0.35 barg
ΔP (to open)	Opening pressure plus 1.5 to 2 bar Opening pressure plus 22 to 29 psi									
Closed at	Set opening pressure minus 0.5 to 1 bar Set opening pressure minus 7 to 14 psi									
Dimensions	See dimension table, others upon request									
Installation	Possible in all directions									
Medium	Oily pressurized air, filtered. Recommended compressed air quality according to DIN ISO 8573-1, class 5. Compressor oil compatible with HOERBIGER reference oil list.									
Materials	Aluminum alloy, steel (stainless), brass, FKM, PTFE									
Weight kg	0.4	0.3	0.6	0.9	1.5	3.3/5.7	5.8/9.5	13.0	7.0	11.3

1) The Kv value represents the volume of water at 5 to 30°C flowing through the valve at a differential pressure of 1 bar.

2) DIN ISO 228, other thread executions upon request.

# Dimensions



## Main dimensions

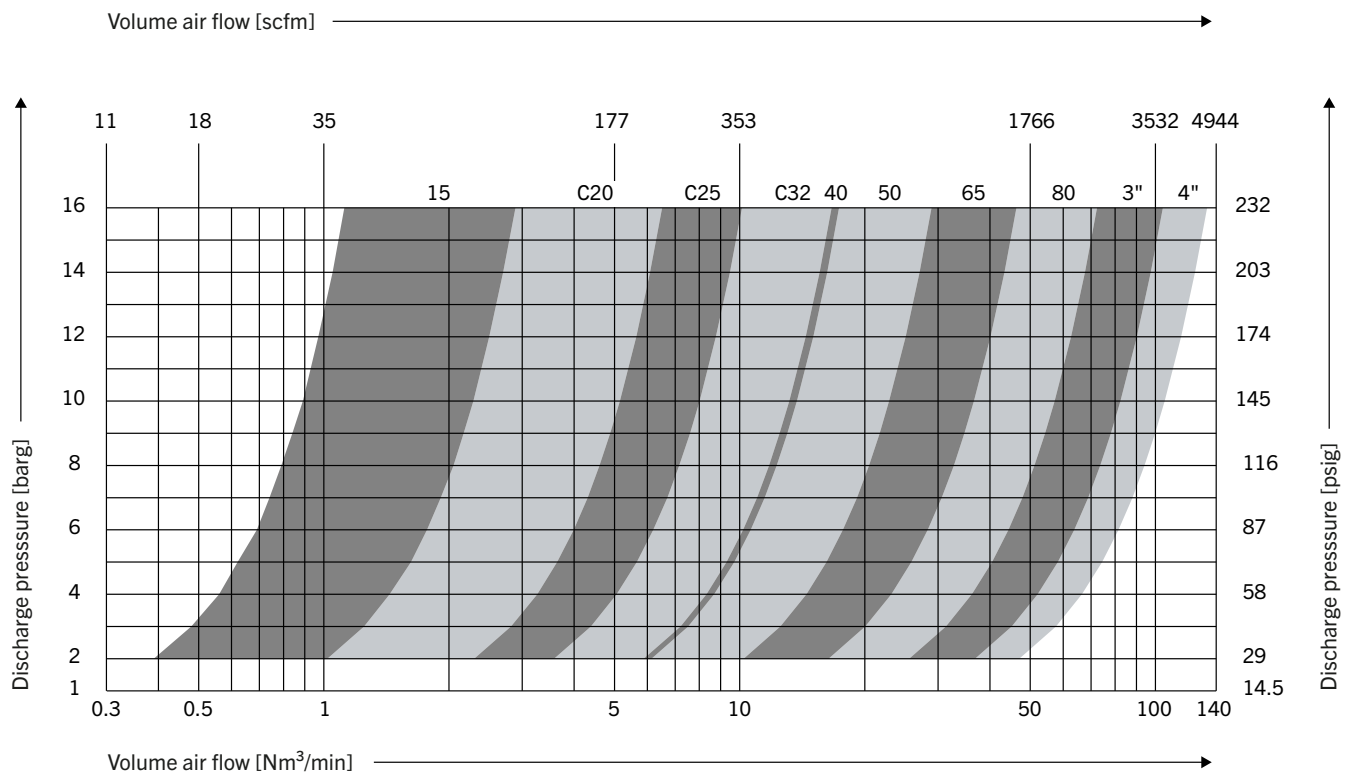
Threaded MPVL		15	C20	C25	C32	40	50	65	80	3"	4"
A	mm	110	94	121	154	214	240	317	-	235	-
	inch	4.3	3.7	4.7	6.0	8.4	9.4	12.5	-	9.3	-
B	mm	54	65	81	100	105	116	141	-	165	-
	inch	2.1	2.6	3.2	3.9	4.1	4.6	5.6	-	6.5	-
C	mm	53	51	64	86	85	115	150	-	150	-
	inch	2.1	2.0	2.5	3.4	3.3	4.5	5.9	-	6.5	-

Flanged MPVL		15	C20	C25	C32	40	50	65	80	3"	4"
A	mm	-	-	-	-	-	262	321	389	259	376
	inch	-	-	-	-	-	10.3	12.6	15.3	10.2	14.8
B	mm	-	-	-	-	-	203	242	220	176	232
	inch	-	-	-	-	-	8.0	9.5	8.7	6.9	9.1
C	mm	-	-	-	-	-	165	185	191	190	196
	inch	-	-	-	-	-	6.5	7.3	7.5	7.5	7.7

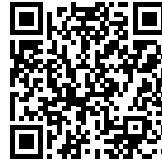
Note: Other dimensions and optional ports upon request.

## Recommended application ranges





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