

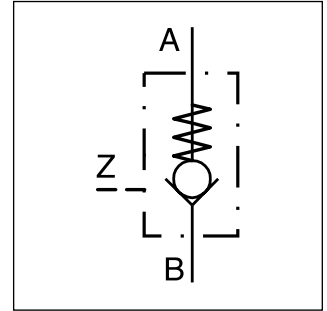
Parker Series RH Pilot Operated Check Valve for In-line Mounting Service Manual

Pilot operated check valves series RH allow free flow in one direction (B to A). The counter flow is blocked (A to B). By applying pilot pressure the ball can be lifted from its seat and allow flow from A to B.

Most common use:

- Keeping cylinders leak-free in position, when spool type directional control valves are used
- Return line discharge, when return flow exceeds functional limits of directional control valve at differential cylinders
- As hydraulically activated drain or circulation valve

The valves are available without and with hydraulic pre-discharging.

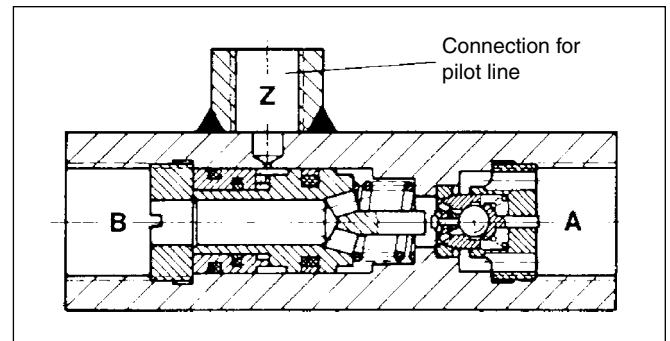
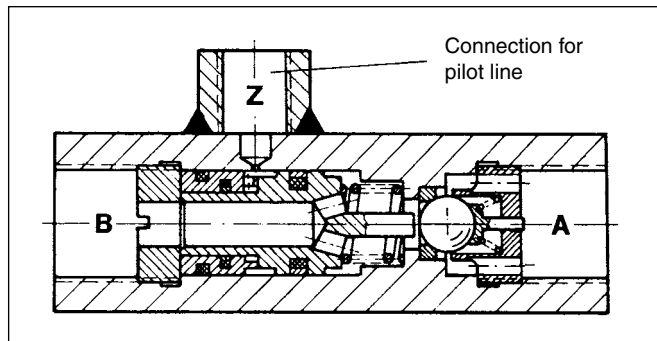


Without pre-discharging

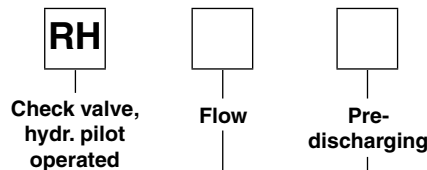
These valves have a ball as valve element, which quickly enables the full flow cross-section proportionally during pilot operation. A metering position in the pilot port dampens the control movement of the pilot spool so that pressure shocks (unloading shocks) are mostly suppressed.

With pre-discharging

For valves with pre-discharging a spherical polished valve spool (seat valve function) is built-in instead of a ball. The additional check valve achieves a pre-opening which provides shock-free unloading of the fluid, especially at high working pressure and large volumes.



Ordering code



Code	Flow [l/min]
1	15
2	35
3	55
4	100

Code	Pre-discharging
V ¹⁾	with
omit	without

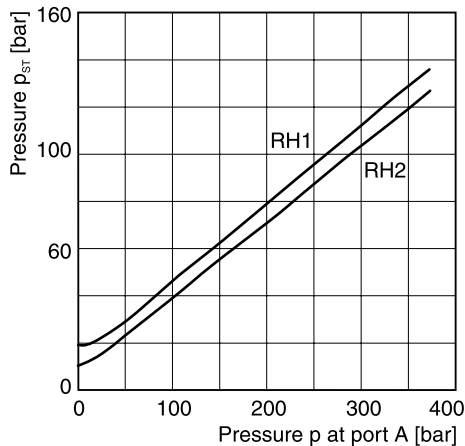
Bold letters =
Short-term availability

¹⁾ Only for sizes 3 and 4

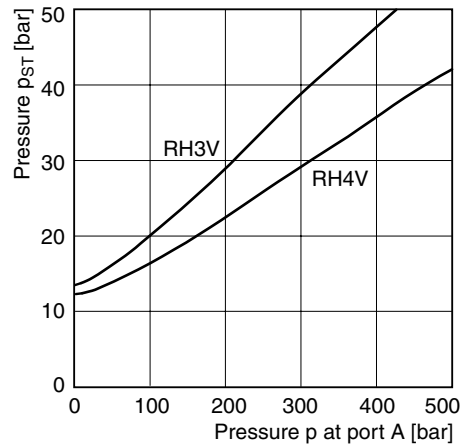
Technical data

General					
Code	RH	1	2	3 / 3V	4 / 4V
Pipe connections	DIN ISO 228/1 A, B DIN ISO 228/1 Z	G ¼ G ¼	G ⅜ G ¼	G ½ G ¼	G ¾ G ¼
Mounting	Freely suspended in the pipeline				
Mounting position	unrestricted				
Ambient temperature	[°C]	-20 ... +60			
MTTF _D value	[years]	150			
Weight	[kg]	0.4	0.4	0.6	1.3
Hydraulic					
Max. operating pressure	[bar]	700	700	500	500
Flow approx.	[l/min]	15	35	55	100
Pilot flow volume	[cm³]	0.15	0.22	0.4	1
Fluid	Hydraulic oil according to DIN 51524				
Fluid temperature	[°C]	-20...+70			
Viscosity	permitted recommended	[cSt]/[mm²/s] [cSt]/[mm²/s]	20...400 30...80		

Pilot pressure p_{St} for pilot operation of the main valve
 ($p_B = 0$ bar)



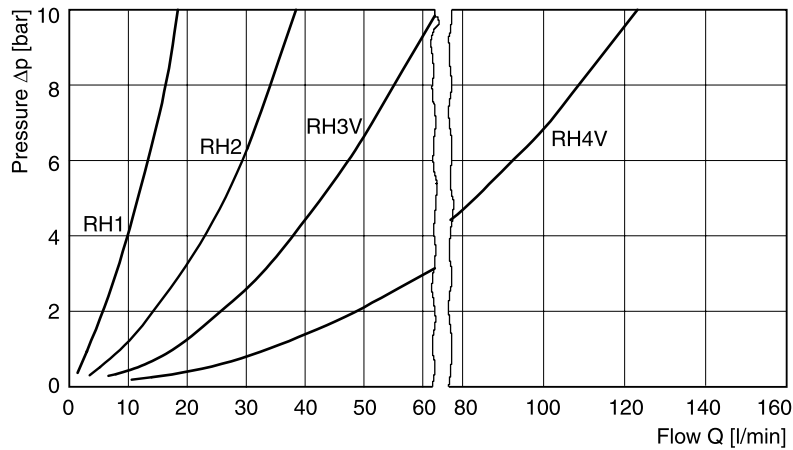
Pilot pressure p_{St} for pilot operation of pre-discharging



for keeping open	
p_{St}	$p_B + \Delta p + k$
p_B [bar]	pressure on side B
Δp [bar]	flow resistance A to B as per $\Delta p/Q$ performance curve
k	10 at RH 1 and RH 2 7 at RH 3 V 8 at RH 4 V

Characteristic Curves / Dimensions

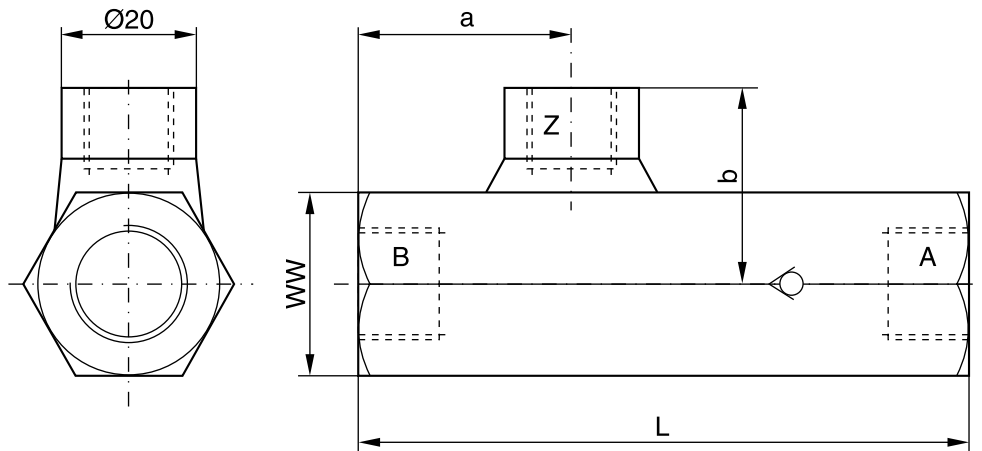
Performance $\Delta p/Q$ curves (valid for flow polarity B to A and pilot operated direction A to B)



Opening pressure B to A 0.2...0.3 bar

Oil viscosity during the measurement, 60 mm²/s

For viscosities over approx. 500 mm²/s, a strong Δp -increase is to be expected for smaller types (RH1...RH3).



Type	Port ¹⁾		L	a	b	SW
	A, B	Z				
RH 1	G ¼	G ¼	84	31.5	27	24
RH 2	G ⅜	G ¼	90	32	28.5	27
RH 3 V	G ½	G ¼	100	36.5	31	32
RH 4 V	G ¾	G ¼	126	45	35.5	41

¹⁾ As per DIN 228/1, suitable for pipe connections with thread studs form B as per DIN 3852 page 2.