

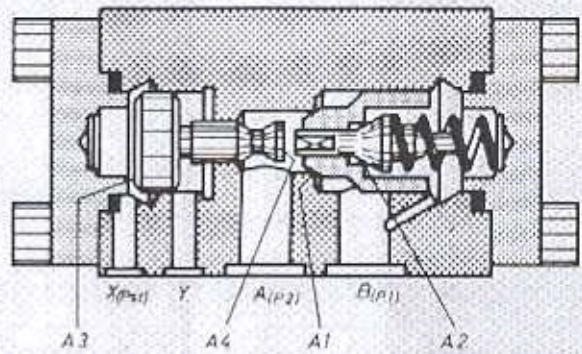
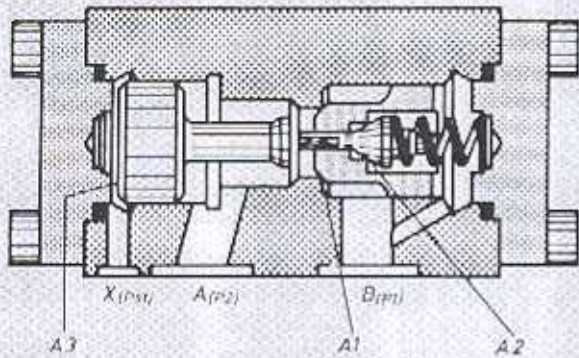
# Pilot Operated Check Valves

## Size 6 – Size 150

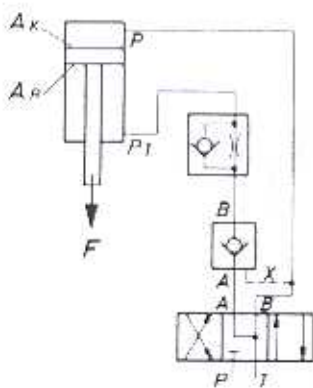
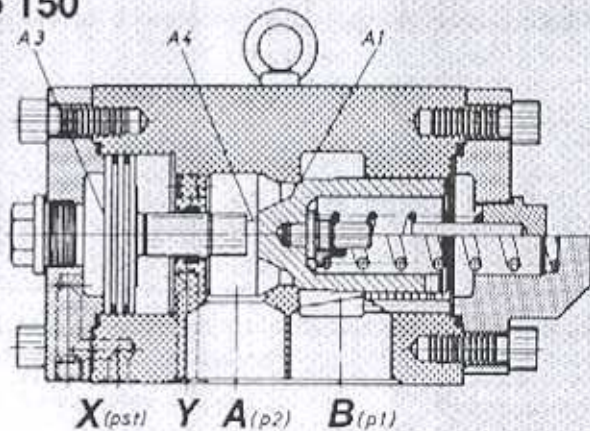
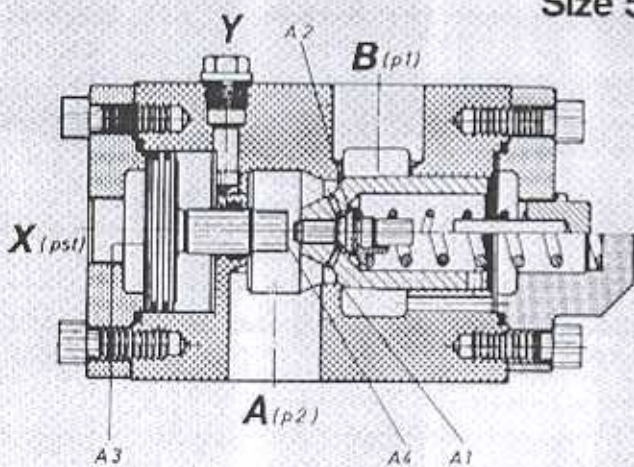
### Type SV

### Type SL

#### Size 6 to 30



#### Size 52 to 150

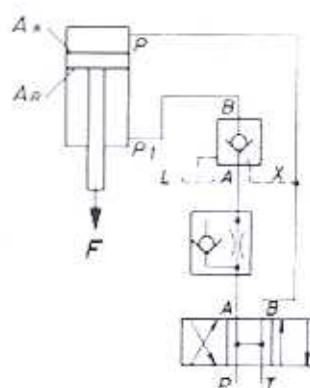


Port A is unloaded.

$$P_{St1} = \frac{p_1 \cdot A_2}{A_3} + C$$

$$P_1 = \left( p \cdot \frac{A_k}{A_R} + \frac{F}{A_R} \right)$$

$$P_{St} = P_1 \cdot \frac{A_1}{A_3} + C$$



Port A is pre loaded  
(e.g. by means of  
throttle valve)

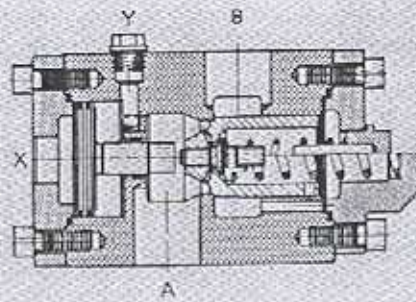
$$P_{St1} = \frac{p_1 \cdot A_2}{A_3} + C$$

$$P_{St} = \frac{p_1 \cdot A_1 - p_2 \cdot (A_1 - A_4)}{A_3} + C$$

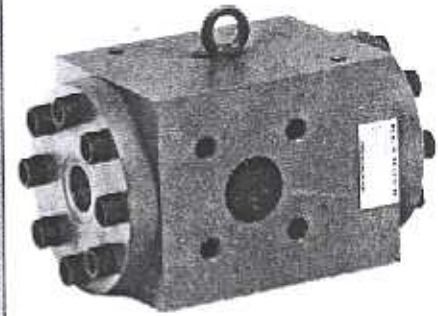
- $P_{St}$  = pilot pressure at port X;  $p_{St} < p$  (bar)
- $P_{St1}$  = pilot pressure to open the pilot poppet (bar)
- $p$  = pressure at piston area (bar)
- $P_1$  = pressure at port B (bar)
- $P_2$  = pressure at port A (bar)
- $A_1$  = main poppet area (cm<sup>2</sup>)
- $A_2$  = pilot poppet area (cm<sup>2</sup>)
- $A_3$  = control piston area (cm<sup>2</sup>)
- $A_4$  = piston load area (SL-valves) (cm<sup>2</sup>)
- $A_k$  = piston area at cylinder (cm<sup>2</sup>)
- $A_R$  = piston annulus area at cylinder (cm<sup>2</sup>)
- $C$  = constant factor (bar)
- $F$  = load at cylinder (kp)

valve type	A 1 (cm <sup>2</sup> )	A 2 (cm <sup>2</sup> )	A 3 (cm <sup>2</sup> )	A 4 (cm <sup>2</sup> )	C (bar)
SL6, SL10 SV6, SV10	1,13	0,28	3,14	0,50	5
SV15, SV20	3,14	0,78	9,62	—	5
SL15, SL20, SL25 SL30, SV25, SV30	5,30	1,33	15,90	1,54	5
SL52, SV52	21,24	3,46	47,78	3,8	5
SL62, SV62	30,19	4,9	66,47	4,9	5
SL82, SV82	43	7,06	95	7,06	5
SL102, SV102	66,47	10,18	143,14	11,34	5
SL126, SV126	103,87	15,9	213,80	19,64	5
SL150, SV150	149,57	22,9	320,47	19,64	5

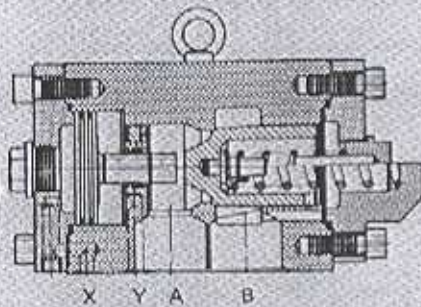
**Pilot Operated  
Check Valves  
Type SV/SL  
Sizes 52 - 150**



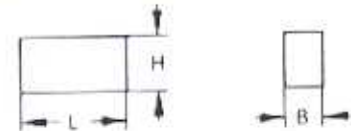
SV 52 F... - 10



SV 52 FB... - 10



SL 52 P... - 10



	Size	52	62	82	102	125	150
flange conn.	L	283	313	418	506	564	654
	B	145	155	200	230	290	350
	H	145	155	200	250	305	360
subplate mtg.	L	283	313	418	-	-	-
	B	145	155	200	-	-	-
	H	145	155	200	-	-	-

Size	52	62	82	102	125	150
Connection flanges see *	RE 45 501			RE 45 502		
Subplate mounting **	X	X	X	---	---	---
Flow, $v_{oil} = 6 \text{ m/s}$ (l/min)	700	1100	1800	3000	4400	6400
Operating pressure (bar)	... 315					
Cracking pressure (bar)	depending on model: 1,3, 3 or 4,5					
Pilot pressure range (bar)	0,6 ... 315	0,7 ... 315	0,8 ... 315	0,8 ... 315	1 ... 315	1 ... 315
Control volume port X (cm <sup>3</sup> )	91	153	238	458	834	1538
port Y (cm <sup>3</sup> )	83,5	142	220	422	757	1444
Fluid	mineral oil; phosphate ester					
Fluid temperature range (°C)	- 20 ... + 70					
Viscosity range (cSt)	2,8 ... 380					
Weight (kg)						
For further details see	RE 21 482					

Ordering code	with de-compression feature			without de-compression feature			
	cracking pressure						
	1,3 bar	3 bar	4,5 bar	1,3 bar	3 bar	4,5 bar	
Subplate mounting	external drain	SL 52PA1-10	SL 52PA2-10	SL 52PA3-10	SL 52PB1-10	SL 52PB2-10	SL 52PB3-10
		SL 62PA1-10	SL 62PA2-10	SL 62PA3-10	SL 62PB1-10	SL 62PB2-10	SL 62PB3-10
		SL 82PA1-10	SL 82PA2-10	SL 82PA3-10	SL 82PB1-10	SL 82PB2-10	SL 82PB3-10
	internal drain	SV 52PA1-10	SV 52PA2-10	SV 52PA3-10	SV 52PB1-10	SV 52PB2-10	SV 52PB3-10
		SV 62PA1-10	SV 62PA2-10	SV 62PA3-10	SV 62PB1-10	SV 62PB2-10	SV 62PB3-10
		SV 82PA1-10	SV 82PA2-10	SV 82PA3-10	SV 82PB1-10	SV 82PB2-10	SV 82PB3-10
Flange connection	external drain	SL 52FA1-10	SL 52FA2-10	SL 52FA3-10	SL 52FB1-10	SL 52FB2-10	SL 52FB3-10
		SL 62FA1-10	SL 62FA2-10	SL 62FA3-10	SL 62FB1-10	SL 62FB2-10	SL 62FB3-10
		SL 82FA1-10	SL 82FA2-10	SL 82FA3-10	SL 82FB1-10	SL 82FB2-10	SL 82FB3-10
		SL 102FA1-10	SL 102FA2-10	SL 102FA3-10	SL 102FB1-10	SL 102FB2-10	SL 102FB3-10
		SL 125FA1-10	---	---	---	---	---
		SL 150FA1-10	---	---	---	---	---
	internal drain	SV 52FA1-10	SV 52FA2-10	SV 52FA3-10	SV 52FB1-10	SV 52FB2-10	SV 52FB3-10
		SV 62FA1-10	SV 62FA2-10	SV 62FA3-10	SV 62FB1-10	SV 62FB2-10	SV 62FB3-10
		SV 82FA1-10	SV 82FA2-10	SV 82FA3-10	SV 82FB1-10	SV 82FB2-10	SV 82FB3-10
	SV 102FA1-10	SV 102FA2-10	SV 102FA3-10	SV 102FB1-10	SV 102FB2-10	SV 102FB3-10	
	SV 125FA1-10	---	---	---	---	---	
	SV 150FA1-10	---	---	---	---	---	

\* see pages N/18 and N/19  
\*\* see page O/ 8