

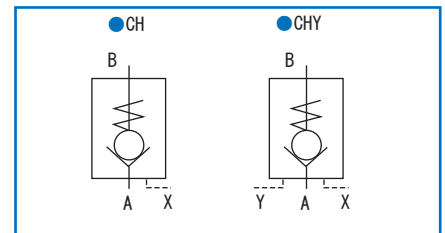
Overview

This pilot check valve operates the pilot using remote pressure and allows for back flow as appropriate. This valve is mainly used in a press or lift to prevent load from falling due to leakage of the hydraulic circuit.

Features

This is of decompression type. As the main valve opens after the pilot valve opens, smooth switching without shocks can be performed under high pressure and large capacity.

Hydraulic symbols



Type indication

CH 10 R - 10 - 14 -

Pilot operated check valve

Drain system

- No symbol = Internal drain
- Y = External drain

Nominal dimension

- 6, 8, 10, 15, 20, 25, 30
- (Gasket connection type is 10, 20 and 30 only.)

Connection method

- G = G thread connection type
- GO = G thread connection type (based on JIS B2351 0 type)
- R = R thread connection type
- P = Gasket connection type

Type of hydraulic oil

- No symbol = Mineral based hydraulic oil
- V = Phosphate ester based hydraulic oil
- W = Fatty ester based hydraulic oil
- Water-glycol based hydraulic oil

Cracking pressure

Symbol	Cracking pressure	Nominal dimension
10	0.10MPa	15, 20, 25, 30
14	0.14MPa	6, 8, 10

Series number: 10

Specifications

Nominal dimension	CH							CHY								
	6	8	10	15	20	25	30	6	8	10	15	20	25	30		
Maximum working pressure MPa (kgf/cm ²)	30.9 (315)							30.9 (315)								
Maximum flow rate L/min	80		170		300			80		170		300<170> (Note)				
Maximum pilot pressure MPa (kgf/cm ²)	30.9 (315)							30.9 (315)								
Pilot volume cm ³	Port X		2.2		8.7		17.5			2.2		17.5<8.7>				
	Port Y		—							1.9		15.8<7.6>				
Mass kg	2.5		4		8			2.5		8<6.5>						

(Note) Values are those inside < > only for CHY20P type.

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Sub-plate

Valve type	Sub-plate type	Connection diameter	Mass
CH/CHY10P	P-CHY10R14-0	Rc $\frac{1}{4}$	2.1kg
	P-CHY10G14-0	G $\frac{1}{4}$	
	P-CHY10R38-0	Rc $\frac{3}{8}$	
	P-CHY10G38-0	G $\frac{3}{8}$	
	P-CHY10R12-0	Rc $\frac{1}{2}$	
CH/CHY20P	P-CHY10G12-0	G $\frac{1}{2}$	4.4kg
	P-CHY20R34-0	Rc $\frac{3}{4}$	
	P-CHY20G34-0	G $\frac{3}{4}$	
	P-CHY20R 1-0	Rc1	
CH/CHY30P	P-CHY20G 1-0	G 1	6.9kg
	P-CHY30R54-0	Rc $\frac{1}{4}$	
	P-CHY30G54-0	G $\frac{1}{4}$	
	P-CHY30R32-0	Rc $\frac{1}{2}$	
	P-CHY30G32-0	G $\frac{1}{2}$	

When you use a sub-plate, please place an order for the above sub-plate type.
For the dimension drawing, refer to pages 6 and 7 of the appendix.

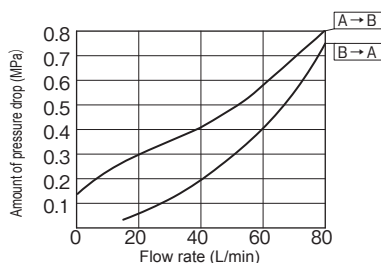
Accessories

● Mounting bolt

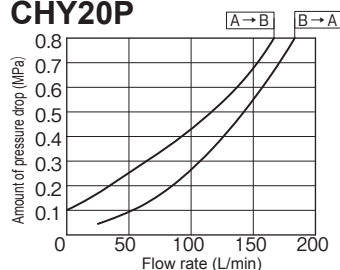
Type	Hexagon socket head cap thread	Quantity	Tightening torque N·m (kgf·cm)
CH/CHY10P	M10×55L	4 pcs.	56.8± 8.5 (580± 87.0)
CH/CHY20P	M10×75L	4 pcs.	
CH/CHY30P	M10×90L	6 pcs.	

Pressure drop characteristics (viscosity 36 mm²/s (cSt))

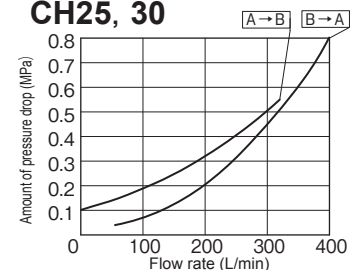
● CH/CHY6, 8, 10



● CH15, 20, CHY15 CHY20P



● CHY25, 30, CHY20G(R) CH25, 30



Precautions in use

- Method of obtaining minimum required pilot pressure (refer to symbols in the structural drawing)

In the case of CH

$$P_{st} = P_1 \times \frac{A_1}{A_2} + 0.5\text{MPa} \quad (P_2=0)$$

In the case of CHY

$$P_{st} = \frac{P_1 \times A_1 - P_2 \times (A_1 - A_3)}{A_2} + 0.5\text{MPa}$$

P_{st}: Minimum required pilot pressure (MPa)
P₁: Load pressure (pressure of port B) (MPa)
P₂: Back pressure (pressure of port A) (MPa)
A₁: Pressure receiving area of poppet (cm²)

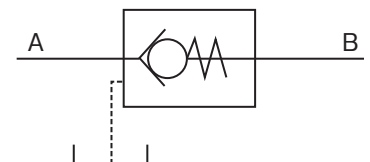
A₂: Pressure receiving area of lifting piston (cm²)
A₃: Pressure receiving area of lifting piston rod (cm²)

Nominal dimension	A ₁	A ₂	A ₃
CH/CHY6, 8, 10	1.13	3.14	0.5
CH15, 20	3.14	9.64	—
CHY20P	3.14	9.64	1.13
CHY15, 20G(R), CH/CHY25, 30	5.30	15.90	1.54

(Note) For minimum required pilot pressure (P_{st}), low pilot operated check valves for pilot pressure lower than P_{st} obtained from the above (pilot pressure equivalent to approximately 1/8 of load pressure) are also available (KSV/KSL type). If you need the above valve, please contact us.

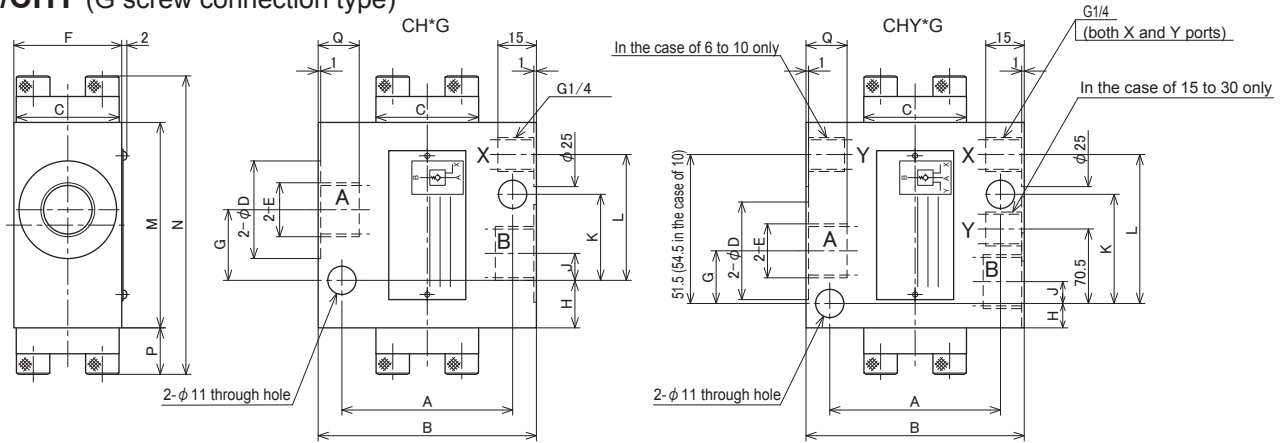
- Method of using internal drain type and external drain type

When port A is directly connected to the tank during reverse free flow, the internal drain type is generally used. However, if back pressure is applied to port A, be sure to use the external drain type.



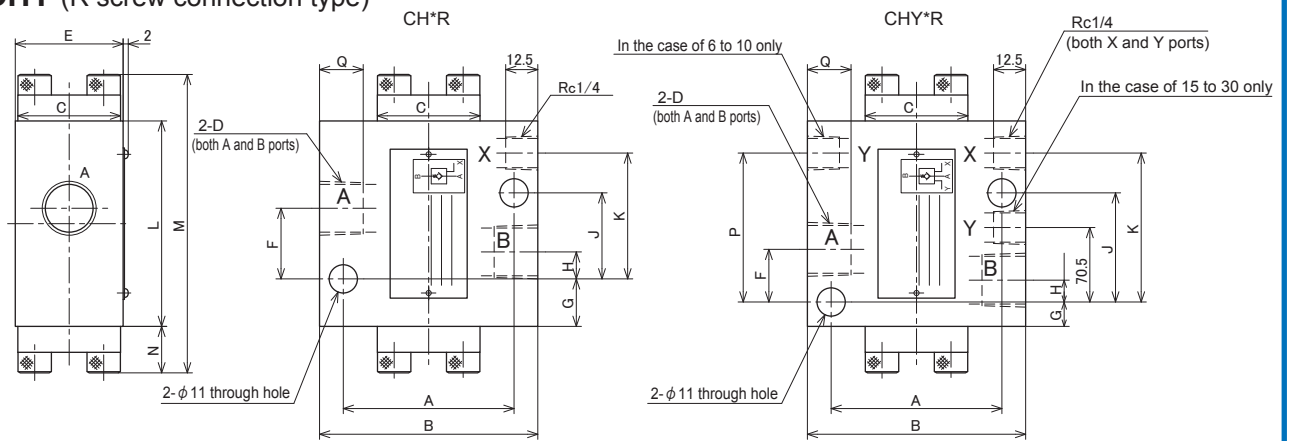
Dimension drawing

●CH/CHY (G screw connection type)



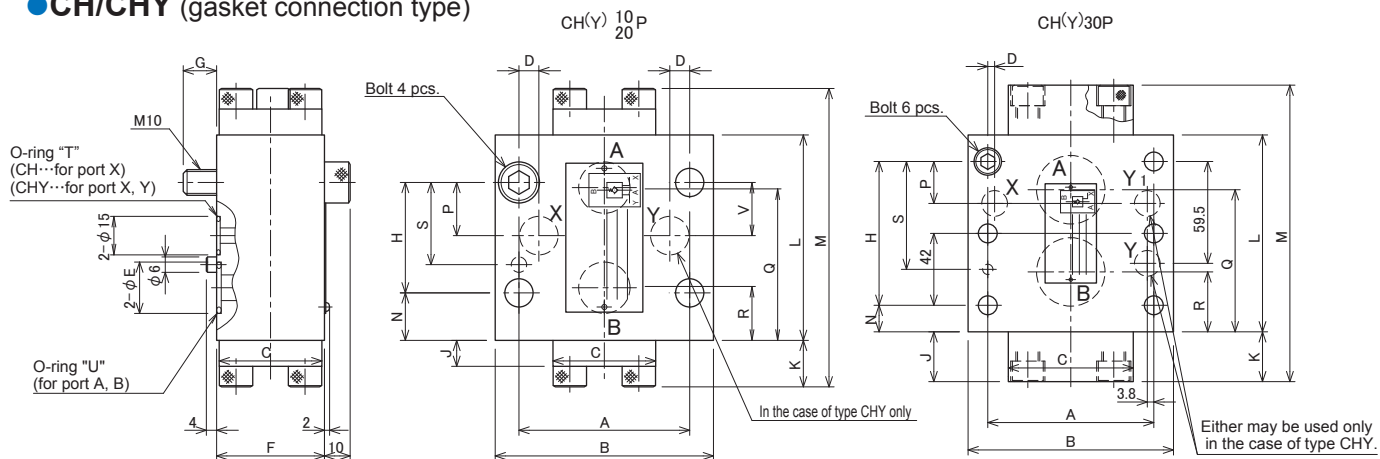
Type	Nominal dimension	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
CH	6	66.5	85	40	25	G 1/4	42	27.5	18.5	10.5	33.5	49	80	116	18	15
	8	66.5	85	40	32	G 3/8	42	27.5	18.5	10.5	33.5	49	80	116	18	15
	10	66.5	85	40	38	G 1/2	42	27.5	18.5	10.5	33.5	49	80	116	18	16
	15	79.5	100	58	45	G 3/4	60	36.5	17.5	13	50.5	65.5	95	135	20	17
	20	79.5	100	58	52	G 1	60	36.5	17.5	13	50.5	65.5	95	135	20	18
	25	97	120	73	63	G 1 1/4	75	54.5	15.5	20.5	71.5	87.5	115	173	29	24
CHY	6	66.5	85	40	25	G 1/4	42	23.5	16.5	12.5	35.5	51	80	116	18	15
	8	66.5	85	40	32	G 3/8	42	19	16.5	12.5	35.5	51	80	116	18	15
	10	66.5	85	40	38	G 1/2	42	19.5	13.5	15.5	38.5	54	80	116	18	16
	15	74	120	73	45	G 3/4	75	54.5	15.5	20.5	84	97.5	125	183	29	17
	20	74	120	73	52	G 1	75	54.5	15.5	18	84	97.5	125	183	29	18
	25	74	120	73	63	G 1 1/4	75	54.5	15.5	18	84	97.5	125	183	29	24
	30	74	120	73	65	G 1 1/2	75	54.5	15.5	18	84	97.5	125	183	29	24

●CH/CHY (R screw connection type)

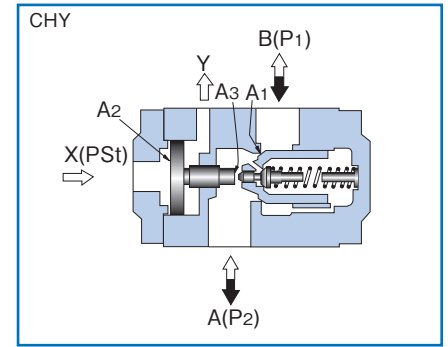
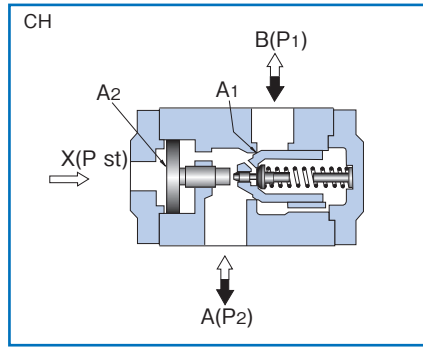
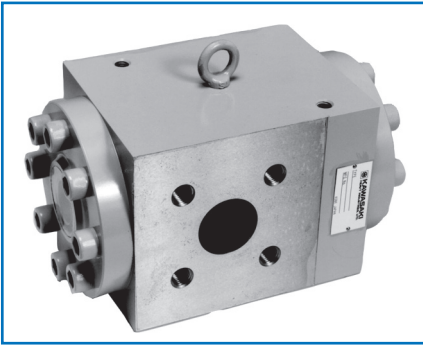


Type	Nominal dimension	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
CH	6	66.5	85	40	Rc 1/4	42	27.5	18.5	10.5	33.5	49	80	116	18	—	12.5
	8	66.5	85	40	Rc 3/8	42	27.5	18.5	10.5	33.5	49	80	116	18	—	14
	10	66.5	85	40	Rc 1/2	42	27.5	18.5	10.5	33.5	49	80	116	18	—	17
	15	79.5	100	58	Rc 3/4	60	36.5	17.5	13	50.5	65.5	95	135	20	—	19
	20	79.5	100	58	Rc 1	60	36.5	17.5	13	50.5	65.5	95	135	20	—	22
	25	97	120	73	Rc 1 1/4	75	54.5	15.5	20.5	71.5	87.5	115	173	29	—	24.5
CHY	6	66.5	85	40	Rc 1/4	42	23.5	16.5	12.5	35.5	51	80	116	18	51.5	12.5
	8	66.5	85	40	Rc 3/8	42	19	16.5	12.5	35.5	51	80	116	18	51.5	14
	10	66.5	85	40	Rc 1/2	42	19.5	13.5	15.5	38.5	54	80	116	18	54.5	17
	15	74	120	73	Rc 3/4	75	54.5	15.5	20.5	84	97.5	125	183	29	—	19
	20	74	120	73	Rc 1	75	54.5	15.5	18	84	97.5	125	183	29	—	22
	25	74	120	73	Rc 1 1/4	75	54.5	15.5	18	84	97.5	125	183	29	—	24.5
	30	74	120	73	Rc 1 1/2	75	54.5	15.5	18	84	97.5	125	183	29	—	25.5

● **CH/CHY** (gasket connection type)



Type	Nominal dimension	A	B	C	D	E	F	G	H	J	K	L	M	N	P
CH	10	66.5	85	40	7.8	20	42	13	43	10	18	80	116	18.5	21.5
	20	79.5	100	58	6.3	30	60	15	60.5	10	20	95	135	17.3	20.8
	30	97	120	73	4	40	75	15	84	29	29	115	173	15.5	24.5
CHY	10	66.5	85	40	7.8	20	42	13	43	10	18	80	116	18.5	21.5
	20	79.5	100	58	6.3	30	60	15	60.5	10	20	105	145	17.3	20.8
	30	97	120	73	4	40	75	15	84	29	29	125	183	15.5	24.5
Type	Nominal dimension	Q	R	S	O-ring dimension			V							
CH	10	54.3	25.8	32	JIS B2401 P11 Hs90	X port "T"	Y port	A-B Port "U"	21.5						
	20	66.5	28.5	44.5				JIS B2401 P16 Hs90							
	30	83	32	63				JIS B2401 G25 Hs90							
CHY	10	54.3	25.8	32	JIS B2401 P11 Hs90	X port "T"	Y port	A-B Port "U"	39.7						
	20	66.5	28.5	44.5				JIS B2401 P16 Hs90							
	30	83	32	63				JIS B2401 G35 Hs90							



Overview

This pilot check valve operates the pilot using remote pressure and allows for back flow as appropriate. This valve is mainly used in a press or lift to prevent load from falling due to leakage of the hydraulic circuit.

Features

This is of decompression type. As the main valve opens after the pilot valve opens, smooth switching without shocks can be performed under high pressure and large capacity.

Type indication

CH Y 52 F - 10 - 10 -

- Pilot operated check valve** — CH
- Drain system** — Y
 - No symbol = Internal drain
 - Y = External drain
- Nominal dimension** — 52
 - 52, 62, 82, 102, 125, 150
 - (Gasket connection type is 52, 62 and 82 only.)
- Connection method** — F
 - F = Flange connection type
 - P = Gasket connection type
- Type of hydraulic oil** — No symbol = Mineral based hydraulic oil
 - V = Phosphate ester based hydraulic oil
 - W = Fatty ester based hydraulic oil
 - Water-glycol based hydraulic oil
- Cracking pressure** — 10
 - 10 = 0.10MPa(1.0kgf/cm²)
 - 30 = 0.29MPa(3.0kgf/cm²)
 - 45 = 0.44MPa(4.5kgf/cm²)
 - * If you use cracking pressure of 45, please contact us in advance.
- Series number: 10** — 10

Specifications

Nominal dimension	52	62	82	102	125	150	
Maximum working pressure MPa(kgf/cm ²)	30.9(315)						
Maximum flow rate L/min	700	1100	1800	3000	4400	6400	
Maximum pilot pressure MPa (kgf/cm ²)	30.9(315)						
Pilot volume cm ³	Port X	91	153	238	458	834	1538
	Port Y (however, only for CHY)	83.5	142	220	422	757	1444
Mass kg	32	42	84	152	300	480	