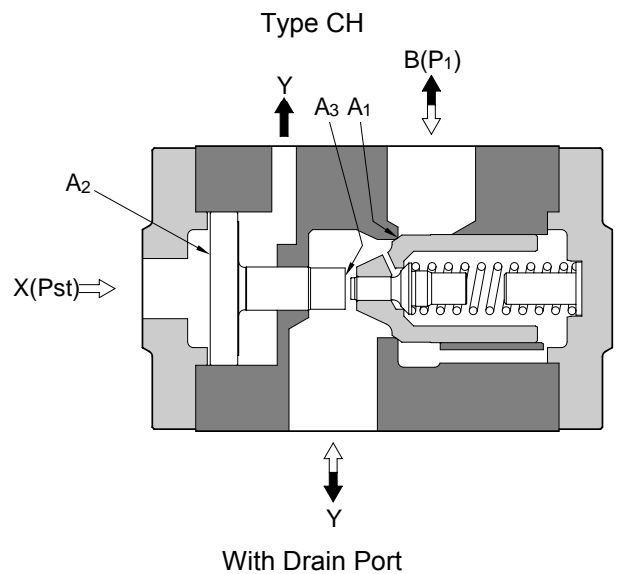
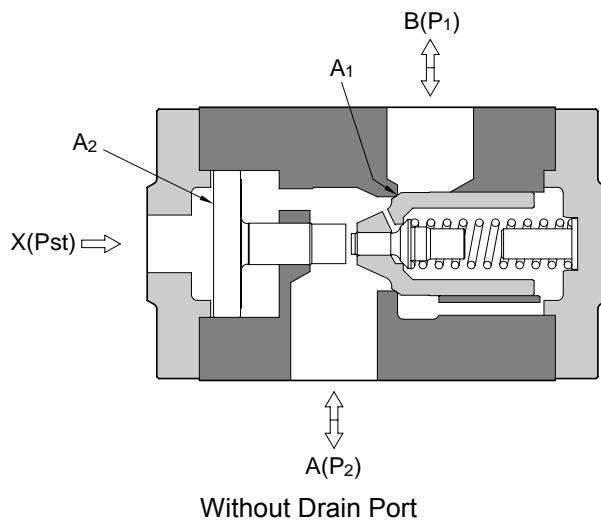
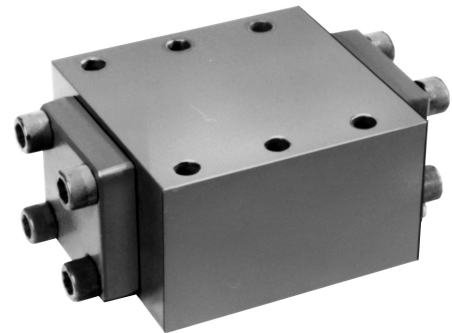


Size 52 to 150 up to 315 bar up to 6400 L/min	Check Valve Pilot Operated Type CH, Series 10	Data Sheet C-1004/06.99 GB
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Features

- ◇ Sub-plate mounting and flange connection.
- ◇ Shock-free directional control with pre-opening.
- ◇ With or without drain port.
- ◇ Porting pattern to DIN 24 340 Form D, ISO 5781 and CETOP-RP 121 H.



Functional Description

Type CH Series 10 Check Valves are pilot operated valves that may be hydraulic operated to permit reverse flow. Valves may be supplied with or without drain ports.

These valves are used to isolate a hydraulic circuit under pressure to prevent a load from falling.

The valves comprise a housing (1), a pilot poppet (2), main poppet (3), a spring (4) and a pilot piston (5).

Without Drain Port

Pressure from A to B opens the main poppet (3) with the pilot poppet (2) against the spring (4) enabling the the fluid to flow from A to B. Pressure from B to A pushes the main poppet (3) and pilot poppet (2) closed stopping flow from B to A.

Applying pressure to the pilot connection X, moves the pilot piston (5) to the right lifting the pilot poppet (2) first and then the main poppet (3) allowing the fluid to flow from B to A. To ensure that the valve opens due to pressure applied to the pilot piston, a minimum pilot pressure is required (see precautions in use). Drain port Y is plugged.

With Drain Port

The valve is the same as the description above with the addition of a drain port.

The drain port Y is connected to the valve and annular area of the pilot piston (4) is separated from Port A.

The pressure from port A will now only act on area A₃ of the pilot piston.



Model CH	Page 1.8	Data Sheet C-1004/06.99	
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Ordering Code

CH Y 52 F 10 30 V

Pilot Operated Check Valve

Drain Line

No code: Without drain port
Y: With drain port

Size

52, 62, 82, 102, 125, 150
(Sub-plate mounting type 52, 62 and 82 only)

Type of Connection/Mounting

F: Flange Connection
P: Sub-plate Mounting

Suitable Oil

No Code: Mineral Oil
V: Phosphate Ester
W: Fatty Acid ester, Water Glycol

Cracking Pressure

10: 1 bar
30: 3 bar

Series Number

10

Technical Data

For applications outside the following parameters, please consult Kawasaki Precision Machinery (UK) Ltd.

Maximum Operating Pressure 315 bar

Pressure Fluid Mineral oil, phosphate ester, fatty acid ester and water glycol.
Phosphate ester is only suitable for use with FPM seals.

Pressure Fluid Temperature Range -20°C to +70°

Viscosity Range 2.8 to 380cSt

Maximum Flow	Size	52	62	82	102	125	150
	Max. flow (L/min)	700	1100	1800	3000	4400	6400

Degree of Contamination Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9. Kawasaki recommend that a filter with a minimum retention rate of $\beta_{10} \geq 75$ is used.

Cracking Pressure 1.0 bar - size 15, 20, 25, 30
1.4 bar - size 6, 10



Technical Data (continued)

Weight	Size	52	62	82	102	125	150
	Weight (kg)	32	42	84	152	300	480

Installed Position Optional
 Direction of Flow From A to B, from B to A when pilot operated
 Pilot Pressure Up to 315 bar
 Pilot Volume Figures below:

	Size 52	Size 62	Size 82	Size 102	Size 125	Size 150
Port X	91cm ³	153 cm ³	238 cm ³	458 cm ³	834 cm ³	1538 cm ³
Port Y (only CHY)	83.5 cm ³	142 cm ³	220 cm ³	422 cm ³	757 cm ³	1444 cm ³

Control Area Figures below:

Size &Type	A ₁	A ₂	A ₃
CH & CHY 52	21.24 cm ²	47.78 cm ²	3.8 cm ²
CH & CHY 62	30.19 cm ²	66.47 cm ²	4.9
CH & CHY 82	43.0 cm ²	95.0 cm ²	7.06 cm ²
CH & CHY 102	65.47 cm ²	143.14 cm ²	11.34 cm ²
CH & CHY 125	103.87 cm ²	213.6 cm ²	19.64 cm ²
CH & CHY 150	149.57 cm ²	320.47 cm ²	19.64 cm ²

Precautions in use Required pilot pressure for the CH valve:

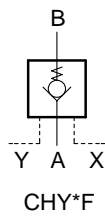
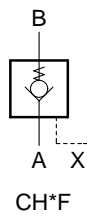
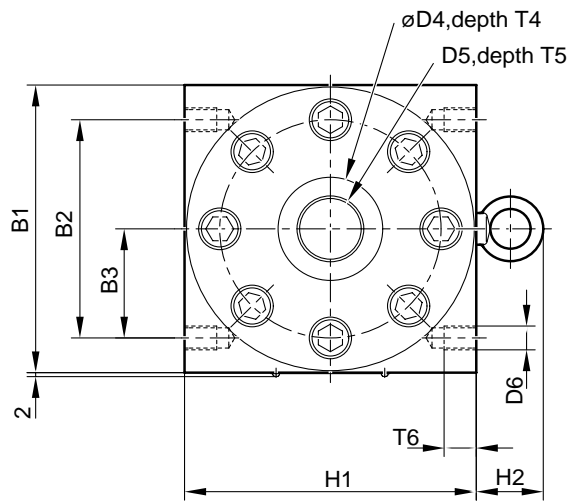
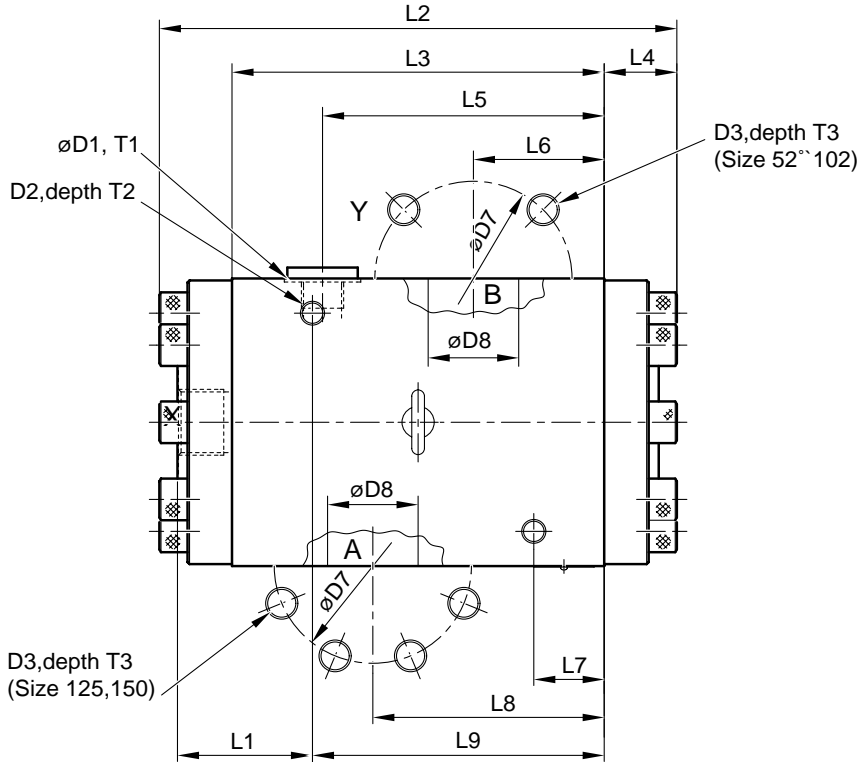
$$P_{ST} = P_1 \frac{A_1}{A_2} + 5\text{bar} (P_2 = 0)$$

Required pilot pressure for the CHY valve:

$$P_{ST} = \frac{P_1 \times A_1 - P_2 \times (A_1 - A_3)}{A_2} + 5\text{bar}$$



Unit Dimensions CH(Y) 52 to 150 F-10-10 (dimensions in mm)



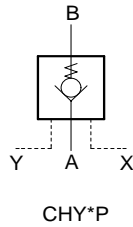
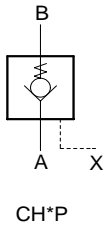
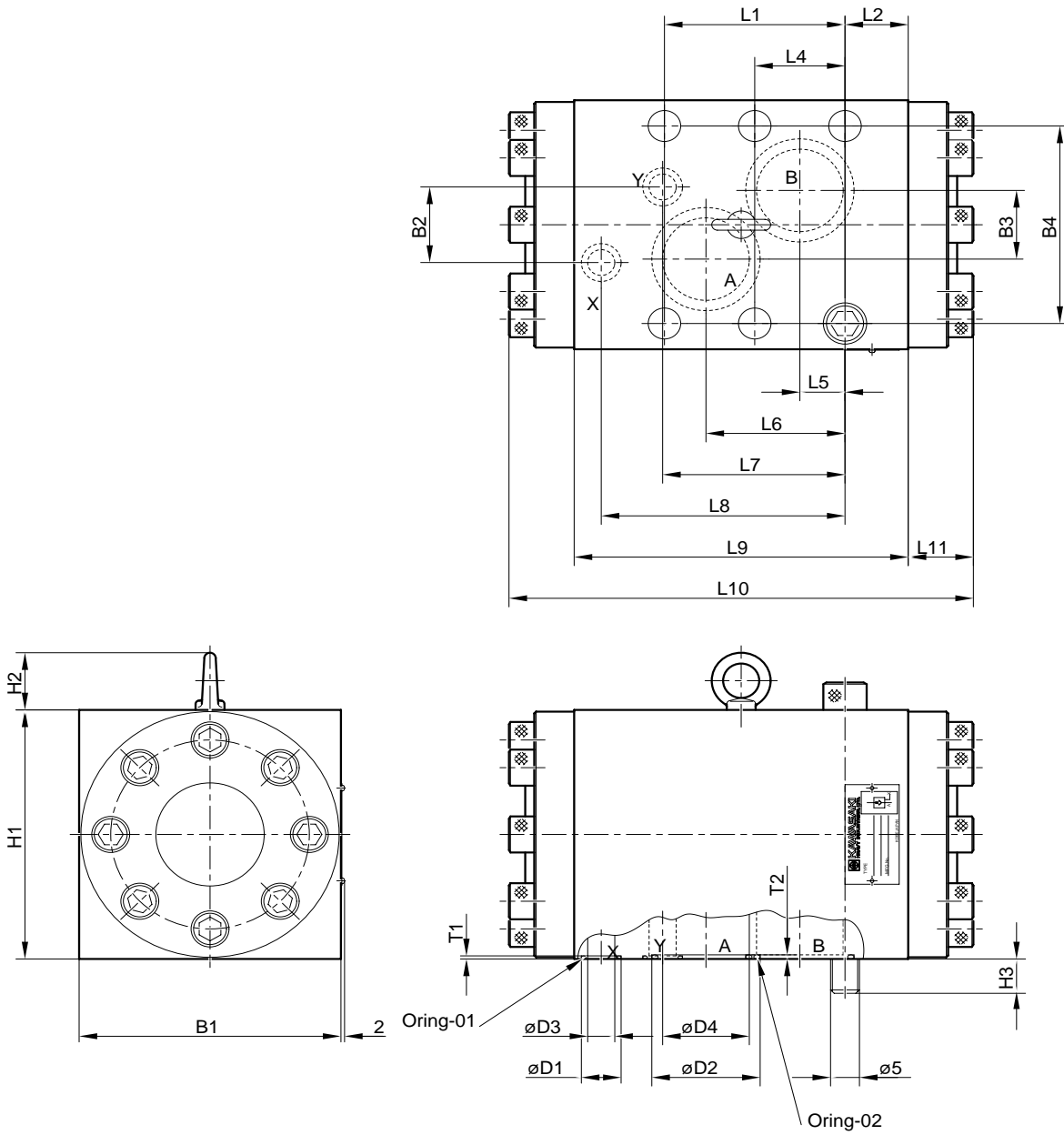
Unit Dimensions CH(Y) 52 to 150 F-10-10 (dimensions in mm) (continued)

Size	B1	B2	B3	D1	D2	D3	D4	D5	D6	D7	D8	H1	H2	L1
52	145	110	55	38	G1,Q	4-M16	52	G1	4-M12	98	45	145	34	67
62	155	120	60	38	G1,Q	4-M20	52	G1	4-M12	118	55	155	34	75
82	200	130	65	45	G3,S	4-M24	52	G1	4-M12	145	72	200	42	103
102	230	170	85	45	G3,S	4-M30	52	G1	4-M16	175	90	250	60	121
125	290	200	100	65	G1.1, Q	8-M30	65	G1.1, Q	4-M24	245	122	305	60	128
150	350	300	150	65	G1 ^{1/2}	8-M36	65	G1 ^{1/2}	4-M24	290	150	360	60	134

Size	L2	L3	L4	L5	L6	L7	L8	L9	T1	T2	T3	T4	T5	T6
52	257	185	36	140	65	35	115	145	0.5	15	25	0.5	16	16
62	298	220	39	170	75	35	135	175	0.5	15	30	1	16	16
82	386	270	58	212	100	70	170	210	0.5	16	36	1	16	16
102	461	335	63	262	125	70	210	265	0.5	16	41	1	16	20
125	564	430	67	337	150	70	270	360	1	24	50	1	25	30
150	654	500	77	400	180	70	320	430	1	24	52	1	25	30



Unit Dimensions CH(Y) 52, 62, 82 P-10-10 (dimensions in mm)



Unit Dimensions CH(Y) 52, 62, 82 P-10-10 (dimensions in mm) (continued)

B1	B2	B3	B4	D1	D2	D3	D4	D5	H1	H2	H3	L1	L2
145	44	40	115	22	60	15	48	6-M16	145	33.3	20	100	35
155	48	40	125	22	70	15	60	6-M20	155	33.3	25	128	35
200	60	50	170	22	85	15	75	6-M20	200	41.5	25	140	59

L4	L5	L6	L7	L8	L9	L10	L11	T1	T2	01	02	
50	25	77	101	135	185	257	36	1.8	2.4	JIS B2401 P18 Hs90	G55	JIS B2401 Hs90
65	34	100	132	170	220	298	39	1.8	2.4		G65	
70	30	115	151	185	270	386	58	1.8	2.4		G80	

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Model
CH

Page
7.8

Data Sheet
C-1004/06.99



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Model
CH

Page
8.8

Data Sheet
C-1004/06.99

