

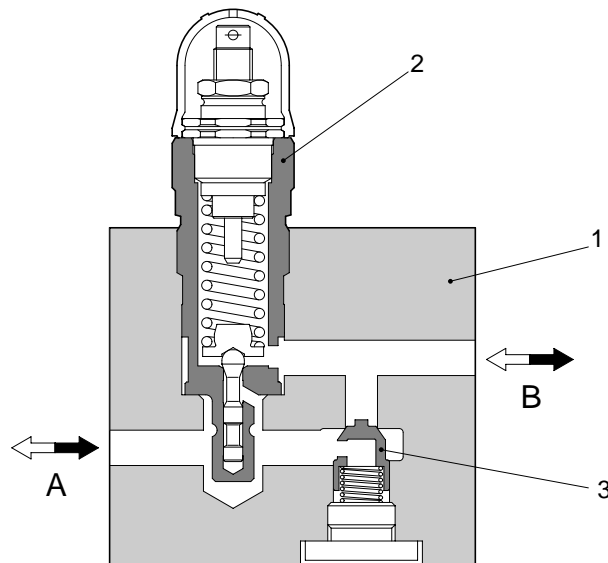
| | | |
|---|---|---------------------------|
| Sizes 6 to 30 up to 315 bar up to 330 L/min | Counterbalance Valve Type CBD Series 10 | Data Sheet R1006 GB |
|---|---|---------------------------|

Features

- ◇ Combination of seat type direct acting relief and check valve minimises internal leakage.
- ◇ Quick response.
- ◇ Includes chatter resistant mechanism to ensure stable operation.



Functional Description



Type CBD Counterbalance Valves primarily comprise:

- Housing (1)
- Direct acting relief valve (2)
- Check valve (3)

When the pressure at port A rises above the value set at relief valve (2), the oil flows from port A to B with braking pressure.

For details of the relief valve, refer to [Data Sheet R-1001](#).

The flow from port B to A passes freely through check valve (3).



| | | |
|--------------|-------------|----------------------------|
| Model CBD | Page 1.6 | Data Sheet R-1006/06.99 |
|--------------|-------------|----------------------------|

Ordering Code

CBD 10 P 10 1 315 V

**Counterbalance Valve
Direct Operated**

Size
6, 10, 15, 20, 25, 30

Type of mounting

P: Sub-plate mounting
G: Threaded connection (BSP)

Mountings available

| | P | G |
|----------------|---|---|
| Size 6 | - | 0 |
| Size 10 | 0 | 0 |
| Size 15 | - | 0 |
| Size 20 | 0 | 0 |
| Size 25 | - | 0 |
| Size 30 | 0 | 0 |

Series Number
10

Suitable Oil

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

Maximum setting pressure

25: 25 bar
50: 50 bar
100: 100 bar
200: 200 bar
315: 315 bar

Adjustment Element

- 1: Rotary knob
- 2: Thread pin with Hexagon and protective cap
- 3: Lockable rotary knob (only for sizes 6, 10, 15 and 20)

Relief Valve

The Relief valves used in this Counterbalance valve are as follows: (see [Data Sheet R-1001](#))

| Valve Size | Model code of relief valve |
|------------|----------------------------|
| 6, 10 | RD10C-* |
| 15, 20 | RD20C-* |
| 25, 30 | RD30C-* |



Technical Data

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

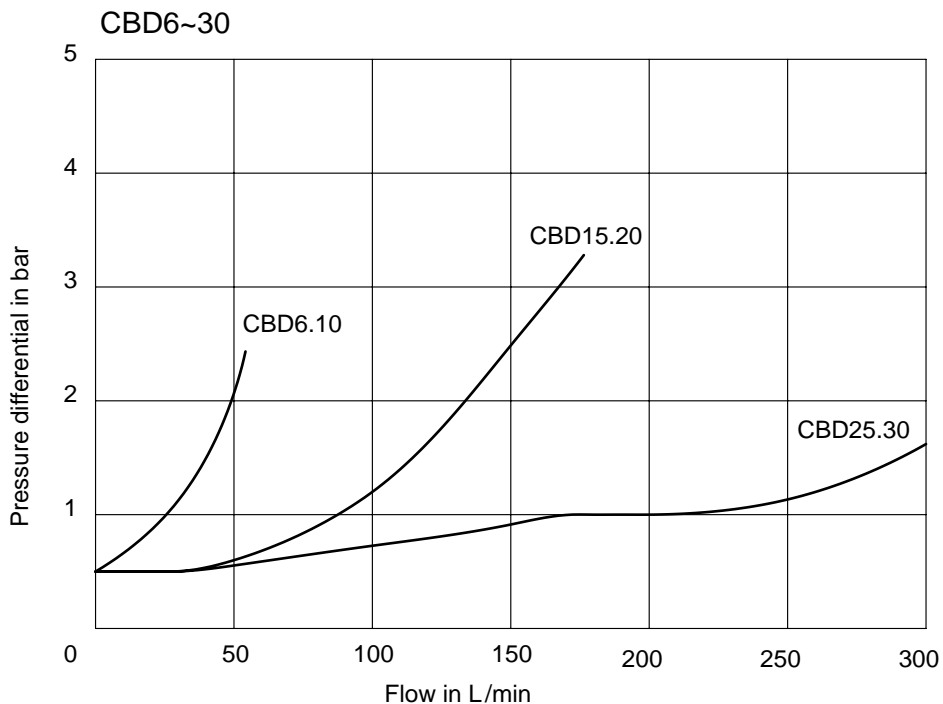
| | |
|----------------------------------|--|
| Maximum Operating Pressure | 315 bar (port A & B) |
| Pressure Fluid | Mineral oil, phosphate ester, fatty acid ester and water glycol. Phosphate ester is only suitable for use with FPM seals. |
| Pressure Fluid Temperature Range | -20°C to +70°C |
| Viscosity Range | 2.8 to 380 cSt |
| 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 | 0.5 bar |

| | Size 6 | Size 10 | Size 15 | Size 20 | Size 25 | Size 30 |
|----------------------|--------|---------|---------|---------|---------|---------|
| Maximum Flow (L/min) | 45 | 110 | 230 | 230 | 330 | 330 |
| Weight (kg) | 4 | 4 | 9 | 9 | 20 | 20 |

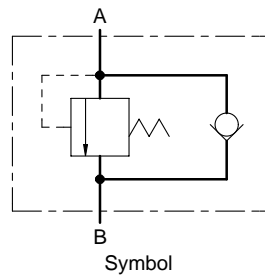
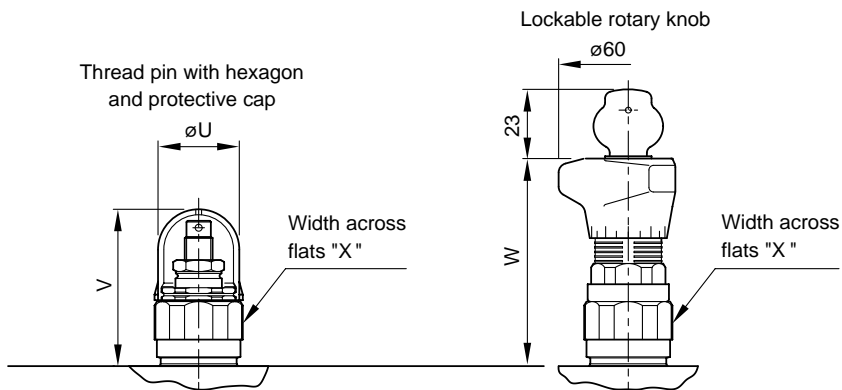
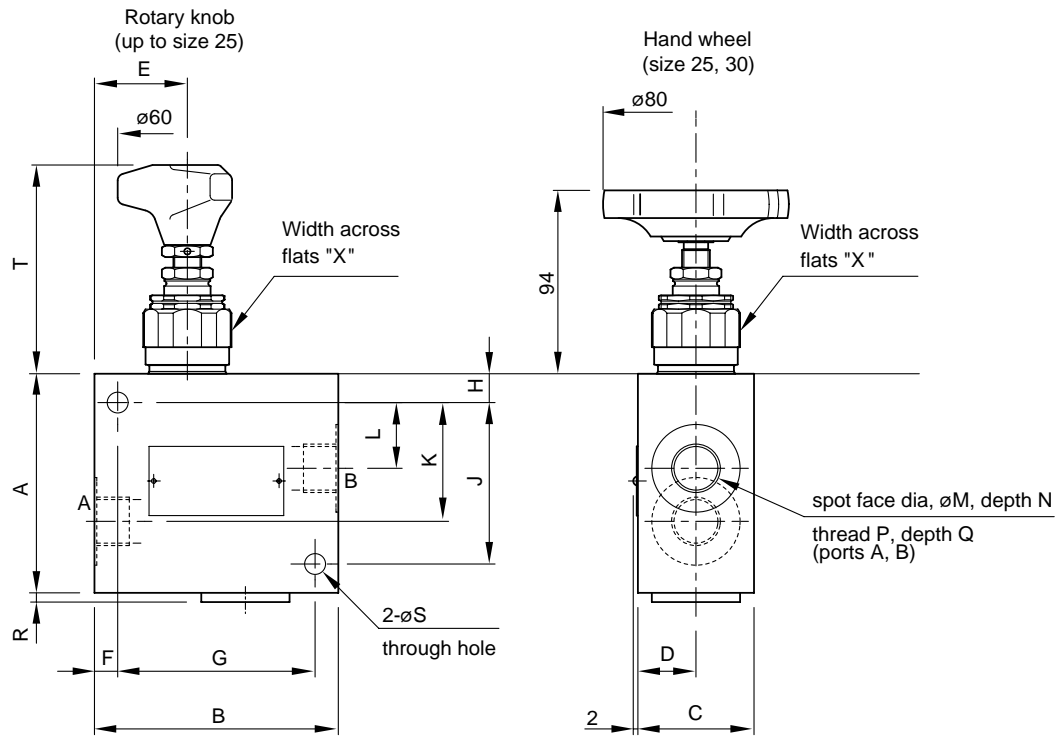
Note: Maximum flow depends on the setting pressure. See Data Sheet [R-1001 Characteristic Curves](#) (page 5.10)

Characteristic Curve

Measured at $\nu = 36\text{cSt}$ and $t = 50^\circ\text{C}$



CBD*.G Unit Dimensions (dimensions in mm)

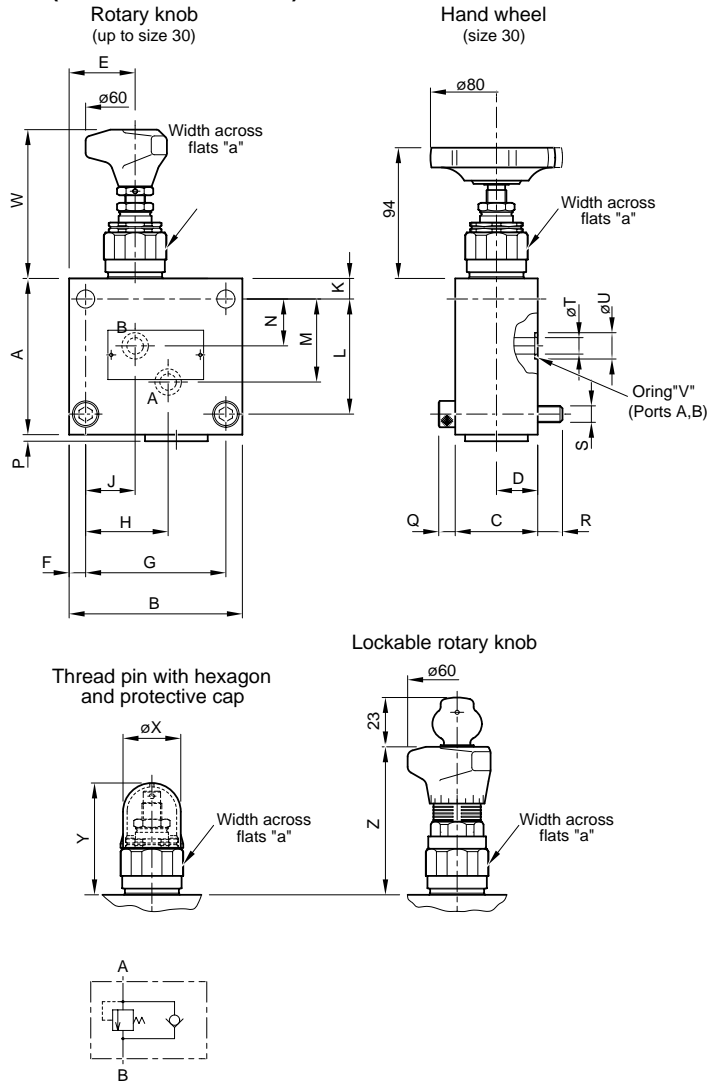


CBD*.G Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L |
|----------------|-----|-----|----|----|----|----|-----|------|-----|------|------|
| Size 6 | 95 | 105 | 50 | 25 | 40 | 10 | 85 | 12.5 | 70 | 51.5 | 28.5 |
| Size 10 | 95 | 105 | 50 | 25 | 40 | 10 | 85 | 12.5 | 70 | 51.5 | 28.5 |
| Size 15 | 135 | 140 | 60 | 30 | 50 | 15 | 110 | 20 | 95 | 70 | 34 |
| Size 20 | 135 | 140 | 60 | 30 | 50 | 15 | 110 | 20 | 95 | 70 | 34 |
| Size 25 | 175 | 180 | 80 | 40 | 60 | 15 | 150 | 20 | 135 | 90 | 40 |
| Size 30 | 175 | 180 | 80 | 40 | 60 | 15 | 150 | 20 | 135 | 90 | 40 |

| | M | N | P | Q | R | S | T | U | V | W | X |
|----------------|----|---|--------------------------------|----|---|----|----|----|----|----|----|
| Size 6 | 25 | 1 | G ¹ / ₄ | 16 | 4 | 9 | 91 | 34 | 68 | 94 | 36 |
| Size 10 | 38 | 1 | G ¹ / ₂ | 15 | 4 | 9 | 91 | 34 | 68 | 94 | 36 |
| Size 15 | 45 | 1 | G ³ / ₄ | 18 | 7 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 20 | 52 | 1 | G1 | 20 | 7 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 25 | 63 | 1 | G1 ¹ / ₄ | 23 | 3 | 18 | - | 50 | 83 | - | 60 |
| Size 30 | 65 | 1 | G1 ¹ / ₂ | 23 | 3 | 18 | - | 50 | 83 | - | 60 |

CBD*.P Unit Dimensions (dimensions in mm)



| | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R |
|----------------|-----|-----|----|----|----|----|-----|----|----|------|-----|------|------|---|----|----|
| Size 10 | 95 | 105 | 50 | 25 | 40 | 10 | 85 | 50 | 30 | 12.5 | 70 | 50.5 | 28.5 | 4 | 8 | 15 |
| Size 20 | 135 | 145 | 60 | 30 | 50 | 15 | 115 | 65 | 35 | 25 | 85 | 63 | 29 | 8 | 12 | 20 |
| Size 30 | 175 | 180 | 80 | 40 | 60 | 15 | 150 | 70 | 45 | 25 | 125 | 82 | 35 | 5 | 16 | 25 |

| | S | T | U | "V" | W | X | Y | Z | a |
|----------------|-------|----|----|--------------------|----|----|----|----|----|
| Size 10 | 4-M8 | 10 | 16 | 2-JISB2401 P12Hs90 | 91 | 34 | 68 | 94 | 36 |
| Size 20 | 4-M12 | 20 | 30 | 2-JISB2401 G25Hs90 | 88 | 40 | 65 | 91 | 46 |
| Size 30 | 4-M16 | 30 | 40 | 2-JISB2401 G35Hs90 | - | 50 | 83 | - | 60 |

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Model
 CBD

Page
 6.6

Data Sheet
 R-1006/06.99

