

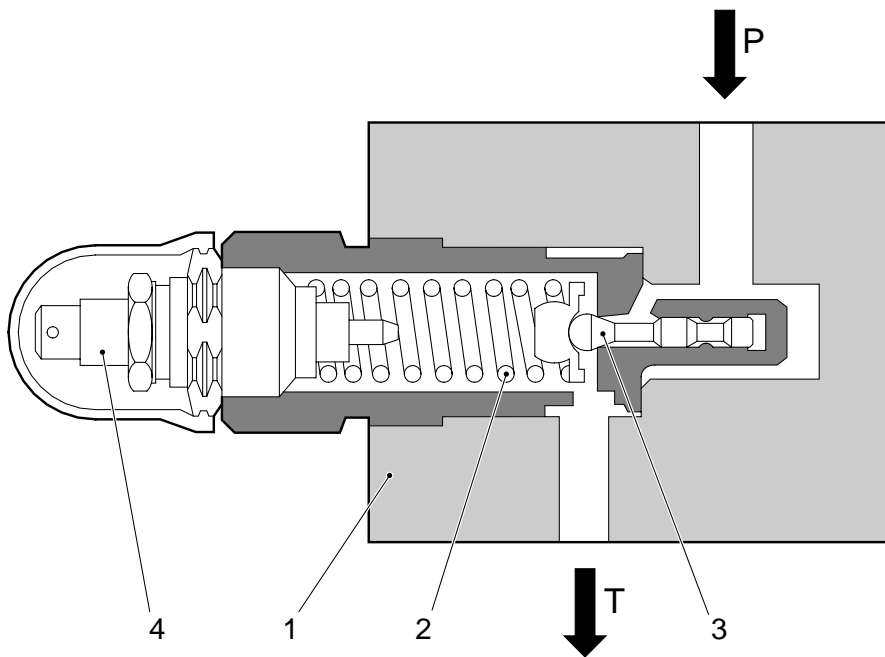
Size 6 to 30 up to 630 bar up to 330 L/min	Pressure Relief Valve Direct Acting Type RD, Series 10	GB Data Sheet R-1001/10.98 GB
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**Features**

- ◇ Quick response.
- ◇ Cartridge type available.
- ◇ Easily built into manifold.
- ◇ Compact.
- ◇ Seat type minimises internal leakage in comparison with a balanced type relief valve.
- ◇ Includes chatter resistant mechanism to ensure stable operation.



Type RD



**Functional Description**

Type RD Series 10 Pressure Relief Valves are direct operated, seat type, relief valves that are used to prevent sudden pressure increases, and to support the load within a hydraulic system.

The valves primarily comprise a body (1), spring (2), poppet with damping spool (3) (pressure stages 25 to 400 bar), (or ball pressure stage 630 bar - size 10 only) and an adjustment element (4) that facilitates setting system pressures.

The spring (2) pushes the poppet (3) onto the seat. The P channel is connected to the system. The pressure present in the system is applied to the poppet area (or ball).

If the P channel pressure rises above the value set at the spring (2), the poppet or ball (3) will open against the spring (2). System pressure fluid now flows from channel P into channel T. The stroke of the poppet (3) is limited by a damping spool

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**Ordering Code – Pressure Relief Valve, Direct Operated**

**RD 6 C 10 2 / 315 V**

**Pressure Relief Valve,  
Direct Operated**

**Size**  
6, 8, 10, 15, 20, 25, 30

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

**Type of Mounting**  
P: Sub-plate Mounting  
G: Threaded Connection (BSP)  
C: Cartridge Type

Size	P	G	R	C
6	O	O	O	O
8	-	O	O	-
10	O	O	O	O
15	-	O	O	-
20	O	O	O	O
25	-	O	O	-
30	O	O	O	O

**Series Number**  
10

**Maximum Setting Pressure**

Code	Maximum Setting Pressure	Size						
		6	8	10	15	20	25	30
25	25 bar	O	O	O	O	O	O	O
50	50 bar	O	O	O	O	O	O	O
100	100 bar	O	O	O	O	O	O	O
200	200 bar	O	O	O	O	O	O	O
315	315 bar	O	O	O	O	O	-	-
400	400 bar	O	O	O	O	O	-	-
630	630 bar	-	O	O	-	-	-	-

**Adjusting Element**  
1: Rotary Knob  
2: Thread Pin with Hexagon and Protective Cap  
3: Lockable Rotary Knob



**Ordering Code – Pressure Relief Valve, Direct Operated for Vent Control**

**RDV 6 C 10 1 / 315 12 V**

**Pressure Relief Valve,  
Direct Operated for Vent  
Control**

**Size**  
6, 10

**Type of Mounting**

- P: Sub-plate Mounting
- G: Threaded Connection (BSP)
- C: Cartridge Type

**Series Number**  
10

**Adjusting Element**

- 1: Rotary Knob
- 2: Thread Pin with Hexagon and Protective Cap
- 3: Lockable Rotary Knob

**Suitable Oil**

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

**Plug-in Throttle in the P Port**

- 08: Ø0.8 mm
- 10: Ø1.0 mm
- 12: Ø1.2 mm
- 15: Ø1.5 mm
- 18: Ø1.8 mm

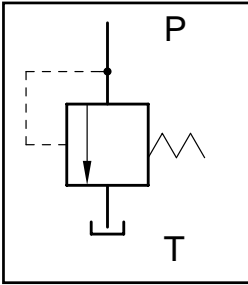
**Maximum Setting Pressure**

- 25: 25 bar
- 50: 50 bar
- 100: 100 bar
- 200: 200 bar
- 315: 315 bar
- 400: 400 bar



**Kawasaki**  
Hydraulic Products

Symbol



**Technical Data**

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

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

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

Viscosity Range 2.8 to 380cSt

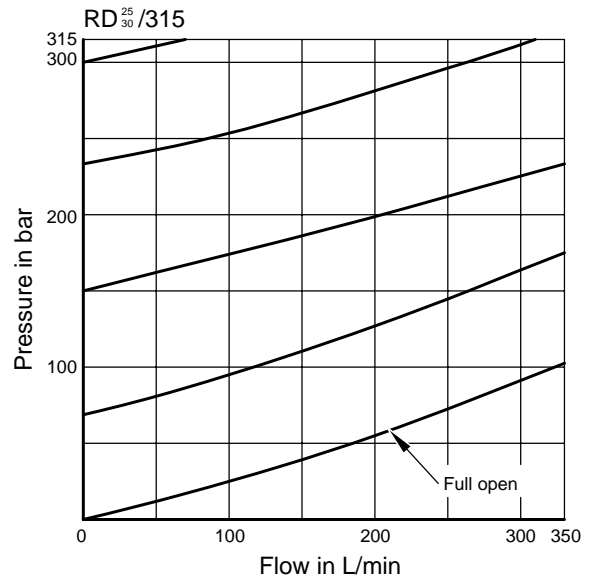
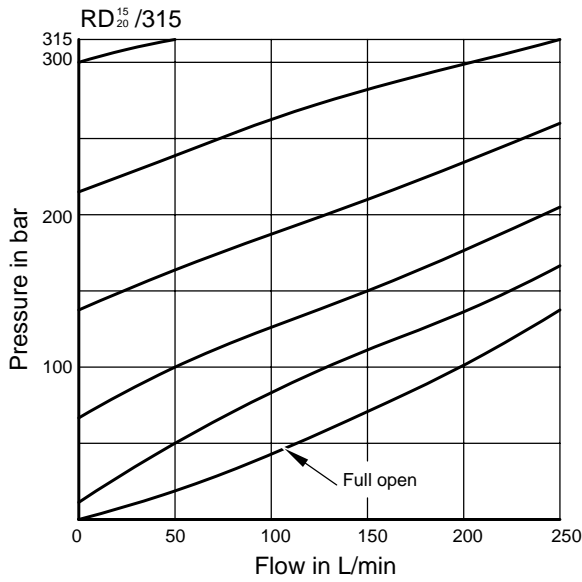
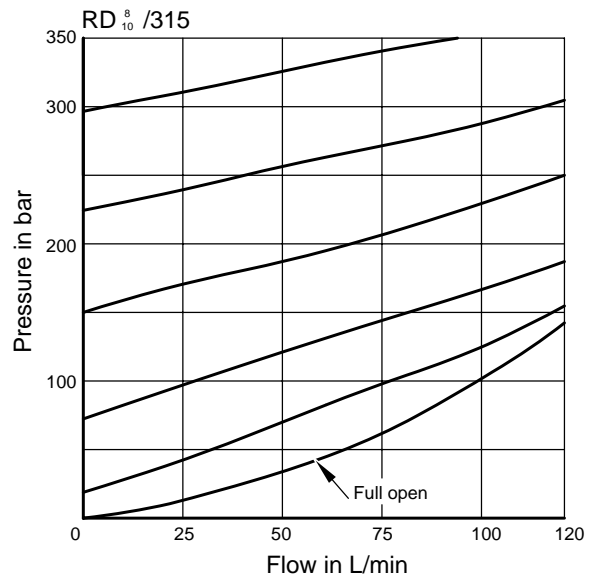
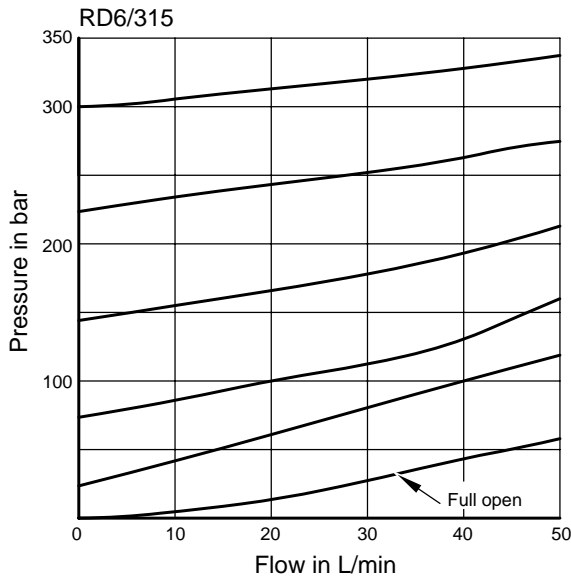
Operating Pressure Range


	Sizes 6,8	Size 10	Sizes 15, 20	Sizes 25, 30
Port P bar	Up to 400	Up to 630	Up to 400	Up to 315
Port T bar	Up to 315	Up to 315	Up to 315	Up to 315



**Characteristic Curves**

Measure at  $v = 36\text{cSt}$  and  $t = 50^\circ\text{C}$

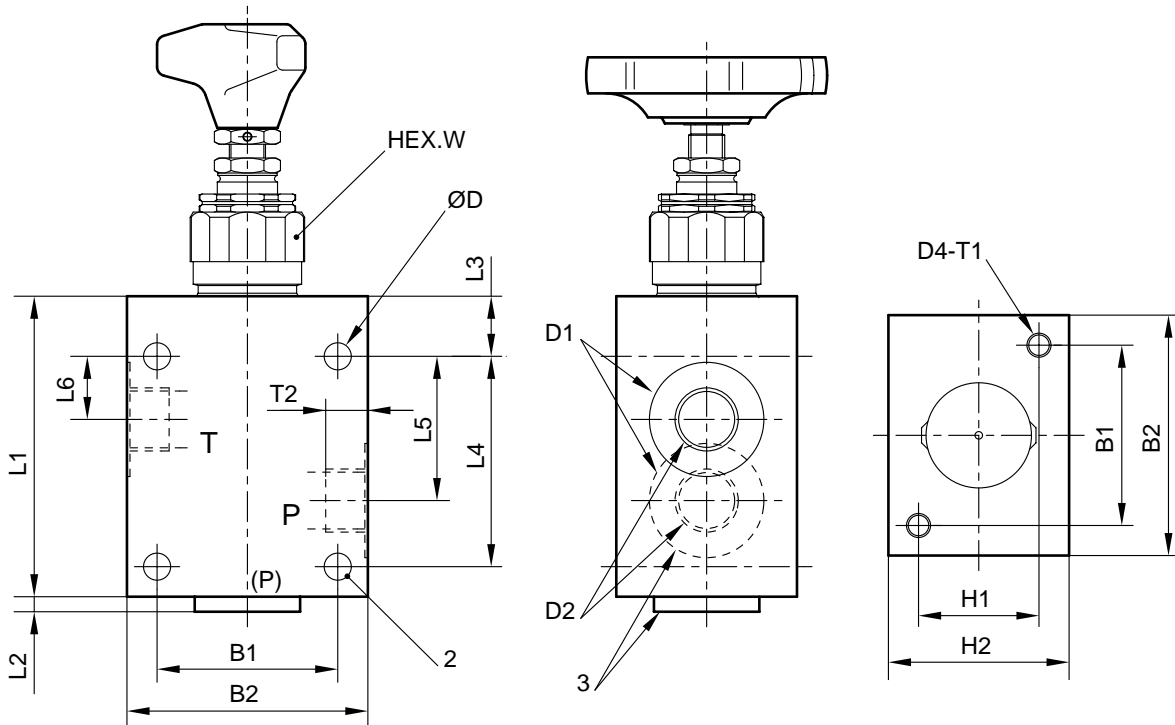


 Attention !

The characteristic curves are valid for when the output pressure = zero over the complete flow range, and are measured without consideration of the housing pressure drop.



**Unit Dimensions - Threaded Connections (dimensions in mm)**



**1. Adjustment Element 'S'**

- Grub screw for pressure setting and protective cap
- Internal hexagon (up to size 20)
- External hexagon (sizes 25, 30)

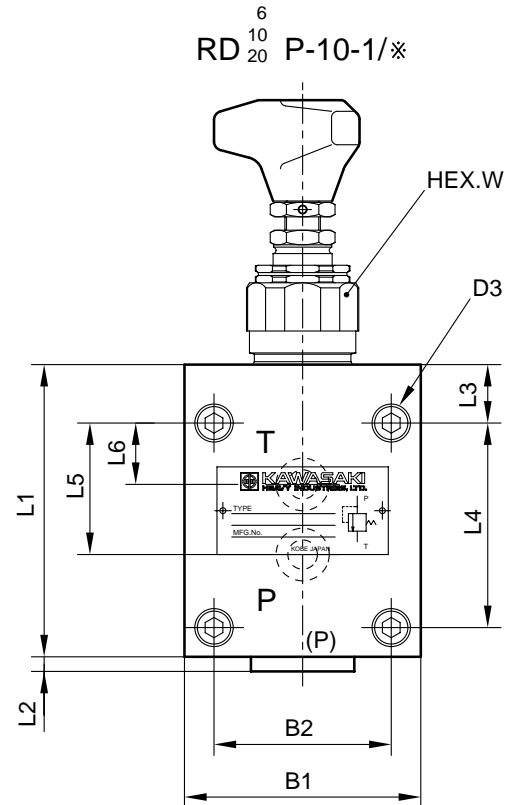
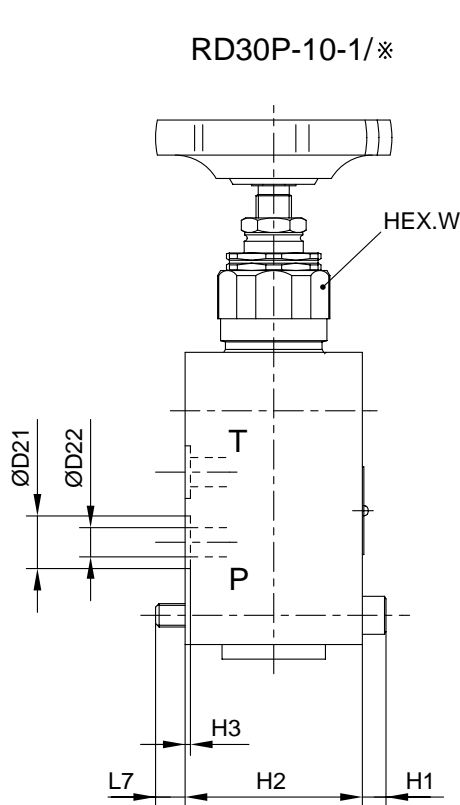
**2 Four Valve Fixing Holes**

**3 Connection Port P, optional (e.g. for pressure measuring) for dimensions see D2**

Size	B1	B2	ØD1	D2	ØD3	D4	H1	H2	L1	L2	L3	L4	L5	L6	T1	Weight
6	45	60	25	G ¼	6.6	M6	25	40	80	4	15	55	40	20	10	Approx. 1.5 kg
(8) + 10	60	80	(28) 34	(G 3/8) G ½	9	M8	40	60	100	4	20	70	49	21	20	Approx. 3.7 kg
(15) + 20	70	100	(42) 47	(G ¾) G1	9	M8	50	70	135	(4) 5.5	20	100	65	34	20	Approx. 6.4 kg
(25) + 30	100	130	(56) 61	(G1¼) G1½	11	M10	60	90	180	5.5	25	130	85	35	25	Approx. 13.9 kg



**Unit Dimensions - Sub-plate Mountings (dimensions in mm)**



Valve Fixing Screws (must be ordered separately)			M <sub>A</sub> in Nm
Size 6	M6x50	Din 912-10.9	Approx. 12
Size 10	M8x70	Din 912-10.9	Approx. 30
Size 20	M8x80	Din 912-10.9	Approx. 30
Size 30	M10x105	Din 912-10.9	Approx. 57

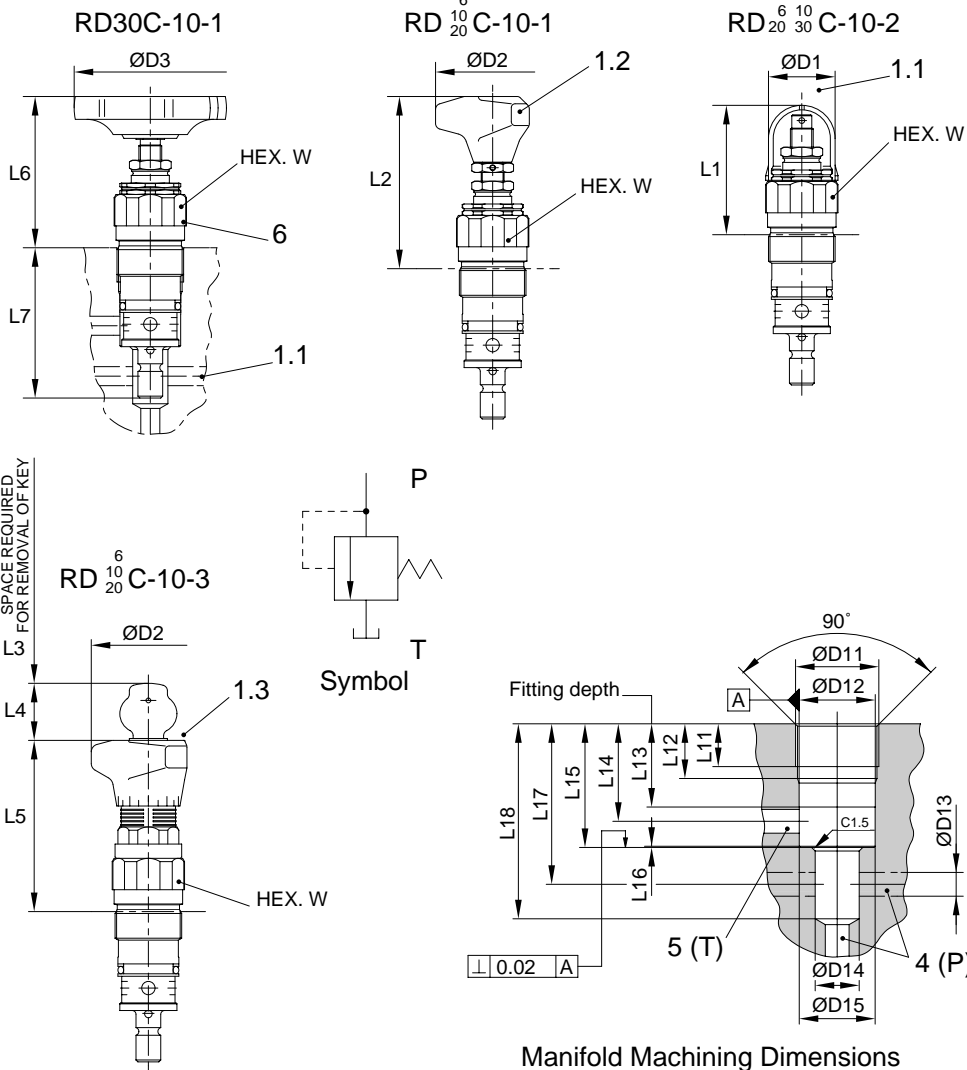
**Pressure Relief Valve**

Size	B1	B2	ØD3	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7	Port (P)	O-Ring (Ports P, T) To JISB2401	Weight
6	45	60	6.6	6	40		80	4	15	55	40	20	10	G <sup>1</sup> / <sub>4</sub>	P7	Approx. 1.5 kg
10	60	80	9	8	60	1.4	100	4	20	70	45	21	10	G <sup>1</sup> / <sub>2</sub>	P14	Approx. 3.7 kg
20	70	100	9	8	70	1.8	135	5.5	20	100	65	34	10	G <sup>3</sup> / <sub>4</sub>	P22A	Approx. 6.4 kg
30	100	130	11	10	90	2.7	180	5.5	25	130	85	35	15	G <sup>1 1</sup> / <sub>4</sub>	P34	Approx. 13.9 kg

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**Unit Dimensions – Cartridge Valve (Cartridge) (dimensions in mm)**



**Manifold Machining Dimensions**

**1.1 Adjustment Element '2'**

- Grub Screw for pressure setting and protective cap
- Internal hexagon (up to size 20)
- External hexagon (size 30)

**1.2 Adjustment Element '1'**

- Rotary Knob (up to size 30)
- Hand Wheel (size 30)

**1.3 Adjustment Element '3'**

- Lockable Rotary Knob up to size 10 (sizes 20 to 100 bar)

**4 Connection Port P, optional about the circumference or at the bottom**

**5 Connection Port T, optional about the circumference**

**6 Type code**





Unit Dimensions – Cartridge Valve (Cartridge) (dimensions in mm) (continued)															
Cartridge Valve															
Type	D1	D2	D3	L1	L2	L3	L4	L5	L6	L7	W	D11	D12	D13	D14
<sup>RD</sup> 6	34	60	-	72	94	15	23	98	-	66	32	M28x1.5	25H8	6	15
<sup>RD</sup> 10				68	91			94		79	36	M35x1.5	32H8	10	18.5
<sup>RD</sup> 20	40	60		65	88	91	109	46		M45x1.5	40H8	20	24		
<sup>RD</sup> 30	50	-	80	83	-	-	-	-	94	136	60	M60X2	55H8	30	38.75
Manifold Machining Dimensions															
Type	D15	D16	L11	L12	L13	L14	L15	L16	L17	L18	Mass	Tightening Torque Nm			
<sup>RD</sup> 6	24.9	6	15	19	30	35	45	0.5x45°	56.5	66.5	0.4 kg	118			
<sup>RD</sup> 10	31.9	10	18	23	35	41	52		67.5	82	0.5 kg	137			
<sup>RD</sup> 20	39.9	20	21	27	45	54	70		91.5	112	1.0 kg	167			
<sup>RD</sup> 30	54.9	30	23	29		60	84		113.5	143	2.2 kg	196			
KAWASAKI PRECISION MACHINERY (UK) LTD Ernesettle, Plymouth, Devon, PL5 2SA, England Tel: +44 1752 364394 Fax: +44 1752 364816 E Mail:info@kpm-uk.co.uk												The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract			
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