



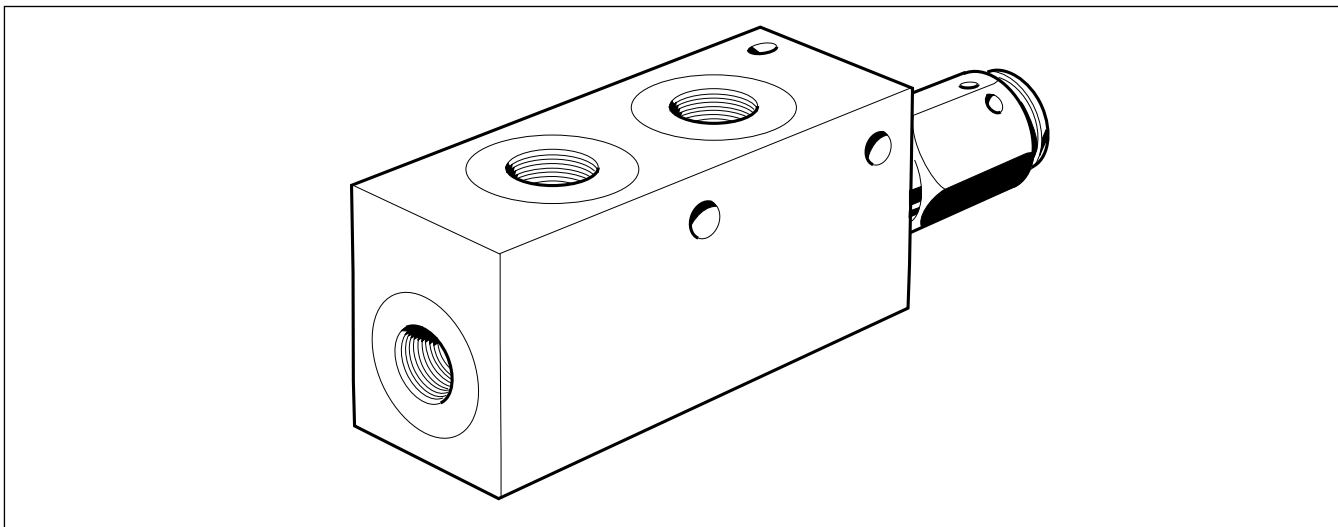
# **Auxiliary Valves**

## **PLD6 and PLD130**

*Direct-Acting Pressure Relief Valves*

*Catalogue HY17-8701/UK*  
*September, 2005*





## Applications

The PLD6 is a direct operated pressure relief valve, adjustable within 4 different pressure ranges.

With its exceptionally good opening and closing characteristics, the PLD6 is intended primarily for use in pilot circuits in hydraulic and electro-hydraulic remote control systems. It can, however, be used to advantage in any hydraulic circuit where a pressure relief valve of this size is required.

## Construction and function

The valve housing is of nodular iron, with two (alternative) pressure ports and one tank port.

The direct-acting pressure-relief insert is of a well-proven design used in many Parker directional valves.

Pressure setting is effected easily by means of an external hexagonal sleeve. The valve housing and hexagonal sleeve are furnished with holes to enable sealing with wire.

The valve can be supplied factory-set at the desired pressure level, and factory-sealed if required. In either case, the pressure setting is stated on a sticker on the valve.

## Technical data

### Pressure setting ranges

Working pressure

15- 70 bar	217-1015 psi
71-150 bar	1016-2175 psi
151-210 bar	2176-3045 psi
211-300 bar	3046-4350 psi

### Pressure-setting flow

The pressure is set at a flow of 20 l/min (5.3 USgpm) through the pressure relief valve.

### Recommended flow rates

Max. 25 l/min at settings below 100 bar.  
(6.6 USgpm at settings below 1450 psi)  
Max. 40 l/min at settings above 100 bar.  
(10.6 USgpm at settings below 1450 psi)

### Connection ports

All connections are available in two versions:

- G version (BSP pipe thread) for flat seal (type Tredo) according to ISO 228/1.
- UN version for O-ring seal according to SAE J1926/1.

### Weight

Approx. 0.3 kg (0.7 lb).

## Hydraulic fluids

Best performance is obtained using mineral-base oil of high quality and cleanliness in the hydraulic system.

HLP hydraulic fluids (DIN 51524), automatic-gearbox oil type A and API CD engine oils can be used. Synthetic, fire-resistant and environmentally friendly fluids can also be used. Please contact VOAC for further information.

For best function, fluid viscosity should be between 15 and 45 mm<sup>2</sup>/s (cSt).

### Filtration

Filtration should be arranged so that Target Contamination Class 20/18/14 according to ISO 4406 is not exceeded.

### Temperature

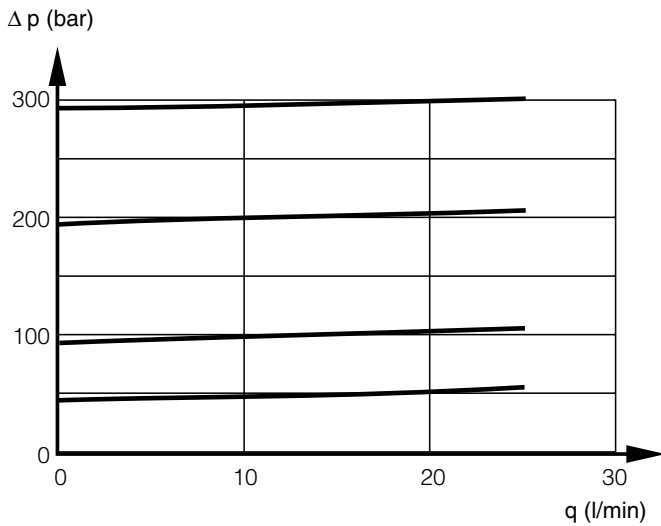
Temperature range (fluid):  
-20 to +70 °C (-4 to 158 °F).  
Temperature range (ambient):  
-40 °C to +60 °C (-40 to 140 °F).  
Temperature change: max. 100 °C/s  
(212 °F).

## General

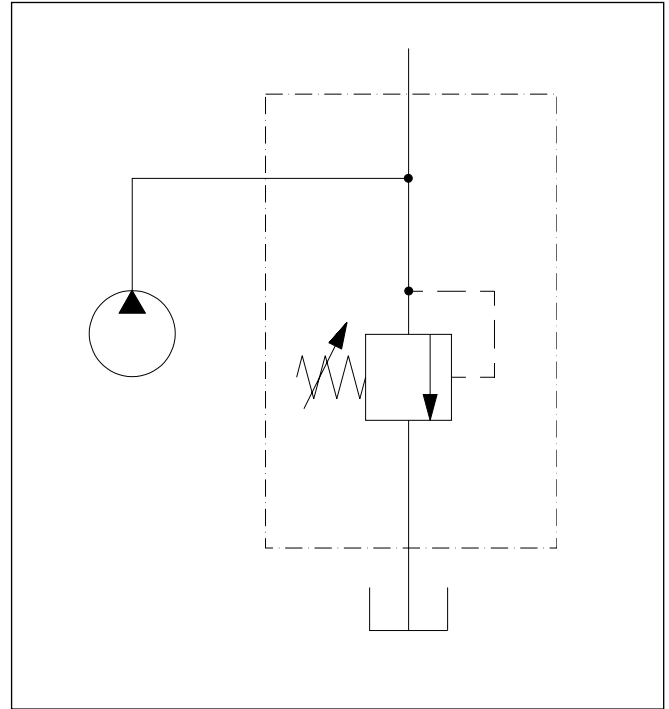
The data given is applicable at a fluid temperature of 50 °C (122 °F) and viscosity of 30 mm<sup>2</sup>/s (cSt) using mineral-base oil according to DIN 51524.

## Features and benefits

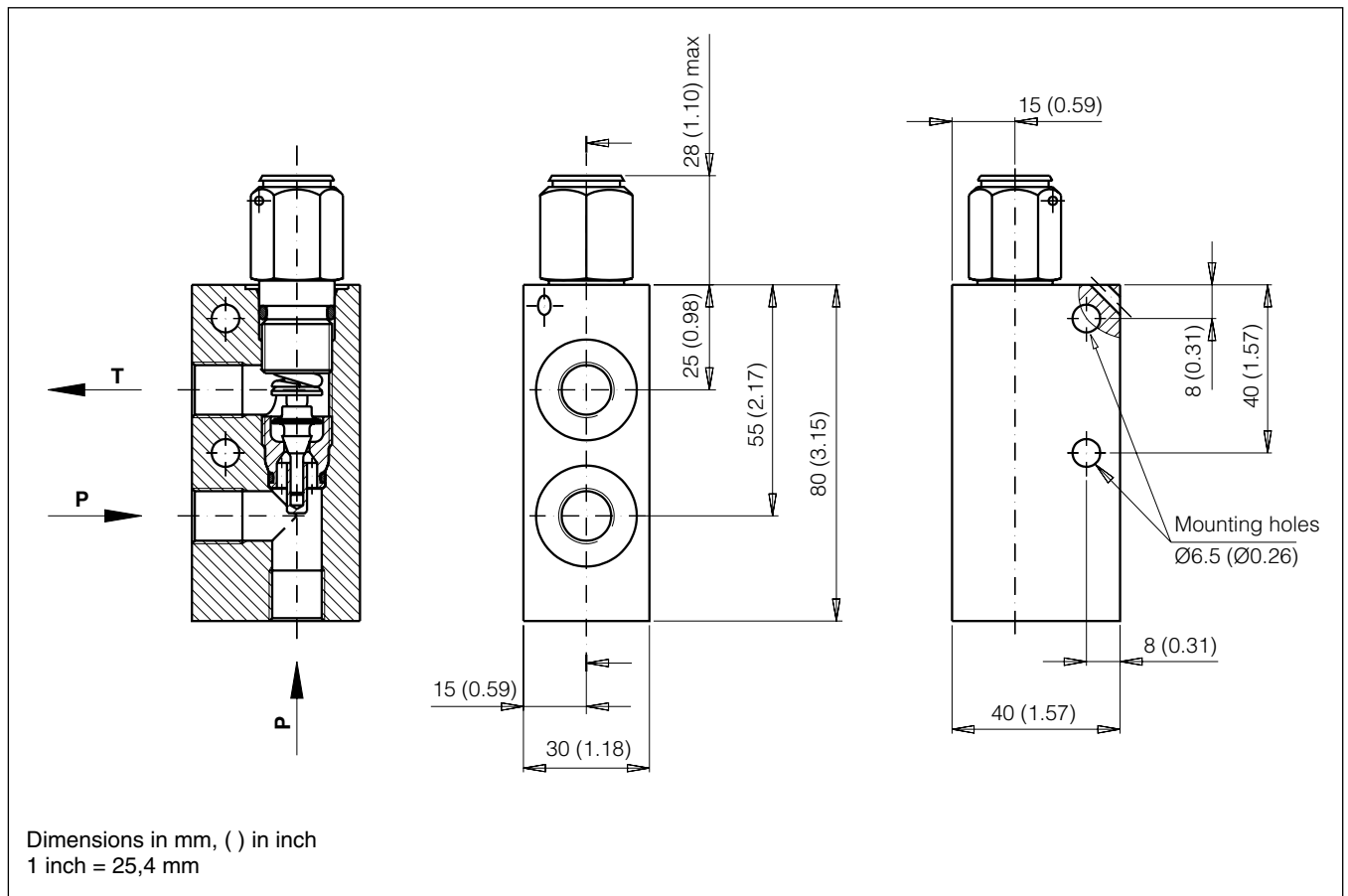
- Small dimensions - easy to install
- Very tight - no unnecessary leakage losses
- Very good pressure override characteristic - minimal pressure change between different flows
- Very good opening and closing characteristics - right pressure regardless of flow
- Low hysteresis - good pressure-maintaining precision
- Fast acting - quick response to pressure surges
- Great adjustability - only four different pressure ranges, from 15 to 300 bar
- Tolerates high pressure surges in tank port (up to 300 bar) - long service life
- Sealable - discourages unauthorized intervention and shows evidence of tampering



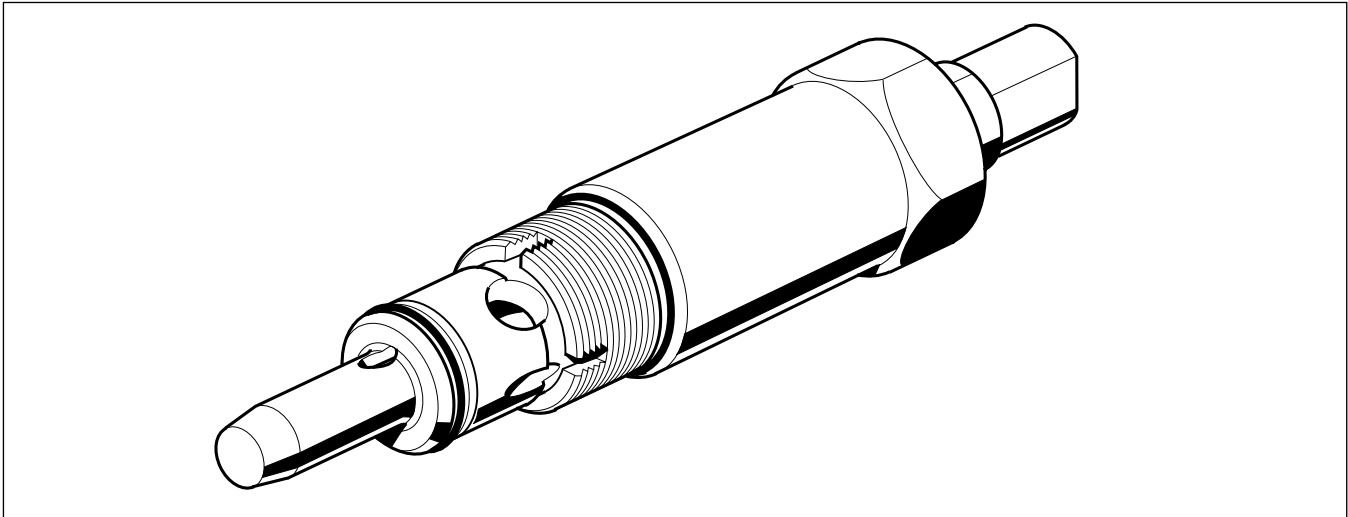
Pressure override characteristics for PLD6



Functional symbol for PLD6



Dimensional drawing - PLD6



**Applications**

The PLD130 is a direct operated pressure relief valve of the cartridge-valve type and is adjustable within 8 different pressure ranges.

The valve is primarily intended for use as a main pressure relief valve in directional valves, but is also very well suited to installation in pumps, motors and function blocks.

**Construction and function**

The PLD130 is constructed as a cartridge valve, made up of a number of components such as poppet, seat, spring, spring housing and adjustment screw, which are of high quality, surface hardened steel that is very resistant to corrosion.

The design is such that each adjustment range has a maximal pressure value that is higher than the working pressure. This enables the pressure to be "over-set" during tuning and testing.

The PLD130 is of well-proven design and is used as the main pressure relief valve in several Parker directional valves (a function on which there are great demands). Adjustment is by means of a hexagonal screw with lock-nut.

The setting can be sealed by means of a special plastic cap that is pressed over the adjustment mechanism of the valve. The cap is then sealed by means of sealing wire and lead.

The valve can be supplied factory-set at the desired pressure level, in which case the set values are stated on a sticker on the valve.

**Technical data**

**Hydraulic fluids**

Best performance is obtained using mineral-base oil of high quality and cleanliness in the hydraulic system.

HLP hydraulic fluids (DIN 51524), automatic-gearbox oil type A and API CD engine oils can be used. Synthetic, fire-resistant and environmentally friendly fluids can also be used. Please contact Parker for further information.

For best function, fluid viscosity should be between 15 and 45 mm<sup>2</sup>/s (cSt).

**General**

The data given is applicable at a fluid temperature of 50 °C (122 °F) and viscosity of 30 mm<sup>2</sup>/s using mineral-base oil according to DIN 51524, and when the cartridge valve is mounted in a well defined master block.

**Pressure setting ranges**

Working pressure bar/(psi)	Max. pressure bar/(psi)
80-125 (1160-1813)	155 2248
126-140 (1814-2030)	170 2465
141-160 (2031-2320)	190 2755
161-210 (2321-3046)	240 3840
211-250 (3047-3626)	280 4060
251-280 (3627-4060)	310 4496
281-320 (4061-4640)	350 5076
321-350 (4641-5076)	380 5510

**Filtration**

Filtration should be arranged so that Target Contamination Class 20/18/14 according to ISO 4406 is not exceeded.

**Temperature**

Temperature range (fluid):  
 -20 °C to +70 °C (-4 to 158 °F).  
 Temperature range (ambient):  
 -40 °C to +60 °C (-40 to 140 °F).  
 Temperature change: max. 100 °C/s (212 °F).

**Pressure-setting flow**

The pressure-setting flow can be either 20 or 60 l/min (5.3 or 15.9 USgpm) through the pressure relief valve (to be specified when ordering).

**Recommended flow rate**

Max. 130 l/min (34.3 USgpm).

**Weight**

Approx. 0.3 kg (0.7 lb).

**Features and benefits**

- Small dimensions - easy to install
- Correct gallery placement - only one tank and one pump gallery needed
- Very tight - no unnecessary leakage losses
- Very good opening and closing characteristics - right pressure regardless of flow
- Very good pressure override characteristics - minimal pressure change between different flows
- Low hysteresis - good pressure-maintaining precision
- Fast acting - quick response to pressure surges
- Built-in maximum pressure setting - greater safety
- Sealable - discourages unauthorized intervention and shows evidence of tampering

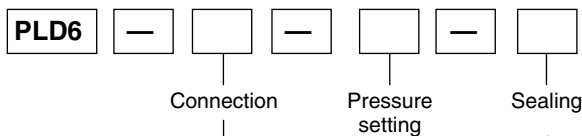


A series of codes have been established to help customers to specify the desired properties when ordering the PLD6 pressure relief valve. The code is incorporated into the basic valve designation as an identifying suffix, e.g. PLD6G-150-P (see "Ordering code" below).

To make ordering easier, certain standard variants have been given 10-digit ordering numbers, as detailed in the table below.

Valve designation	Ordering number	Valve designation	Ordering number
PLD6G-15/70-O	8234 8910 45	PLD6U-15/70-O	8234 0016 51
PLD6G-71/150-O	8234 8910 11	PLD6U-71/150-O	8234 0016 52
PLD6G-151/210-O	8234 8910 29	PLD6U-151/210-O	8234 0016 53
PLD6G-211/300-O	8234 8910 37	PLD6U-211/300-O	8234 0016 54
PLD6G-50-P	8234 0006 05	PLD6U-50-P	8234 0016 05
PLD6G-63-P	8234 0006 06	PLD6U-63-P	8234 0016 06
PLD6G-80-P	8234 0006 08	PLD6U-80-P	8234 0016 08
PLD6G-100-P	8234 0006 10	PLD6U-100-P	8234 0016 10
PLD6G-125-P	8234 0006 12	PLD6U-125-P	8234 0016 12
PLD6G-140-P	8234 0006 14	PLD6U-140-P	8234 0016 14
PLD6G-160-P	8234 0006 16	PLD6U-160-P	8234 0016 16
PLD6G-175-P	8234 0006 17	PLD6U-175-P	8234 0016 17
PLD6G-190-P	8234 0006 19	PLD6U-190-P	8234 0016 19
PLD6G-210-P	8234 0006 21	PLD6U-210-P	8234 0016 21
PLD6G-230-P	8234 0006 23	PLD6U-230-P	8234 0016 23
PLD6G-250-P	8234 0006 25	PLD6U-250-P	8234 0016 25
PLD6G-280-P	8234 0006 28	PLD6U-280-P	8234 0016 28

**Ordering code**



Code	Connection
G	G1/4 (BSP) thread
U	9/16-18 UNF-2B thread

Code	Sealing
O	Not sealed.
P	Valve sealed with sealing wire and seal (factory-set valves only)

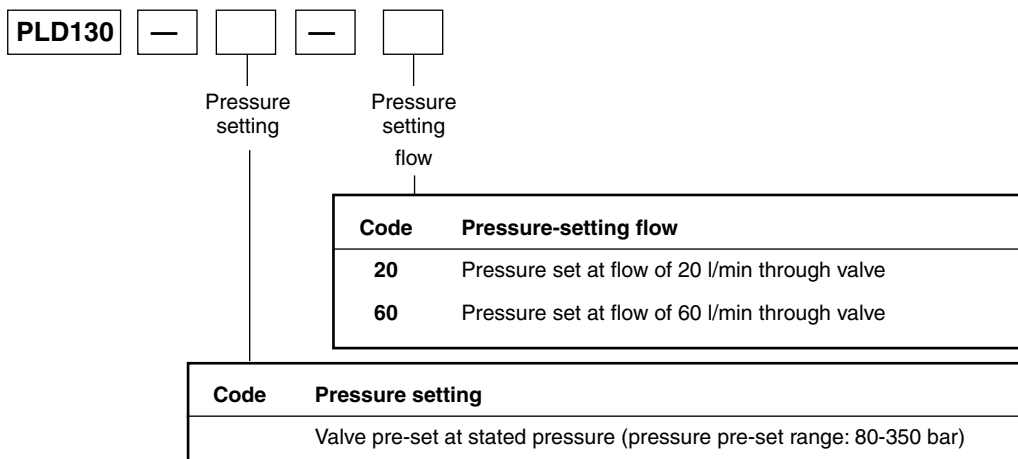
Code	Pressure setting
	Valve pre-set at stated pressure (pressure pre-set range: 15- 300 bar)
15/70	Valve not pre-set. Adjustable between 15 and 70 bar.
71/150	Valve not pre-set. Adjustable between 71 and 150 bar.
151/210	Valve not pre-set. Adjustable between 151 and 210 bar.
211/300	Valve not pre-set. Adjustable between 211 and 300 bar.

A series of codes have been established to help customers to specify the desired properties when ordering the PLD130 pressure relief valve. The code is incorporated into the basic valve designation as an identifying suffix, e.g. PLD130-150/20 (see "Ordering code" below).

To make ordering easier, certain standard variants have been given 10-digit ordering numbers, as detailed in the table below.

Valve designation	Ordering number
PLD130-80/20	8234 0130 08
PLD130-100/20	8234 0130 10
PLD130-125/20	8234 0130 12
PLD130-140/20	8234 0130 14
PLD130-160/20	8234 0130 16
PLD130-175/20	8234 0130 17
PLD130-190/20	8234 0130 19
PLD130-210/20	8234 0130 21
PLD130-230/20	8234 0130 23
PLD130-250/20	8234 0130 25
PLD130-280/20	8234 0130 28
PLD130-320/20	8234 0130 32
PLD130-350/20	8234 0130 35
Plastic cap for sealing	9120 0999 68

**Ordering code**



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