# 2 or 3 way pressure compensated flow regulators

## L6090... (LC04M-CBL) - L6095... (LC04M-CBD)

**RE 18303-04**
Edition: 02.2016
Replaces: 07.2012

Size 4
Series 00
Maximum operating pressure 310 bar (4500 psi)
Maximum flow (2-way) 12 l/min (3.2 gpm)
Maximum flow (3-way) 20 l/min (5.3 gpm)

**General specifications**

2-way or 3-way pressure compensator valve with fixed setting.
Sandwich body with CETOP RP 121 H-4.2-4-P02 interface.
They maintain a constant, pre-established, pressure drop between ports P and A, P and B.
If employed in combination with proportional directional valves, they control the flow and maintain it constant for each spool position, regardless of working pressure.
Cast iron body.
Zinc plated external surfaces.

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## Ordering details

| 01 | 02 | 03 | 04 | 05 | 06 |
|---|---|---|---|---|---|
| **L** | **6** | **0** | | | **00** |

**Family**

| | | |
|---|---|---|
| 01 | Directional valve | **L** |

**Type**

| | | |
|---|---|---|
| 02 | CETOP Sandwich | **6** |

**Size**

| | | |
|---|---|---|
| 03 | NG 4 (P02) | **0** |

**Valve type**

| | | |
|---|---|---|
| 04 | CBL 2-way pressure compensator | **90** |
| | CBD 3-way pressure compensator | **95**[1)] |

**Pressure drop (spring)**

| | | |
|---|---|---|
| 05 | 9 bar (131 psi) | **01** |
| | 12 bar (174 psi) | **02**[1)] |
| | 5 bar (73 psi) | **03**[1)] |

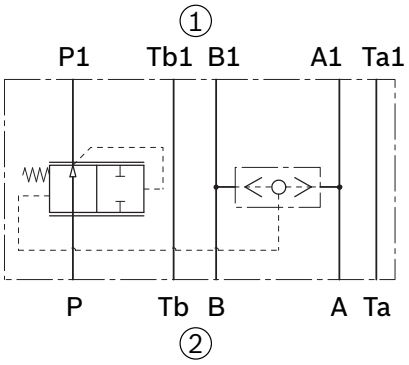
**Optionals**

| | | |
|---|---|---|
| 06 | Standard | **00** |

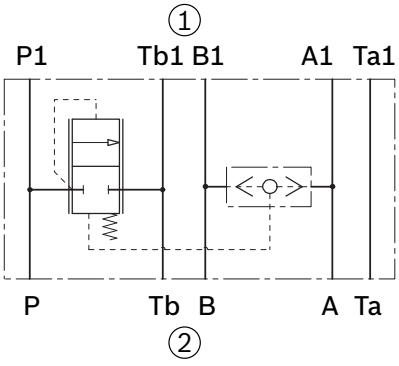
1) Only for 95 CBD version.

## Symbols

**L6090 _ _ _**

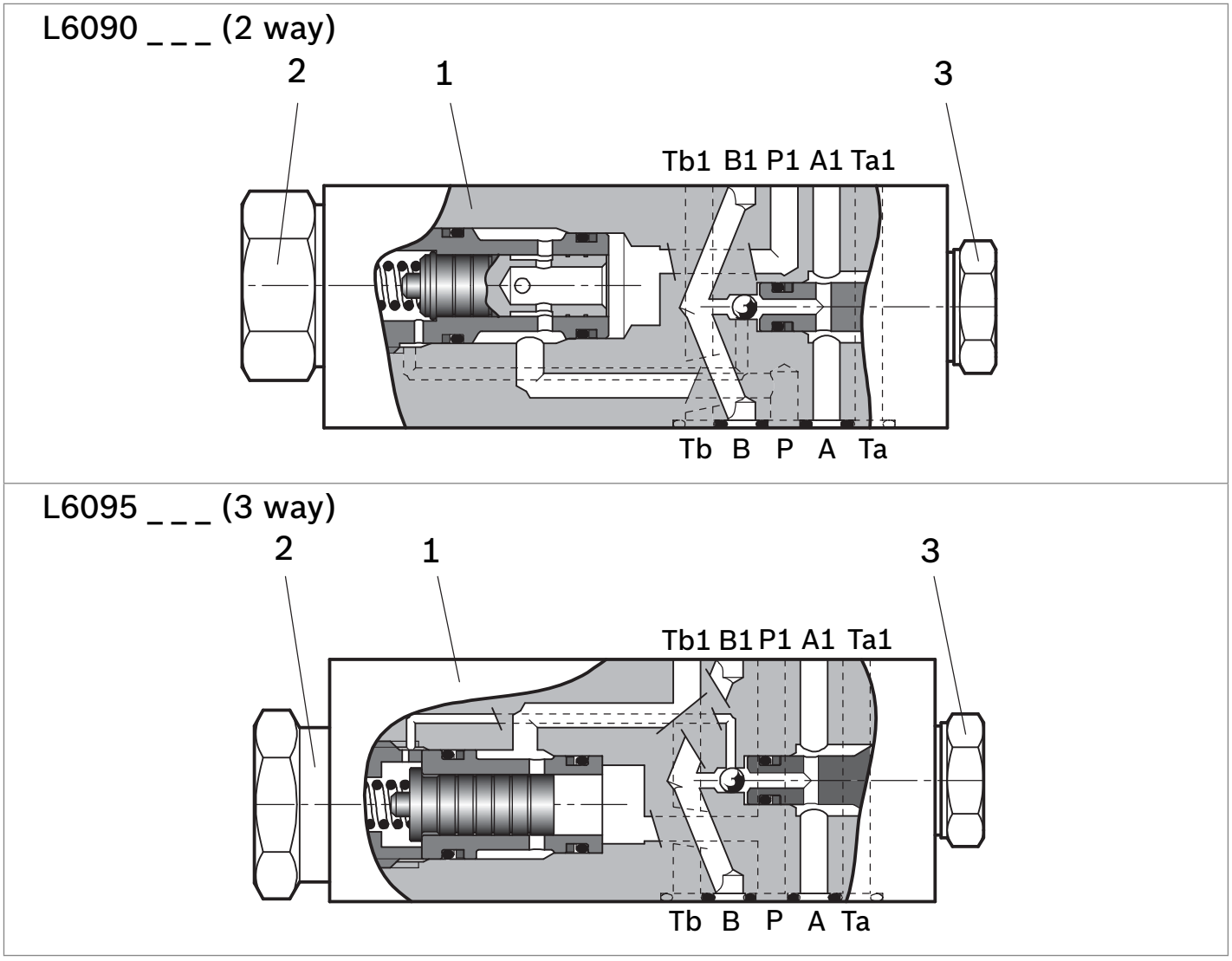



**L6095 _ _ _**




① = directional valve side ② = sub-plate side

## Functional description




**Type L6090... and L6095...**
Inside the sandwich type body (**1**) there is a 2-way or 3-way spring loaded pressure compensator which automatically adjusts its position in order to reach equilibrium and maintain a constant pressure difference between P and A (or **P** and **B**) ports. For any given spool position, the compensator modulates the opening until a constant pressure drop and a constant flow rate is established regardless of working pressure. An incorporated shuttle valve supplies the A or B pressure signal to the “spring side” of the compensator; the compensator is exposed to the inlet (**P**) pressure on one side and to the outlet (**A** or **B**) pressure, plus spring load, on the opposite side. In conclusion, the pressure difference between inlet and outlet is determined by the spring load, which is designed to remain nearly constant as the compensator moves, allowing more or less flow, until the equilibrium position is reached.

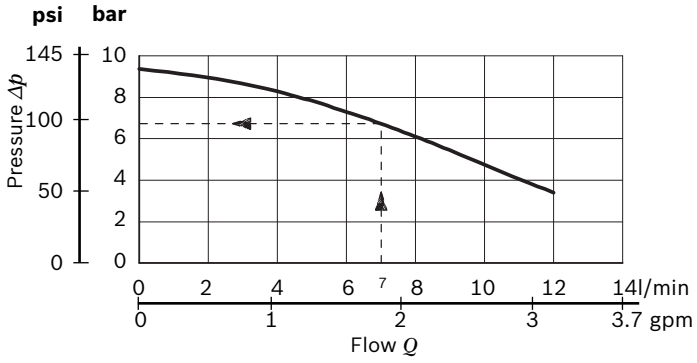
## Technical data

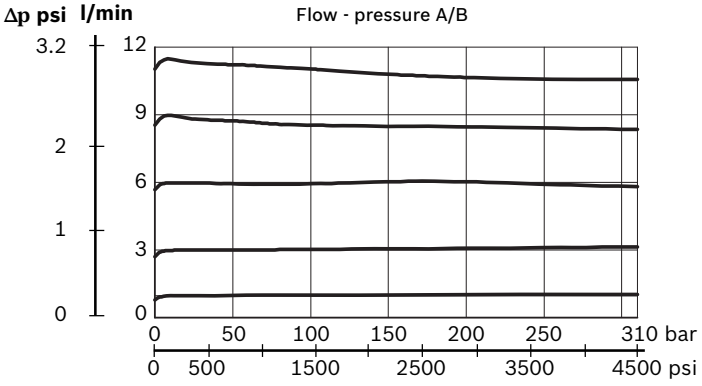
| | | |
|---|---|---|
| **General** | | |
| Valve weight L6090 | kg (lbs) | 1.13 (2.49) |
| Valve weight L6095 | kg (lbs) | 1.10 (2.43) |
| Mounting position | | unrestricted |
| Ambient Temperature | °C (°F) | –20....+50 (-4....+122) (NBR seals) |
| **Hydraulic** | | |
| Maximum pressure | bar (psi) | 310 (4500) |
| Maximum flow | l/min (gpm) | See diagram "$\Delta p$" (pressure drop) |
| Compensation | % | ± 5 of regulated |
| Hydraulic fluid<br>General properties: it must have physical lubricating and chemical properties suitable for use in hydraulic systems such as, for example: | | Mineral oil based hydraulic fluids HL (DIN 51524 part 1).<br>Mineral oil based hydraulic fluids HLP (DIN 51524 part 2).<br>For use of environmentally acceptable fluids (vegetable or polyglycol base) please consult us. |
| Fluid Temperature | °C (°F) | –20....+80 (-4....+176) (NBR seals) |
| Permissible degree of fluid contamination | | ISO 4572: $\beta_x \geq 75$ X = 10...12<br>ISO 4406: class 19/17/14<br>NAS 1638: class 8 |
| Viscosity range | $mm^2/s$ | 5....420 |

**Note**
For applications with different specifications consult us

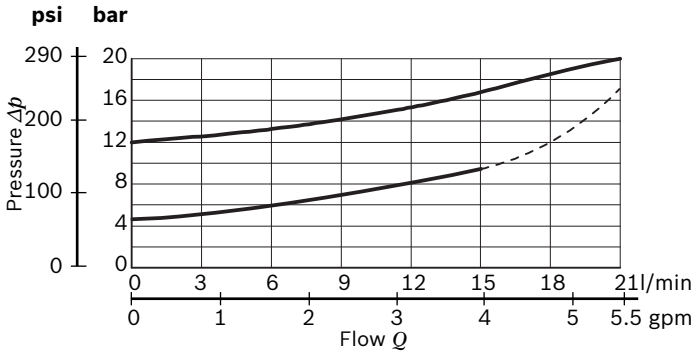
## Characteristic curves

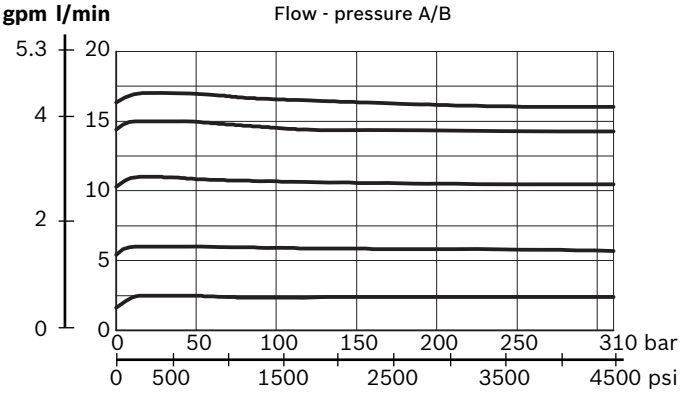
**L6090 _ _ _ (2 way)**




**L6095 _ _ _ (3 way)**




**EXPLANATION OF THE DIAGRAM**

known the maximum regulated flow, is possible know the maximum permissible pressure drop in the flow regulator valve (P-A or P-B) for obtain the required flow.

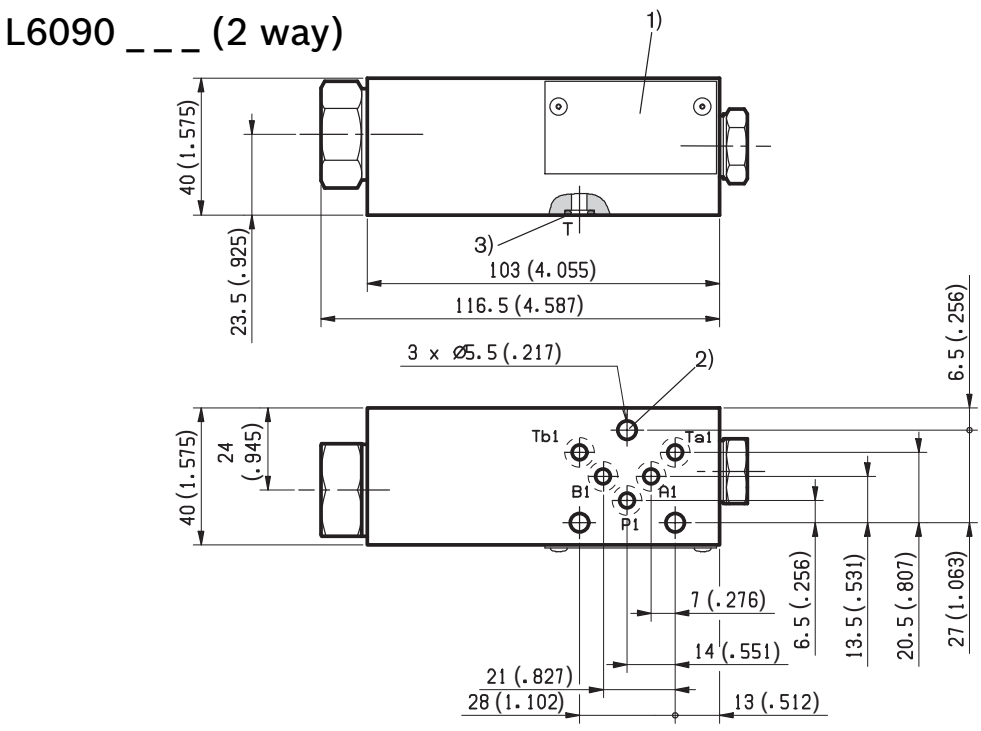
**Example**

Given: the regulated flow = 7 l/min (1.85 gpm).
Required: the maximum permissible pressure drop.
Select the value 7 on the X line within the diagram above, follow the arrows up to the value in Y line. The value found is the maximum permissible flow regulator valve's pressure drop, impossible obtain the flow request with a pressure drop upper.

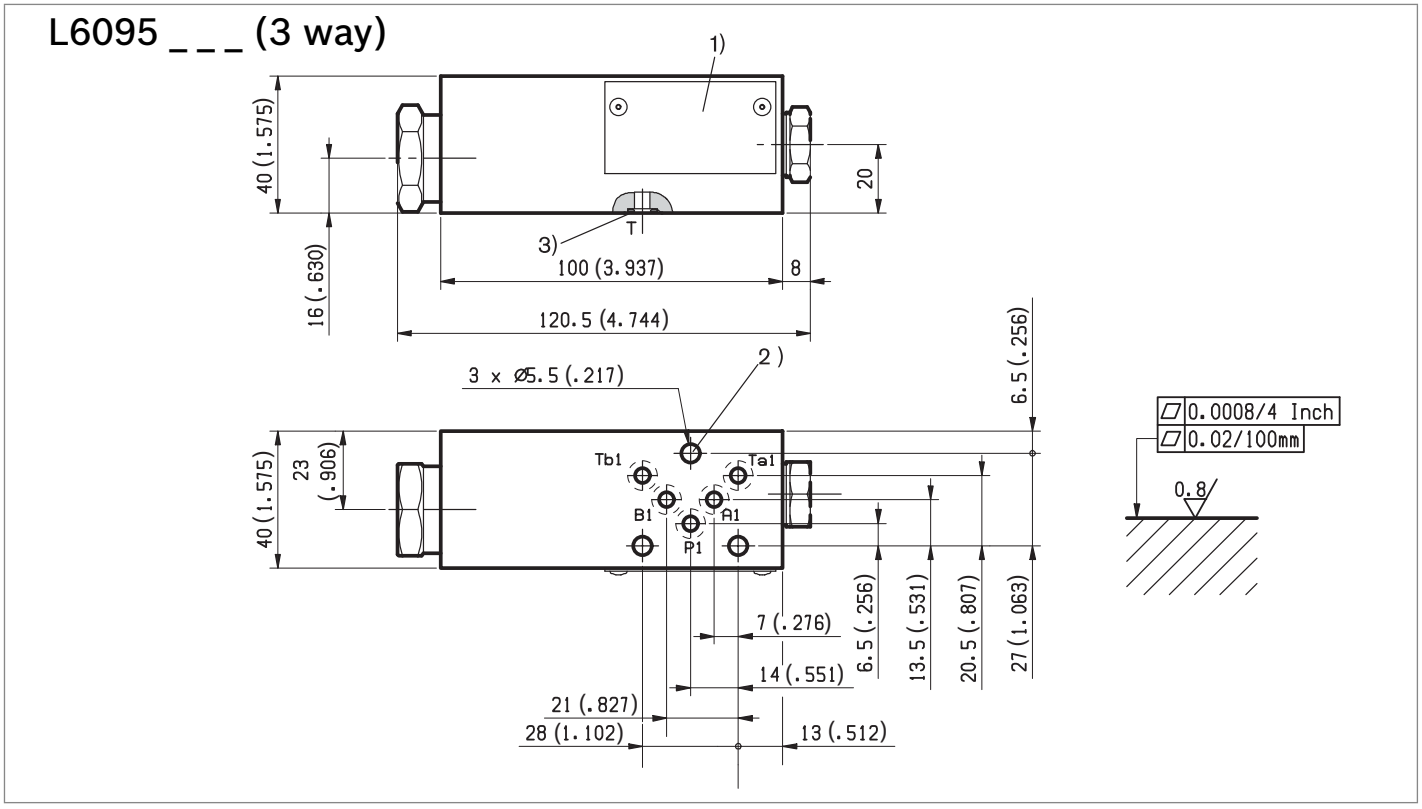
Measured with hydraulic fluid ISO-VG32 at 45° ±5 °C (113° ±9 °F); ambient temperature 20 °C (68 °F).

Note
Characteristic curves are obtained with Ta and Tb connected by proportional operated directional valves

## External dimensions and fittings




1 Label
2 Mounting holes, only for M5 DIN 912-8.8, tightening torque = 5 ÷ 6 Nm (3.6 ÷ 4.4 ft-lb)
3 Same sealing as in A,B,P,T ports.

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