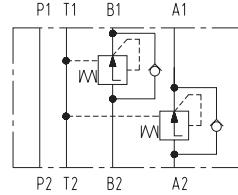
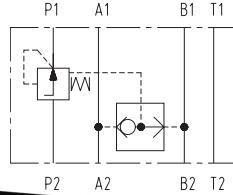


- Modular design for vertical stacking assemblies
- Build-in load sensing shuttle valve
- Installation dimensions to ISO 4401:1994



## Functional Description

**2-Way pressure compensator for meter-in application**  
 The 2-way pressure compensators in meter-in application will maintain a constant pressure difference across the metering edge of the proportional direction valve. In this case, the pressure variations due to loading changes, as well as pump pressure changes are compensated so any increase in pump pressure does not affect the flow. The meter-in compensators may only be used with positive load direction.

Valves TV2-042/M are directly operated 2-way pressure compensators in sandwich plate design. They are designated for load compensation in channel P.

The main parts of these valves are the housing (1), control spool (2), spring (3) and shuttle valve (4). The spring (3) holds the spool in the open position from P2 to P1, provided that the pressure difference between P1 and A (P1 - B) is less than 10 bar. When the pressure difference exceeds the value of 10 bar, the spool shifts against the spring until the desired pressure difference has been restored.

The pressure signal comes through passage (5) from channel P.

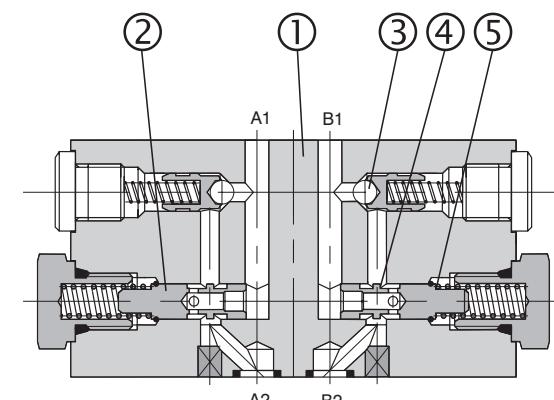
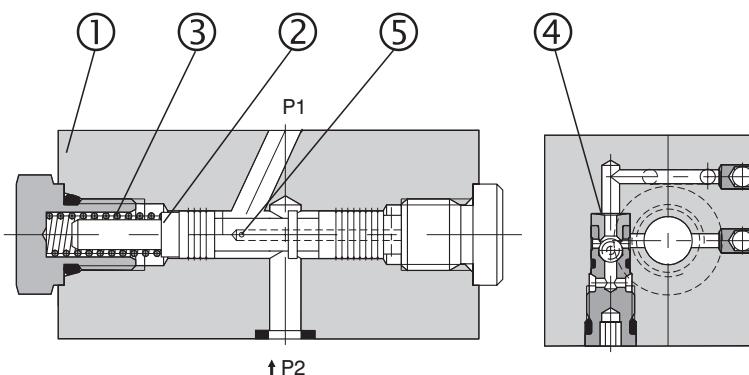
The valve body is phosphated, all other parts are zinc coated.

### 2-Way pressure compensator for meter-out application

In systems with changing load directions, the use of meter-out pressure compensators is required. With respect to the application a valve with pressure compensator installed in one, or in both actuator ports are available.

The pressure compensator is always mounted between the actuator and the proportional directional valve. The valve will maintain the pressure difference between A and T or B and T constant. The flow rate and the flow direction are adjusted by the proportional directional valve. To enable the reverse flow, two by-pass check valves are incorporated into the valve body.

The valve consists of the valve body (1), one or two control spools (2) and poppets of the by-pass check valves (3). If the pump, for example, is connected to port A, the fluid passes to the actuator through a check valve and returns from the actuator through channel B to the proportional directional valve. The pressure difference across the metering edge of the directional valve is maintained at a constant level. This ensures a constant flow rate independent to the load. The pressure difference is controlled by the metering edge (4), its value being determined by spring force (5).



## Ordering Code

TV2 - 042/M □ □

Pressure compensator

without designation

Seals

NBR

FPM (Viton)

Nominal size

2-Way pressure compensator

Sandwich plate design

**A**  
**B**  
**C**  
**D**  
**E**  
**F**

**Model**

Meter-in compensator in channel A

Meter-in compensator in channel B

Meter-in compensator in channels A and B

Meter-out compensator in channels A and B

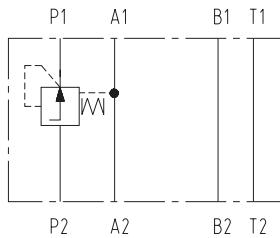
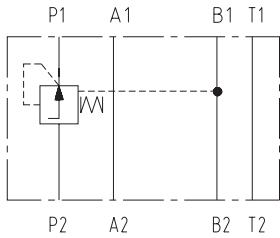
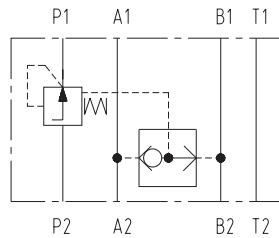
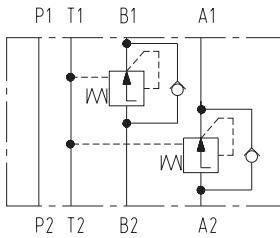
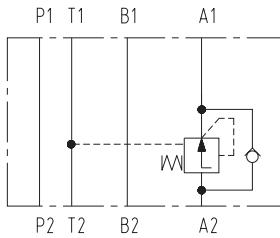
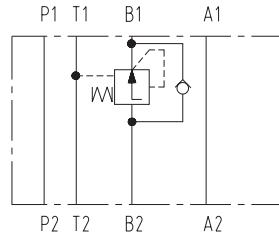
Meter-out compensator in channel A

Meter-out compensator in channel B

## Technical Data

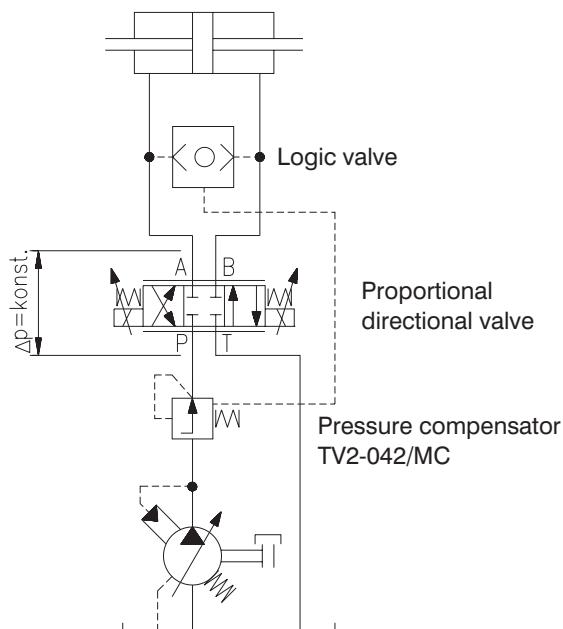
Nominal size	mm	04
Maximum flow	L/min	20
Max. operating pressure	bar	320
Pressure drop on valve $\Delta p$	bar	10
Hydraulic fluid	Hydraulic oils of power classes HM, HV to CETOP-RP 91H in viscosity classes ISO VG 32, 46 and 68.	
Maximum degree of fluid contamination	Class 21/18/15 to ISO 4406 (1999).	
Weight (Model A,B,C,D,E,F)	kg	0.6
Mounting position	optional	

## Functional Symbols

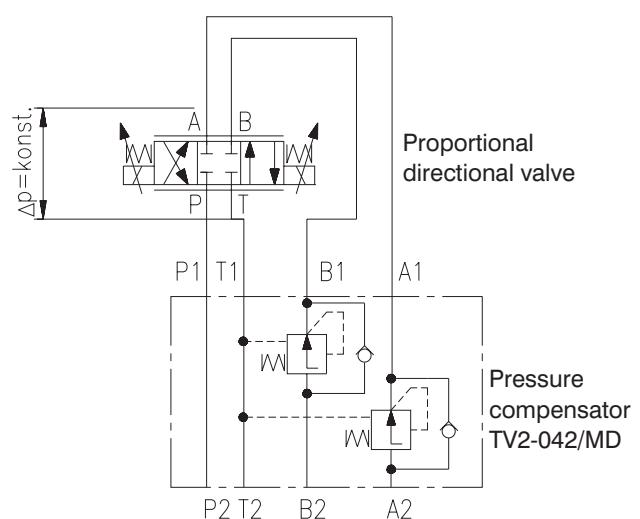
**Model A****Model B****Model C****Model D****Model E****Model F**

## Typical applications

### TV2-042/MC Meter-in compensator



### TV2-042/MD Meter-out compensator

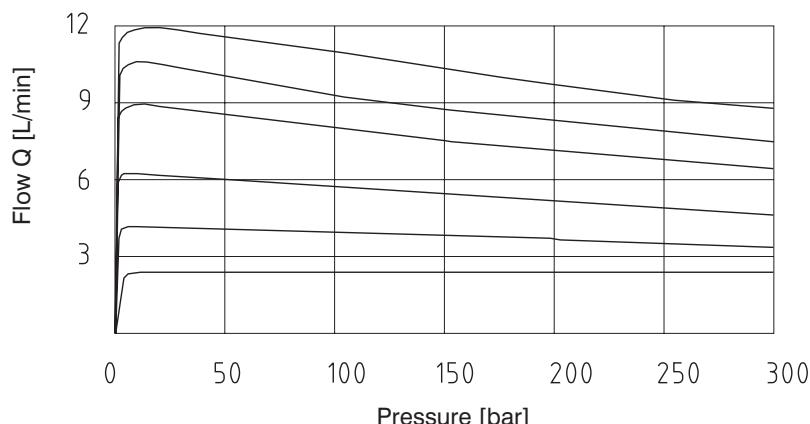


## Characteristics

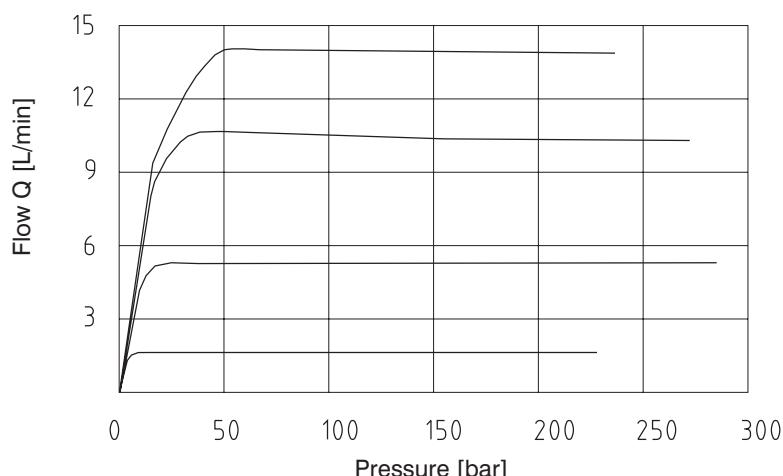
Measured at  $v = 35 \text{ mm}^2/\text{s}$  and  $t = 40^\circ\text{C}$

The characteristic of the pressure compensator corresponds to the flow rate of a PRM2-043Z11/12 proportional directional valve. By increasing the flow resistance due to a flow rate increase, also the outside pressure difference has to be increased, in order to ensure the correct control function.

### TV2-042/MC Meter-in compensator



### TV2-042/MD Meter-out compensator

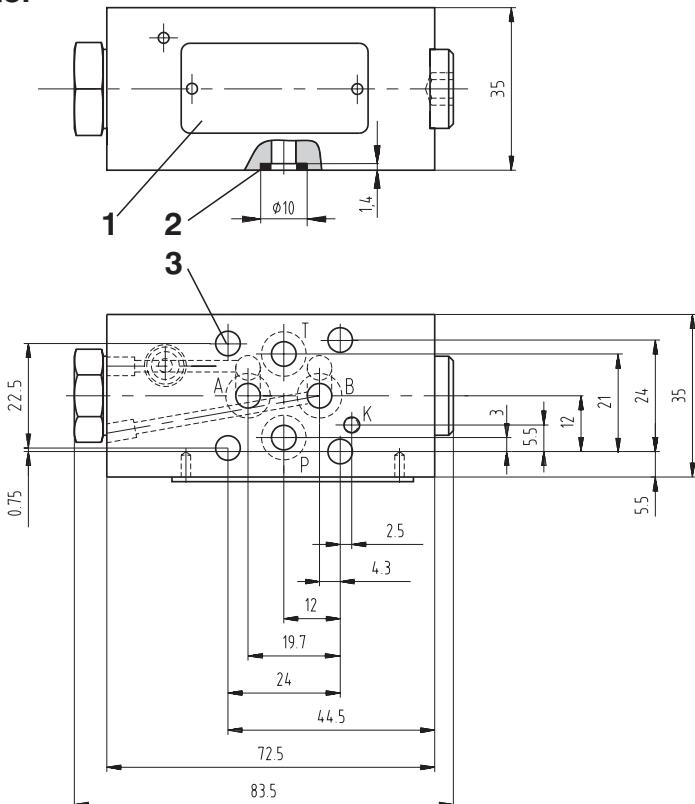


**Valve Dimensions**

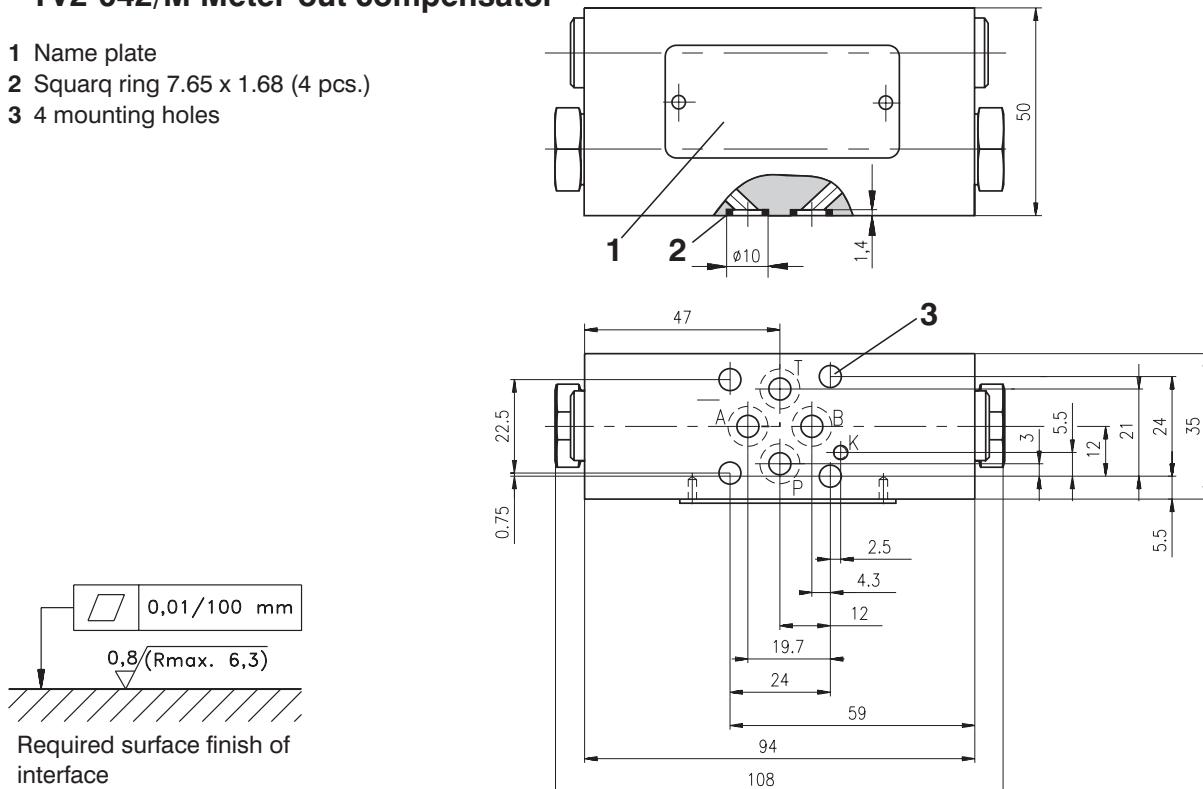
Dimensions in millimetres

**TV2-042/M Meter-in compensator**

- 1 Name plate
- 2 Squarq ring 7.65 x 1.68 (4 pcs.)
- 3 4 mounting holes

**TV2-042/M Meter-out compensator**

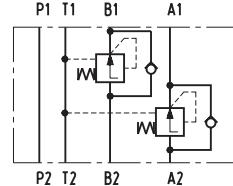
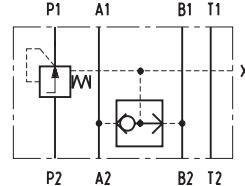
- 1 Name plate
- 2 Squarq ring 7.65 x 1.68 (4 pcs.)
- 3 4 mounting holes

**Caution!**

- The packing foil is recyclable.
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 www.argo-hytos.com

- Modular design for vertical stacking assemblies
- Build-in load sensing shuttle valve
- Installation dimensions to ISO 4401:1994 and DIN 24 340-A6



## Functional Description

### 2-Way pressure compensator for meter-in application

The 2-way pressure compensators in meter-in application will maintain a constant pressure difference across the metering edge of the proportional direction valve. In this case, the pressure variations due to loading changes, as well as pump pressure changes are compensated so any increase in pump pressure does not affect the flow. The meter-in compensators may only be used with positive load direction.

Valves TV2-062/M are directly operated 2-way pressure compensators in sandwich plate design. They are designated for load compensation in channel P.

The main parts of these valves are the housing (1), control spool (2), spring (3) and shuttle valve (4). The spring (3) holds the spool in the open position from P2 to P1, provided that the pressure difference between P1 and A (P1 - B) is less than 10 bar. When the pressure difference exceeds the value of 10 bar, the spool shifts against the spring until the desired pressure difference has been restored.

The pressure signal comes through passage (5) from channel P.

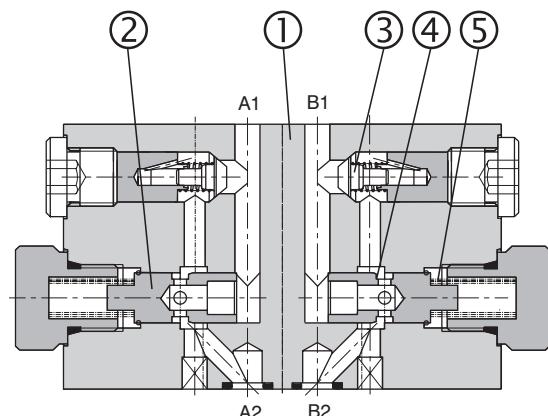
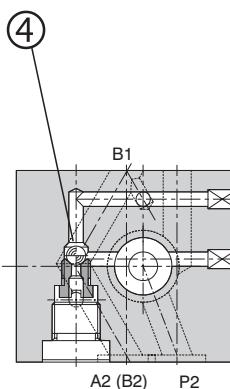
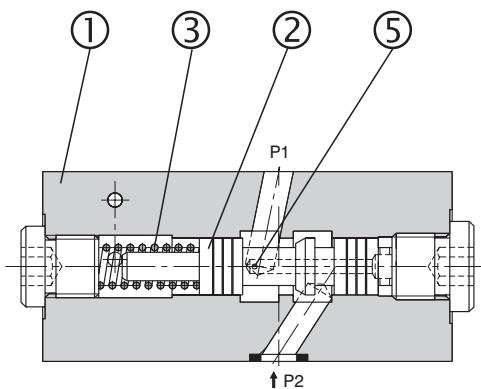
The valve body is phosphated, all other parts are zinc coated.

### 2-Way pressure compensator for meter-out application

In systems with changing load directions, the use of meter-out pressure compensators is required. With respect to the application a valve with pressure compensator installed in one, or in both actuator ports are available.

The pressure compensator is always mounted between the actuator and the proportional directional valve. The valve will maintain the pressure difference between A and T or B and T constant. The flow rate and the flow direction are adjusted by the proportional directional valve. To enable the reverse flow, two by-pass check valves are incorporated into the valve body.

The valve consists of the valve body (1), one or two control spools (2) and poppets of the by-pass check valves (3). If the pump, for example, is connected to port A, the fluid passes to the actuator through a check valve and returns from the actuator through channel B to the proportional directional valve. The pressure difference across the metering edge of the directional valve is maintained at a constant level. This ensures a constant flow rate independent to the load. The pressure difference is controlled by the metering edge (4), its value being determined by spring force (5).



## Ordering Code

TV2 - 062/M

Pressure compensator

Nominal size

2-Way pressure compensator

Sandwich plate design

without designation

V

Seals

NBR

FPM (Viton)

**A**  
**B**  
**C**  
**D**  
**E**  
**F**

**Model**

Meter-in compensator in channel A

Meter-in compensator in channel B

Meter-in compensator in channels A and B

Meter-out compensator in channels A and B

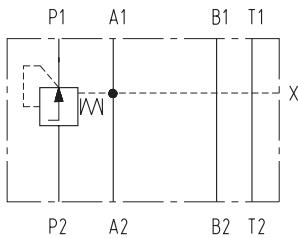
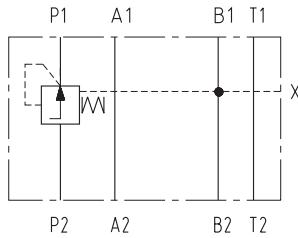
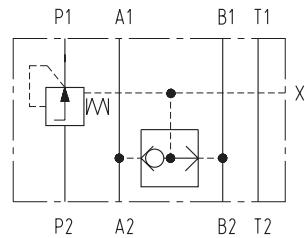
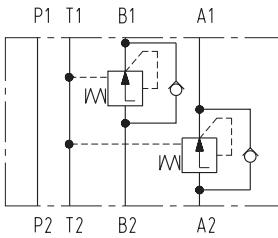
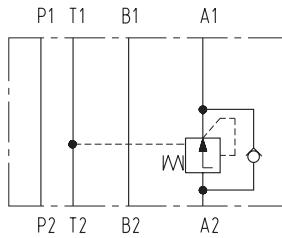
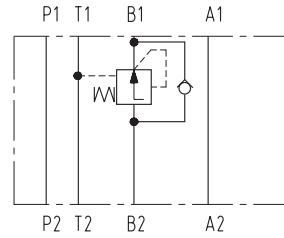
Meter-out compensator in channel A

Meter-out compensator in channel B

## Technical Data

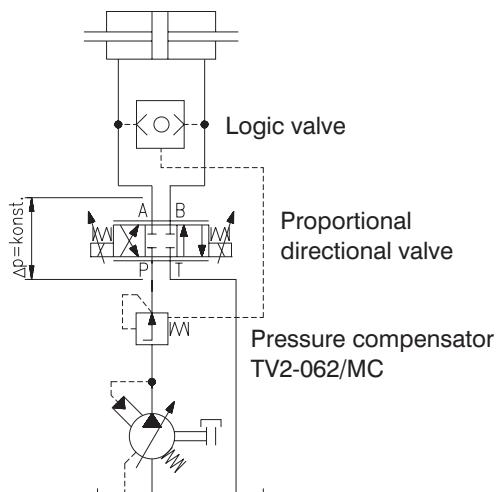
Nominal size	mm	06
Maximum flow	L/min	35
Max. operating pressure	bar	320
Pressure drop on valve $\Delta p$	bar	10
Hydraulic fluid	Hydraulic oils of power classes HM, HV to CETOP-RP 91H in viscosity classes ISO VG 32, 46 and 68.	
Maximum degree of fluid contamination	Class 21/18/15 to ISO 4406 (1999).	
Weight (Model A,B,C,D,E,F)	kg	1.00
Mounting position	optional	

## Functional Symbols

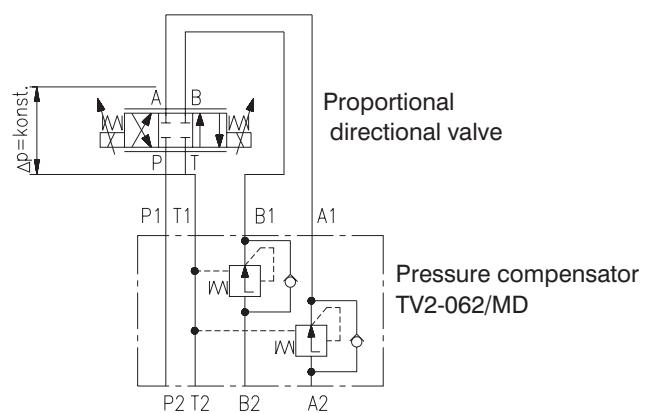
**Model A****Model B****Model C****Model D****Model E****Model F**

## Typical applications

### TV2-062/MC Meter-in compensator



### TV2-062/MD Meter-out compensator

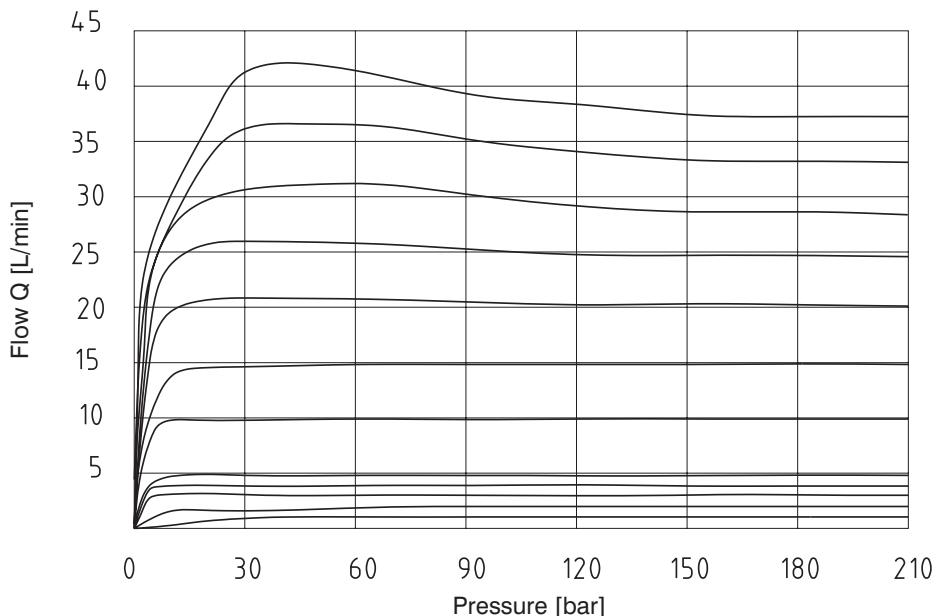


### $\Delta p$ -Q Characteristics

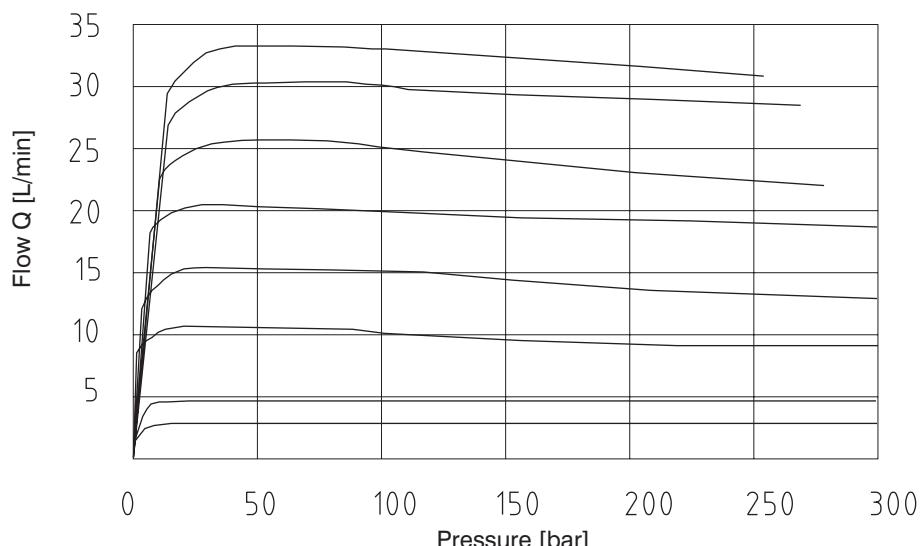
Measured at  $v = 35 \text{ mm}^2/\text{s}$  and  $t = 40^\circ\text{C}$

The characteristic of the pressure compensator corresponds to the flow rate of a PRM2-063Z11/30 proportional directional valve. By increasing the flow resistance due to a flow rate increase, also the outside pressure difference has to be increased, in order to ensure the correct control function.

### TV2-062/MC Meter-in compensator



### TV2-062/MD Meter-out compensator

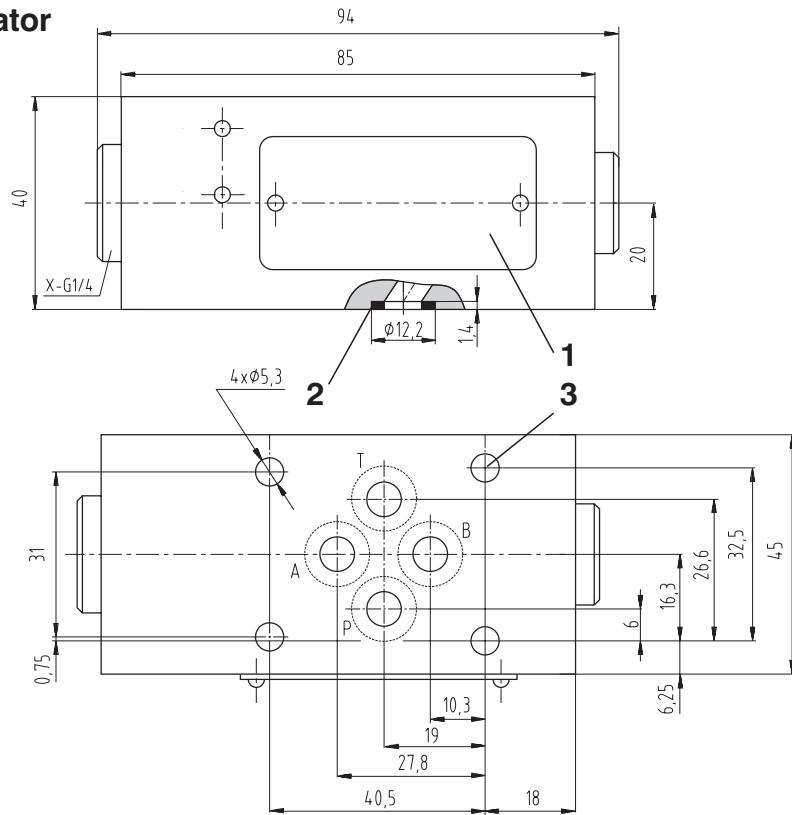


**Valve Dimensions**

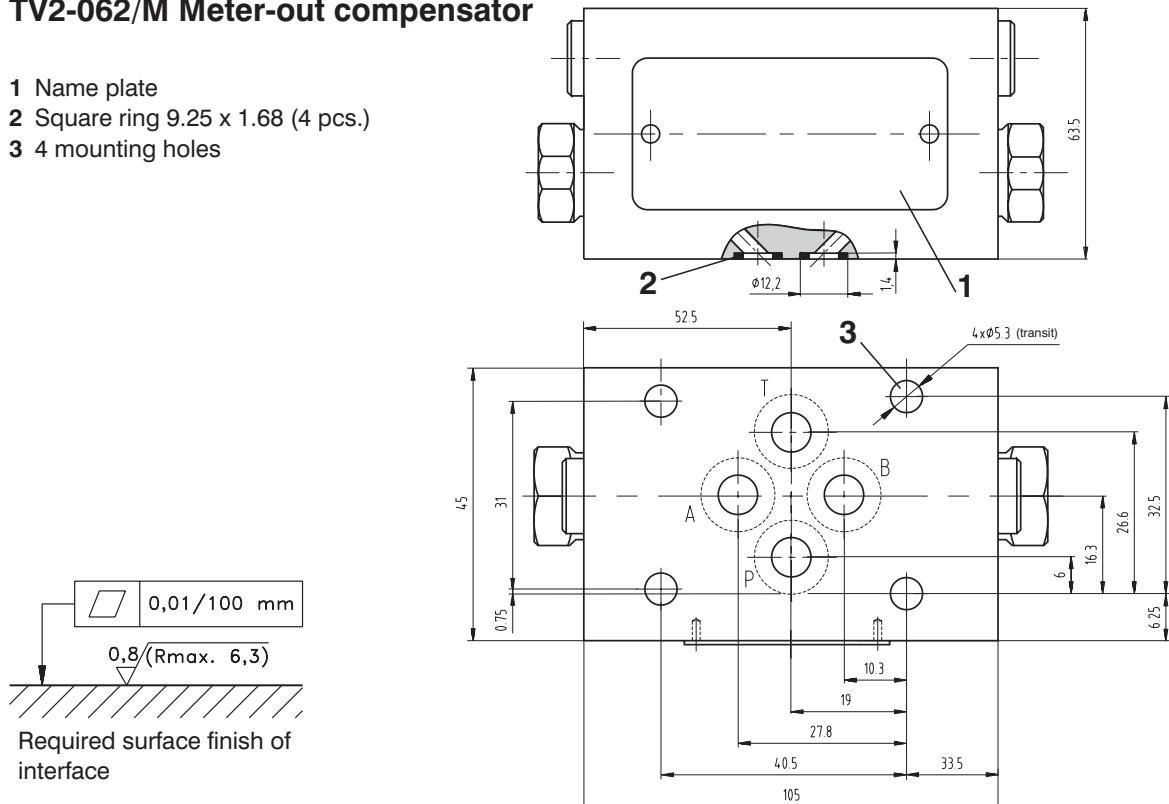
Dimensions in millimetres

**TV2-062/M Meter-in compensator**

- 1 Name plate  
 2 Square ring 9.25 x 1.68 (4 pcs.)  
 3 4 mounting holes

**TV2-062/M Meter-out compensator**

- 1 Name plate  
 2 Square ring 9.25 x 1.68 (4 pcs.)  
 3 4 mounting holes

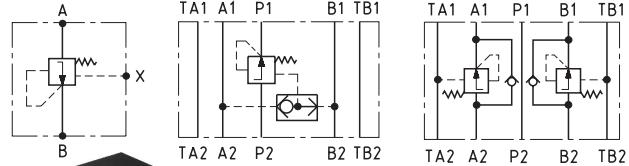
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 www.argo-hytos.com

Size 10 •  $p_{\max}$  up to 320 bar •  $Q_{\max}$  up to 80 L/min

- Cartridge design
- Sandwich plate design for use in vertical stacking assemblies
- Build-in load sensing shuttle valve
- Installation dimensions to ISO 4401:1994 and DIN 24 340-A10



## Functional Description

### 2-Way pressure compensator for meter-in application

The 2-way pressure compensators in meter-in application will maintain a constant pressure difference across the metering edge of the proportional direction valve. In this case, the pressure variations due to load changes, as well as pump pressure changes are compensated so any increase in pump pressure does not affect the flow. The meter-in compensators may only be used with positive load direction.

Valves type TV2-102/MA,B,C are directly operated 2-way pressure compensators cartridge design in sandwich plate. They are designated for load compensation in channel P.

The main parts of these valves are the housing (1), control spool (2), spring (3) and shuttle valve (4). The spring (3) holds the spool in the open position from P2 to P1, provided that the pressure difference between P1 and A ( $P_1 - B$ ) is less than 10 bar. When the pressure difference exceeds the value of 10 bar, the spool shifts against the spring and throttled radial the housing openings until the desired pressure difference has been restored.

The pressure signal comes through passage (5) from channel A or B.

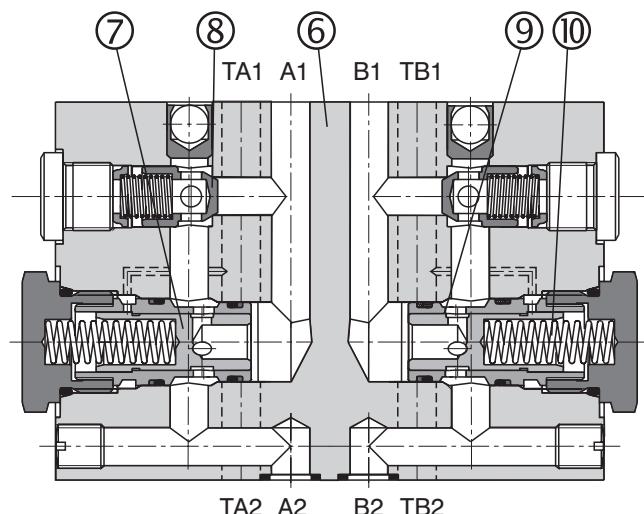
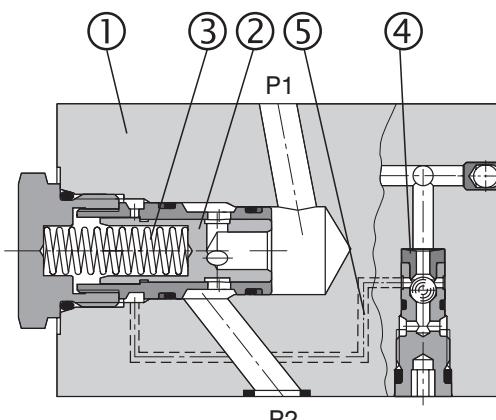
The valve body is phosphated, all other parts are zinc coated.

### 2-Way pressure compensator for meter-out application

In systems with changing load directions, the use of meter-out pressure compensators is required. With respect to the application a valve with pressure compensator installed in one, or in both actuator ports are available.

The pressure compensator is always mounted between the actuator and the proportional directional valve. The valve will maintain the pressure difference between A and T or B and T constant. The flow rate and the flow direction are adjusted by the proportional directional valve. To enable the reverse flow, two by-pass check valves are incorporated into the valve body.

The valve consists of the valve body (6), one or two control spools (7) and poppets of the by-pass check valves (8). If the pump, for example, is connected to port A, the fluid passes to the actuator through a check valve and returns from the actuator through channel B to the proportional directional valve. The pressure difference across the metering edge of the directional valve is maintained at a constant level. This ensures a constant flow rate independent to the load. The pressure difference is controlled by the metering edge (9), its value being determined by spring force (10). A similar valve function develops when the proportional valve ports P and B are connected.



## Ordering Code

TV2 - 102/□□□

Pressure compensator

Seals

NBR

FPM (Viton)

Nominal size

2-Way pressure compensator

Design

Cartridge

Sandwich plate

S  
M**A**  
**B**  
**C**  
**D**  
**E**  
**F****Model**

Meter-in compensator - function in channel A

Meter-in compensator - function in channel B

Meter-in compensator - function in channels A and B

Meter-out compensator - function in channels A and B

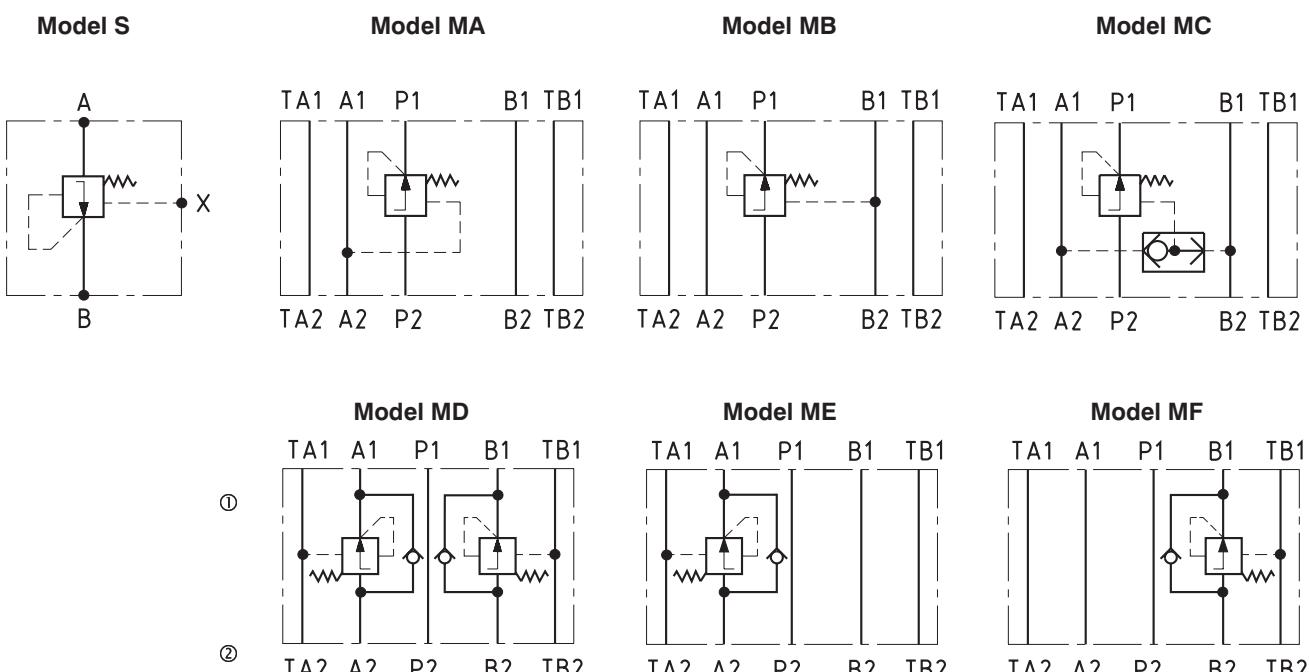
Meter-out compensator - function in channel A

Meter-out compensator - function in channel B

## Technical Data

Nominal size	mm	10
Maximum flow	L/min	80
Max. operating pressure	bar	320
Pressure drop on valve $\Delta p$	bar	10
Hydraulic fluid		Hydraulic oils of power classes HM, HV to CETOP-RP 91H in viscosity classes ISO VG 32, 46 and 68.
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406 (1999).
Weight TV2-102/S	kg	0.15
TV2-102/MA (MB, MC)		3.70
TV2-102/MD (ME, MF)		6.65
Valve tightening torque for design S	Nm	70
Mounting position		optional

## Functional symbols

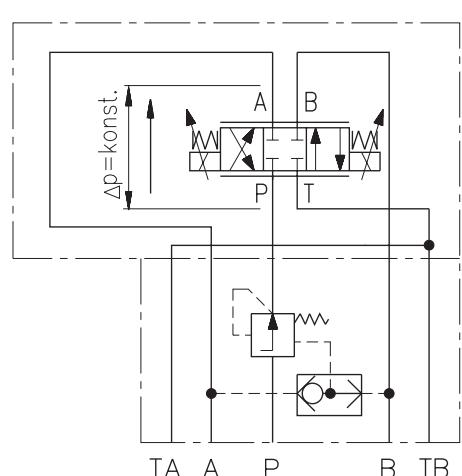


① valve side

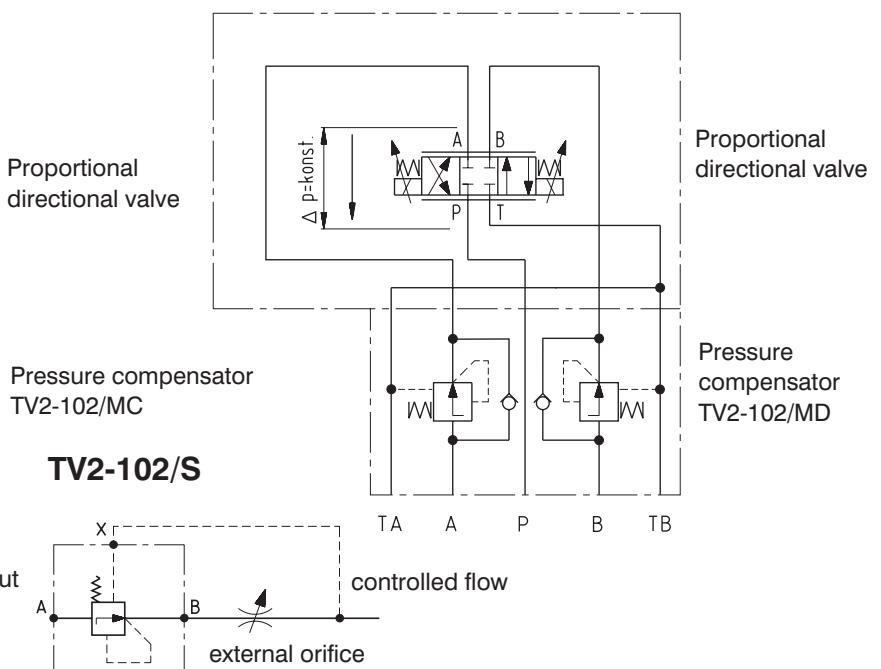
② plate side

## Typical application

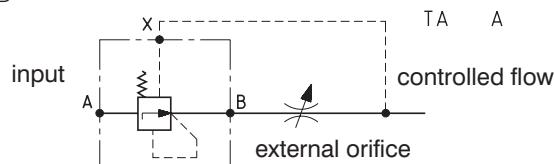
### TV2-102/MC Meter-in compensator



### TV2-102/MD Meter-out compensator



### TV2-102/S

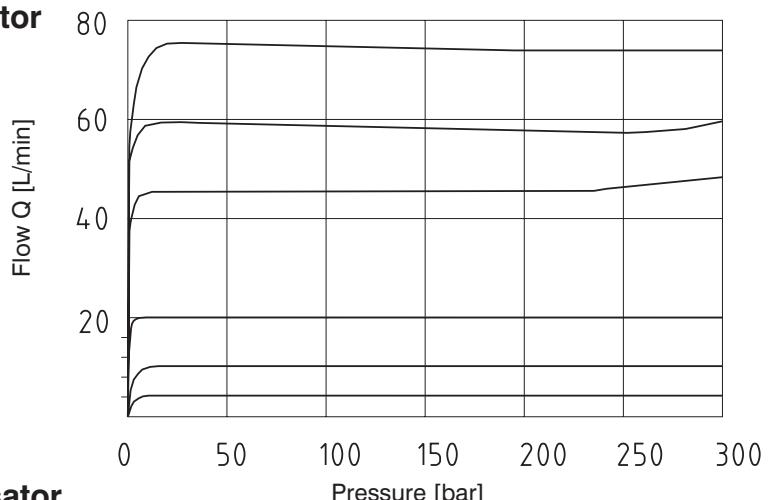


## Characteristics

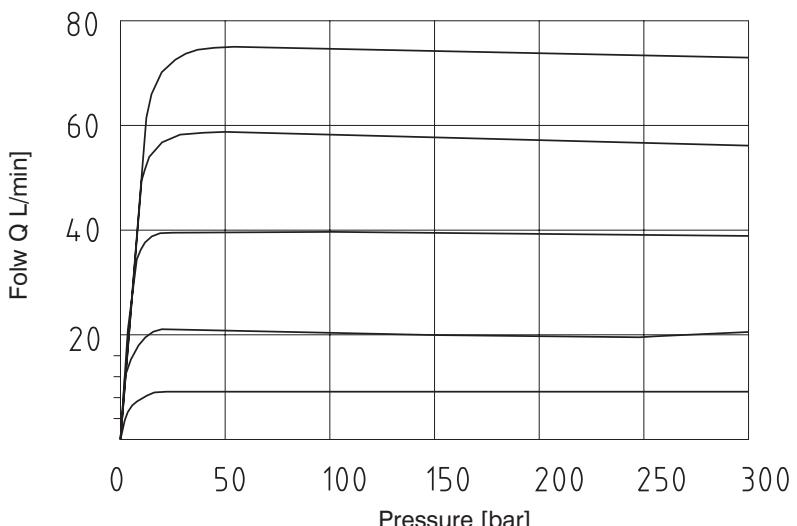
Measured at  $v = 35 \text{ mm}^2/\text{s}$  and  $t = 40^\circ\text{C}$

The characteristic of the pressure compensator corresponds with the flow rate of a PRM2-103Z11/60 proportional directional valve.

### TV2-102/MC Meter-in compensator



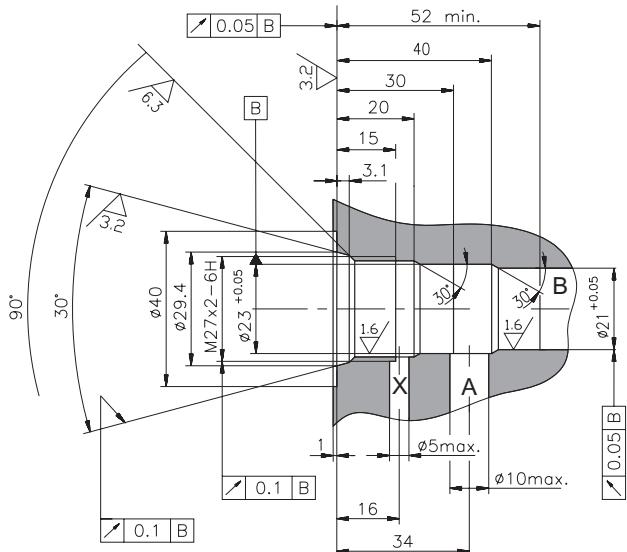
### TV2-102/MD Meter-out compensator



## Valve Dimensions

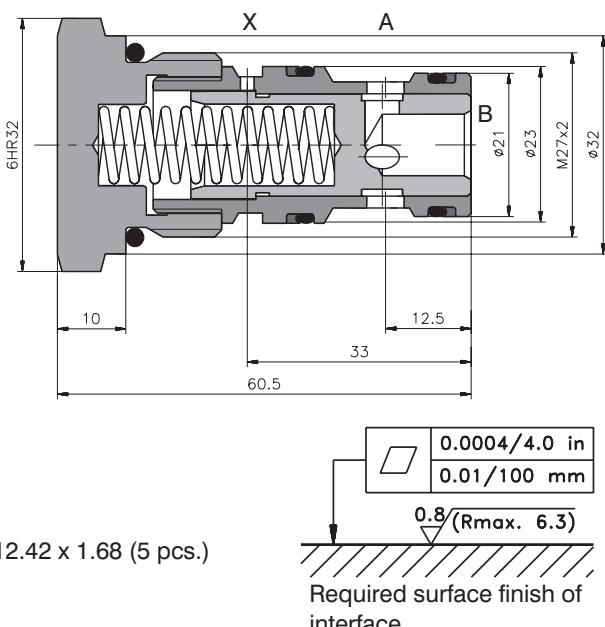
Dimensions in millimeters

## **Installation cavity TV2-102**

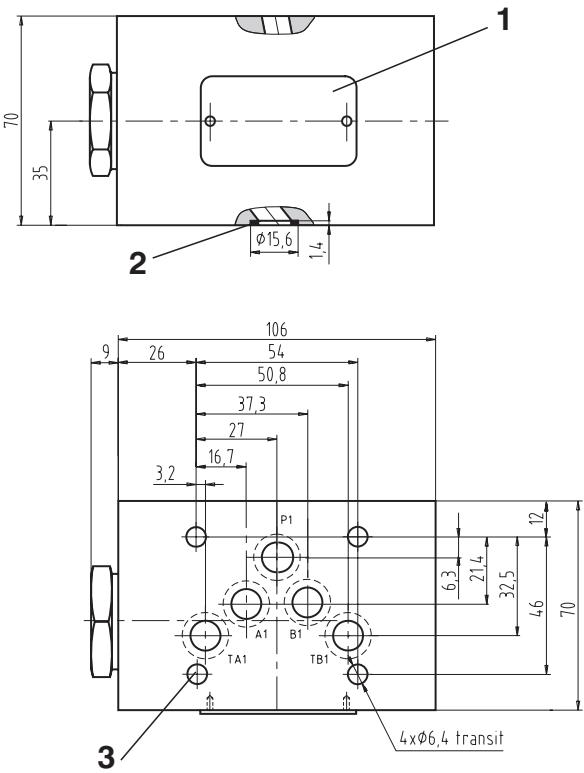


- 1** Name plate
  - 2** Square Ring 014S - 12.42 x 1.68 (5 pcs.)  
(supplied with valve)
  - 3** 4 mounting holes

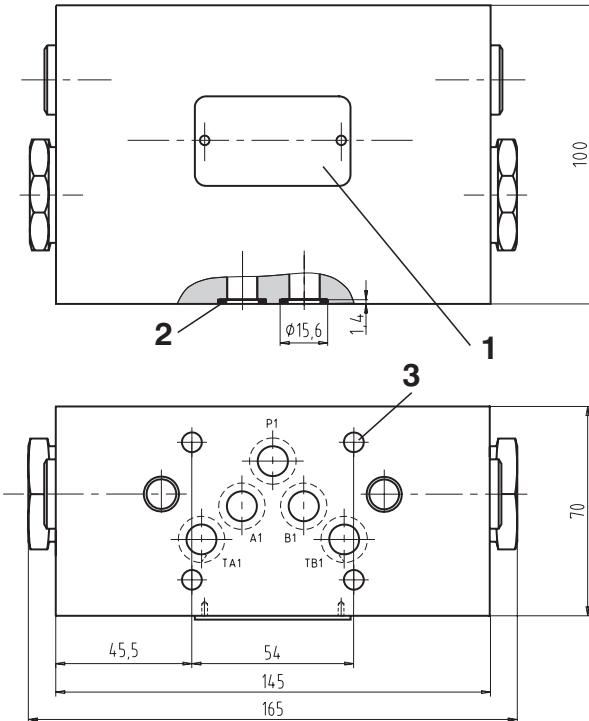
## **Installation cavity TV2-102/S**



## **TV2-102/M Meter-in compensator**



## **TV2-102/M Meter-out compensator**

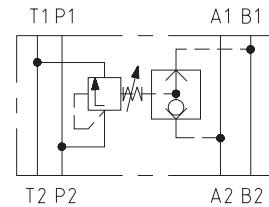


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[www.argo-hytos.com](http://www.argo-hytos.com)

- Sandwich plate design for use in vertical stacking assemblies
- With integrated logic valve
- Pressure difference adjustable from 5 - 40 bar
- Installation dimensions to ISO 4401 CETOP-RP 121H, ISO 4401:1994 and DIN 24 340-A6



## Functional Description

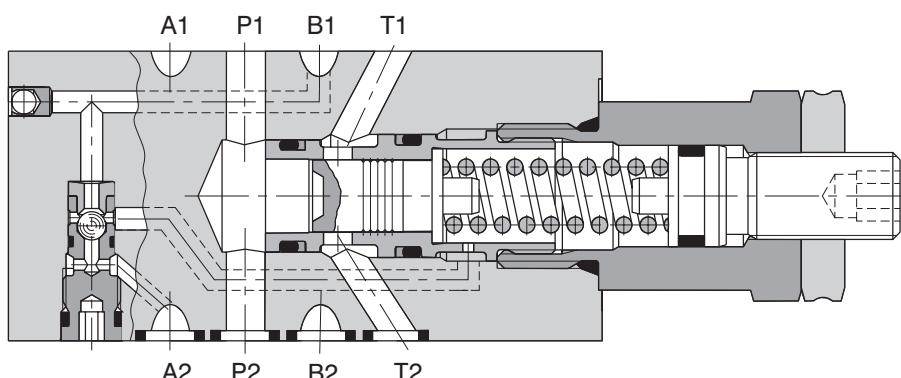
The valves TV2-043/M and TV2-063/M are designed as a sandwich plate of size 04 and 06. They consist of a body, a logic valve and a pressure compensator with control spool.

The ports A and B are always connected through the logic valve seat with the spring side of spool. The higher pressure pushes the ball onto the seat that is affected by lower pressure. This always causes the channel with the higher pressure to be connected with the control spool spring room.

The required pressure difference between port P and the spring room is adjusted. When the pressure difference

between P and the spring room exceeds the value set, the control spool shifts, causing the part of pressure fluid to pass from P to T until the desired pressure difference has been restored.

Usually, this pressure compensator is used in connection with a proportional directional valve. In this case, each value of the control signal a particular constant flow rate can be assigned, this being independent of load.



## Ordering Code

**TV2 - □ 3/M □ □**

**Pressure compensator**

without designation

**Seals**

NBR

FPM (Viton)

**Nominal size**

size 04  
size 06

**04**  
**06**

**A**  
**B**  
**C**

**Model**

in channel A

in channel B

in channels A and B

**3-Way pressure compensator**

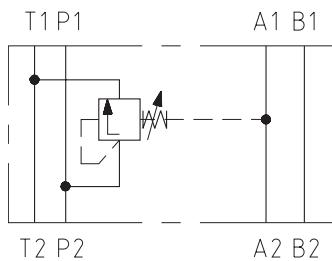
**Sandwich plate design**

## Technical Data

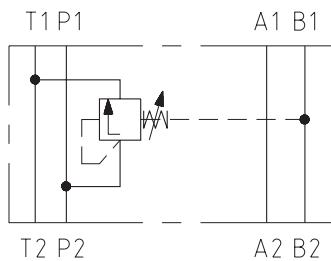
Nominal size	mm	04	06		
Maximum flow	L/min	20	40		
Max. operating pressure	bar	320			
Pressure drop on valve $\Delta p$	bar	5 - 40			
Hydraulic fluid	Hydraulic oils of power classes HM, HV to CETOP-RP 91H in viscosity classes ISO VG 32, 46 and 68.				
Maximum degree of fluid contamination	Class 21/18/15 to ISO 4406 (1999).				
Weight (Model A,B,C)	kg	0.6	1.00		
Mounting position	optional				

## Functional Symbols

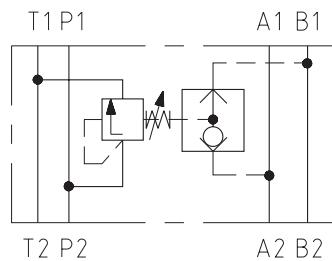
**Model A**



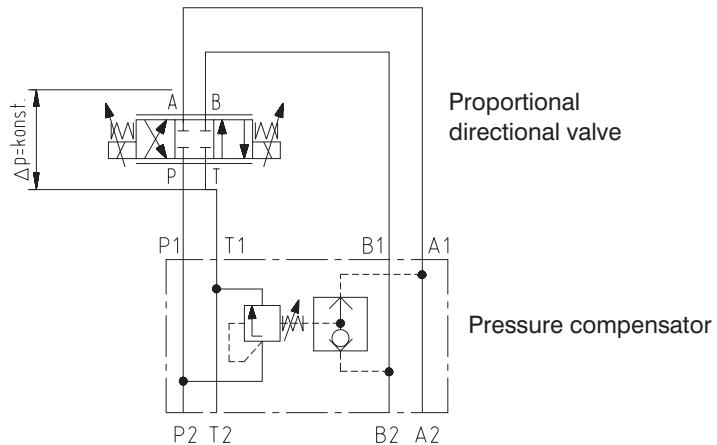
**Model B**



**Model C**



## Typical applications

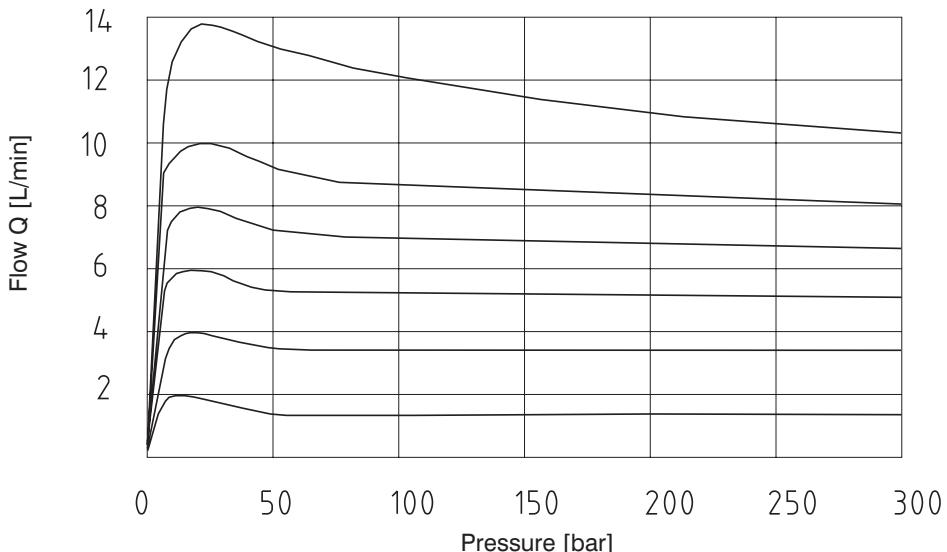


## Characteristics

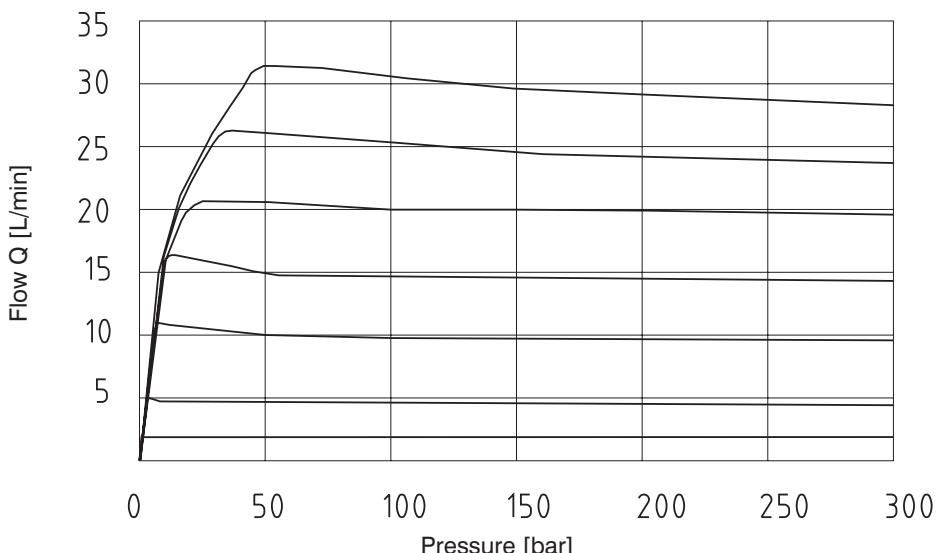
Measured at  $v = 35\text{mm}^2/\text{s}$  and  $t = 40^\circ\text{C}$

The characteristic of the pressure compensator corresponds with the flow rate of a PRM2-043Z11/12 and PRM2-063Z11/30 proportional directional valve. By increasing the flow resistance due to a flow rate increase, also the outside pressure difference has to be increased, in order to ensure the correct control function.

### Tv2-043/M



### TV2-063/M

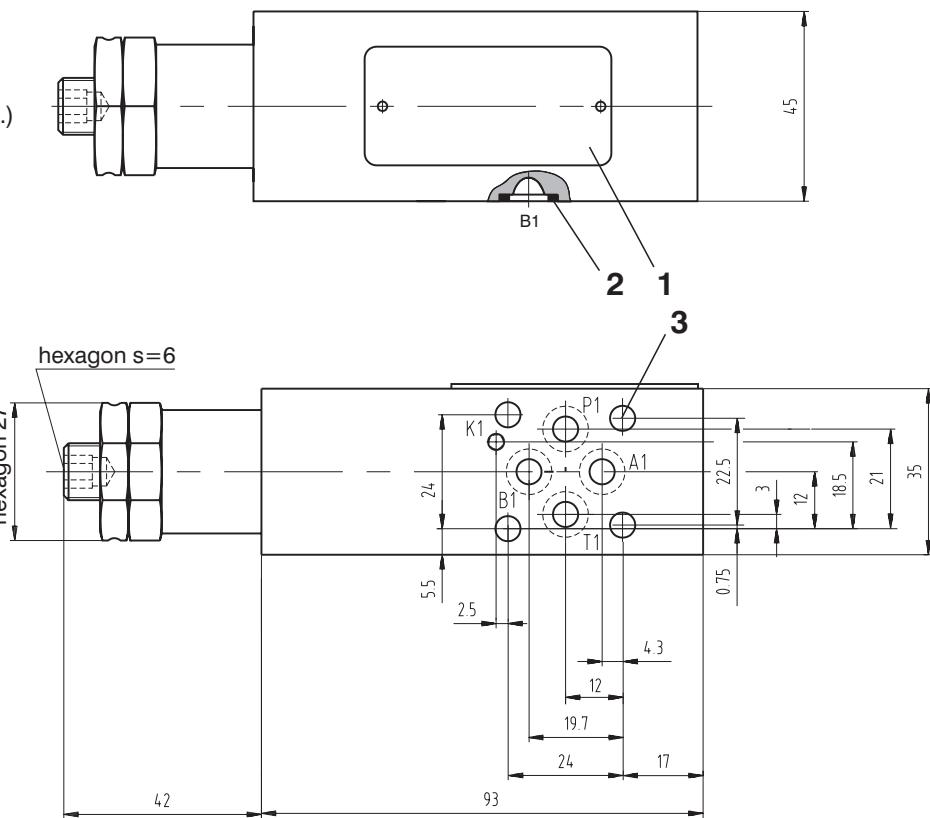


# Valve Dimensions

Dimensions in millimetres

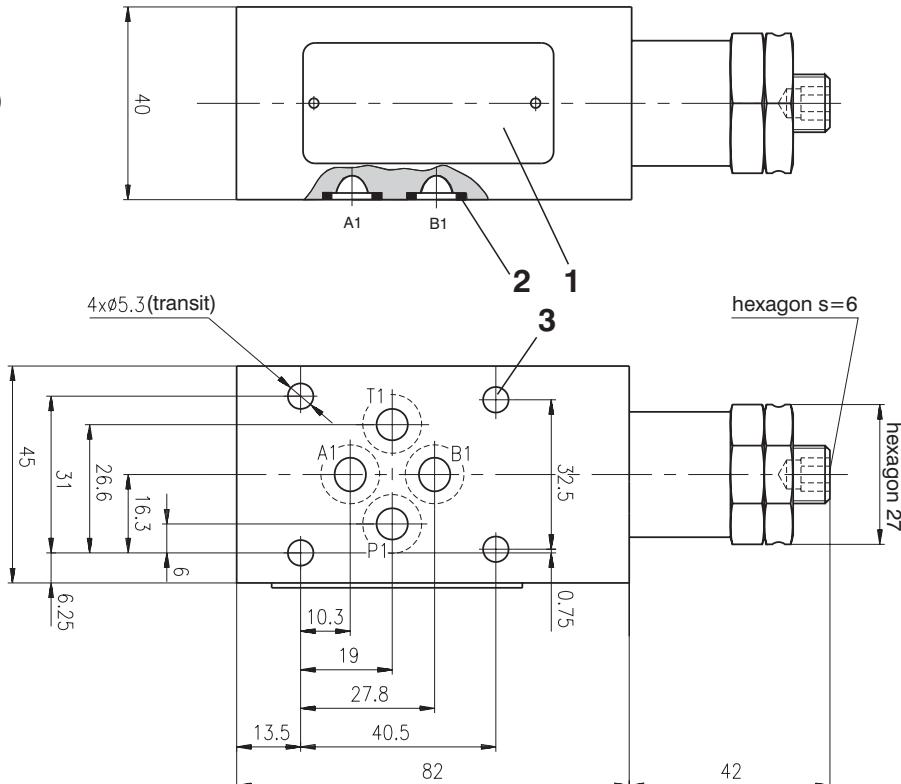
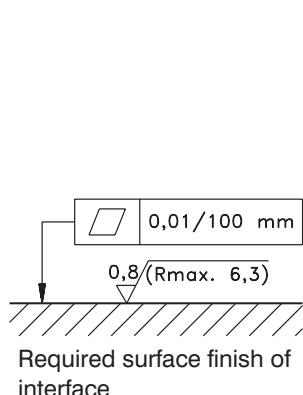
## TV2-043/M

- 1 Name plate
- 2 Square ring 7.65 x 1.68 (4 pcs.)
- 3 4 mounting holes



## TV2-063/M

- 1 Name plate
- 2 Square ring 9.25 x 1.68 (4 pcs.)
- 3 4 mounting holes



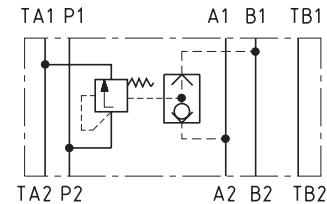
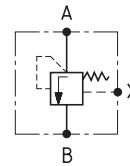
## Caution!

- The packing foil is recyclable.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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 www.argo-hytos.com

Size 10 •  $p_{\max}$  up to 320 bar •  $Q_{\max}$  up to 80 L/min

- Cartridge design
- Sandwich plate design for use in vertical stacking assemblies
- With integrated logic valve
- Installation dimensions to ISO 4401 and DIN 24 340-A10

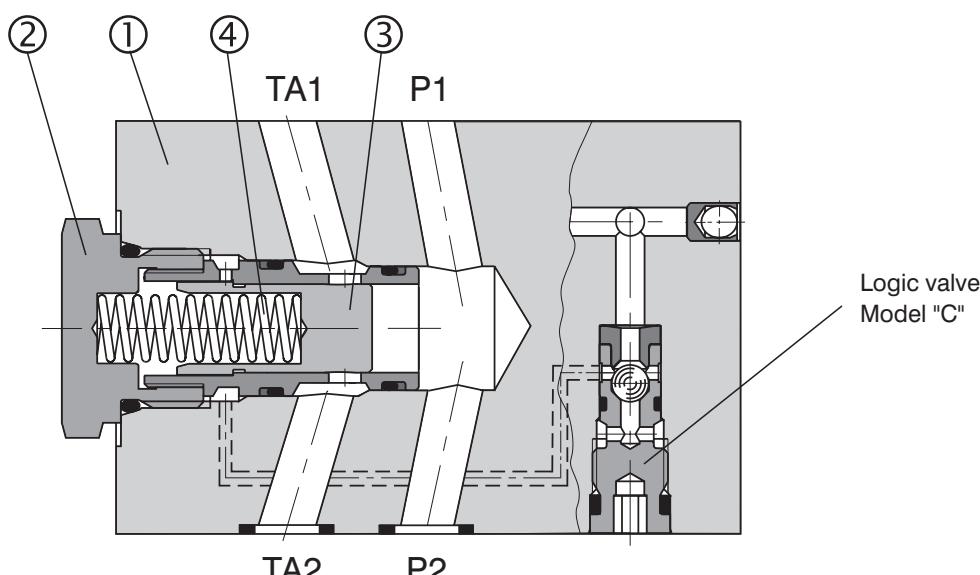


## Functional Description

The valve TV2-103 is designed as a sandwich and cartridge plate. Sandwich design consist of a body (1), cartridge pressure compensator (2) with control spool (3) and logic valve in model "C" - where the ports A and B are always connected through the logic valve seat with the spring side of spool. The higher pressure pushes the ball onto the seat that is affected by lower pressure. This always causes the channel with the higher pressure to be connected with the control spool spring room (4). The required pressure difference between port P and the spring room is adjusted. When the pressure difference

between P and the spring room exceeds the value set, the control spool shifts, causing the part of pressure fluid to pass from P to T until the desired pressure difference has been restored.

Usually, this pressure compensator is used in connection with a proportional directional valve. In this case, each value of the control signal a particular constant flow rate can be assigned, this being independent of load. The valve body is phosphated, all other parts are zinc coated.



## Ordering Code

TV2 - 10 3/

Pressure compensator

Nominal size

3-Way pressure compensator

**Design**  
Cartridge  
Sandwich plate

**S**  
**M**

without designation

**V**

**Seals**  
NBR  
FPM (Viton)

**A**  
**B**  
**C**

**Model**

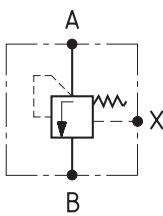
function in channel A  
functin in channel B  
function in channels A and B

## Technical Data

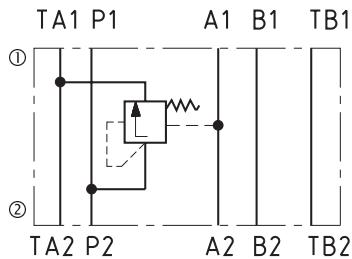
Nominal size	mm	10
Maximum flow	L/min	80
Max. operating pressure	bar	320
Pressure drop on valve $\Delta p$	bar	10
Hydraulic fluid		Hydraulic oils of power classes HM, HV to CETOP-RP 91H in viscosity classes ISO VG 32, 46 and 68.
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406 (1999).
Weight TV2-103/MA (MB, MC) TV2-103/S	kg	3.70 0.15
Mounting position		optional

## Functional Symbols

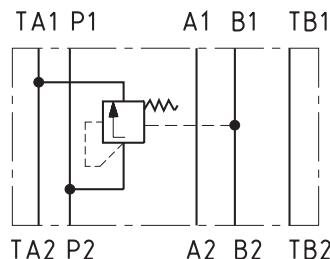
Model S



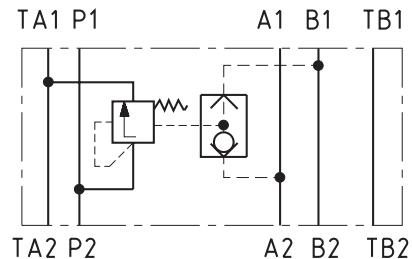
Model MA



Model MB



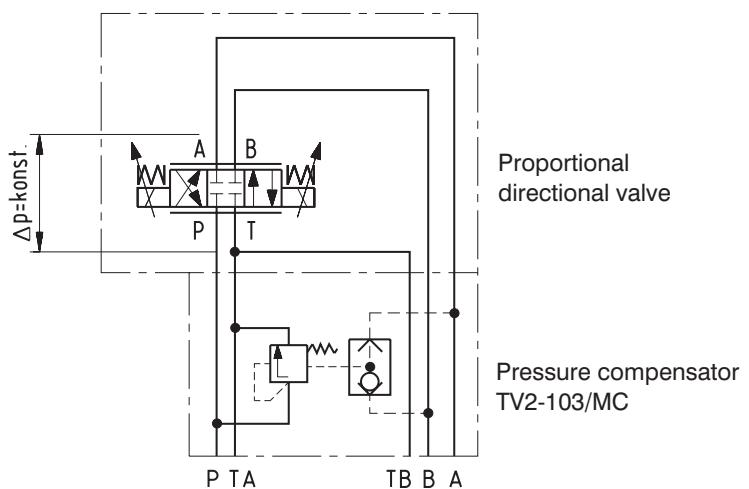
Model MC



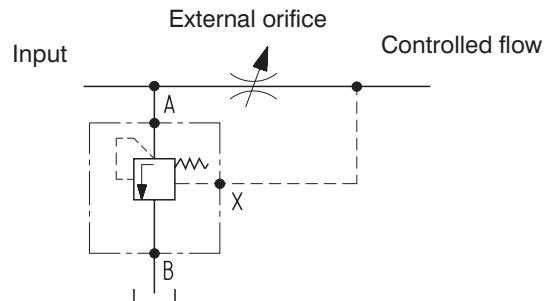
- ① valve side  
② plate side

## Typical applications

**TV2-103/MC**



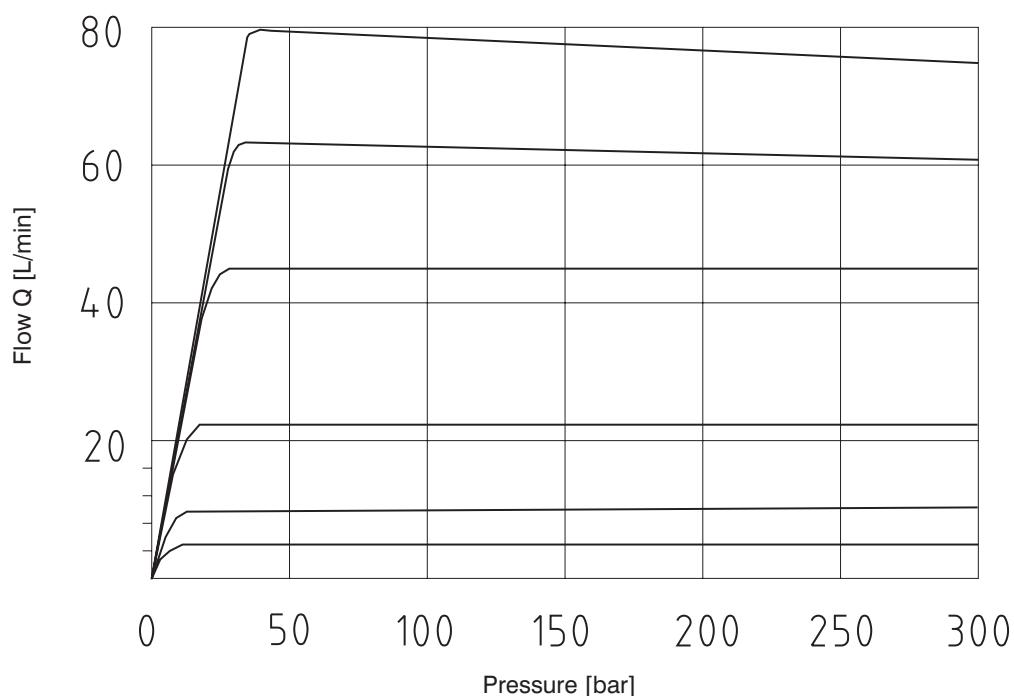
**TV2-103/S**



## Characteristic

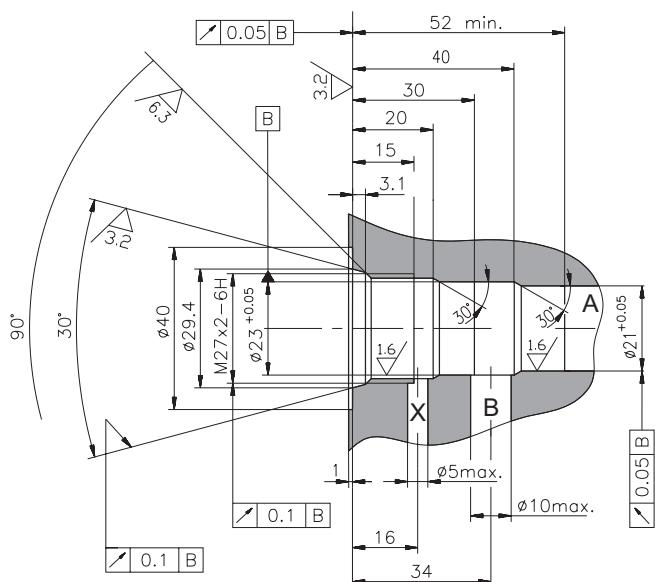
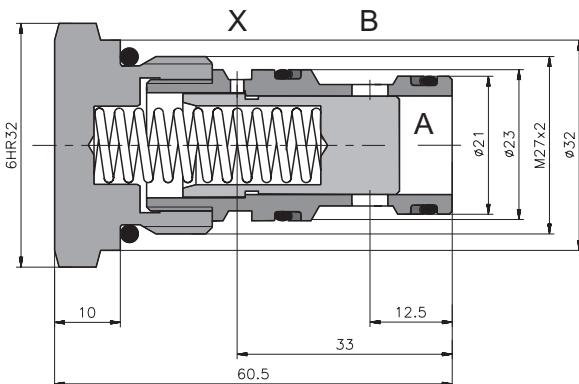
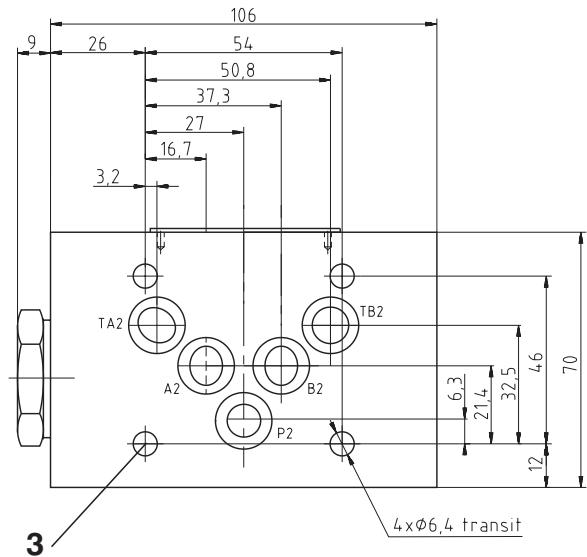
Measured at  $v = 35 \text{ mm}^2/\text{s}$  and  $t = 40^\circ\text{C}$

The characteristic of the pressure compensator corresponds with the flow rate of a PRM2-103Z11/60 proportional directional valve.

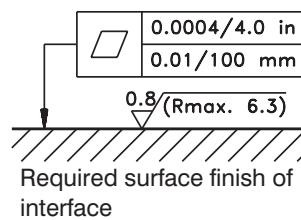
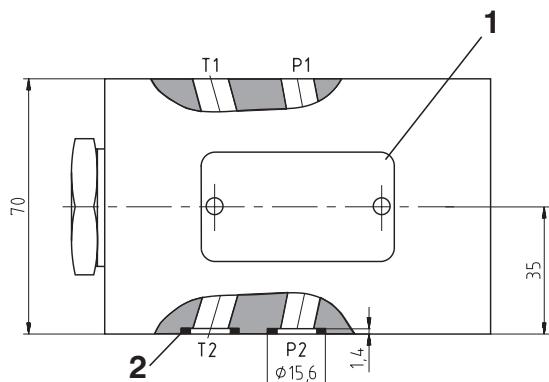


**Valve Dimensions**

Dimensions in millimeters

**Installation cavity TV2-103****TV2-103/S****TV2-103/M**

- 1 Name plate
- 2 Square ring 014S - 12,42 x 1,68 (5 pcs.)  
(supplied with valve)
- 3 4 mounting holes

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