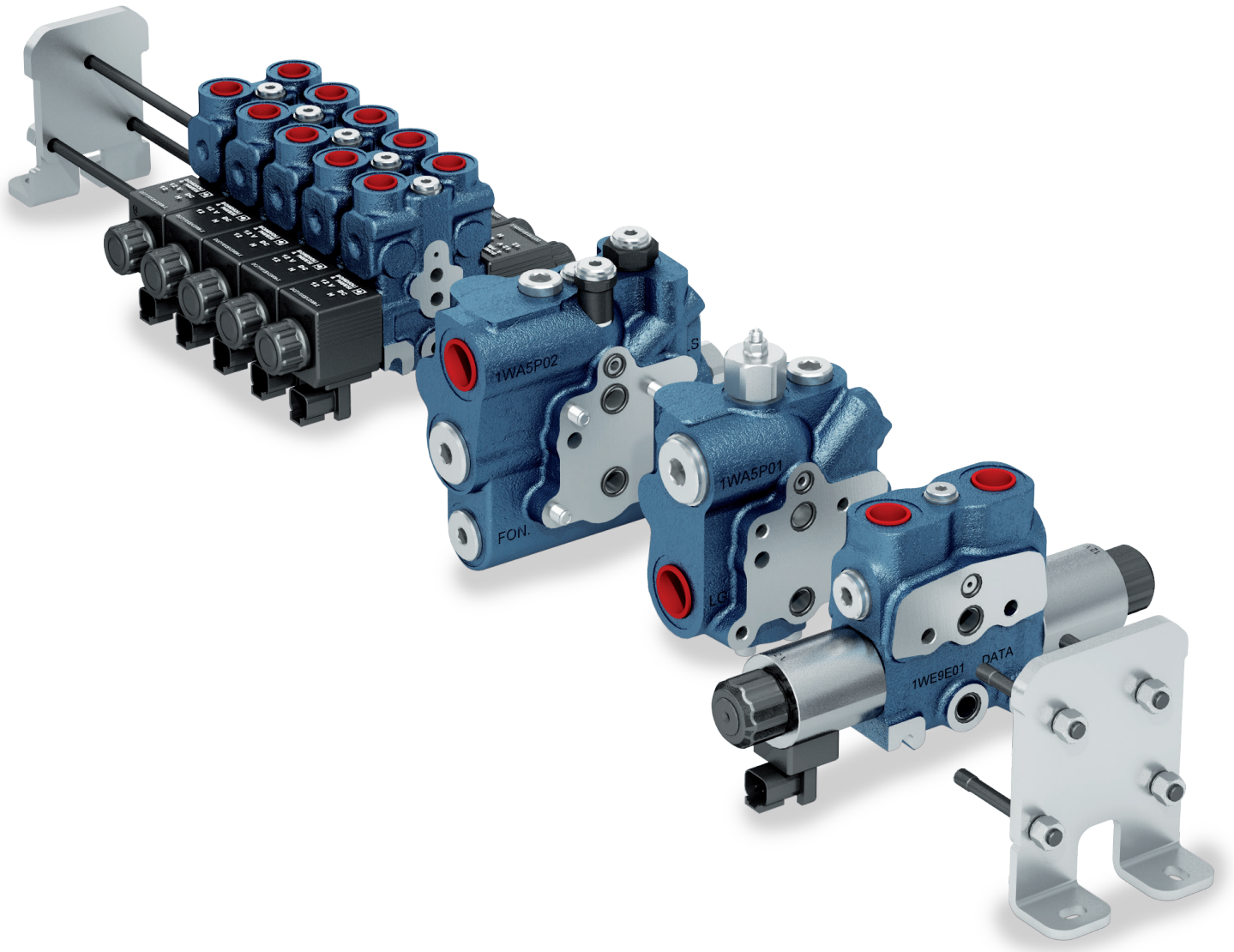
Ordering guide



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ByWire system

ByWire is the **Modular directional control valve** system developed by Bondioli&Pavesi designed to optimise hydraulic systems and achieve a dynamic approach of the machine. This is thanks to a wide range of standard elements which, when suitably assembled, mean it can be configured on the basis of specific requirements and the circuit to be used, starting from the performance of each function required.

In **ByWire**, all the exchanges and compensations are made directly in the body and the elements. These have been studied to offer larger flow sections compared to cartridge systems of the same external dimensions, with clear advantages in **limiting load loss** and in terms of **energy savings**.

The consolidated technologies are used by the system intuitively and flexibly, **allowing the individual modules to be selected on the basis of the functions of the machine**. **ByWire** is therefore the ideal partner for ensuring optimal performance and better use for the operator, through an easy-to-use and intuitive control. ByWire can be used in sectors which require complex hydraulic circuits, with high performance levels, such as agricultural machinery or power machinery for urban works, lifting systems and earth moving machinery.

Features

- The **ByWire** system offers solutions with **proportional** and **on-off electric actuators** with **parallel** or **tandem circuits**
- The system can have **pre-compensated** or **flow sharing** elements, suitable for working in circuits with **fixed pump** or **variable pump**
- **All the exchanges and compensations are performed in the body**

Benefits

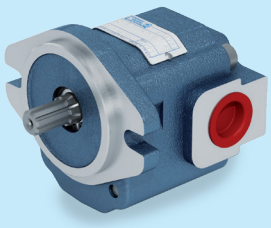
- Overall optimization of the hydraulic circuit
- Simplification of all the design steps: easy to control even with self-managing solutions
- Limited size and weight
- Flexibility thanks to the modularity of the components (up to 63 elements) and easy configuration
- Reduced consumption levels thanks to less energy dissipation

Platforms

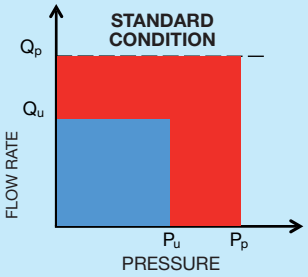
ByWire can be configured according to the specific circuit requirements on the basis of different platforms.

OC platform
Open Center Platform

Allows the circuit to be pressurised through the ON-OFF switch, and offers the possibility of integrating different sized modules, including proportionally controlled modules.



Fixed displacement pump

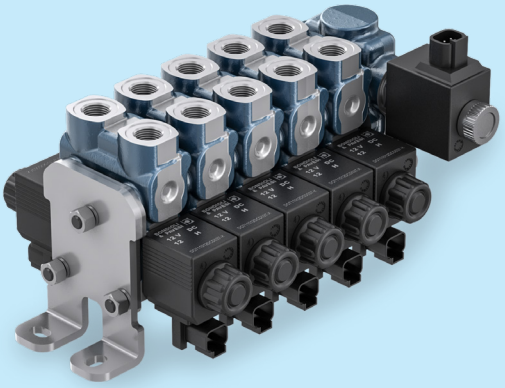


LOST POWER

WORKING POWER

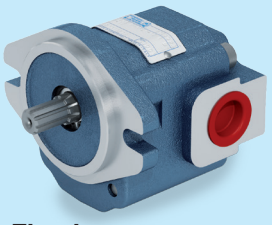
Q_p = Pump Flow
Q_U = Section Flow

P_P = Pump Pressure
P_U = Pressure Load

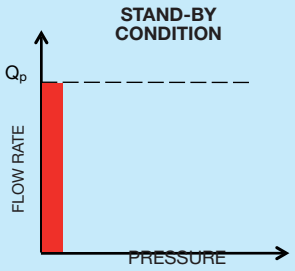


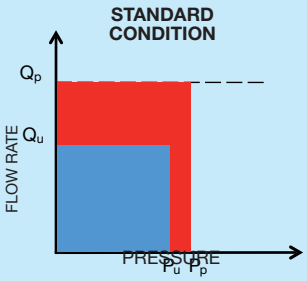
LS platform
Load Sensing Platform

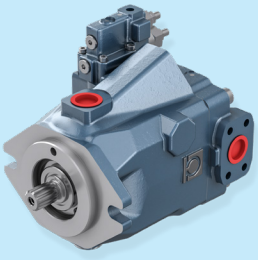
The Load Sensing control improves the performance of the valve-pump system by reducing energy dissipation since the flow rate is adjusted according to the real needs of each function. The LS platform can be configured either with variable flow rate pumps or with fixed flow rate pumps.



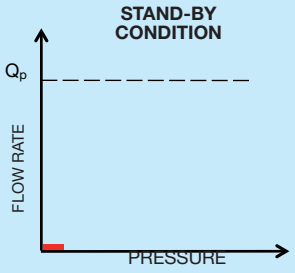
Fixed displacement pump

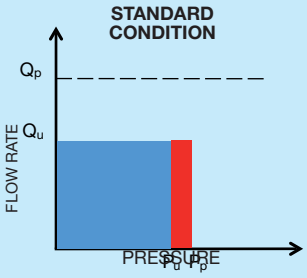






Variable displacement pump





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WORKING POWER

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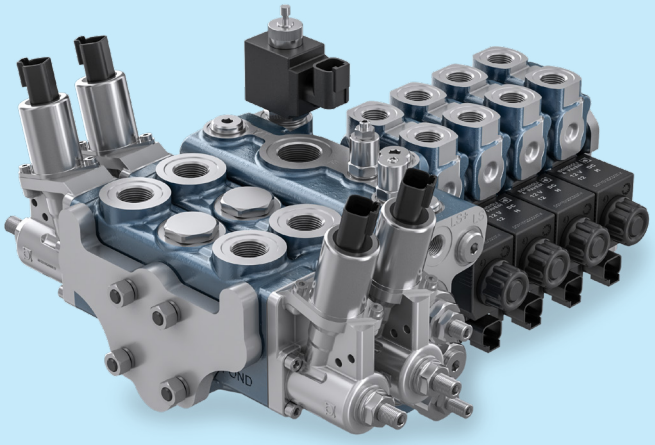
Q_U = Section Flow

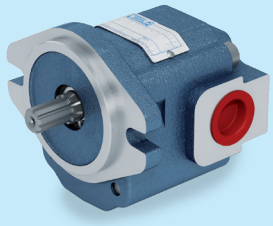
P_P = Pump Pressure
P_U = Pressure Load



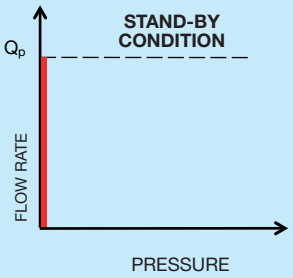
ByWire modular system

HL platform
Hybrid Load Sensing Platform

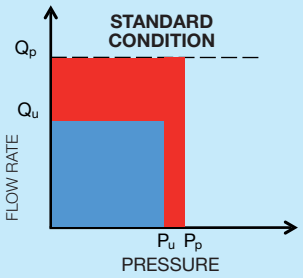
Through a hydraulic/electronic control system, the HL platform optimizes the behaviour of the Load Sensing signal on each function according to a programmed logic.
The system guarantees the use of the minimum necessary power for each function.



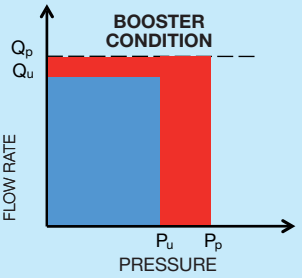
Fixed displacement pump



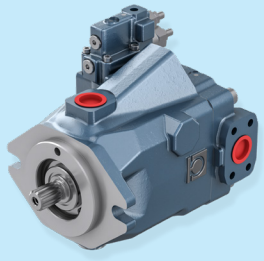
STAND-BY CONDITION
The flow is discharged to the tank with the minimum pressure drop.



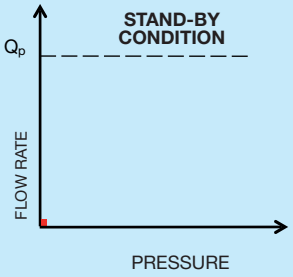
STANDARD CONDITION
The section flow is defined by the spool nocthes size and the standard stand-by pressure.



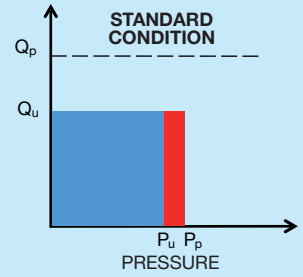
BOOSTER CONDITION
The section flow is increased by a proportional regulation of the stand-by pressure of the system.



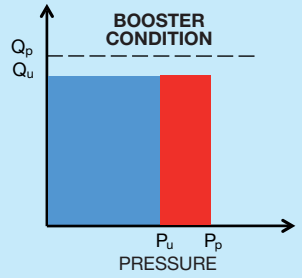
Variable displacement pump



STAND-BY CONDITION
LS Pump in the stand-by condition.



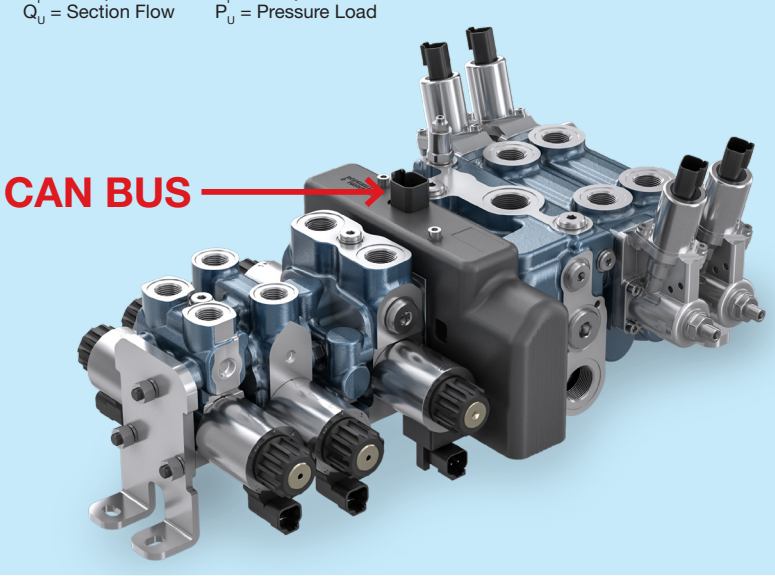
STANDARD CONDITION
The section flow is defined by the spool nocthes size and the stand-by pressure of the pump.



BOOSTER CONDITION
The section flow is increased by a proportional regulation of the stand-by pressure of the system.

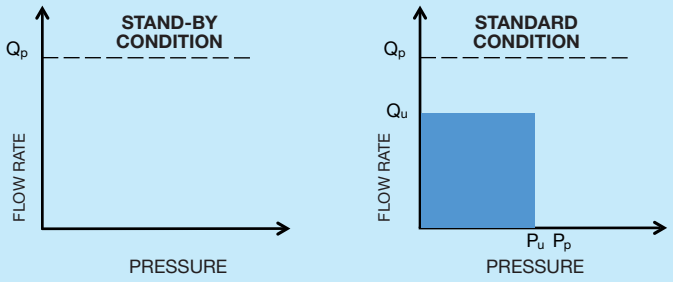
LOST POWER
WORKING POWER

Q_P = Pump Flow
Q_U = Section Flow
P_P = Pump Pressure
P_U = Pressure Load



EL platform
Electronic Load Sensing Platform

The EL platform represents the most advanced system, open to future developments of the IOT. The entire control of the system (adjustments and compensations) takes place electronically, obtaining maximum performance in terms of system optimization and safety. The sensors in the system (pressure, flow rate etc.) detect the need for each individual hydraulic function of the machine, allowing rapid management in maximum precision.



LOST POWER

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Q_P = Pump Flow
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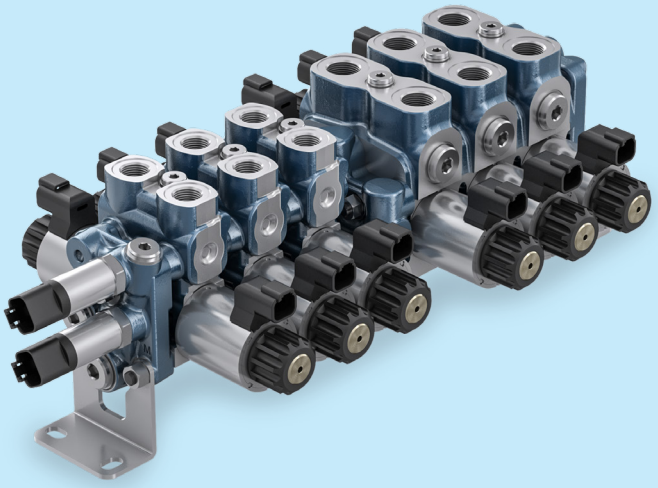
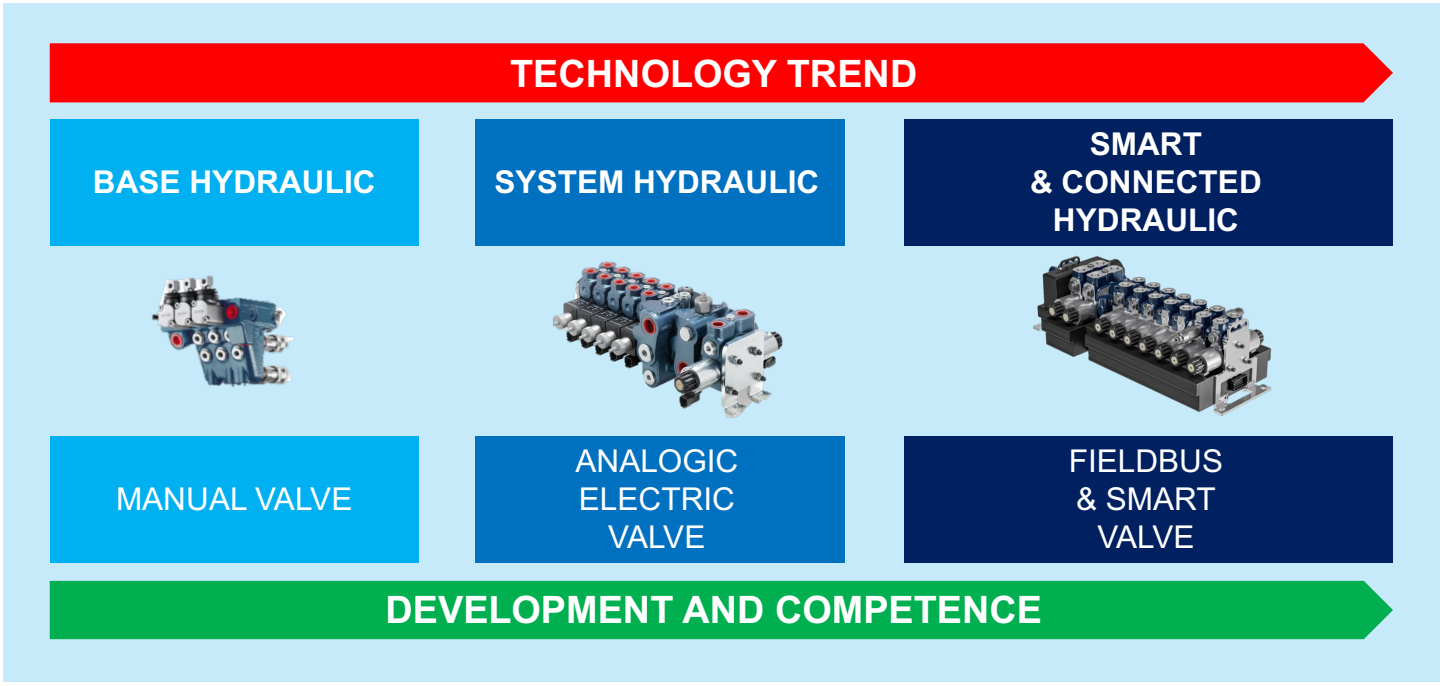


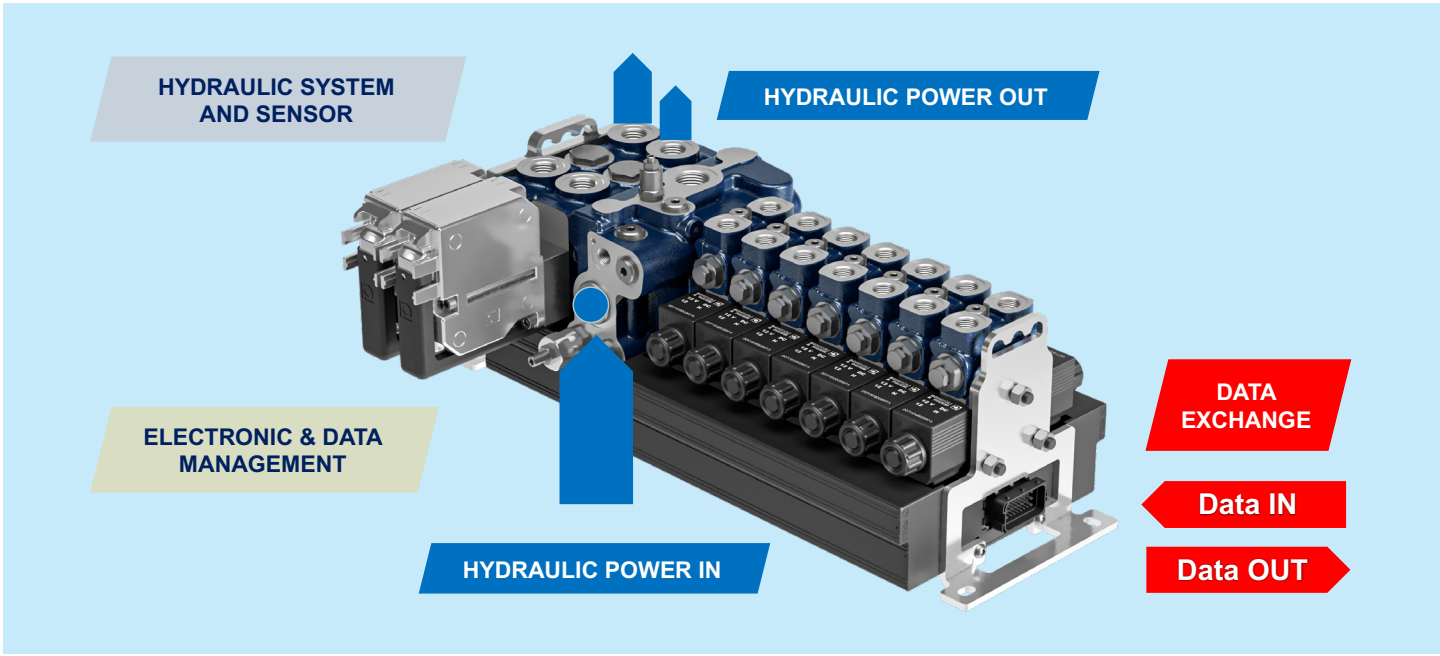
ByWire modular system

ByWire HUB system

ByWire HUB is a new approach to hydraulic management, moving from analogue control (valve actuated by an analogue signal) to Fieldbus control in which the ByWire valve is connected to all other machine parts with continuous exchange of digital data, controls and diagnostic signals. A new generation of intelligent and connected hydraulics.

The Fieldbus system offers easy connection between the valve and all parts of the machine connected to the CAN-Bus network. Integration of dedicated sensors and the implementation of a specific algorithm allow for complete management of the data from sensors and controls from the CAN-Bus line. This provides continuous information on the system's operation, such as, for example, hydraulic power consumption, pressure drops in the system, or the power required for an individual section.

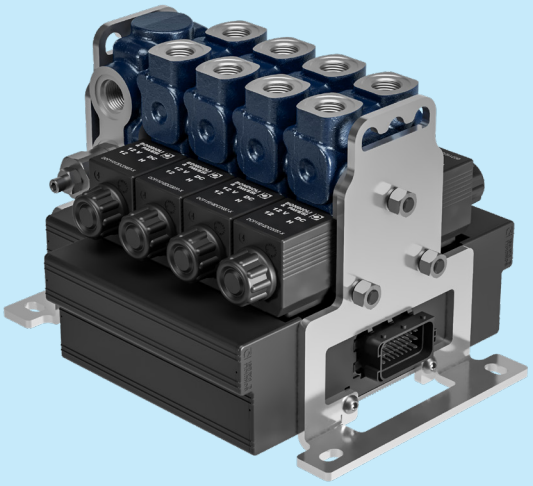


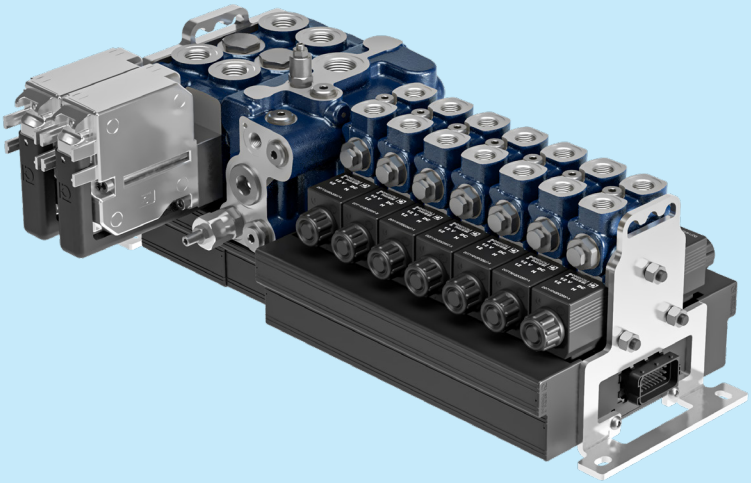


The three versions of ByWire HUB

- **E-HUB**: connection of the valve to the other machine components is simplified thanks to a single electric connector positioned right in front of the valve
- **I-HUB**: this is a combination of two main components: an ECU and a wiring
- **I-HUB Plus**: incorporates all the features of the I-HUB, but the ECU is programmed with custom control logic.

The common goal of all three systems, E-HUB, I-HUB and I-HUB PLUS, is to create a customised, integrated and intelligent system.

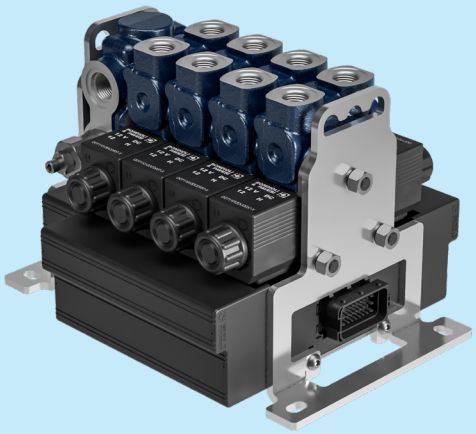


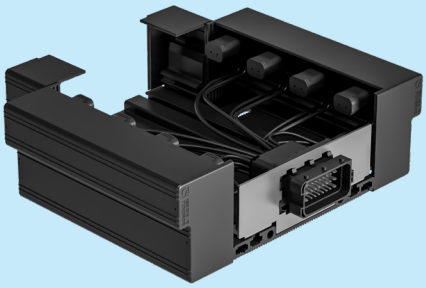


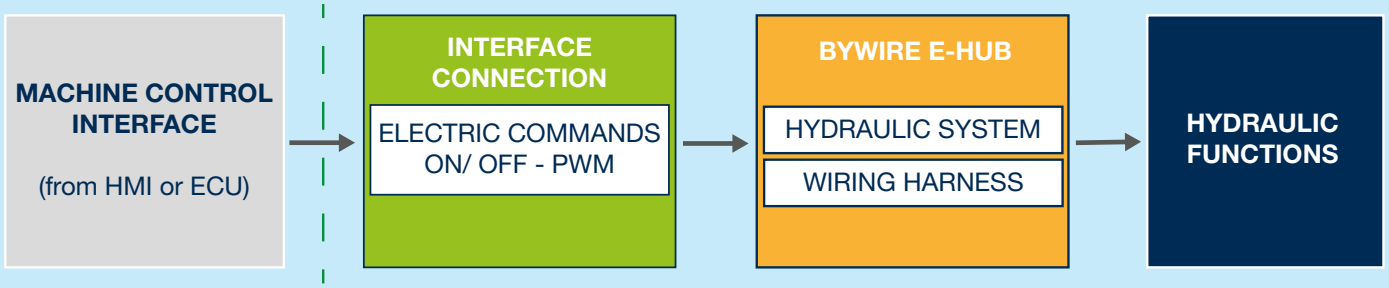
E-HUB The connection of the valve to the other machine components is simplified thanks to a single electric connector positioned in front of the valve. E-HUB simplifies not only the connection of the wiring, but represents an additional protection from the external environment (water, sludge, grease etc.) via the protective cover.

The benefits are:

- Reduced installation time by the customer (one electrical connection connects the entire electro-hydraulic system)
- Additional protection from the exterior environment
- Plug and Play solution
- Clean, industrialised solution (no more messy cables around the valve block)





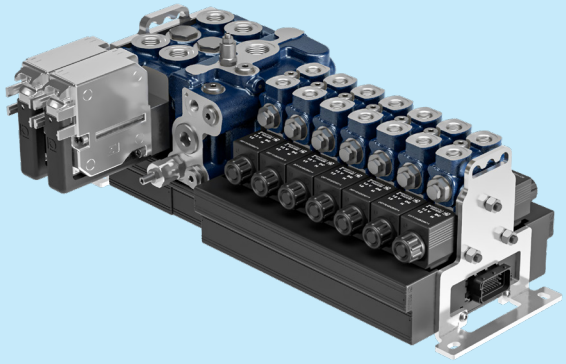


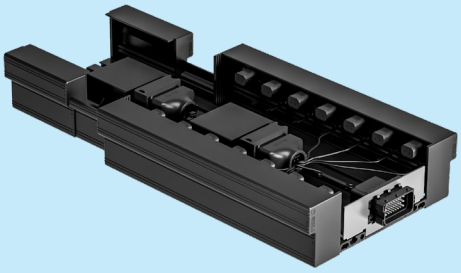
I-HUB I-HUB means the integration of two main components: an ECU and a wiring.

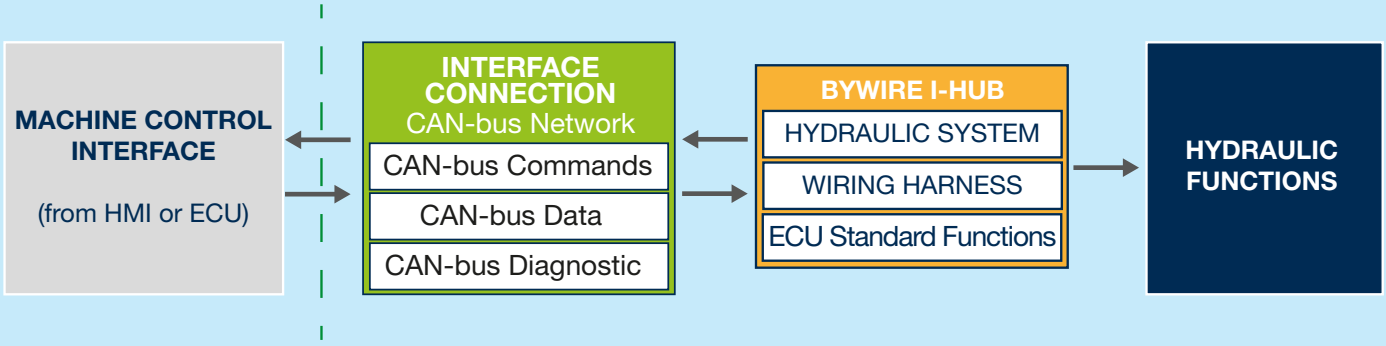
It allows for the exchange of data, controls and signals with all other machine components via a CAN-Bus line with standardised protocol network. The Bywire valve receives functional commands which are processed by the ECU to activate a specific coil of the valve, exchange data from sensors and diagnostic information with all components connected to the same CAN-Bus line. In the I-HUB too, all signals and controls pass through a single connector and the internal parts are protected from the external environment.

A dedicated wiring allows an external valve or sensors to be connected to the CAN-Bus via the I-HUB.

The benefits of I-HUB are:
- CAN-Bus communication with all other parts of the machine
- Diagnostic warnings for external valves and sensors as well
- Standardised communication protocol







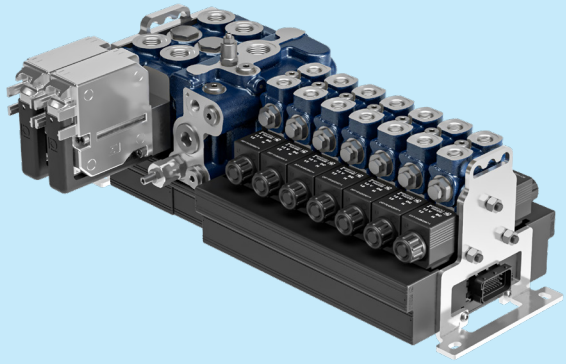
- Reduced installation time by the customer (one electrical connection connects the entire electro-hydraulic system)
- ECU integration, in other words more precise, IoT-ready control
- Additional protection from the exterior environment

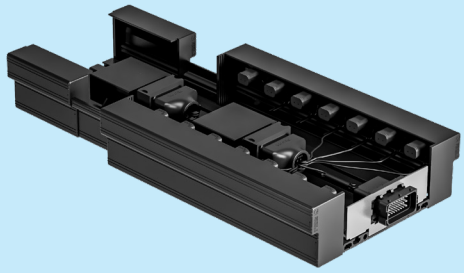
I-HUB Plus

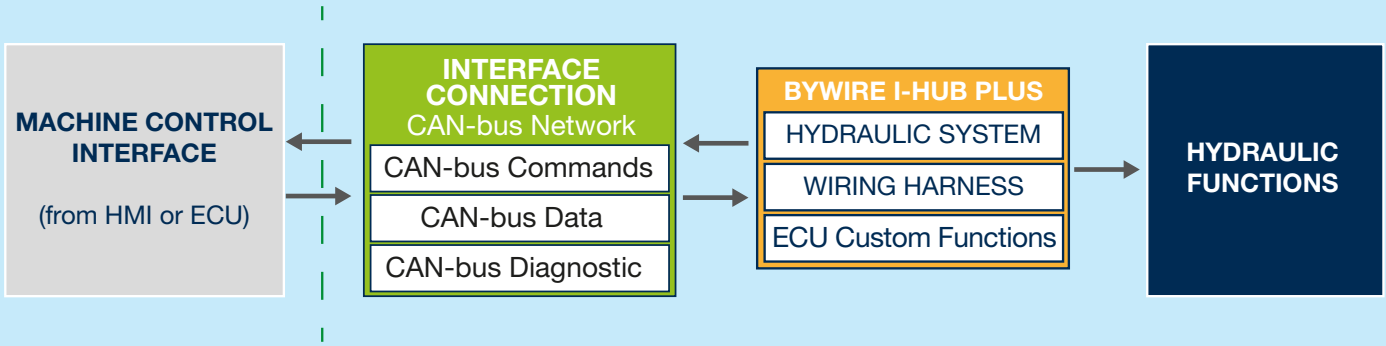
I-HUB PLUS incorporates all the features of I-HUB, but in addition a customised control logic is integrated into the ECU. This means that the ByWire I-HUB PLUS devices not only exchange information and data with all other machine components connected to the CAN-Bus line, but also incorporate parts or the entire custom control logic or of a specific subsystem.

The benefits are:

- Integrated custom software
- CAN-Bus communication with all other parts of the machine
- Diagnostic warnings for external valves and sensors as well
- Standardised communication protocol
- Reduced installation time by the customer (one electrical connection connects the entire electro-hydraulic system)
- Additional protection from the exterior environment







ByWire is a modular system. To order the most suitable control valve for your requirements, identify all the modules which make up the system and state the order in which they will be assembled.

How to proceed Identify the Platform type of the hydraulic system:

Platforms

- **OC Platform - Open Center Platform**
- **LS Platform - Load Sensing Platform**
- **HL Platform - Hybrid Load Sensing Platform**
- **EL platform – Electronic Load Sensing Platform**

TE10C

Platform	OC	LS	HL	EL
Size		10		
Nominal flow		120 l/min		
Nominal pressure		250 bar		
Description: L.S. inlet cover with 3-way compensator				

Size Identify the size for the modules to be used

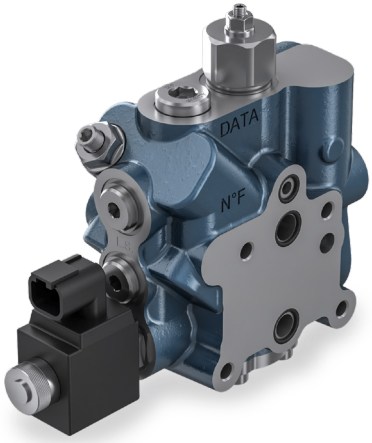
- **05**
- **10**
- **14**

TE10C

Platform	OC	LS	HL	EL
Size		10		
Nominal flow		120 l/min		
Nominal pressure		250 bar		
Description: L.S. inlet cover with compensator				

Select each module from the models which are compatible with the previous options (Platform and Size).

Ordering instructions Define each module in the detail, following the **Ordering instructions** in the technical sheet available for each module.



TE10C — Ordering instructions

	1	2	3 4	5	6	11	8	9	10	11	12 13	14	15	16	17	18	19	20 21	22
TE10C	F	D	N N	F	F	F	L	E	A	N	N N	N	N	N	N	G	O	1 8	A

1 — Left side interface

N	None	**B**	IBW1033	**D**	IBW0511	**F**	TE10P

2 — Right side interface

N	None	**B**	IBW1033	**D**	IBW0511

3 4 — Bracket height

H3	High	**NN**	None

5 — Thread type

F	Female	**M**	Male

6 — Thread Port P

B	1/2'' GAS ISO 1179	**N**	M22x1,5 ISO 9974	**5**	M27x2 ISO 9974	**R**	7/8'' - 14 SAE ISO 11926
F	3/4'' GAS ISO 1179	**J**	M22x1,5 ISO 6149	**U**	M27x2 ISO 6149	**V**	1'' 1/16 - 12 SAE ISO 11926

11 — Thread Port T

B	1/2'' GAS ISO 1179	**N**	M22x1,5 ISO 9974	**5**	M27x2 ISO 9974	**R**	7/8'' - 14 SAE ISO 11926
F	3/4'' GAS ISO 1179	**J**	M22x1,5 ISO 6149	**U**	M27x2 ISO 6149	**V**	1'' 1/16 - 12 SAE ISO 11926

8 — Thread Port LS/LS+

L	1/4'' GAS ISO 1179	**3**	M14x1,5 ISO 9974	**K**	M14x1,5 ISO 6149	**P**	9/16'' - 18 SAE ISO 11926

9 — Options on port P-T-LS

A	P-T-LS open	**C**	P open, T-LS plugged	**E**	P-LS plugged, T open	**G**	T-LS open, P plugged
B	P-T open, LS plugged	**D**	P-LS open, T plugged	**F**	P-T plugged, LS open	**H**	P-T-LS plugged

10 — Options for main compensator

A	Standard	**B**	With handwheel

11 — Options on line LS+

N	None	**A**	Booster valve version	**B**	Fixed calibration booster valve	**C**	Adjustable calibration booster valve

12 13 — Booster valve calibration

NN	None	**15**	15 bar	**30**	30 bar
05	5 bar	**20**	20 bar	**35**	35 bar
10	10 bar	**25**	25 bar	**40**	40 bar

14 — Port LS+ options

N	None	**A**	Open	**B**	Plugged

15 — Thread Port MP

N	None	**3**	M14x1,5 ISO 9974	**P**	9/16'' - 18 SAE ISO 11926
L	1/4'' GAS ISO 1179	**K**	M14x1,5 ISO 6149		

16 — Thread Port MT

N	None	**3**	M14x1,5 ISO 9974	**P**	9/16'' - 18 SAE ISO 11926
L	1/4'' GAS ISO 1179	**K**	M14x1,5 ISO 6149		

17 — Options on Ports MP - MT

N	None	**C**	MP not processed, MT open	**F**	MP and MT plugged
A	MP open, MT not processed	**D**	MP not processed, MT plugged	**G**	MP open, MT plugged
B	MP plugged, MT not processed	**E**	MP and MT open	**H**	MP plugged, MT open

18 — LS line unloading pilot valve type

I	Compensated orifice	**N**	Replacement plug	**B**	24V DIN 43650	**H**	24V Deutsch
L	Compensated orifice	**A**	12V DIN 43650	**G**	12V Deutsch		

19 — LS line emergency unloading pilot valve

N	None	**O**	Standard terminal	**S**	Emergency screw

20 21 — Maximum pressure valve type

00	VMP replacement plug	**10**	100 bar	**16**	160 bar	**22**	220 bar
05	50 bar	**11**	110 bar	**17**	170 bar	**23**	230 bar
06	60 bar	**12**	120 bar	**18**	180 bar	**24**	240 bar
07	70 bar	**13**	130 bar	**19**	190 bar	**25**	250 bar
08	80 bar	**14**	140 bar	**20**	200 bar		
09	90 bar	**15**	150 bar	**21**	210 bar		

22 — External coating

A	External coating	**N**	None

398SBW079EN00 - 01-09-2017

Configuring a ByWire directional control valve ByWire

Ordering sequence

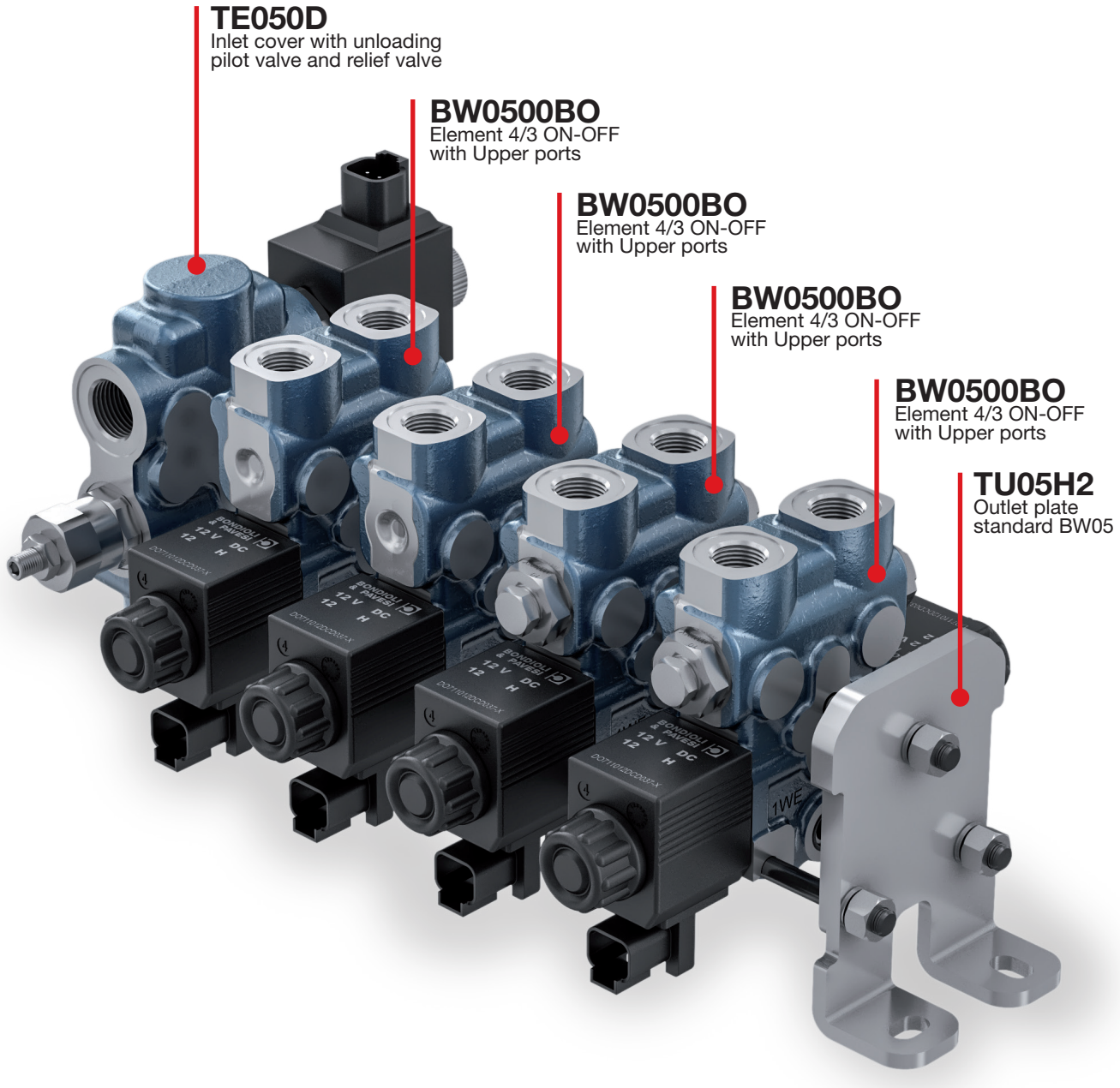
The ordering sequence of the distributor must follow **the hydraulic logic.**
It always starts from the inlet module, either on the left side or in an intermediate position in the distributor.
It is not necessary to choose the tie rod for the assembly of the distributor, this will be done by the Bondioli & Pavesi - Dinoil technical office.
Then proceed as follows:

CASE 1
Inlet module on the left side

- Choose the inlet module
TE = inlet cover or RF = Flow regulator

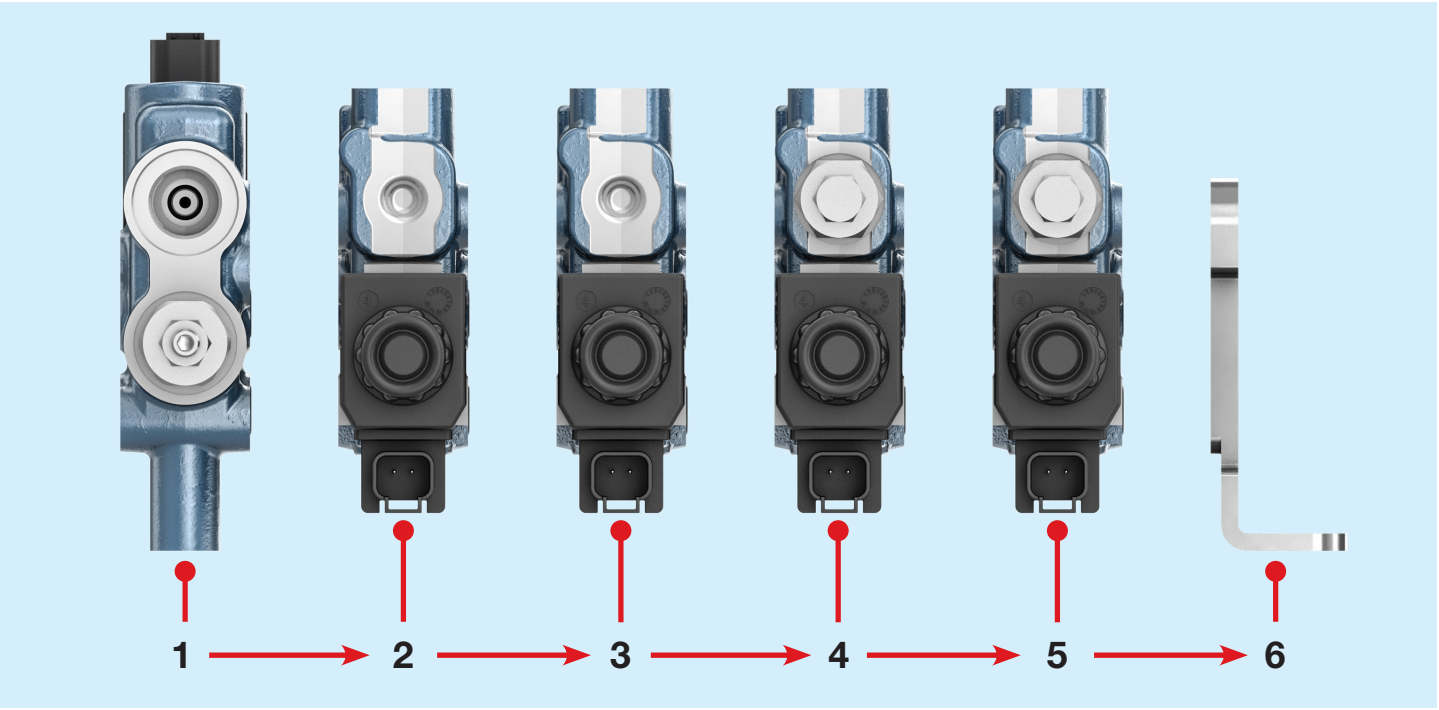
- All ByWire elements are selected
Starting from the inlet module towards the right

- Choose the outlet module
TU = outlet cover or outlet plate



CASE 1
Inlet module
on the left side

Ordering sequence



1 -	TE050D	F	B	B	N	S	H	2	N	N	N	G	O	1	8	R	0	A
2 -	BW0500BO	A	0	0	1	F	A	N	N	N	N	N	N	N	N	N	N	G	A
3 -	BW0500BO	A	0	0	1	F	A	N	N	N	N	N	N	N	N	N	N	G	A
4 -	BW0500BO	A	0	0	3	F	A	N	N	N	N	V	B	N	N	V	B	N	N	G	A
5 -	BW0500BO	A	0	0	3	F	A	N	N	N	N	V	B	N	N	V	B	N	N	G	A
6 -	TU05H2	H	2																

CASE 2
Inlet module intermediate

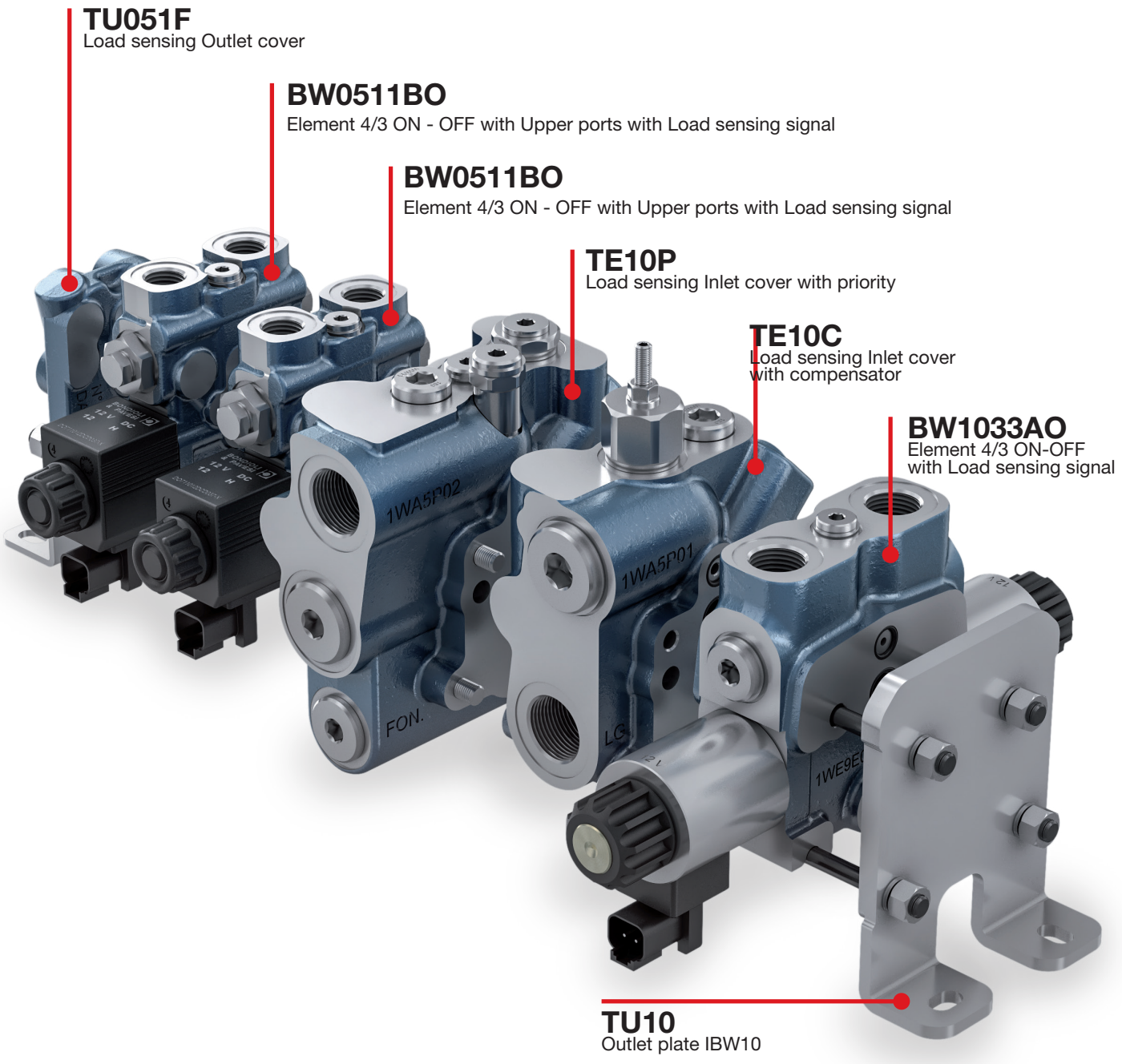
- Choose the inlet module
TE = inlet cover or RF = Flow regulator

Select all ByWire elements
Starting from the inlet module towards the right

- Choose the outlet module
TU = outlet cover or outlet plate of the right branch

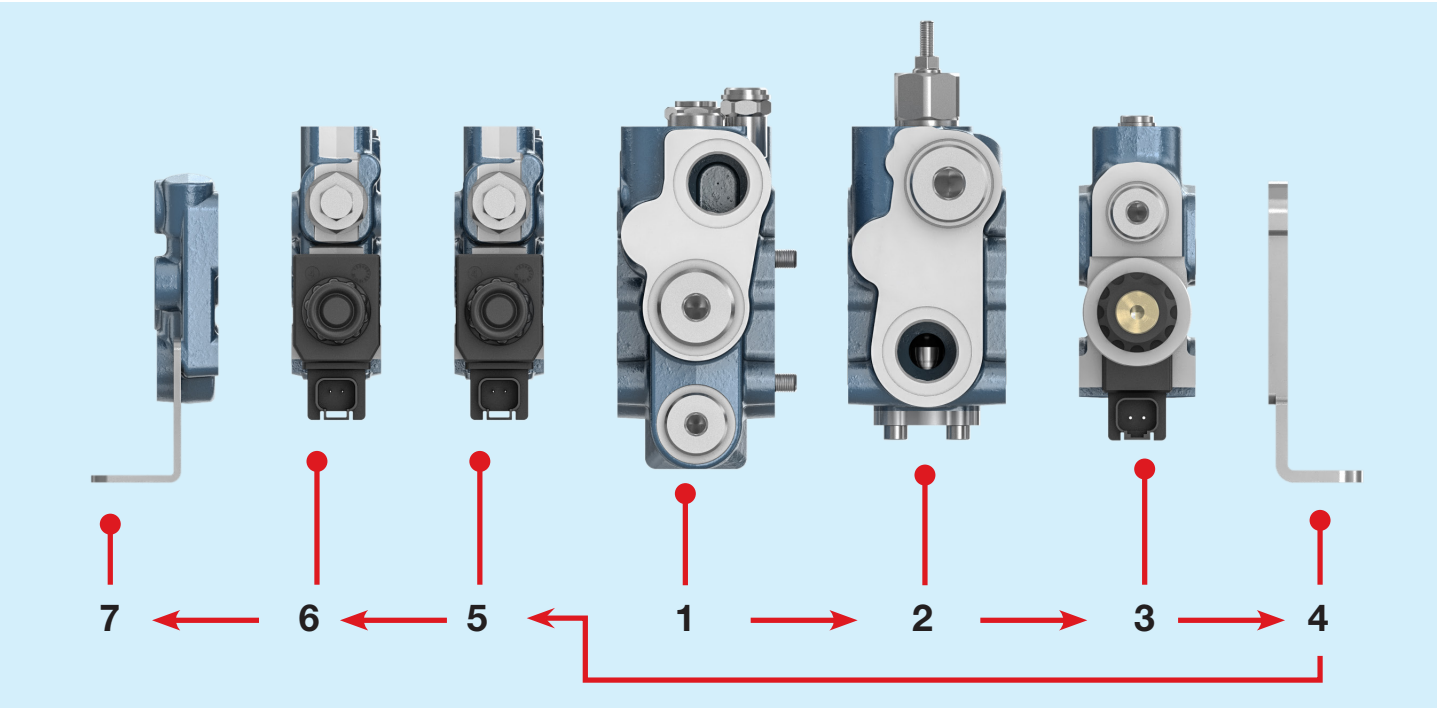
Select all ByWire elements
Starting from the inlet module towards the left

- Choose the outlet module of the left branch



CASE 2
Inlet module
intermediate

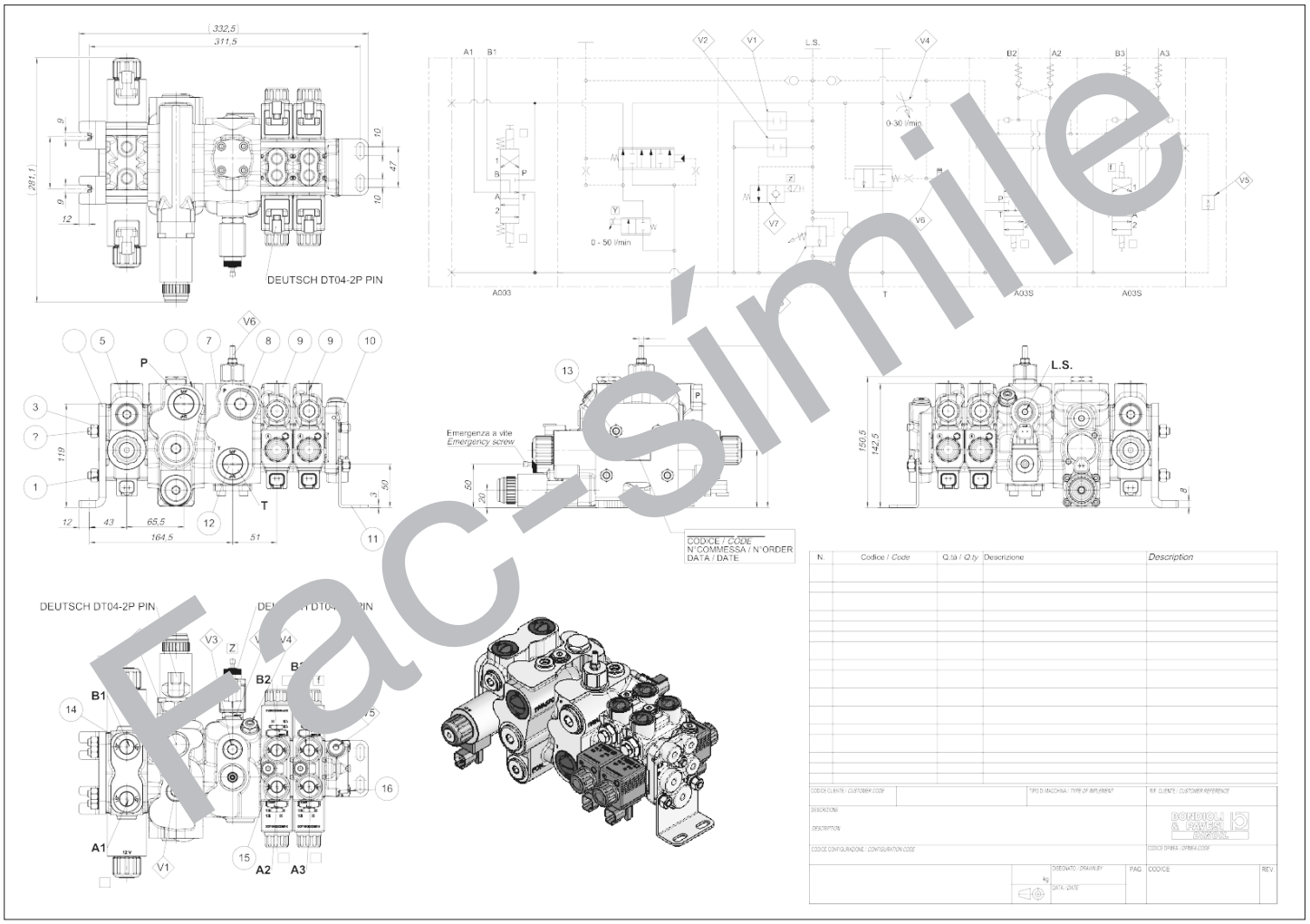
Ordering sequence



1 -	TE10P	B	N	N	N	D	F	N	N	F	F	0	L	B	N	N	N	N	I	N	1	8	A			
2 -	TE10C	F	B	N	N	F	B	F	L	E	R	N	N	N	N	N	N	N	I	N	1	8	A			
3 -	BW1033AO	A	0	0	3	O	D	B	T	P	T	P	G	A												
4 -	TU10	H	3																							
5 -	BW0511BO	A	0	0	3	0	G	A	N	N	N	N	V	B	1	8	A	N	N	G	A					
6 -	BW0511BO	A	0	0	3	0	G	A	N	N	N	N	V	B	N	N	V	B	N	N	G	A				
7 -	TU051F	F	A	B	L	A	A	A	N	H	3	N	N	N	A											

Technical drawing

By studying the sequence of the codes, the Bondioli & Pavesi-Dinoil Technical office will develop a technical drawing of the assembly which will then be submitted to the Customer for approval.



Fac-símile

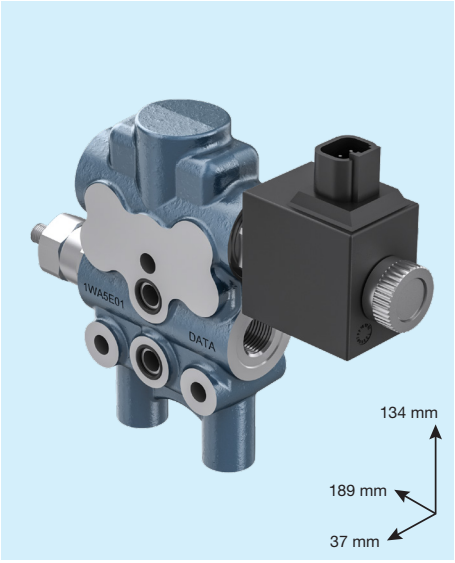
TE050D

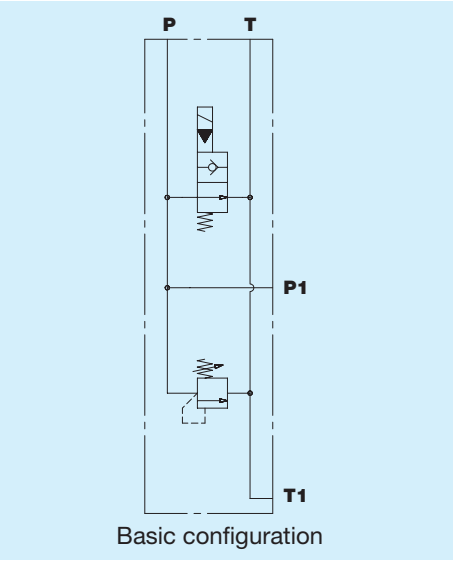
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Inlet cover with unloading pilot valve and relief valve.

Standard version dimensions





Basic configuration

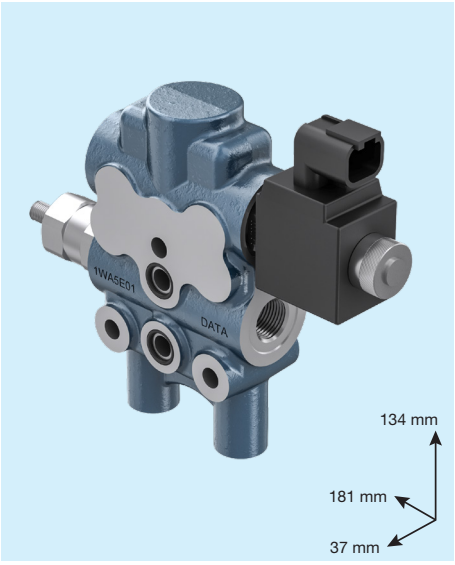
TE050E

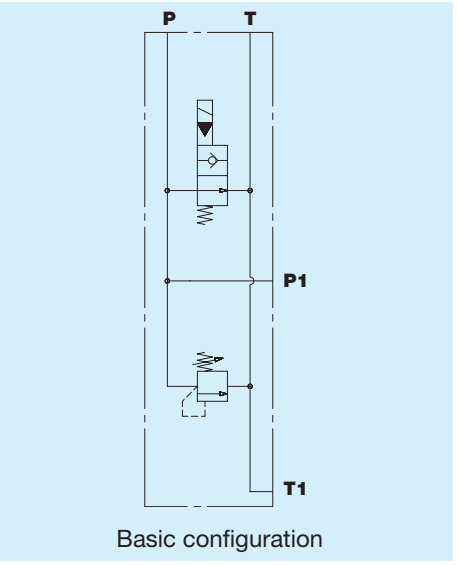
Platform	OC
Size	05
Nominal flow	30 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Inlet cover with unloading pilot valve and relief valve.

Standard version dimensions





Basic configuration

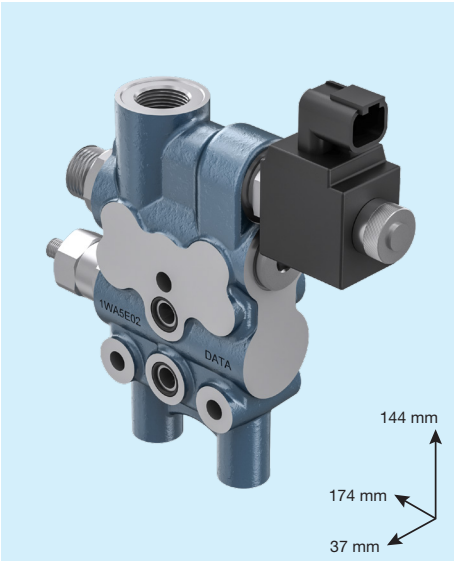
TE050T

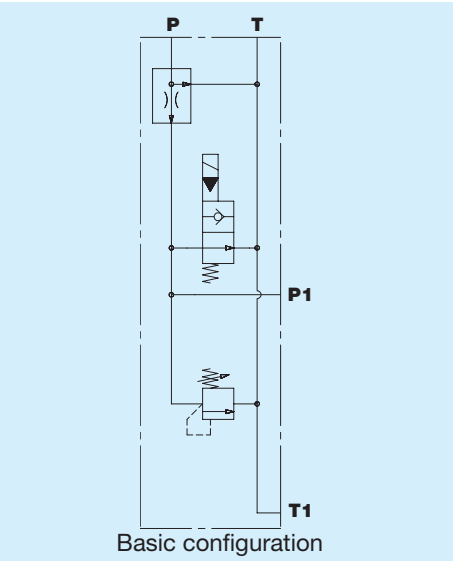
Platform	OC
Size	05
Nominal flow	60 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	37 mm
Weight	1.7 Kg

Description:

Flow rate size inlet cover .

Standard version dimensions





Basic configuration

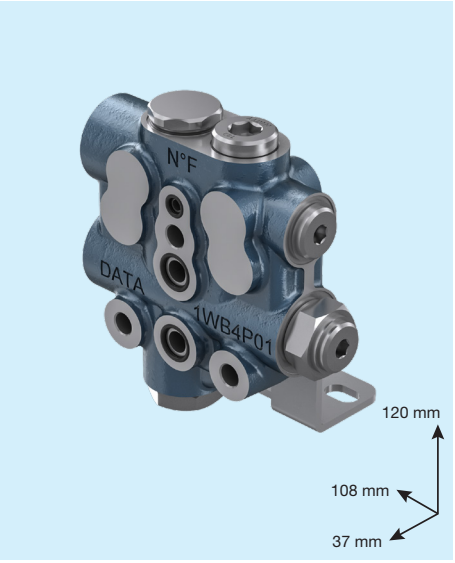
TE05C

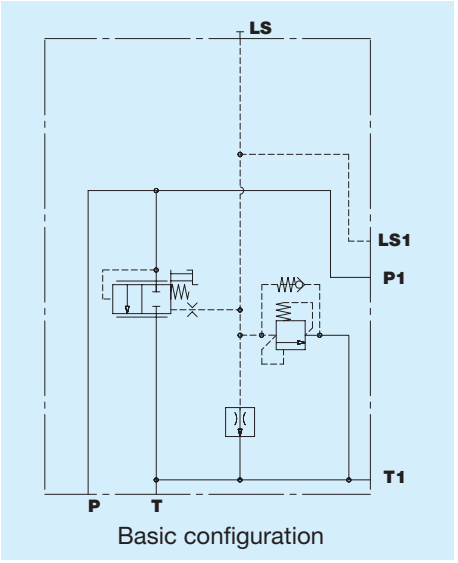
Platform	OC LS HL EL
Size	05
Nominal flow	70 l/min
Nominal pressure	250 bar
Compatible brackets	H2(low) H3(high)
For tie rod calculation	37 mm
Weight	2 Kg

Description:

L.S. inlet cover with compensator

Overall dimensions of standard version without bracket, with bracket add 3 mm for tie rod calculation.





Basic configuration

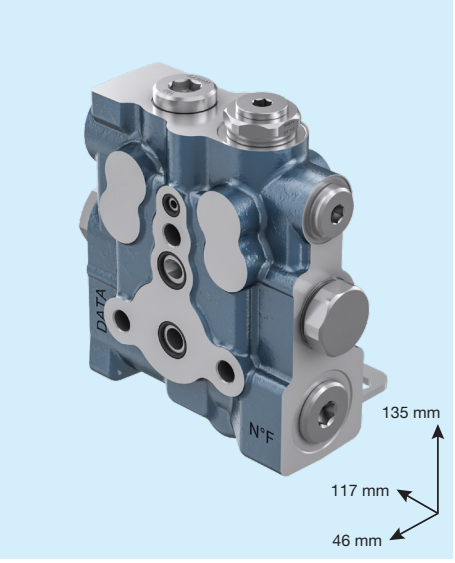
TE05P

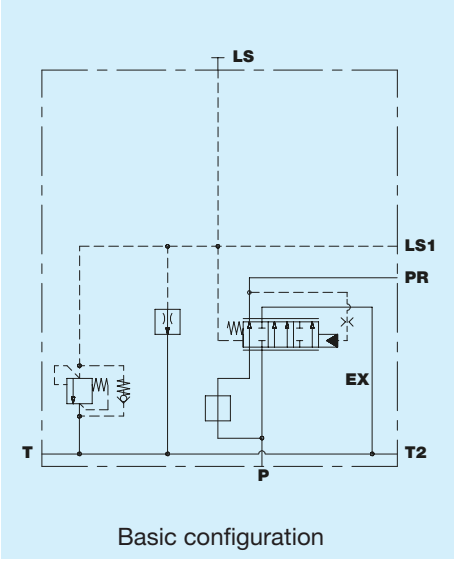
Platform	OC LS HL EL
Size	05
Nominal flow	70 l/min
Nominal pressure	250 bar
Compatible brackets	H2(low) H3(high)
For tie rod calculation	46 mm
Weight	3 Kg

Description:

L.S. inlet cover with compensator

Overall dimensions of standard version without bracket, with bracket add 3 mm for tie rod calculation.





Basic configuration

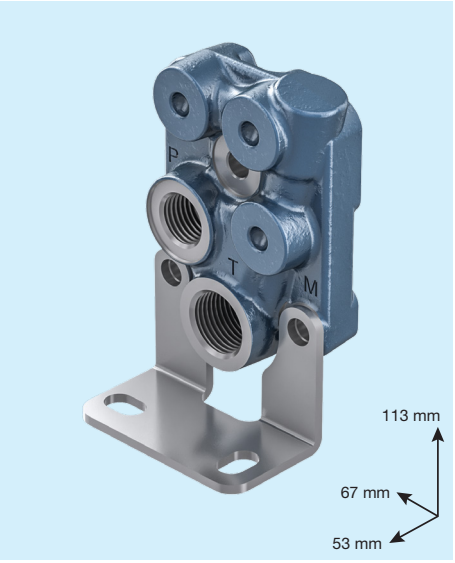
TE050F

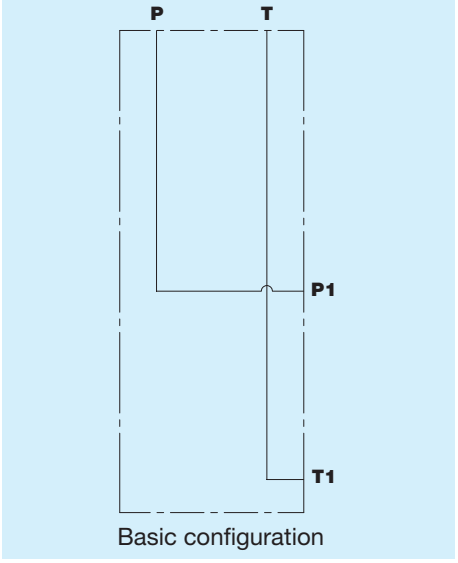
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Compatible brackets	H2(low) H3(high)
For tie rod calculation	19 mm
Weight	0,4 Kg

Description:

Inlet cover P-T.

Standard version dimensions with H2 bracket





Basic configuration

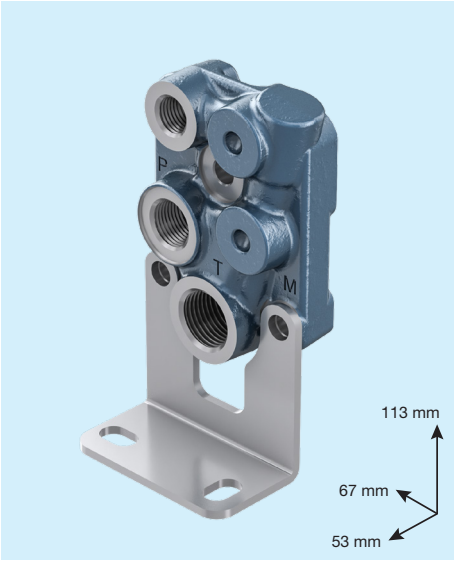
TE051F

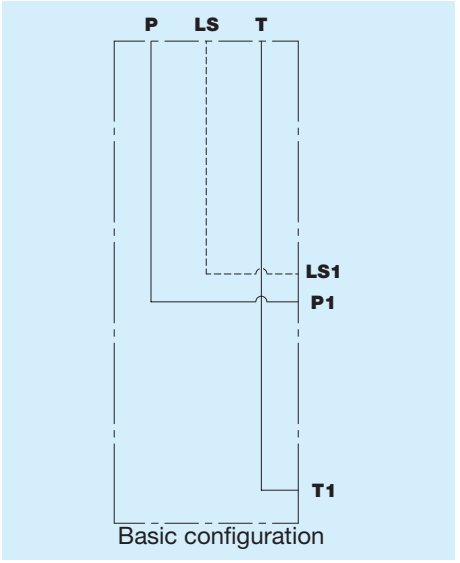
Platform	OC LS HL EL
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Compatible brackets	H2(low) H3(high)
For tie rod calculation	19 mm
Weight	0,4 Kg

Description:

Inlet cover P-T-LS.

Standard version dimensions with H2 bracket





Basic configuration

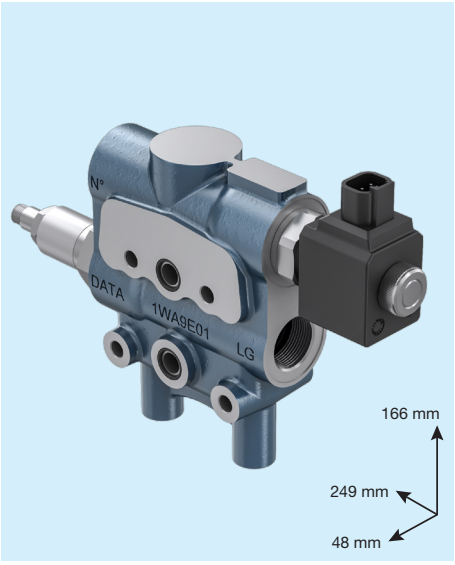
TE102D

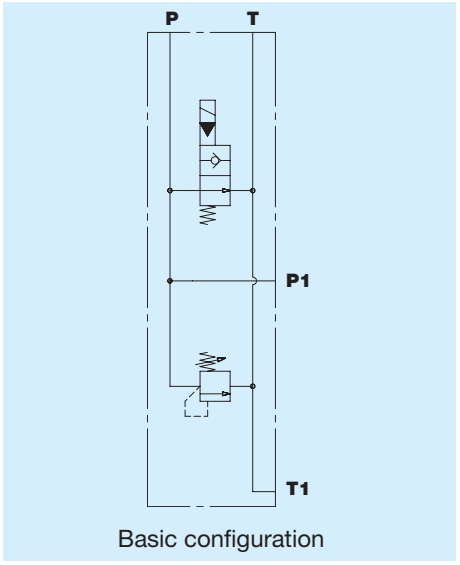
Platform	OC
Size	10
Nominal flow	100 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	48 mm
Weight	3,4 Kg

Description:

Inlet cover with unloading pilot valve and relief valve.

Standard version dimensions





Basic configuration

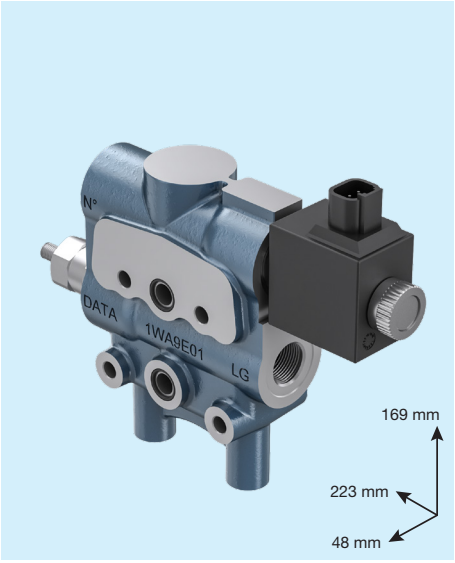
TE102E

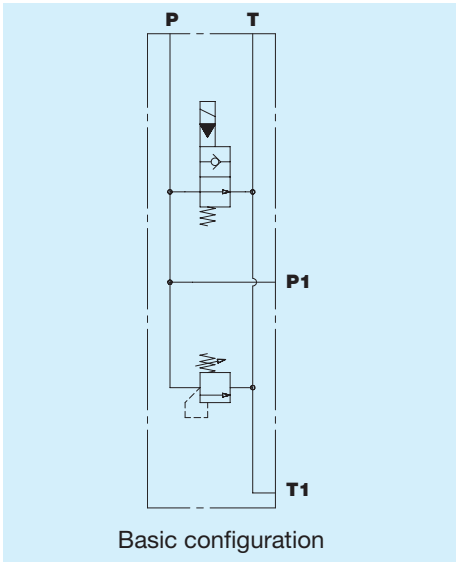
Platform	OC
Size	10
Nominal flow	70 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	48 mm
Weight	3,4 Kg

Description:

Inlet cover with unloading pilot valve and relief valve.

Standard version dimensions





Basic configuration

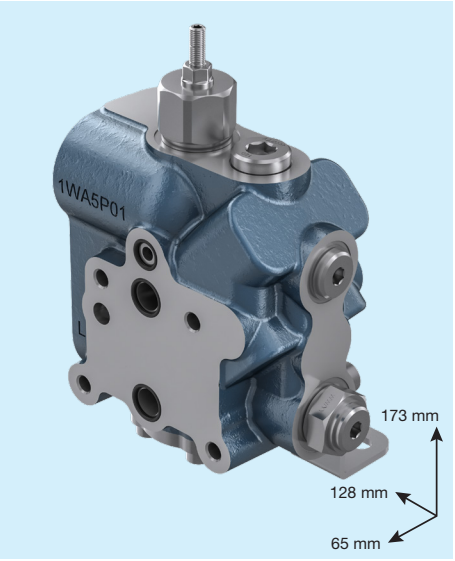
TE10C

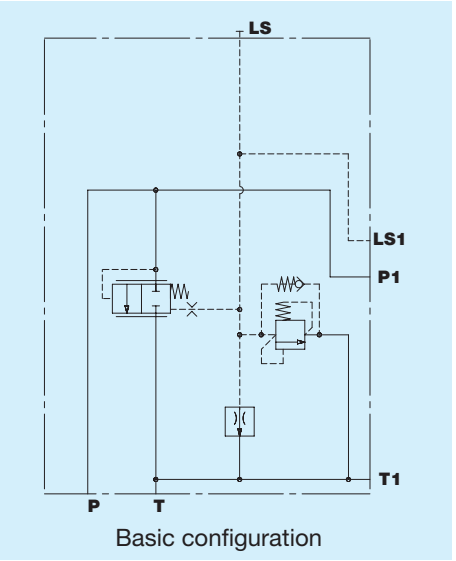
Platform	OC LS HL EL
Size	10
Nominal flow	120 l/min
Nominal pressure	250 bar
Compatible brackets	H3(high)
For tie rod calculation	Contact the Technical Office
Weight	5 Kg

Description:

L.S. inlet cover with compensator

Standard version dimensions with bracket





Basic configuration

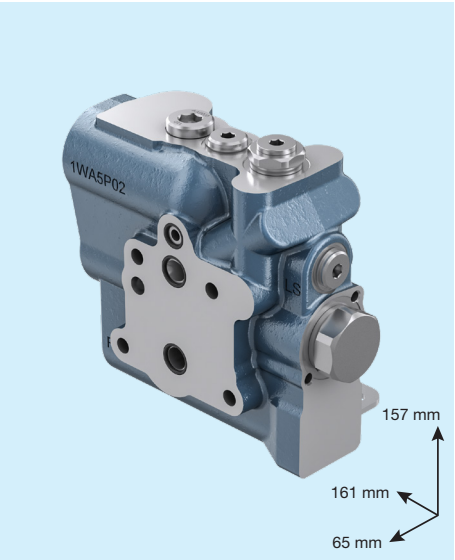
TE10P

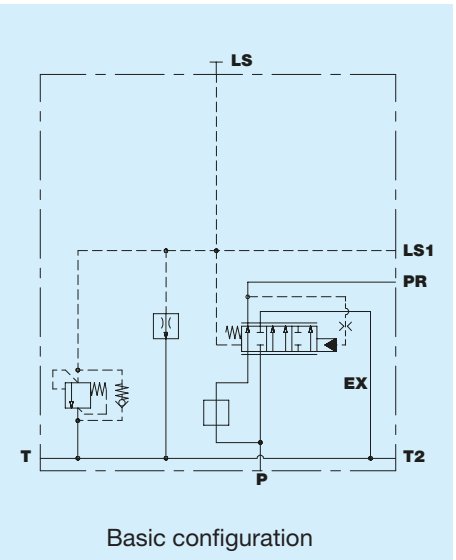
Platform	OC LS HL EL
Size	10
Nominal flow	120 l/min
Nominal pressure	250 bar
Compatible brackets	H3(high)
For tie rod calculation	Contact the Technical Office
Weight	7 Kg

Description:

L.S. inlet cover with priority

Standard version dimensions with bracket





Basic configuration

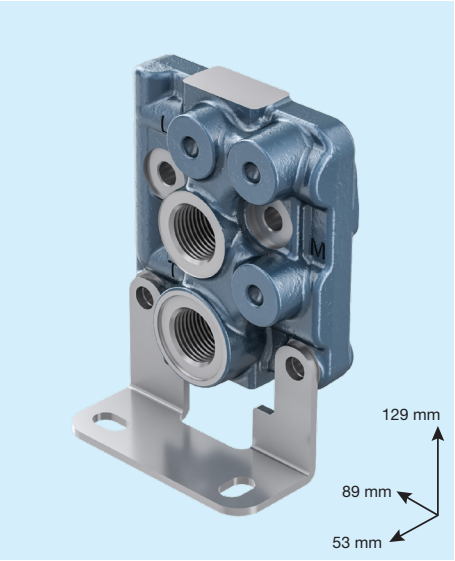
TE102F

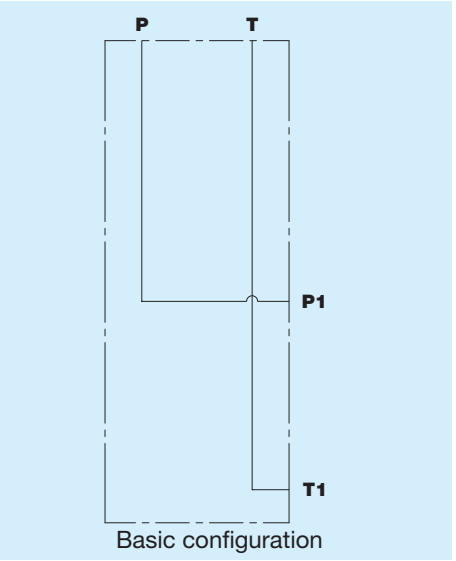
Platform	OC
Size	10
Nominal flow	100 l/min
Nominal pressure	250 bar
Compatible brackets	H3(high)
For tie rod calculation	19 mm
Weight	1,4 Kg

Description:

Inlet cover P-T.

Standard version dimensions with H3 bracket





Basic configuration

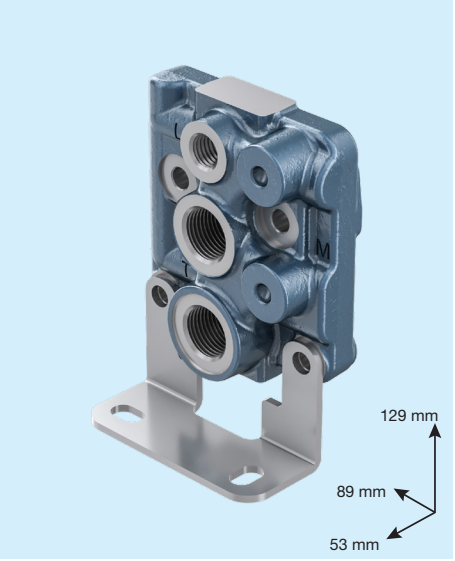
TE103F

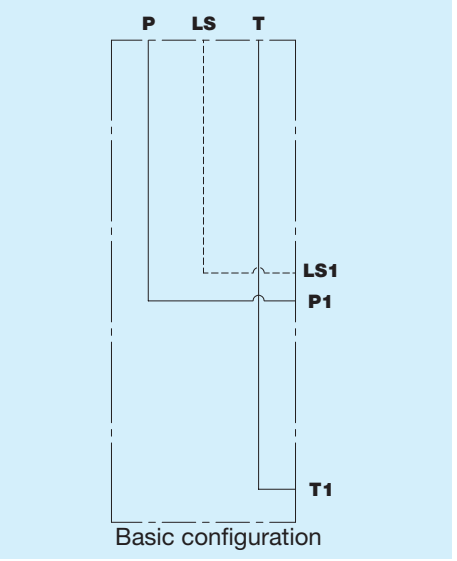
Platform	OC LS HL EL
Size	10
Nominal flow	100 l/min
Nominal pressure	250 bar
Compatible brackets	H3(high)
For tie rod calculation	19 mm
Weight	1,4 Kg

Description:

Inlet cover P-T-LS.

Standard version dimensions with H3 bracket





Basic configuration

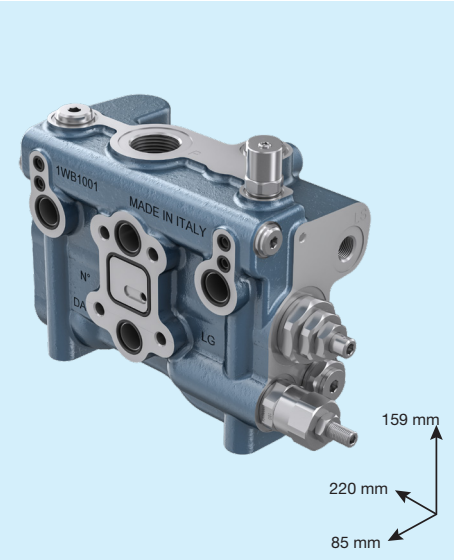
TE14C

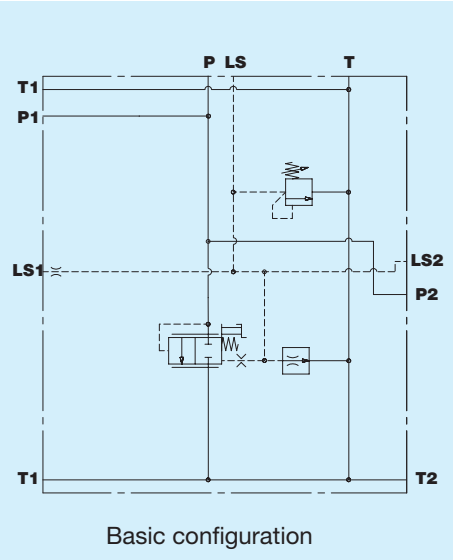
Platform	OC LS HL EL
Size	14
Nominal flow	150 l/min
Nominal pressure	250 bar
Compatible brackets	NN (none)
For tie rod calculation	Contact the Technical Office
Weight	9 Kg

Description:

L.S. inlet cover with compensator

Standard version dimensions





Basic configuration

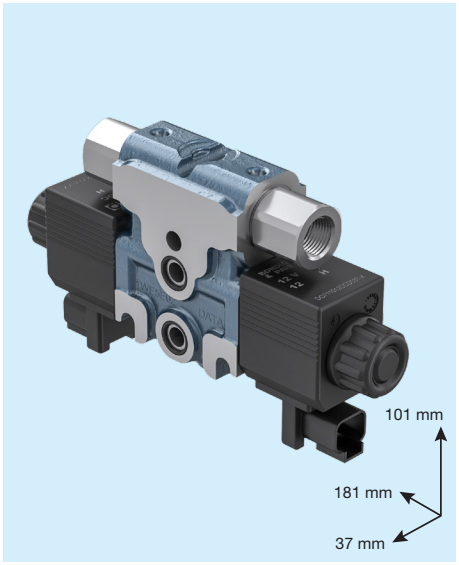
BW0500AO

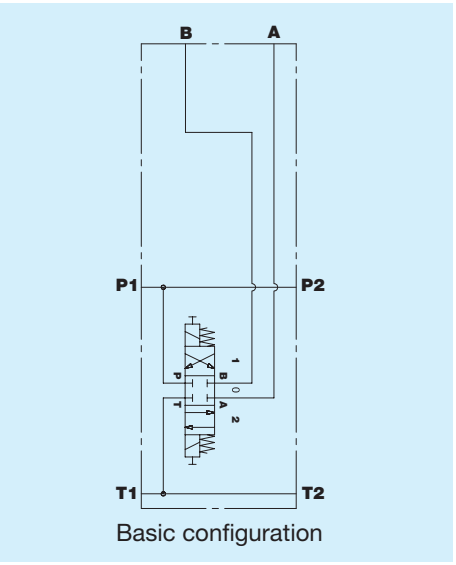
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Spacer plate	---
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Element 4/3 ON-OFF lateral port

Standard version dimensions





Basic configuration

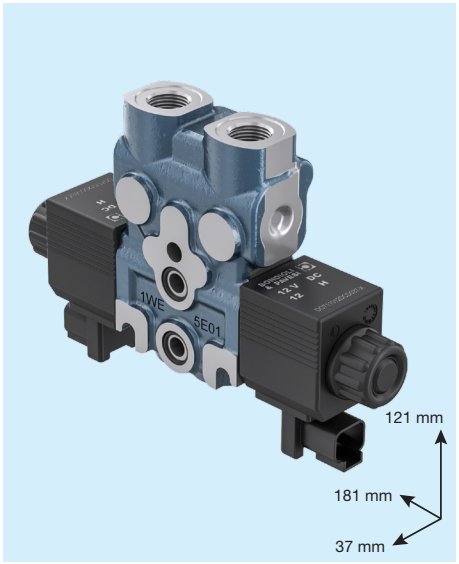
BW0500BO

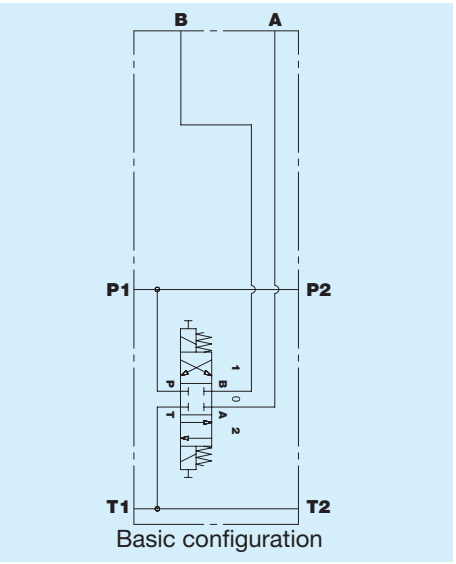
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Spacer plate	---
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Element 4/3 ON-OFF upper port

Standard version dimensions





Basic configuration

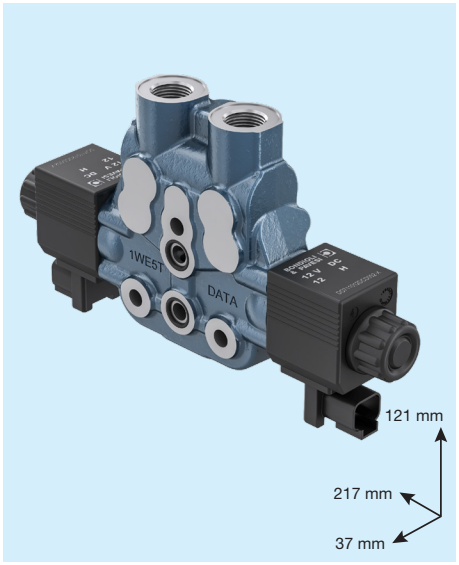
BW0500TO

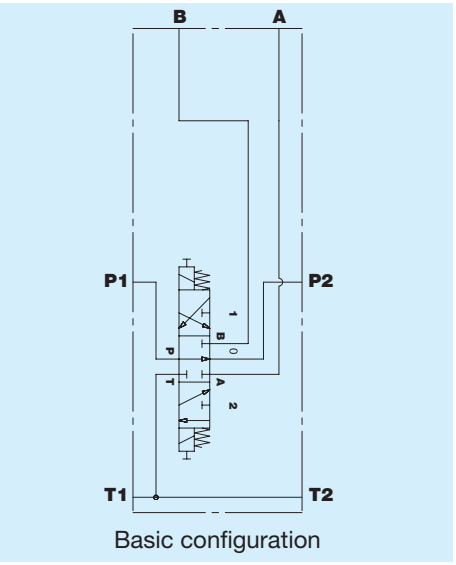
Platform	OC
Size	05
Nominal flow	35 l/min
Nominal pressure	210 bar
Spacer plate	---
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Element 5/3 ON-OFF Tandem upper port

Standard version dimensions





Basic configuration

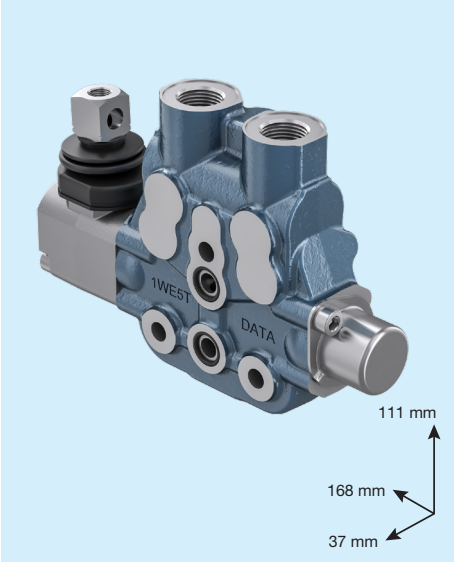
BW0500TM

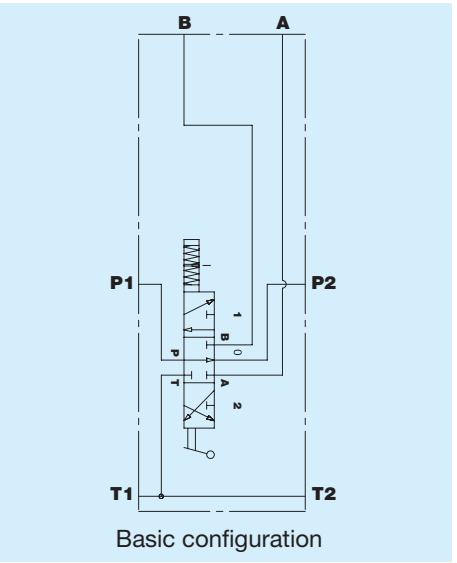
Platform	OC
Size	05
Nominal flow	35 l/min
Nominal pressure	210 bar
Spacer plate	---
For tie rod calculation	37 mm
Weight	1.6 Kg

Description:

Element 5/3 Manual Tandem upper port

Standard version dimensions





Basic configuration

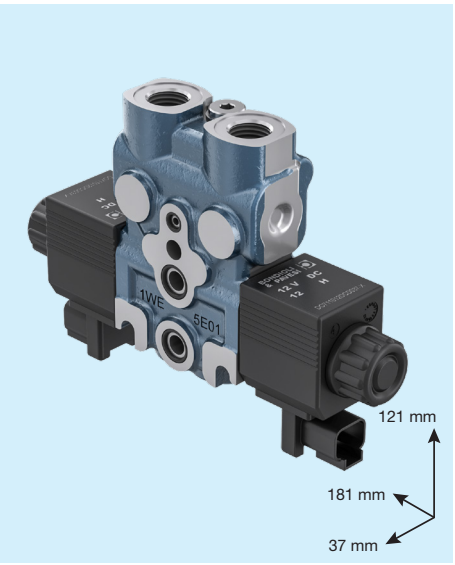
BW0511BO

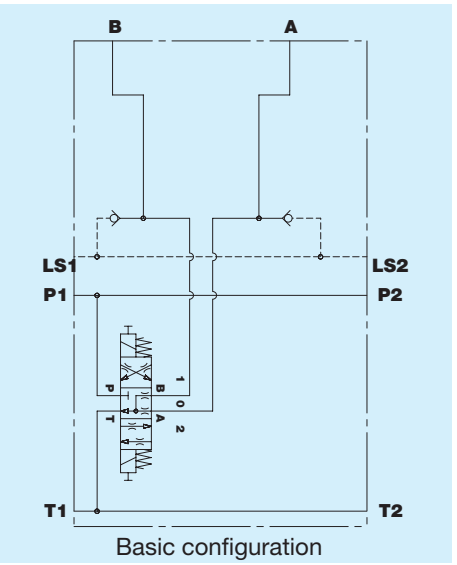
Platform	LS	HL	EL
Size	05		
Nominal flow	42 l/min		
Nominal pressure	250 bar		
Spacer plate	---		
For tie rod calculation	37 mm		
Weight	1.6 Kg		

Description:

Element 4/3 ON - OFF with Upper ports with L.S. signal

Standard version dimensions





Basic configuration

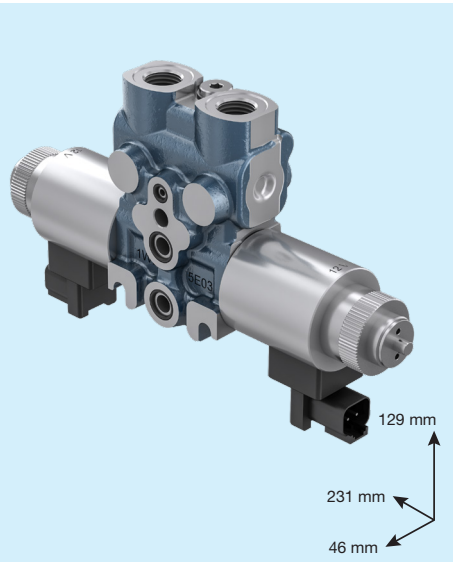
BW0511LP

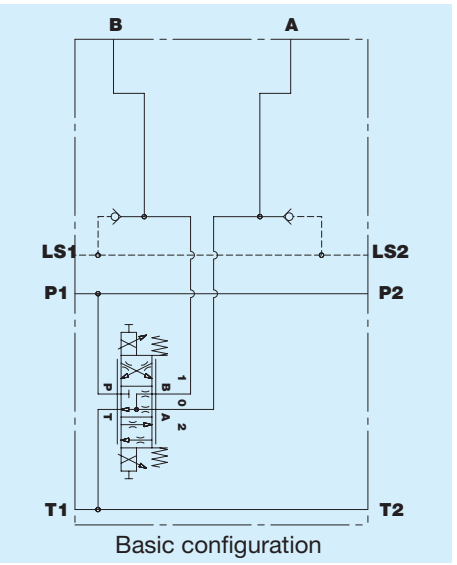
Platform	LS	HL	EL
Size	05		
Nominal flow	37 l/min		
Nominal pressure	250 bar		
Spacer plate	---		
For tie rod calculation	46 mm		
Weight	1.7 Kg		

Description:

Wide element 4/3 Proportional with Upper ports and with L.S. signal

Standard version dimensions





Basic configuration

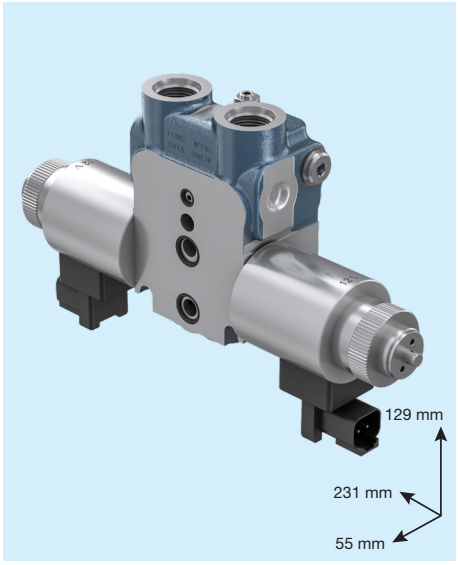
BW0511CP

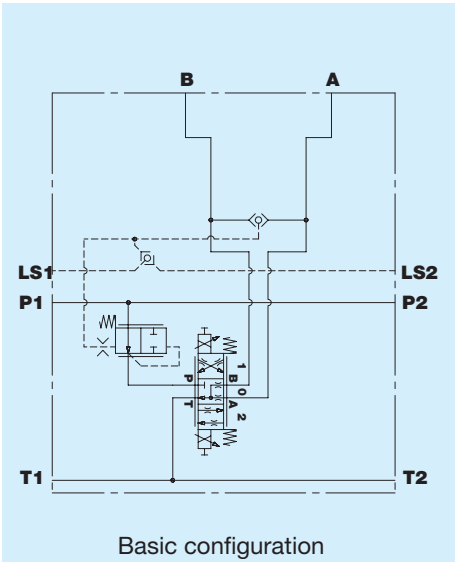
Platform	LS	HL	EL
Size	05		
Nominal flow	32 l/min		
Nominal pressure	250 bar		
Spacer plate	PI05		
For tie rod calculation	46 mm		
Weight	2.2 Kg		

Description:

Element 4/3 Proportional pre-compensated with L.S. signal

Standard version dimensions





Basic configuration

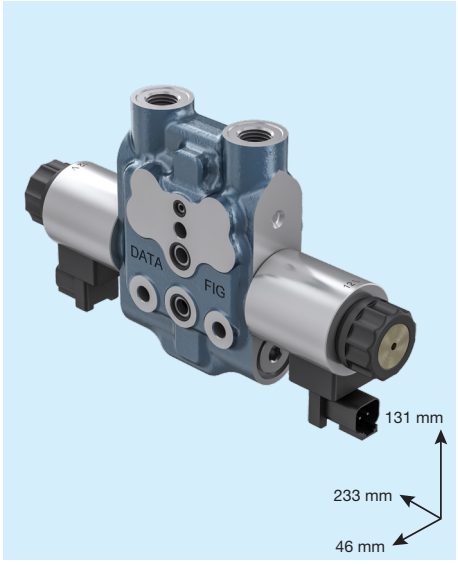
BW0511FP

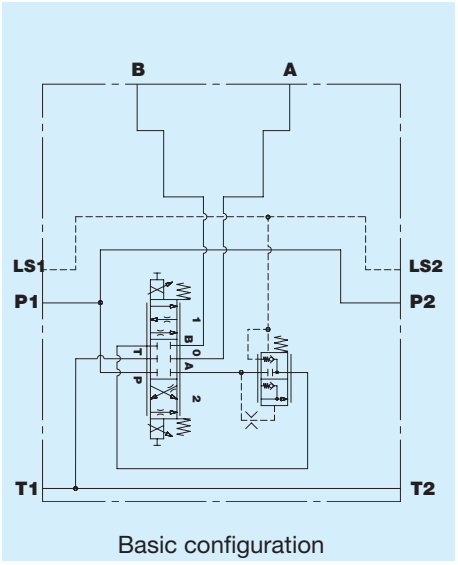
Platform	LS	HL	EL
Size	05		
Nominal flow	35 l/min		
Nominal pressure	250 bar		
Spacer plate	---		
For tie rod calculation	46 mm		
Weight	3.8 Kg		

Description:

Proportional pre-compensated flow sharing element with L.S. signal

Standard version dimensions





Basic configuration

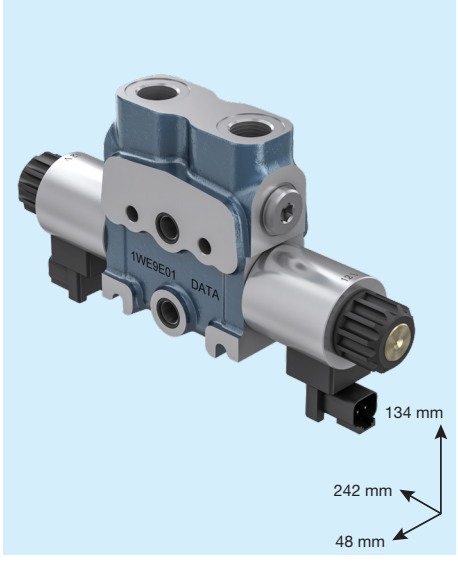
BW1022AO

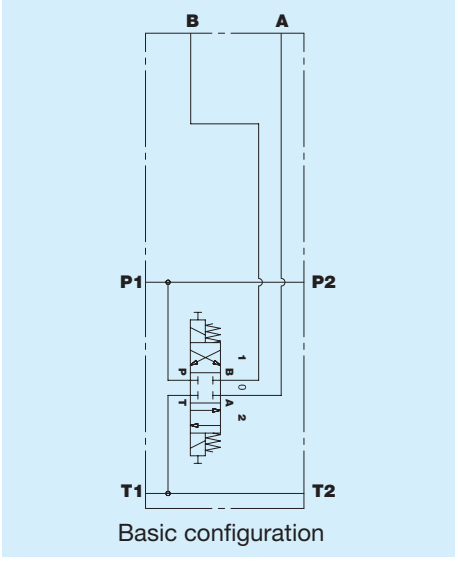
Platform	OC
Size	10
Nominal flow	90 l/min
Nominal pressure	250 bar
Spacer plate	---
For tie rod calculation	48 mm
Weight	4.1 Kg

Description:

Element 4/3 ON-OFF.

Standard version dimensions





Basic configuration

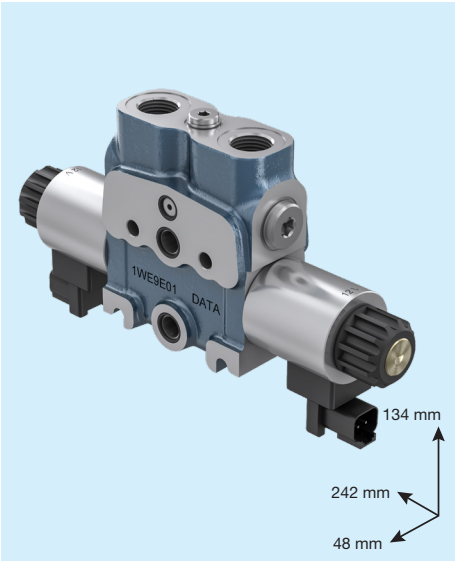
BW1033AO

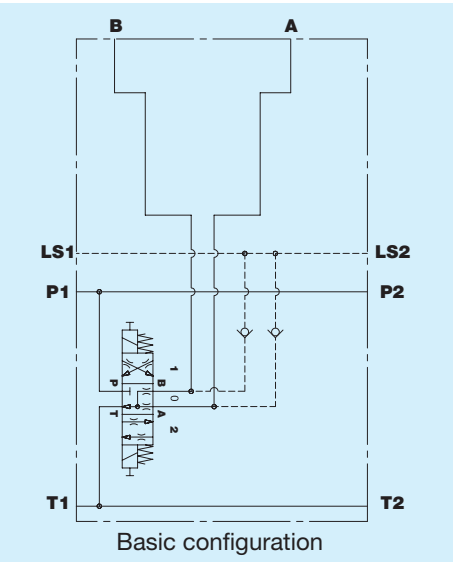
Platform	LS	HL	EL
Size	10		
Nominal flow	80 l/min		
Nominal pressure	250 bar		
Spacer plate	---		
For tie rod calculation	48 mm		
Weight	4.1 Kg		

Description:

Element 4/3 ON-OFF
upper ports with L.S. signal

Standard version dimensions





Basic configuration

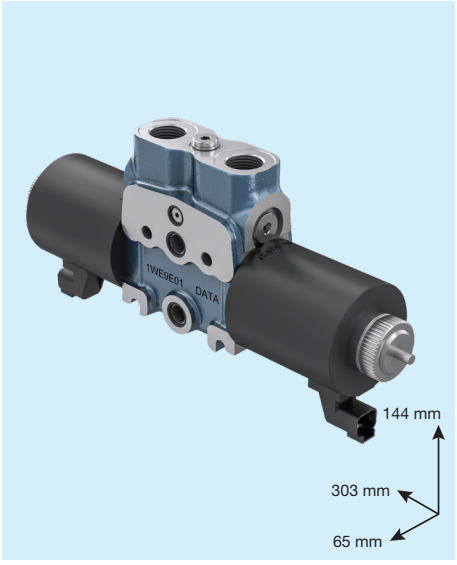
BW1033BP

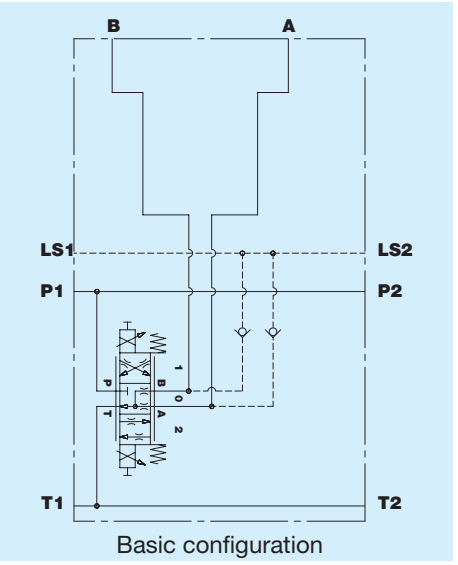
Platform	LS	HL	EL
Size	10		
Nominal flow	85 l/min		
Nominal pressure	250 bar		
Spacer plate	Contact the Technical Office		
For tie rod calculation	48 mm		
Weight	4.5 Kg		

Description:

Element 4/3 Proportional L.S. with upper ports

Standard version dimensions





Basic configuration

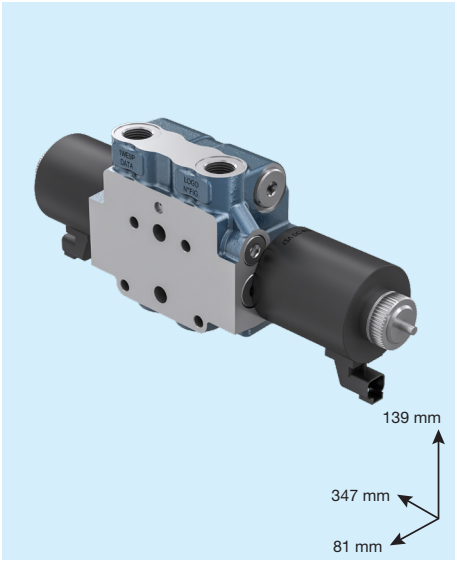
BW1033CP

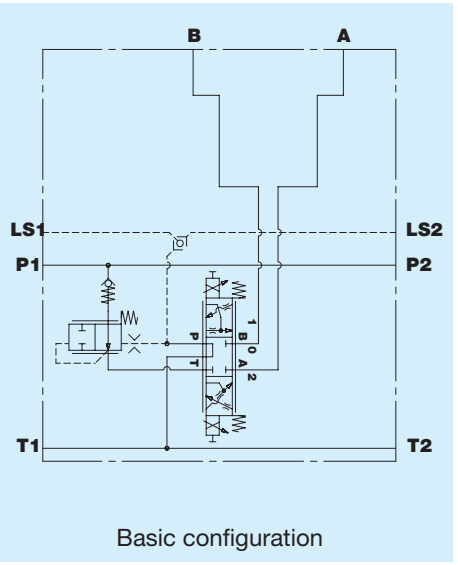
Platform	LS	HL	EL
Size	10		
Nominal flow	90 l/min		
Nominal pressure	300 bar		
Spacer plate	Contact the Technical Office		
For tie rod calculation	66 mm		
Weight	6.8 Kg		

Description:

Element 4/3 Proportional pre-compensated with L.S. signal

Standard version dimensions





Basic configuration

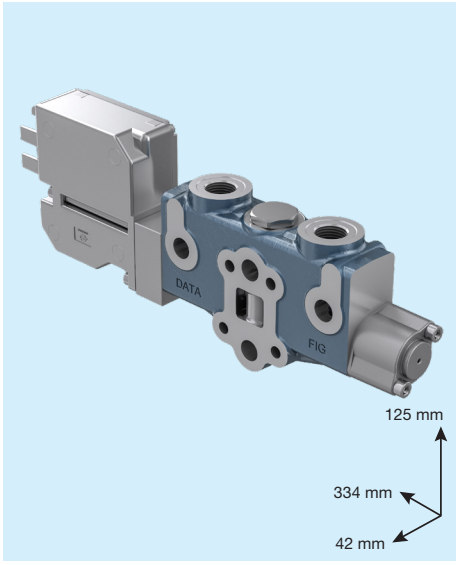
BW1455AS

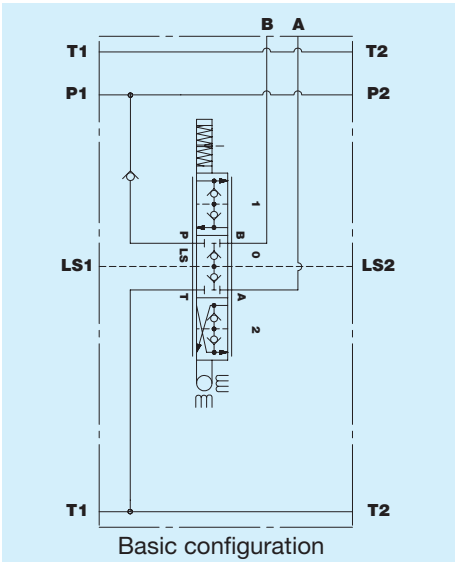
Platform	LS	HL	EL
Size	14		
Nominal flow	120 l/min		
Nominal pressure	300 bar		
Spacer plate	---		
For tie rod calculation	42 mm		
Weight	4.2 Kg		

Description:

Element 6/3 Load sensing with CAN mechatronic actuator.

Standard version dimensions





Basic configuration

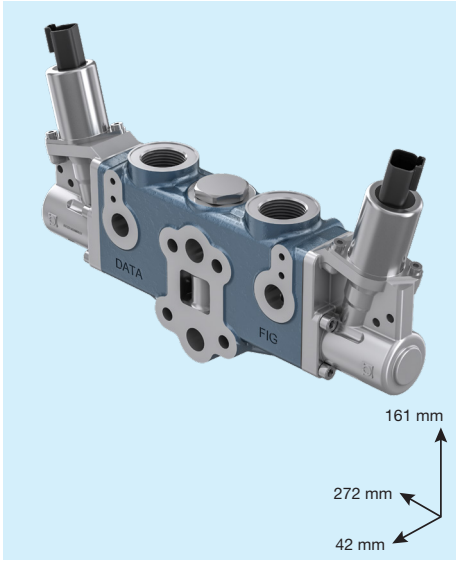
BW1477AP

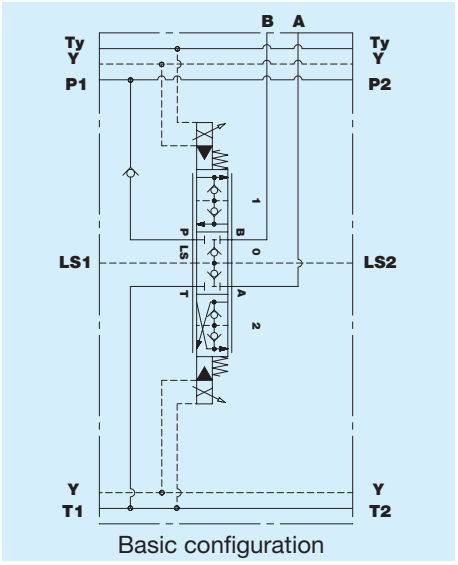
Platform	LS	HL	EL
Size	14		
Nominal flow	120 l/min		
Nominal pressure	300 bar		
Spacer plate	---		
For tie rod calculation	42 mm		
Weight	3.6 Kg		

Description:

Element 6/3 Load sensing with electro-hydraulic actuator.

Standard version dimensions





Basic configuration

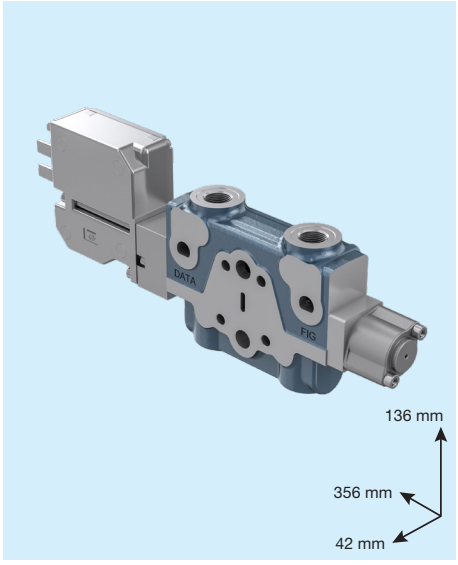
BW1455FS

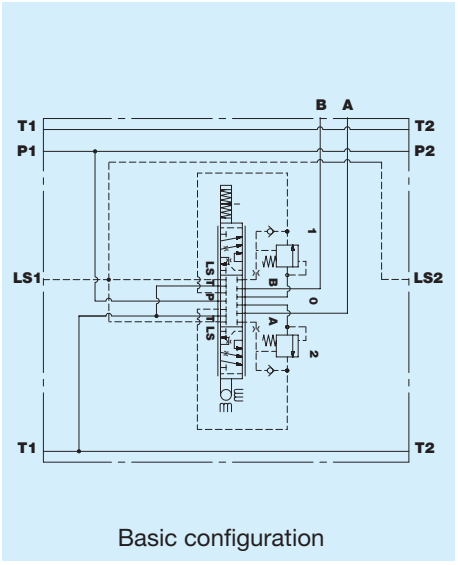
Platform	LS	HL	EL
Size	14		
Nominal flow	120 l/min		
Nominal pressure	300 bar		
Spacer plate	---		
For tie rod calculation	42 mm		
Weight	5.2 Kg		

Description:

Flow Sharing element with CAN mechatronic actuator.

Standard version dimensions





Basic configuration

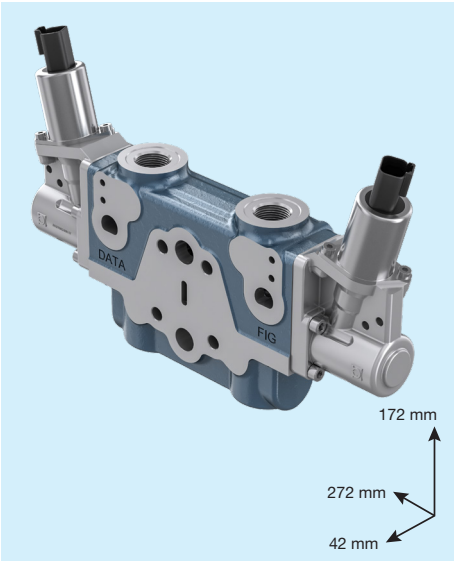
BW1477FP

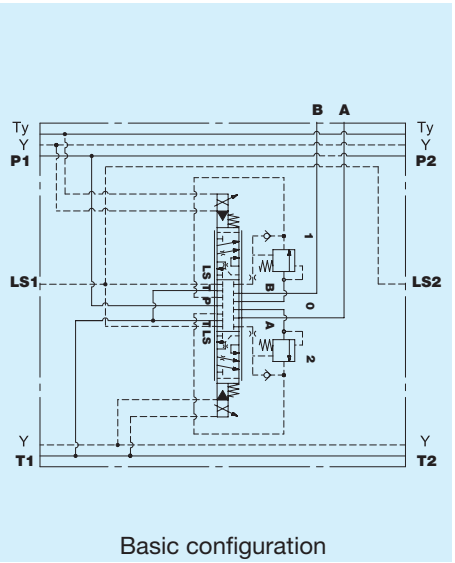
Platform	LS	HL	EL
Size	14		
Nominal flow	120 l/min		
Nominal pressure	300 bar		
Spacer plate	---		
For tie rod calculation	42 mm		
Weight	4.6 Kg		

Description:

Flow Sharing element with proportional electro-hydraulic actuator.

Standard version dimensions





Basic configuration

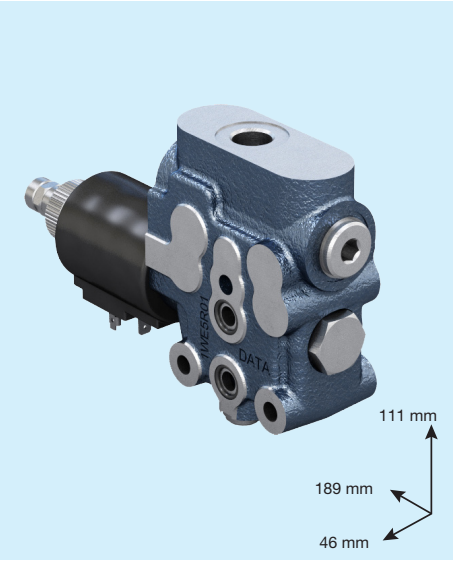
RF0500AO

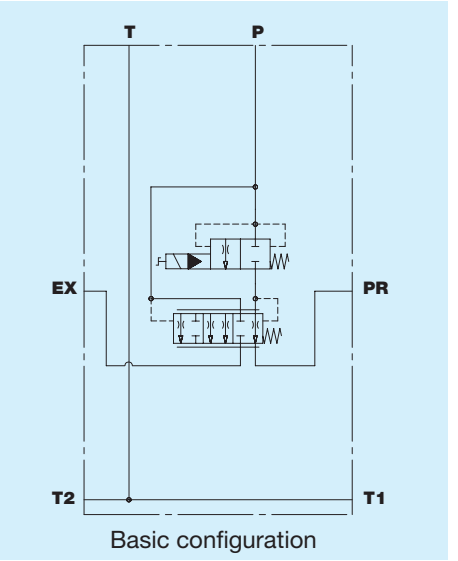
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator cover ON-OFF.

Standard version dimensions





Basic configuration

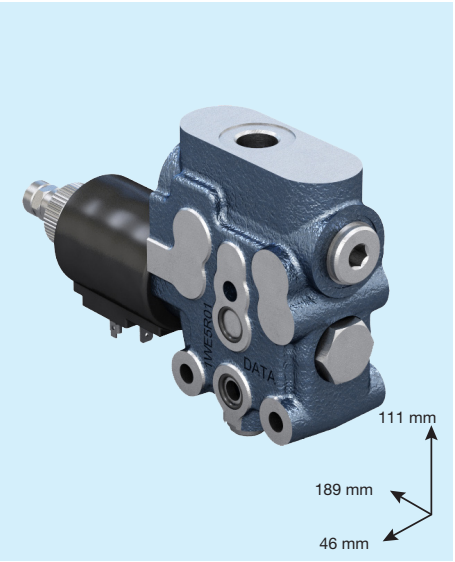
RF0500BO

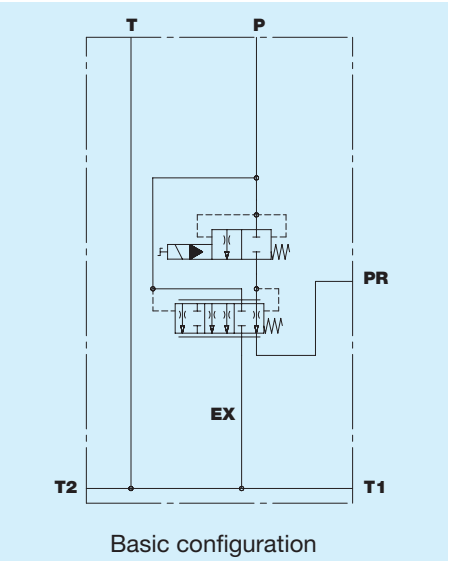
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator cover ON-OFF with excess on unloading.

Standard version dimensions





Basic configuration

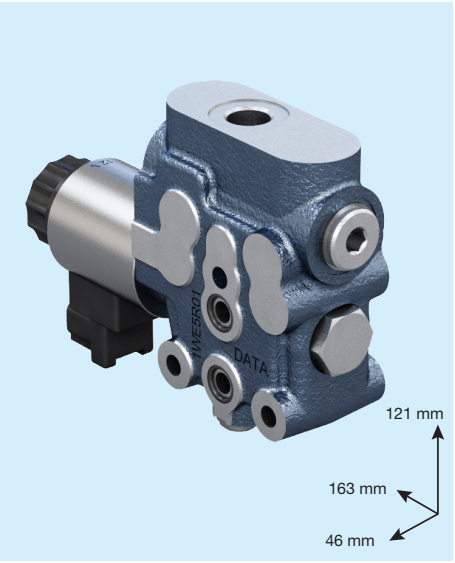
RF0500AP

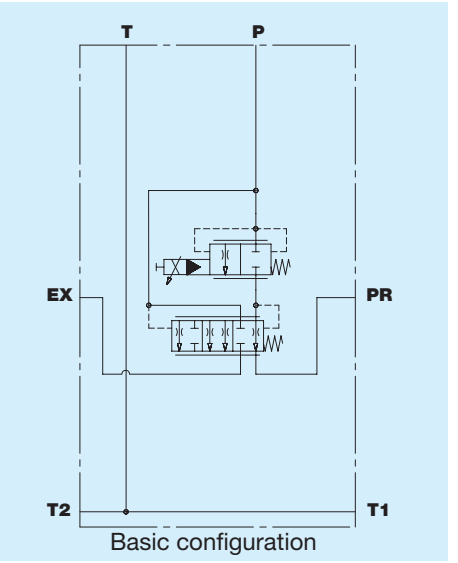
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator cover.

Standard version dimensions





Basic configuration

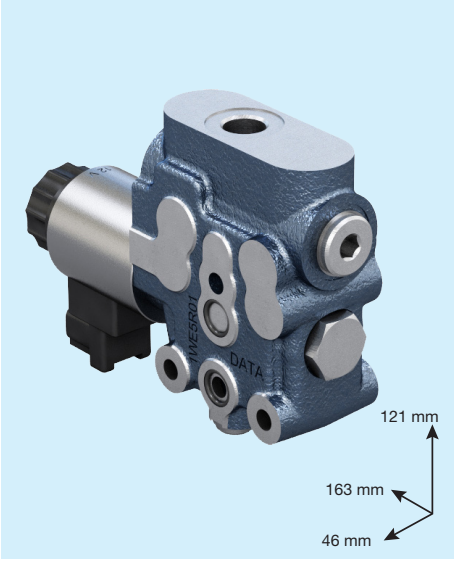
RF0500BP

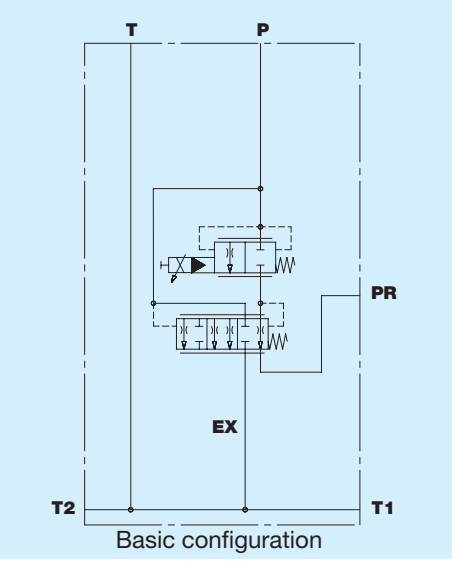
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator cover with excess on unloading.

Standard version dimensions





Basic configuration

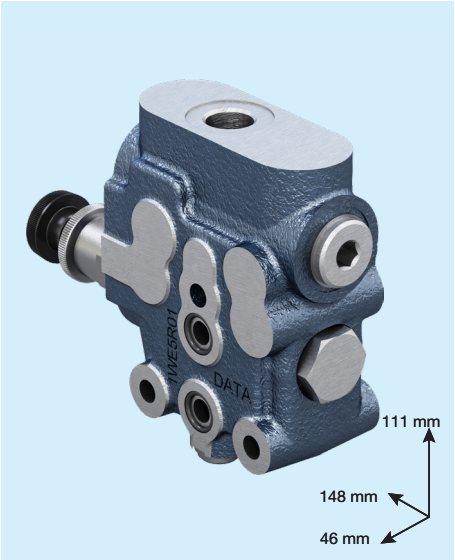
RF0500AM

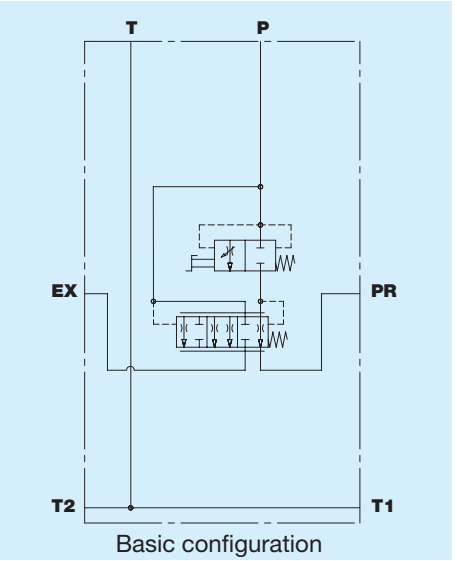
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual compensated flow rate regulator cover.

Standard version dimensions





Basic configuration

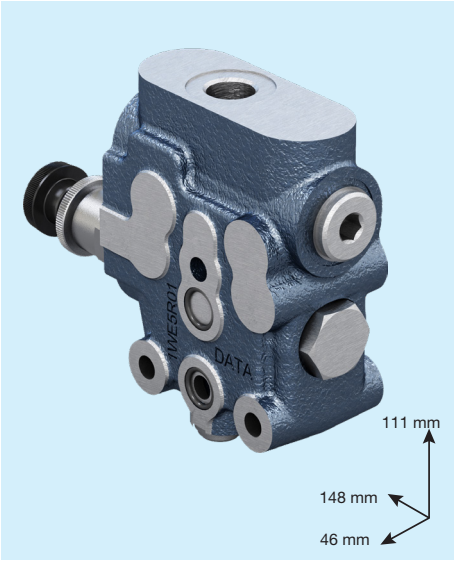
RF0500BM

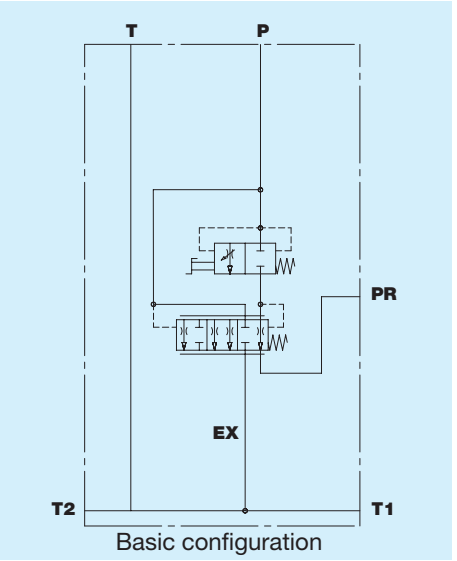
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual compensated flow rate regulator cover with excess on unloading.

Standard version dimensions





Basic configuration

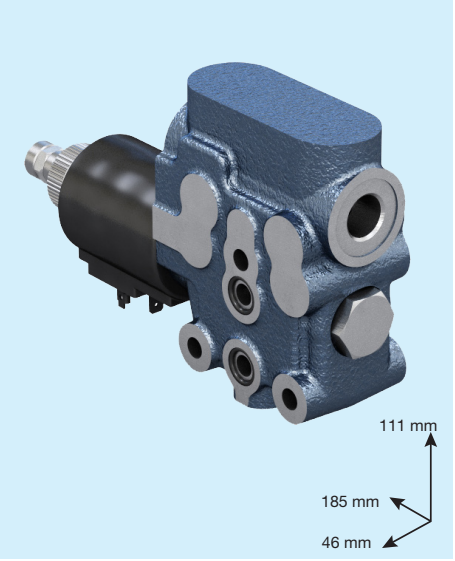
RF0500CO

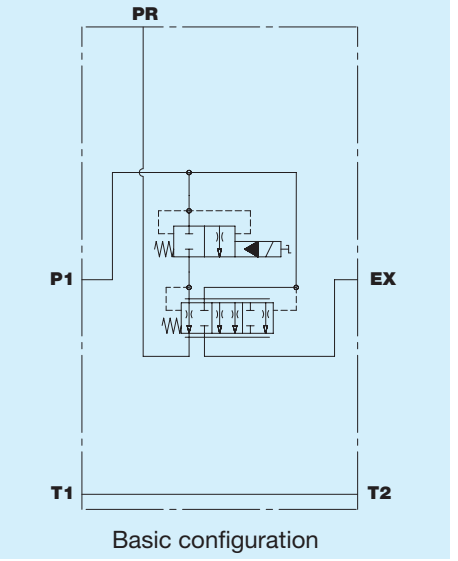
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator ON-OFF.

Standard version dimensions





Basic configuration

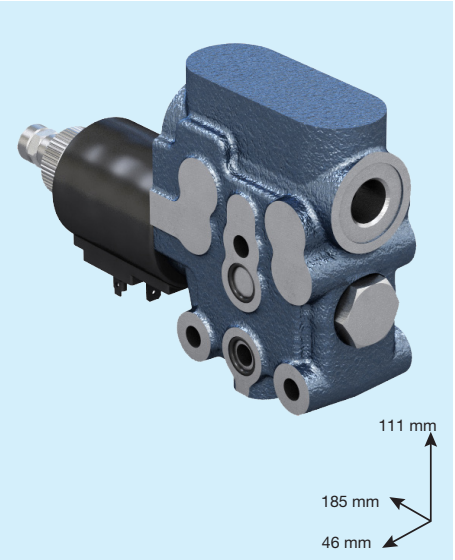
RF0500DO

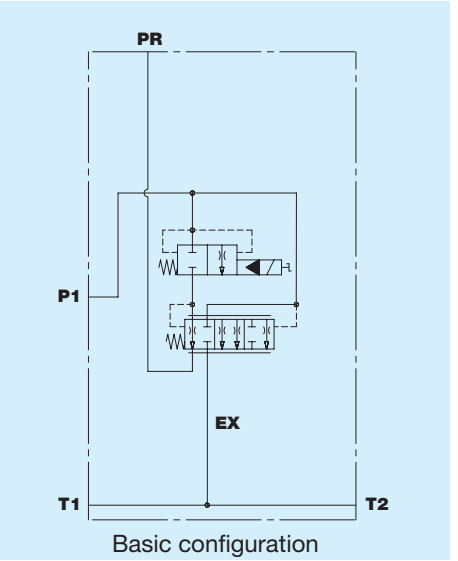
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator ON-OFF with excess on unloading.

Standard version dimensions





Basic configuration

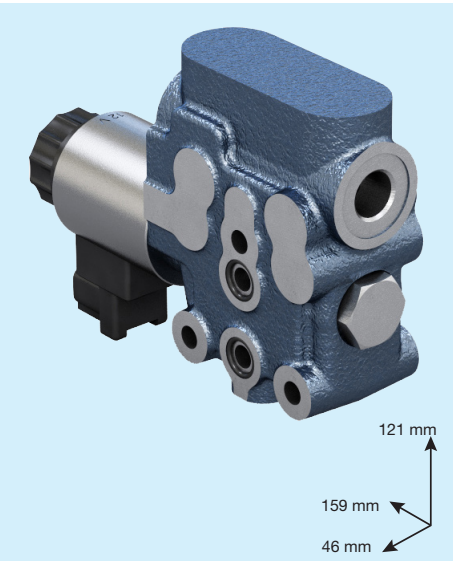
RF0500CP

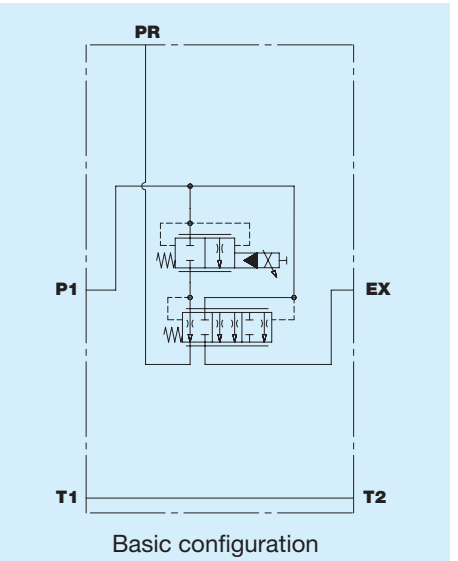
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator.

Standard version dimensions





Basic configuration

Priority flow regulator elements

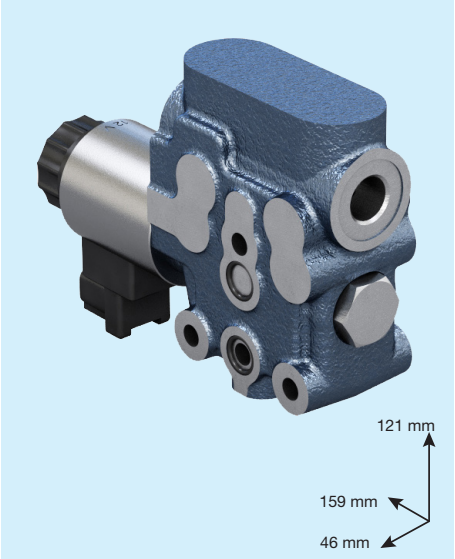
RF0500DP

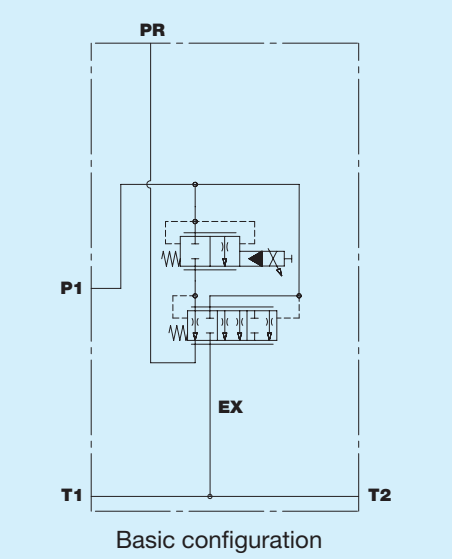
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator with excess on unloading.

Standard version dimensions





Basic configuration

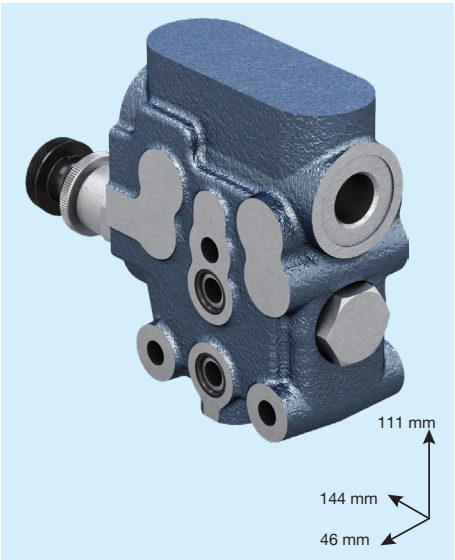
RF0500CM

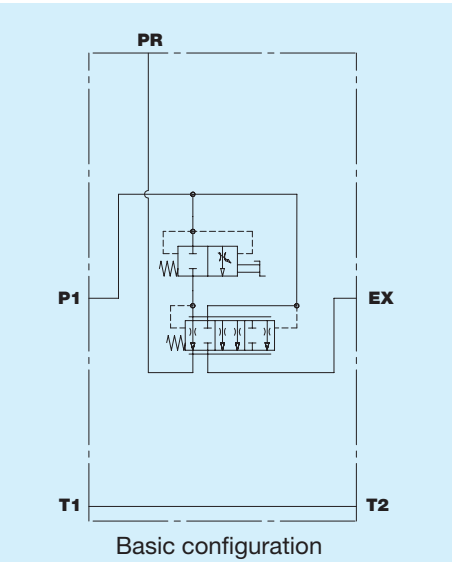
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual compensated flow rate regulator.

Standard version dimensions





Basic configuration

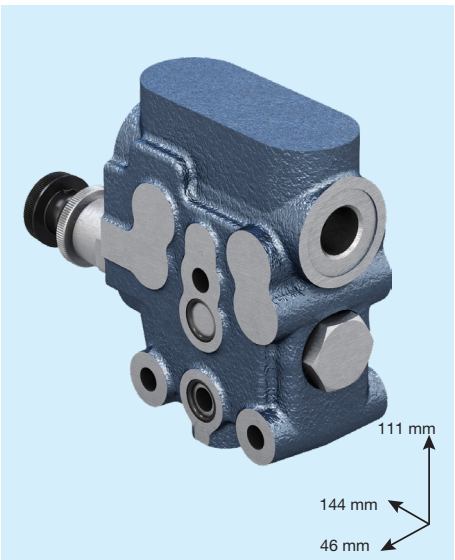
RF0500DM

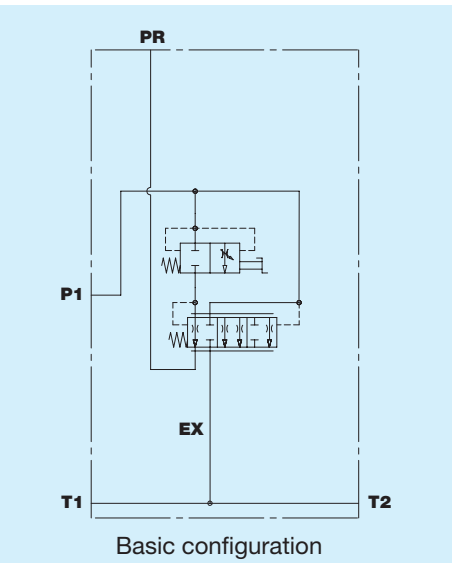
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual element with flow rate regulation and with excess on unloading.

Standard version dimensions





Basic configuration

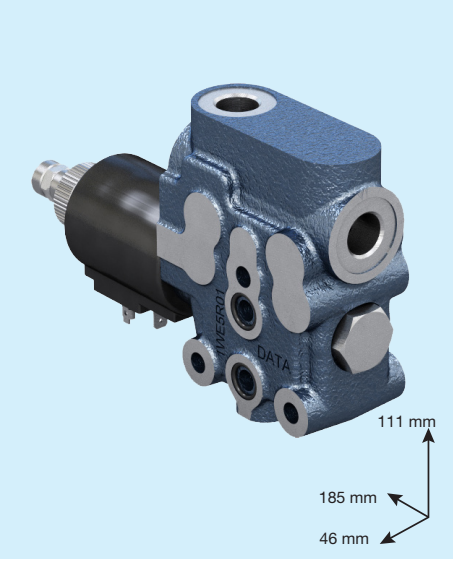
RF0500EO

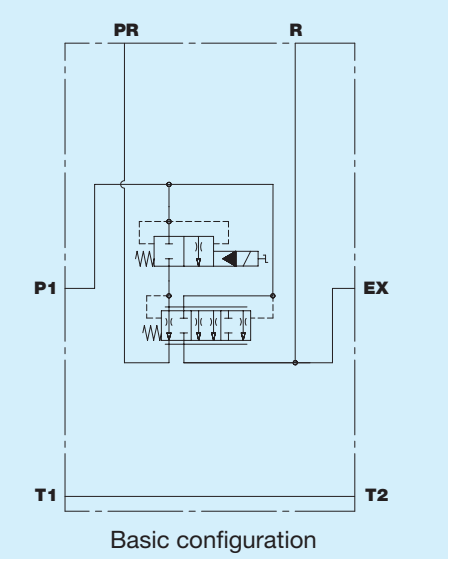
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator ON-OFF with recovery.

Standard version dimensions





Basic configuration

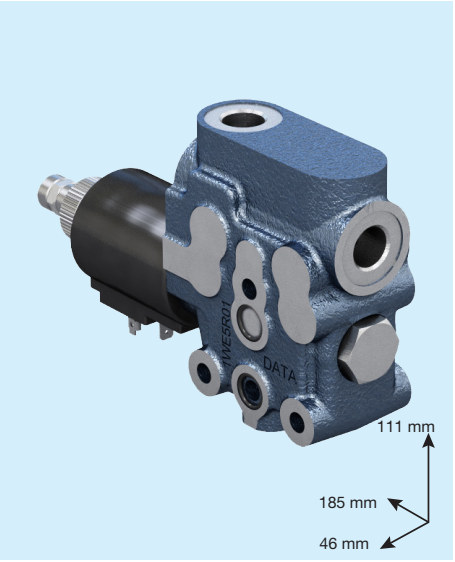
RF0500FO

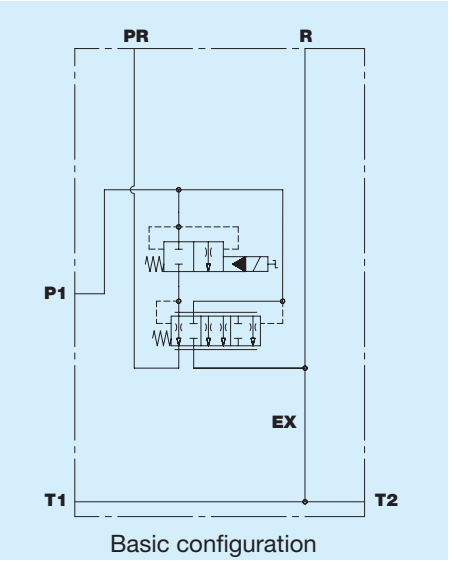
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Compensated flow rate regulator ON-OFF with recovery and excess on unloading.

Standard version dimensions





Basic configuration

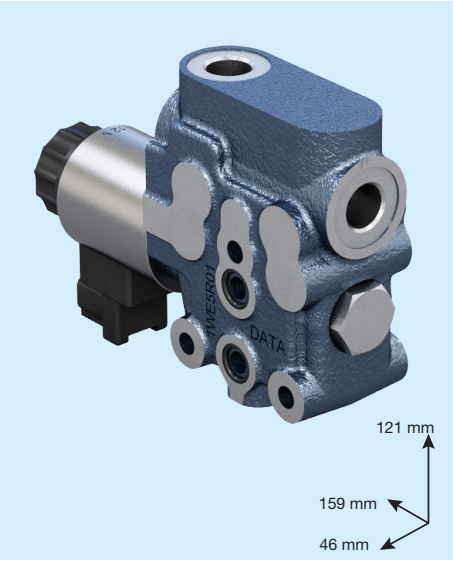
RF0500EP

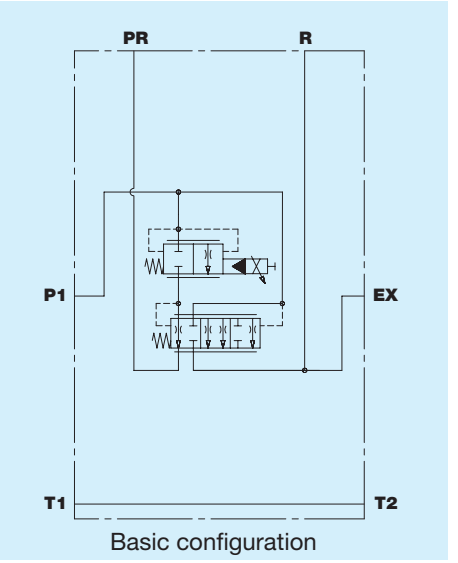
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator with recovery.

Standard version dimensions





Basic configuration

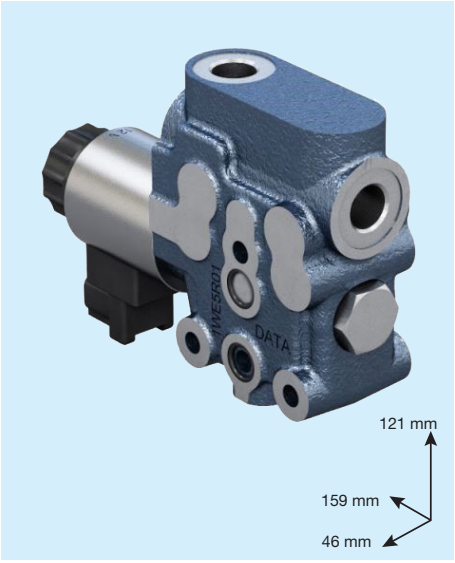
RF0500FP

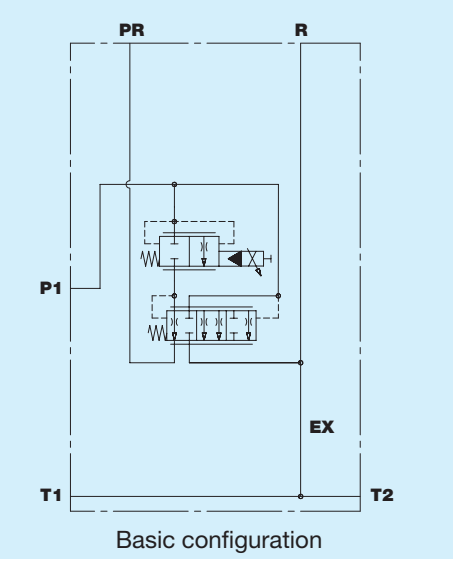
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Proportional compensated flow rate regulator with recovery and excess on unloading.

Standard version dimensions





Basic configuration

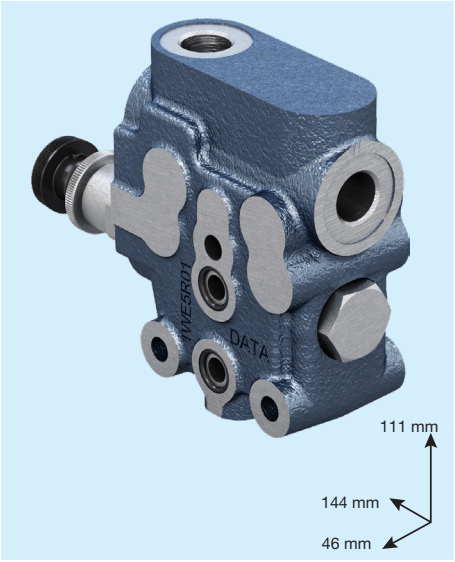
RF0500EM

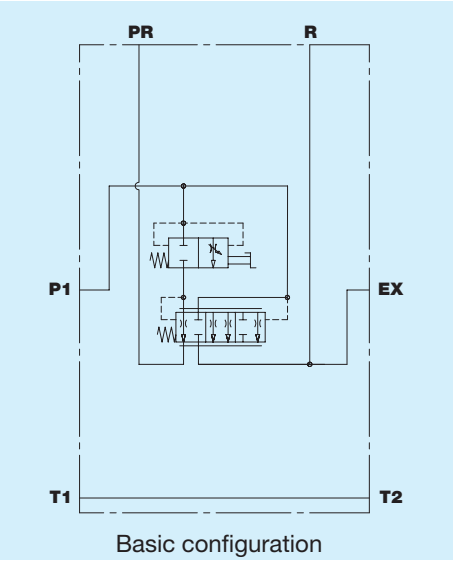
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual compensated flow rate regulator with recovery.

Standard version dimensions





Basic configuration

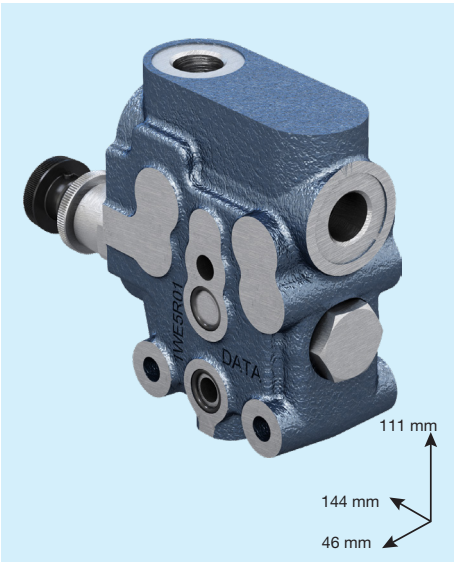
RF0500FM

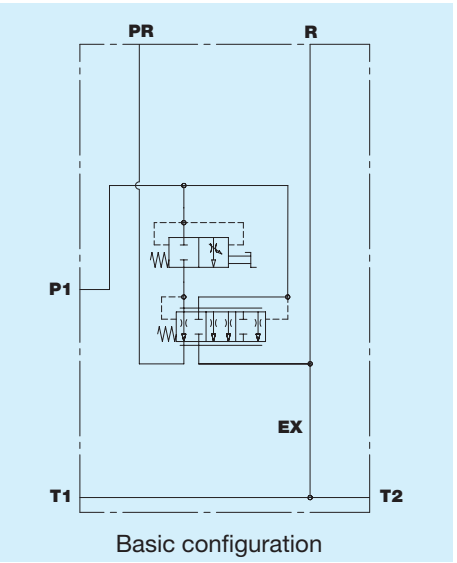
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Priority regulated flow rate	20/40 l/min
For tie rod calculation	46 mm
Weight	2.6 Kg

Description:

Manual compensated flow rate regulator with recovery and excess on unloading.

Standard version dimensions





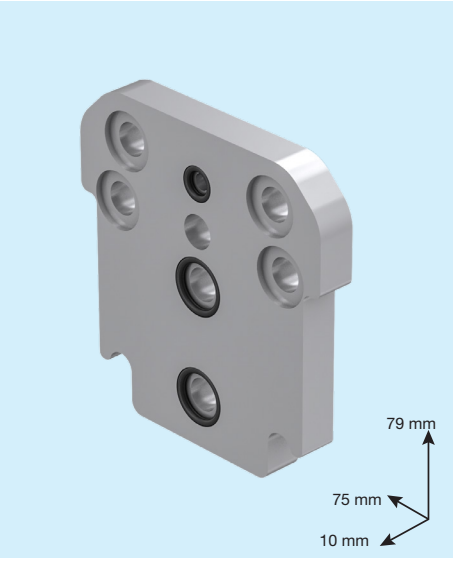
Basic configuration

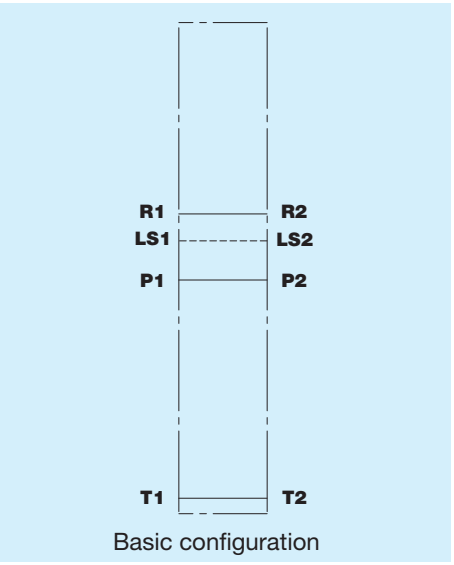
PI05

Platform	OC LS HL EL
Size	05
For tie rod calculation	10 mm
Weight	0.3 Kg

Description:

Intermediate plate for BW05 with P-T-LS-R feedthroughs.





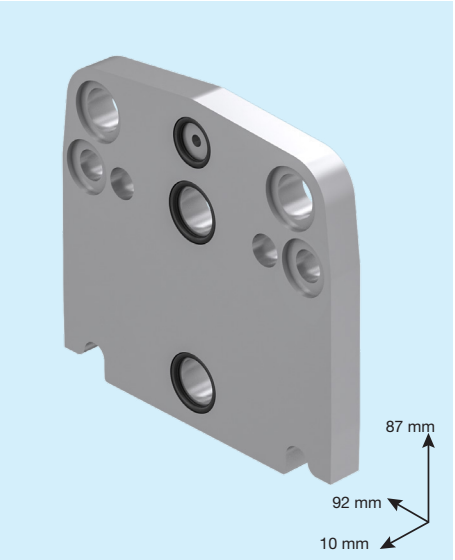
Basic configuration

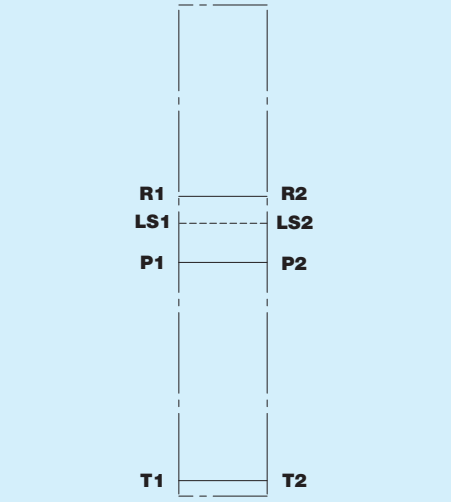
PI10

Platform	OC LS HL EL
Size	10
For tie rod calculation	10 mm
Weight	0,4 Kg

Description:

Intermediate plate for BW10 with P-T-LS-R feedthroughs.





Basic configuration

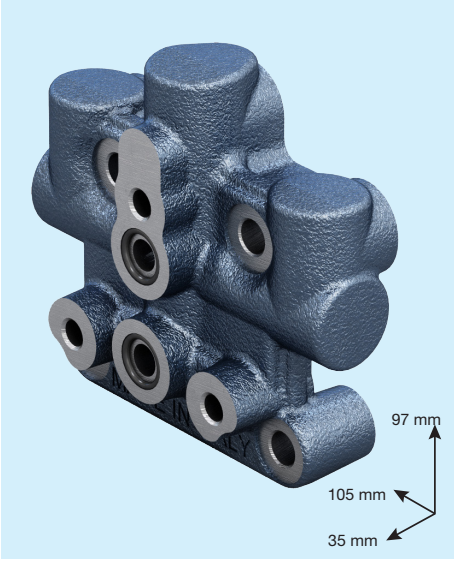
PI5012

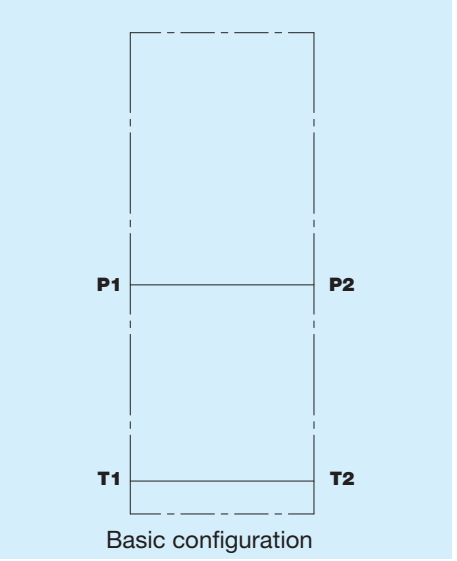
Platform	OC
Size	05-10
Nominal flow	90 l/min
Nominal pressure	300 bar
For tie rod calculation	Contact the Technical Office
Weight	1,1 Kg

Description:

Interface change module for BW0500 – BW1022.

Standard version dimensions





Basic configuration

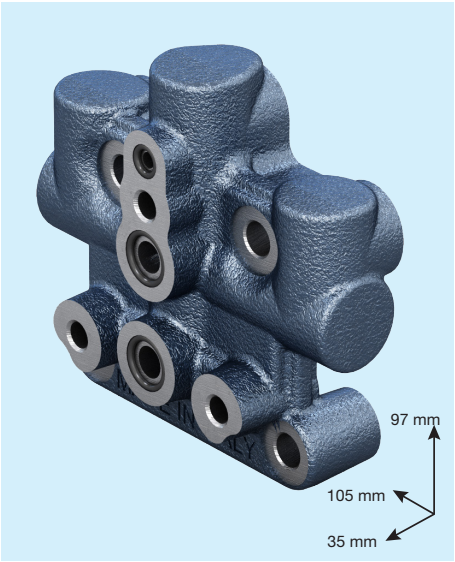
PI5113

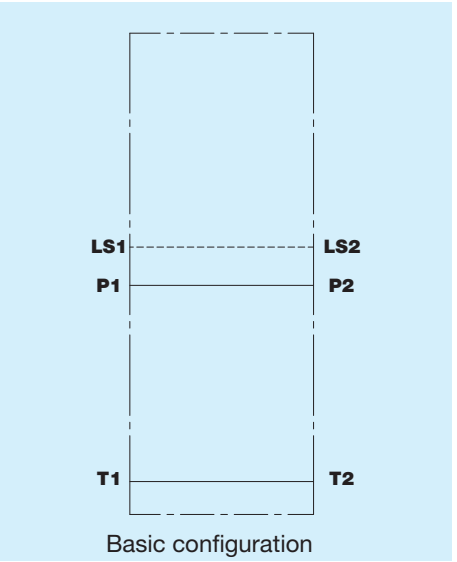
Platform	LS	HL	EL
Size	05-10		
Nominal flow	90 l/min		
Nominal pressure	300 bar		
For tie rod calculation	Contact the Technical Office		
Weight	1,1 Kg		

Description:

Interface change module with L.S. for BW0511 – BW1033.

Standard version dimensions





Basic configuration

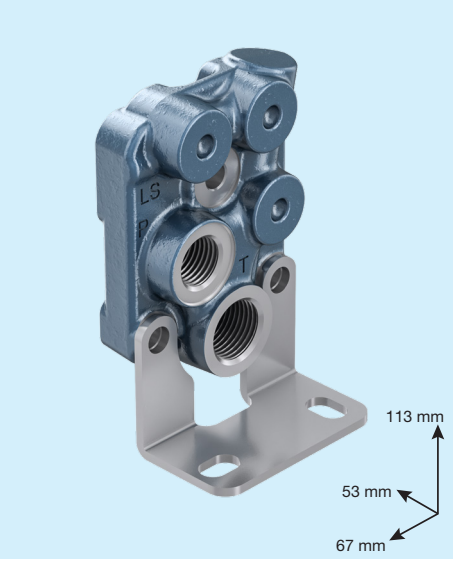
TU050F

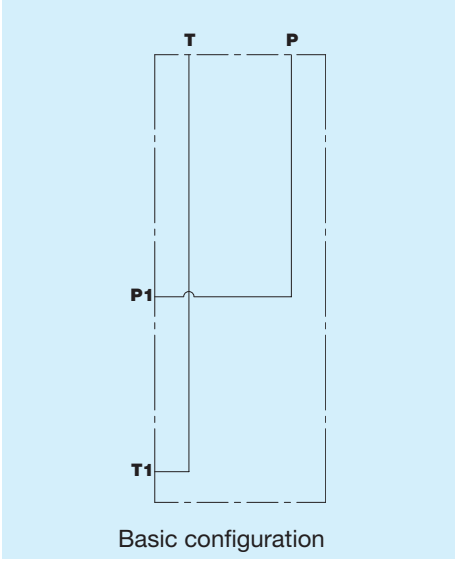
Platform	OC
Size	05
Nominal flow	50 l/min
Nominal pressure	250 bar
Compatible brackets	H2(low) H3(high)
For tie rod calculation	19 mm
Weight	0,4 Kg

Description:

Outlet cover P-T.

Standard version dimensions with H2 bracket





Basic configuration

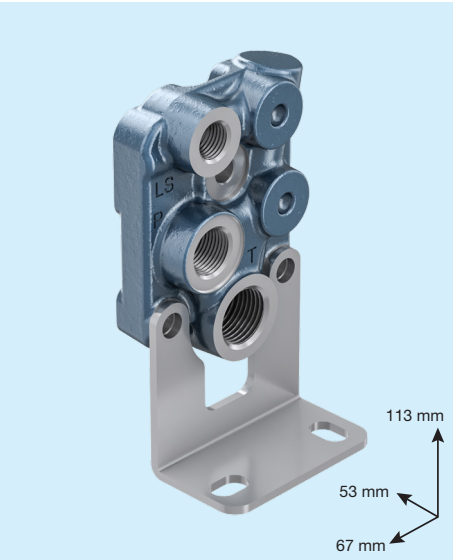
TU051F

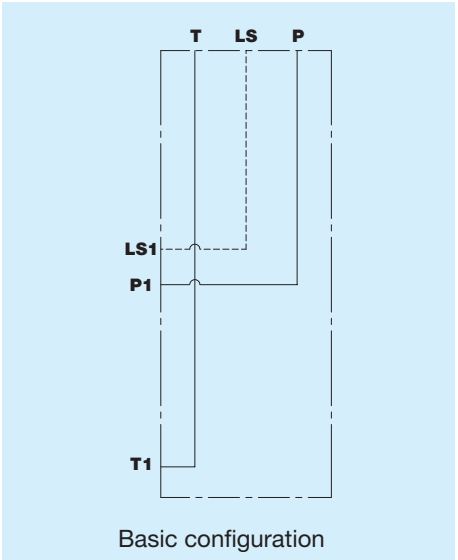
Platform	LS	HL	EL
Size	05		
Nominal flow	50 l/min		
Nominal pressure	250 bar		
Compatible brackets	H2(low) H3(high)		
For tie rod calculation	19 mm		
Weight	0,4 Kg		

Description:

Outlet cover P-T-LS.

Standard version dimensions with H2 bracket





Basic configuration

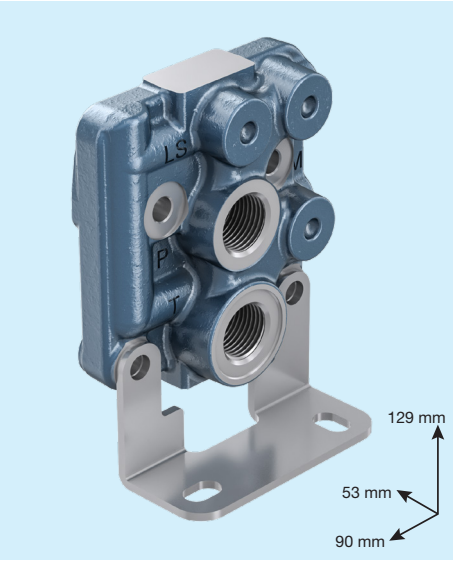
TU102F

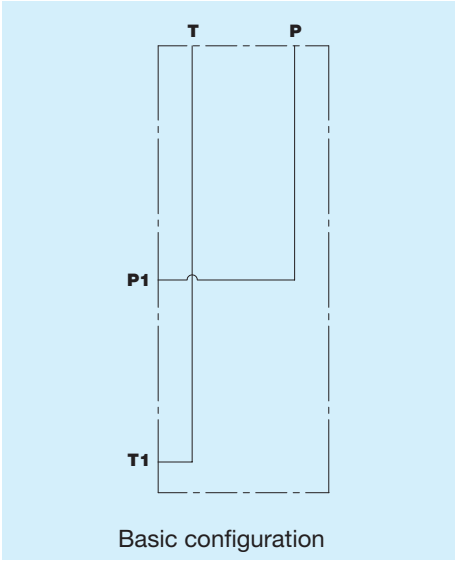
Platform	OC
Size	10
Nominal flow	100 l/min
Nominal pressure	250 bar
Compatible brackets	H3(high)
For tie rod calculation	19 mm
Weight	1,4 Kg

Description:

Outlet cover P-T.

Standard version dimensions with H3 bracket





Basic configuration

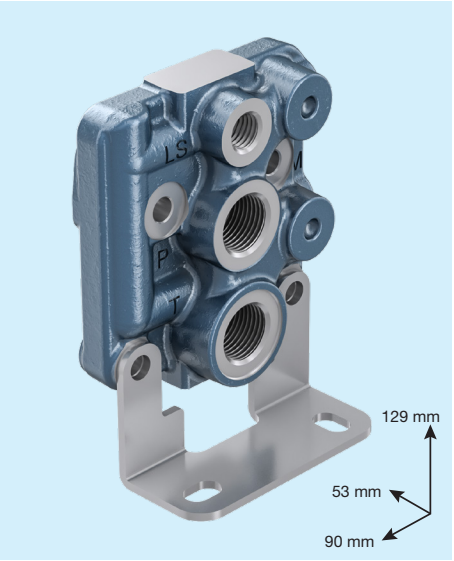
TU103F

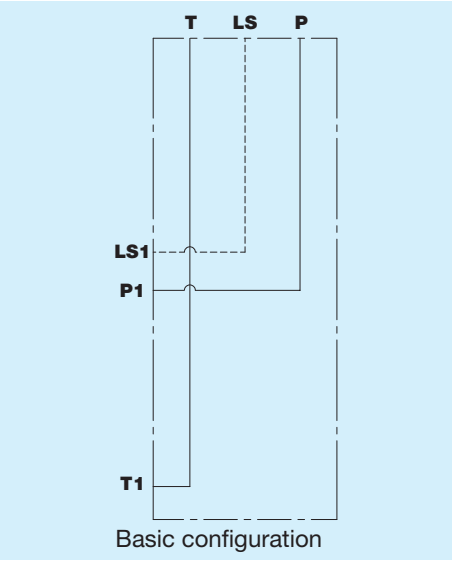
Platform	LS	HL	EL
Size	10		
Nominal flow	100 l/min		
Nominal pressure	250 bar		
Compatible brackets	H3(high)		
For tie rod calculation	16 mm		
Weight	1,4 Kg		

Description:

Outlet cover P-T-LS.

Standard version dimensions with H3 bracket





Basic configuration

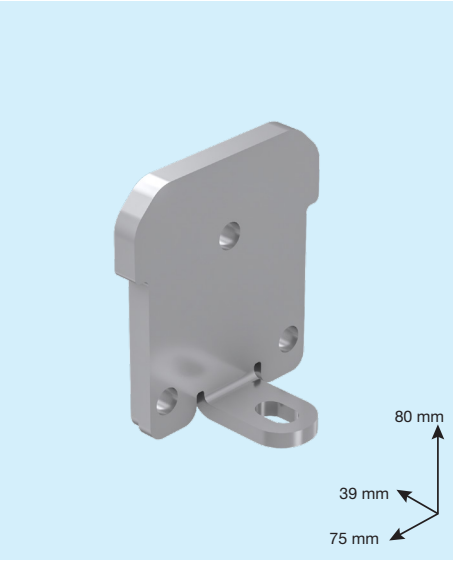
TU05 H1

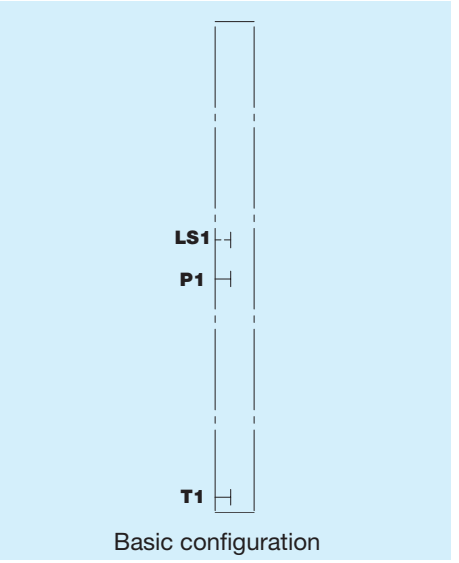
Platform	OC LS HL EL
Size	05
For tie rod calculation	8 mm
Weight	0,4 Kg

Description:

Outlet plate.

Standard version dimensions





Basic configuration

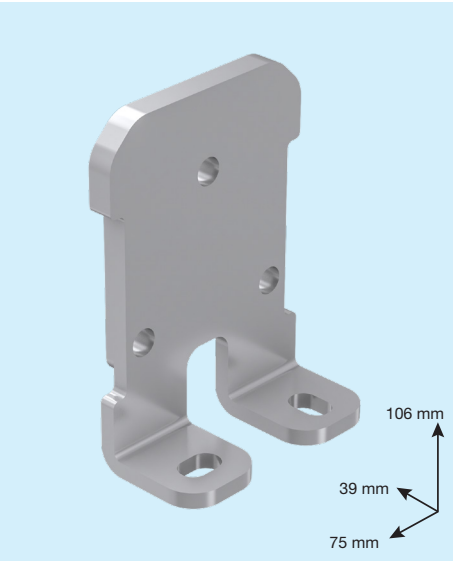
TU05 H2

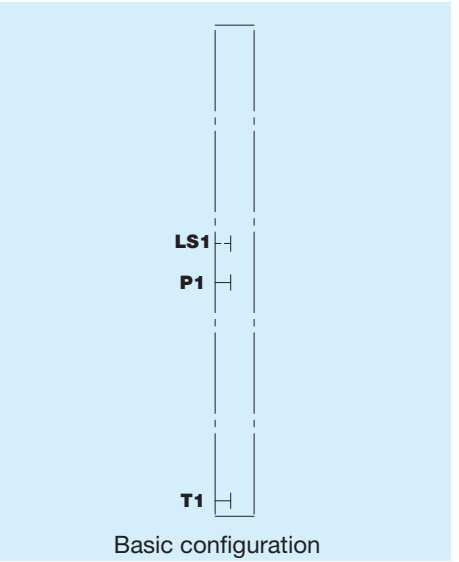
Platform	OC LS HL EL
Size	05
For tie rod calculation	8 mm
Weight	0,5 Kg

Description:

Outlet plate.

Standard version dimensions





Basic configuration

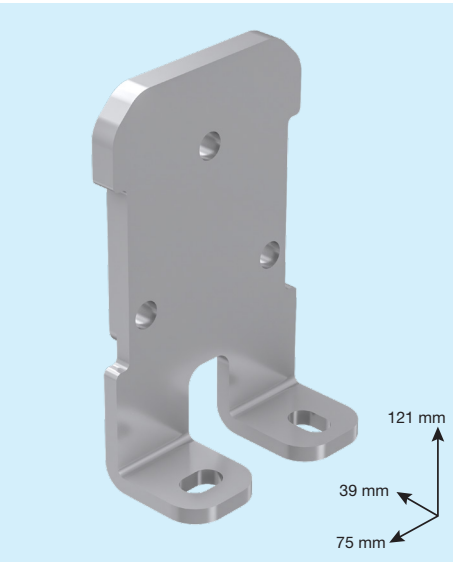
TU05 H3

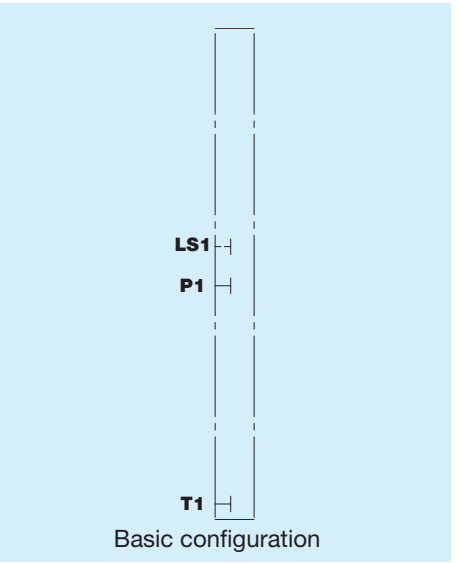
Platform	OC LS HL EL
Size	05
For tie rod calculation	8 mm
Weight	0,6 Kg

Description:

Outlet plate.

Standard version dimensions





Basic configuration

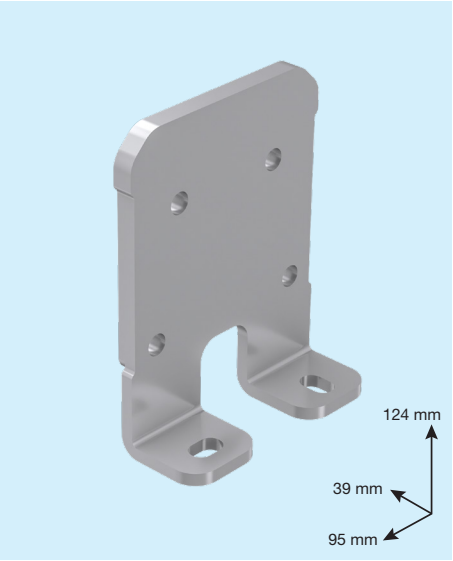
TU10

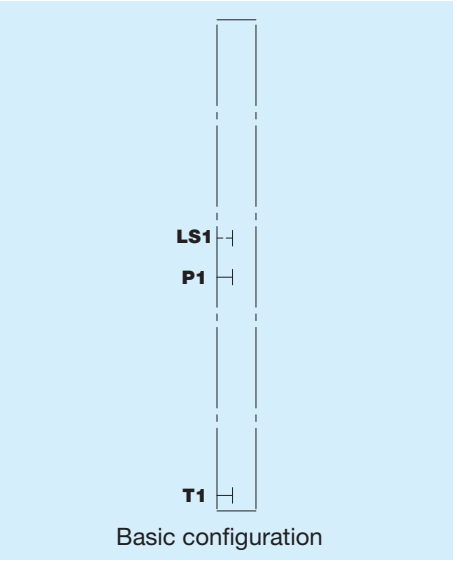
Platform	OC LS HL EL
Size	10
For tie rod calculation	8 mm
Weight	0,7 Kg

Description:

Outlet plate.

Standard version dimensions





Basic configuration

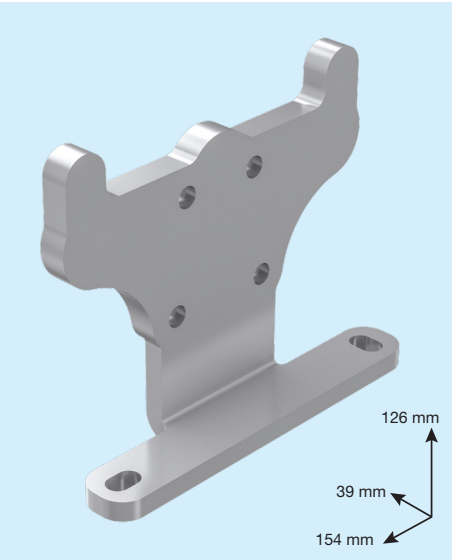
TU14

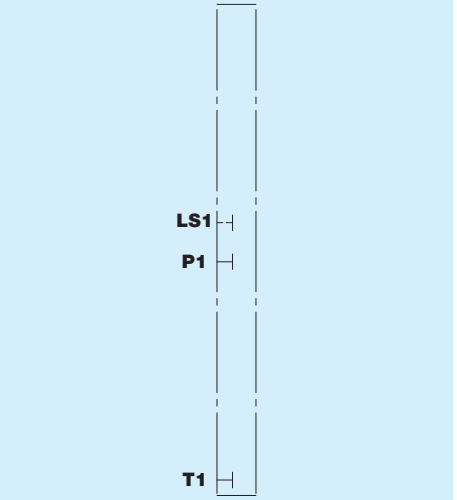
Platform	OC LS HL EL
Size	14
For tie rod calculation	11 mm
Weight	0,9 Kg

Description:

Outlet plate.

Standard version dimensions

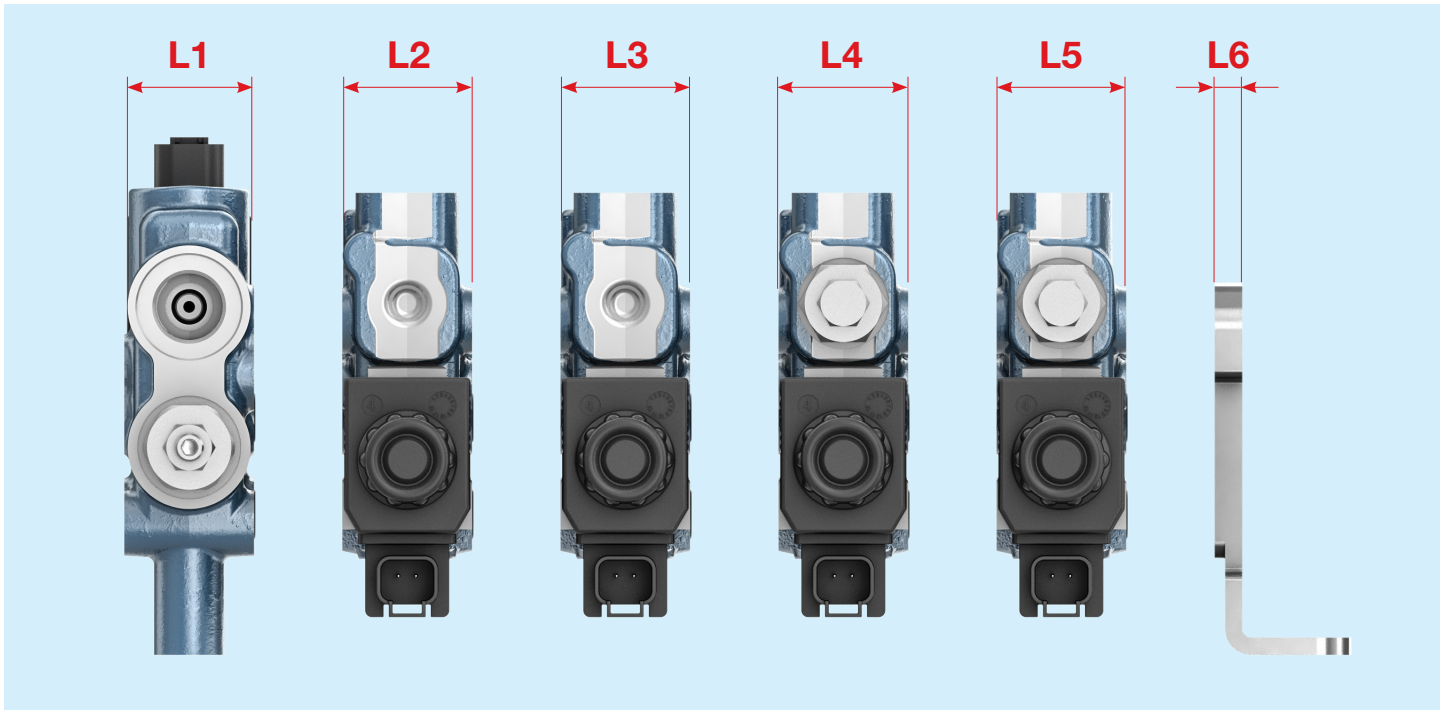




Basic configuration

The tie rods

Tie rods must be used to assemble several loose ByWire modules together.
To select the tie rods and define the code, proceed as follows.



Calculation for the definition

Refer to the following formula to calculate the total length of the tie rod:

L tot = total length of the tie rod

L tot (L1 + L2 + L3 + L4 + L5 + L6) **+ 20 mm**
round up to number **5** or **0**.

L1 represents the length of the tie rod required by **module 1**; **L2** required by **module 2**, **L3** by **module 3** etc.

The value of **20 mm is fixed** and represents the sum of the threads on which the nuts and washers are screwed on both ends.

In the example of the distributor shown on the page, we have:

L1 (**37**mm) + L2 (**37**mm) + L3 (**37**mm) + L4 (**37**mm) + L5 (**37**mm) + L6 (**8**mm) + **20** mm = **213 mm**
***rounded up* = 215 mm**

The length of the tie rod you need is: L tot = 215 mm.

If the final sum is 217 mm, ***rounding up*** the result will be: **L tot = 220 mm**.

The BW05 interface provides a kit consisting of 3 tie rods.
The IBW10 and IBW14 interfaces provide a kit consisting of 4 tie rods.

0	1			2		
D0590	2	1	5	0	1	6

1 Length

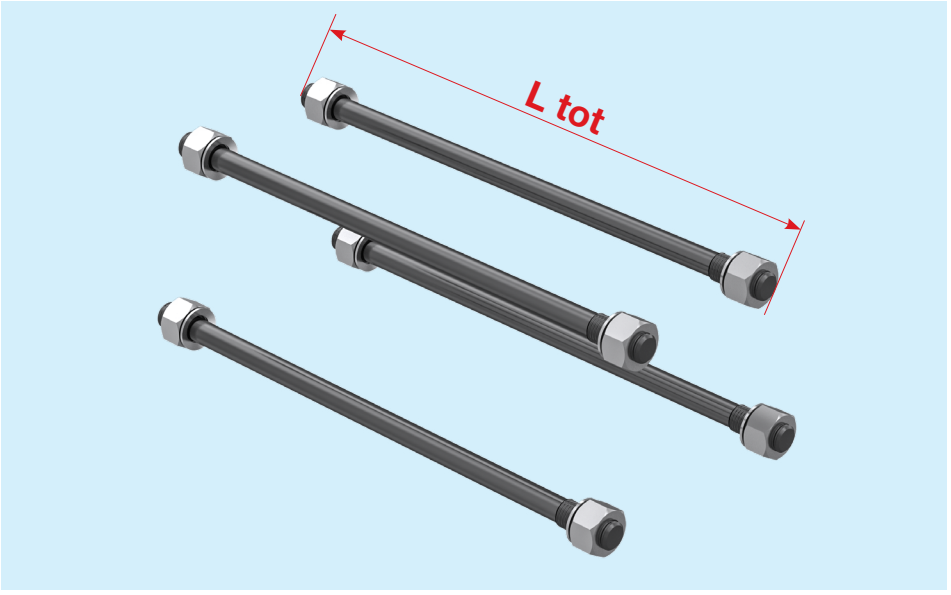
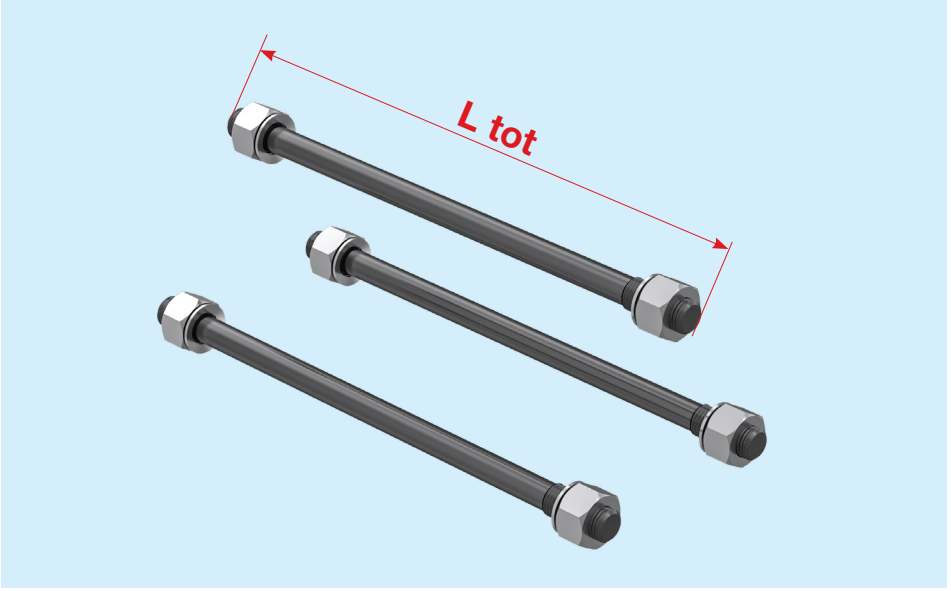
000 Length of the tie rod in mm

2 Interface

016 IBW05 interface

018 IBW10 – IBW14 interface

KIT - IBW10 and IBW14



KIT - IBW05