Multi-Way Valves for Pneumatics
servo-assisted, extendable, 10 mm wide

Type 6510/6511

3/2 and 5/2 way valves
Flow rate: 130 l/min; M5 and Legris ø 4 port connection



Advantages / Benefits

- **Optimal system solutions due to high level of modularity**
- **Maintenance-free and no wear due to high level dry run properties**
- **High flow rates with compact design**
- **Multi-assembly possible through modular design**
- **Manual override available as option**
- **High switch reliability**
- **Field Bus compatible**
- **Low weight**
- **Short response times**

Design/Function

Types 6510/6511 are with high switch reliability diaphragm valves in 3/2 and 5/2 way versions.

The valve consists of a diaphragm reinforcement as main valve and a 10 mm rocker solenoid valve with DC-coil as pilot.

The operation principle allows to switch high pressures in spite of small electrical performances and short response times.

The bodies are made of high quality thermoplastic.

The electrical connection is made with rectangular plug or optionally with flying leads.

Types 6510 and 6511 are expandable and preferably suitable for valve blocks with plug connection at the back. The valve block can be controlled by various field bus systems, Multipole or collecting connections.

The valves with plug connections in front are perferably used on valve modules.

The block assembly takes place with use of the pneumatic modules MP01 (for type 6510) and MP02 (for type 6511) through integrated lock technology and screwing.

Applications

For integration as control valve on process valve

- Food and beverage
- Pharmaceutical processing equipment
- Cosmetic processing equipment
- Textile dyeing / drying machines
- Sterilizers
- Water treatment / processing equipment
- Pulp and paper processing equipment

bürkert
Easy Fluid Control Systems

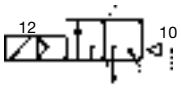
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Technical data type 6510/6511

Circuit functions

C 3/2 way valve type 6510, in de-energized position port 2 exhausted



D 3/2 way valve type 6510, in de-energized position port 2 pressurized



H 5/2 way valve type 6511, in de-energized position pressure port 1 connected to port 2, port 4 exhausted



Specifications

Circuit function	Orifice [mm]	Flow rate[1] QNn-value air [l/min]	Pressure range[2] [bar]	All port connections at the back of the valve	Service ports 2 and 4 at the pneumatic module	Supply ports 1/3/5 at the connection module
C und D (3/2)	2,5	130	2,5 - 7	sub-base	M5 or plug-in coupling ø 4 mm	G 1/8 or plug-in coupling ø 8 mm
H (5/2)	2,5	130	2,5 - 7	sub-base		

[1] Measured at 6 bar input pressure and 1 bar pressure drop at the valve and at +20°C.
[2] All pressure data as overpressure to ambient atmospheric pressure.

Valve specifications

Valve body	Polyamide (PA)
Sealing material	FPM and NBR
Media	Lubricated or unlubricated compressed air, neutral gases
Media temperature	–10 up to +50 °C
Ambient temperature	–10 up to +55 °C
Response times[3]	
Open (On)	15 ms
Close (Off)	10 ms
• Port connections at the valve	Sub base
• Supply ports 1/3/5 at the connection module	Threaded port G 1/8 or plug-in coupling ø 8 mm
• Service ports 2/4 at the pneumatic module	Threaded port M5 or plug-in coupling ø 4 mm

[3] Measured at connection 2; time from electrical switching to pressure increase to 90 % (opening) or pressure drop to 10 % (closing) of operational pressure (6 bar). The values given apply for DC.

Solenoid specifications

Operating voltage	24 V/DC (other voltages on request)
Voltage tolerance	±10 %
Electrical power consumption	1 W
Duty cycle	100 % continuously rated
Electr. connection	• Rectangular plug • Round plung (on request) • 300 mm flying lead (on request)
Rating	IP 40 (with rectangular plug connection) IP 67 with round plug IP 65 with flying leads
Ex-approval	EEx ia IIC T6 on request (up to +40 °C ambient temperature with block mounting)

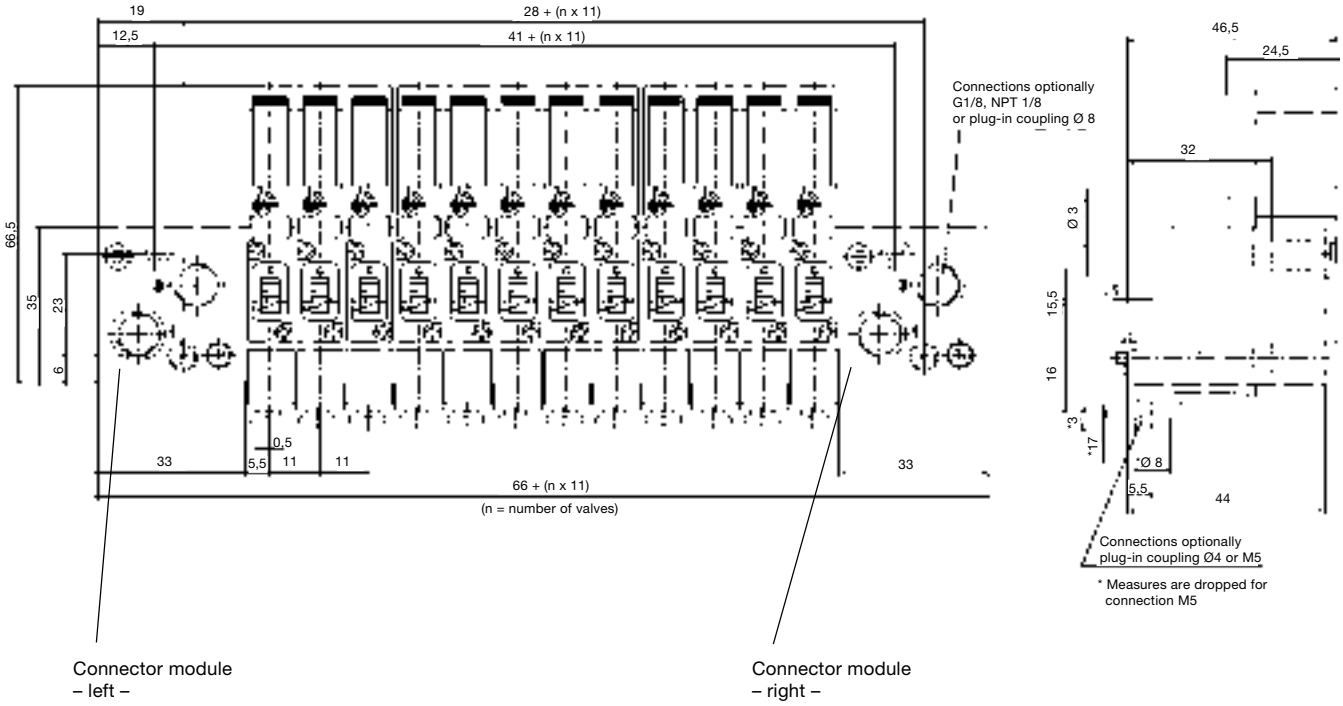
Installation

- Preferably on multistation module assembly
- Block assembly on MP01 or MP02 with DIN/EN-rail 50045

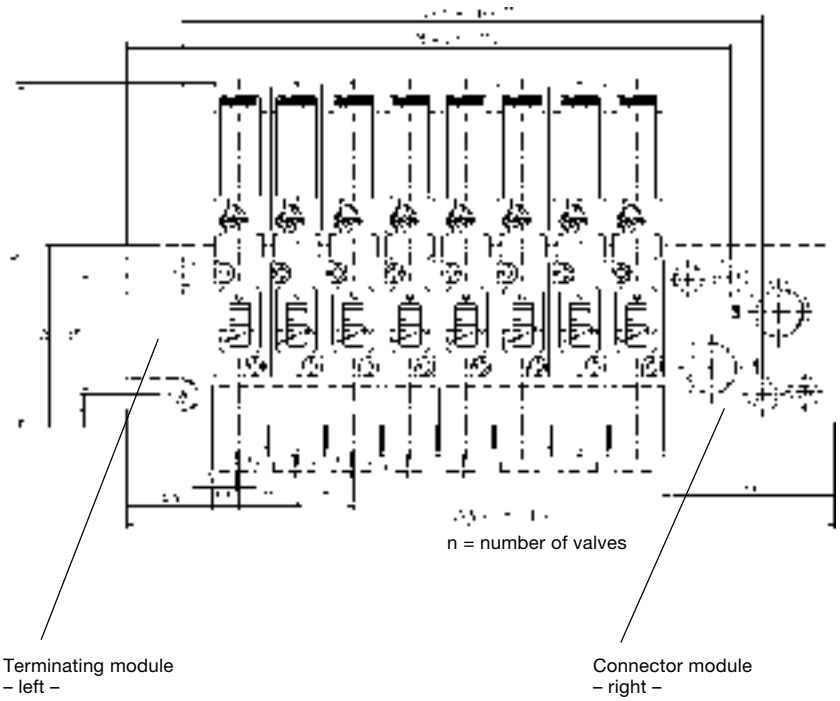
Mounting position	any, preferably solenoid system upright

Dimensions [mm] block and wall mounting valves type 6510 with pneumatic modules type MP01

Block design with connector module on the right and left (2 supply ports); block assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible:
rectangular plug connector necessary (see accessories)!



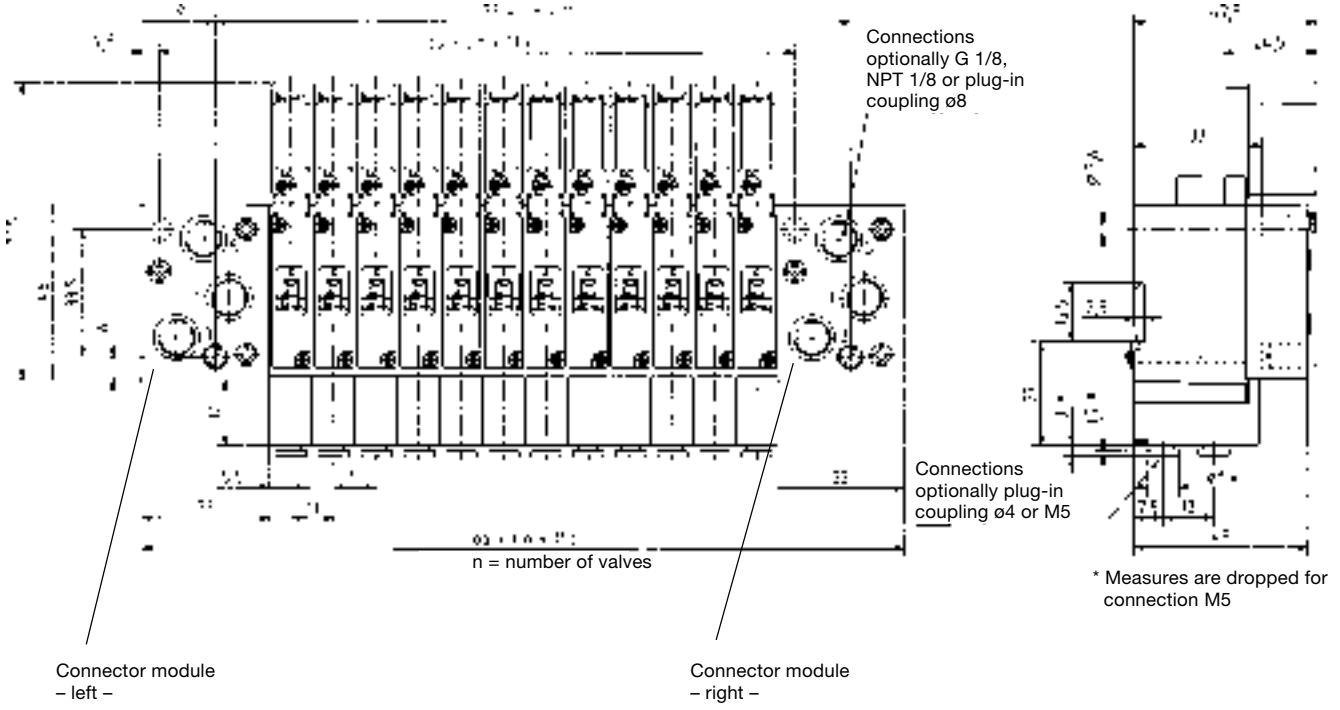
Block design with connector module on the right (1 supply port) and terminating module on the left; Block assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible:
rectangular plug connector necessary (see accessories)!



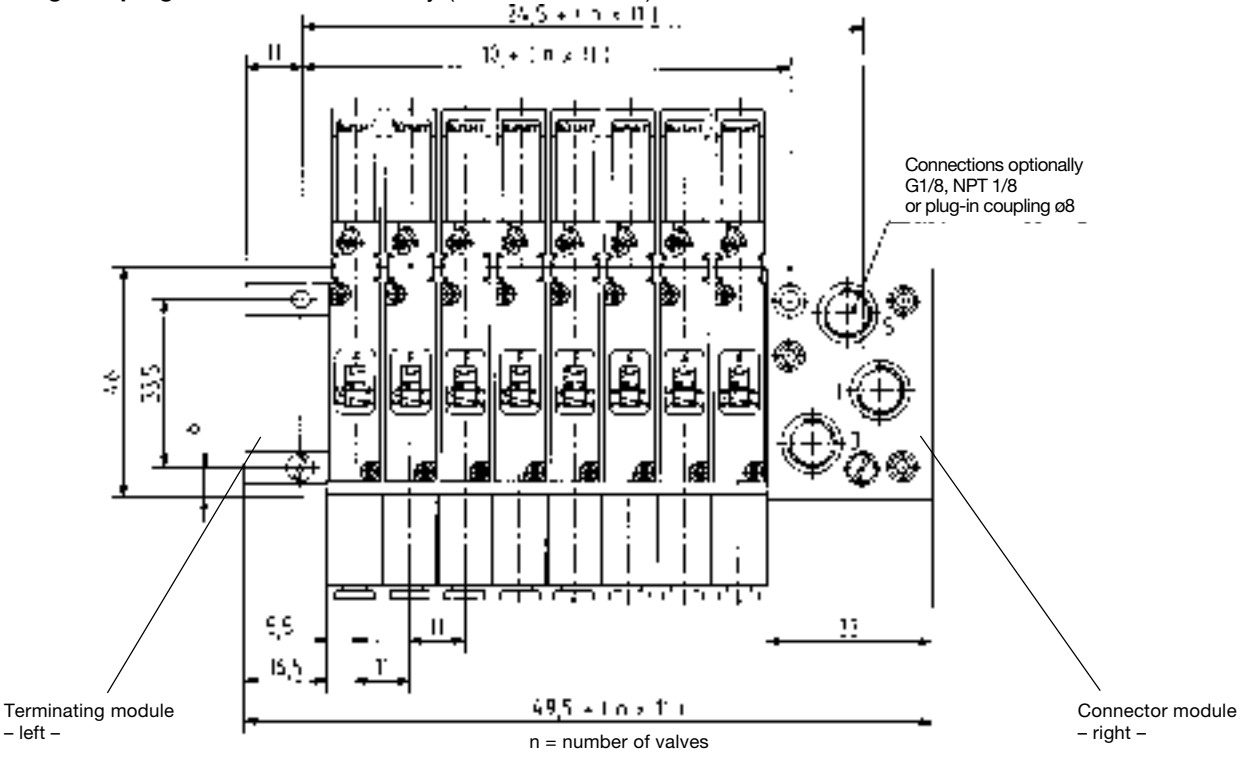
Specifications on design on a modular valve block, please see data sheet Customized Pneumatic Systems Solutions.

Dimensions [mm] block and wall mounting valves type 6511 with pneumatic modules type MP02

Block design with connector modules on the right and left (2 supply ports); block assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible:
rectangular plug connector necessary (see accessories)!



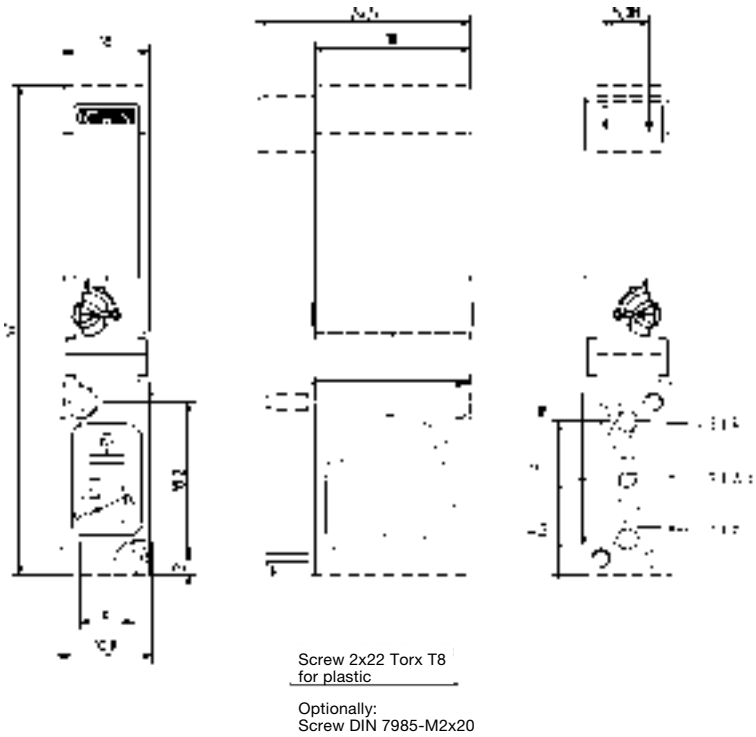
Block design with connector module on the right (1 supply port) and terminating module on the left;
Block assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible:
rectangular plug connector necessary (see accessories)!



Specifications on design of a modular valve block, please see data sheet Customized Pneumatic Systems Solutions.

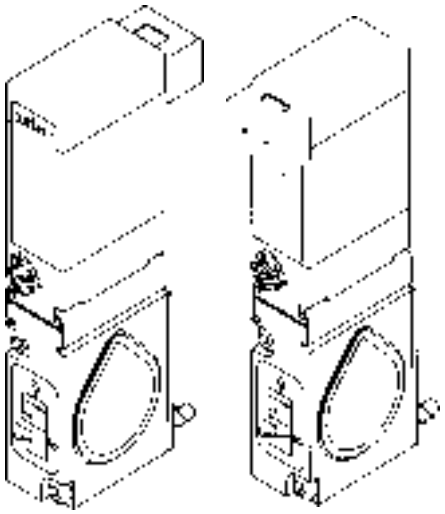
Dimensions single valve [mm]

Type 6510 (3/2-way valve) with sub-base connection



Screw 2x22 Torx T8
for plastic

Optionally:
Screw DIN 7985-M2x20



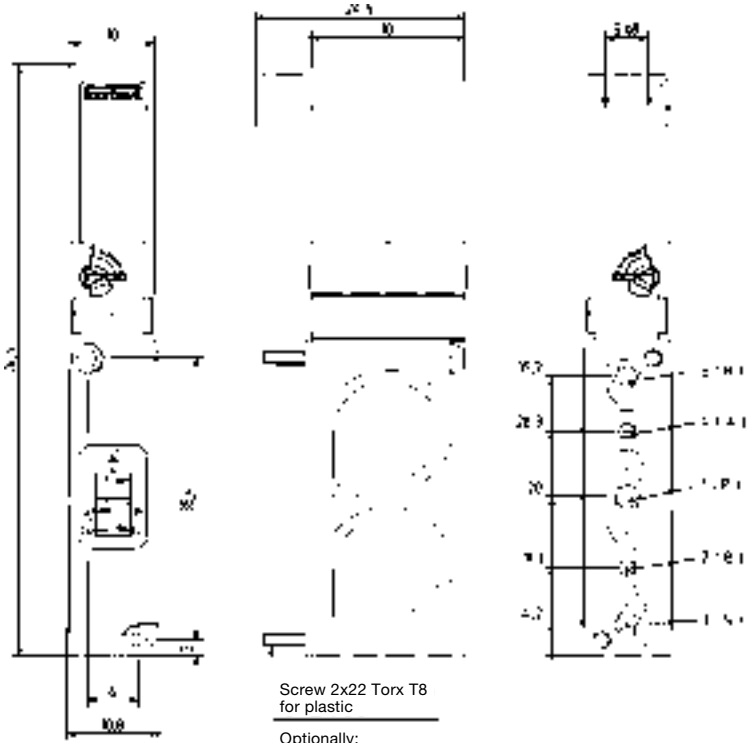
Version 1

Rectangular plug at the back; compatible with the multipole block assembly for multipole and field bus wiring.

Version 2

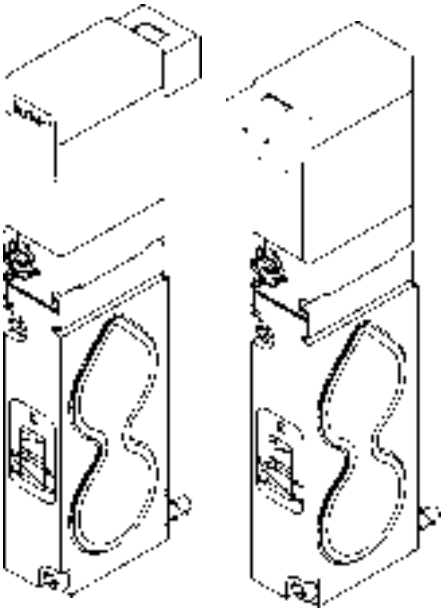
Rectangular plug in front; for simple wiring with cable plugs.

Type 6511 (5/2-way valve) with sub-base connection



Screw 2x22 Torx T8
for plastic

Optionally:
Screw DIN 7985-M2x20



Version 1

Rectangular plug at the back; compatible with the multipole block assembly for multipole and field bus wiring.

Version 2

Rectangular plug in front; for simple wiring with cable plugs.

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Type 6510/6511

Ordering chart type 6510/6511 (other versions on request)

Scope of delivery: All valves with NBR and FPM seal material; sub-base version with mounting screws and sub-base seal; with rectangular plug at the back[1] or in front[2]; **without electrical plug** (see accessories)

Electr. connection:
- Valve module assembly with Version 1: **integrated plug connector** on the electrical connector modules of the **multistation module**
- Block assembly with Version 2: **rectangular plug connector** necessary (see accessories)

Valves **with** manual override

Circuit function/type	Orifice [mm]	Flow rate QNn value air [l/min]	Pressure range [bar]	Voltage/ frequency [V/Hz]	Electrical power consumption [W]	**Item No.** Version 1	**Item No.** Version 2
C/Type 6510	2,5	130	2,5 - 7	24/DC	1	133 120 K	134 281 J
D/Type 6510	2,5	130	2,5 - 7	24/DC	1	133 121 G	134 282 K
H/Type 6511	2,5	130	2,5 - 7	24/DC	1	133 122 H	134 283 L

Valves **without** manual override

Circuit function/type	Orifice [mm]	Flow rate QNn value air [l/min]	Pressure range [bar]	Voltage/ frequency [V/Hz]	Electrical power consumption [W]	**Item No.** Version 1	**Item No.** Version 2
C/Type 6510	2,5	130	2,5 - 7	24/DC	1	132 395 J	135 152 R
D/Type 6510	2,5	130	2,5 - 7	24/DC	1	132 398 V	135 153 J
H/Type 6511	2,5	130	2,5 - 7	24/DC	1	132 402 J	135 154 K

[1] **At the back**: Rectangular plug on sub-base side.
[2] **In front**: Rectangular plug turned 180° to the sub-base.
[3] see accessories

Ordering chart pneumatic modules types MP01 (for type 6510) and MP02 (for type 6511)

Module **type MP01**, 3/2-way (type 6510)	**Item No.**	Modules **type MP01**, 3/2-way (type 6510)	**Item No.**
Connector module left, G 1/8“	132 408 Y		
Connector module left, NPT 1/8“	133 464 Q	Basic module 2 valves basis, M5	132 413 C
Connector module left, plug-in coupling ø 8 mm	132 411 A	Basic module 2 valves basis, plug-in coupling ø 4 mm	132 414 D
Terminating module without supply port, left	132 405 M	Basic module 3 valves basis, M5	132 415 E
Connector module right, G 1/8“	132 409 Z	Basic module 3 valves basis, plug-in coupling ø 4 mm	132 416 F
Connector module right, NPT 1/8“	133 465 R	Basic module 12 valves basis, M5	132 417 G
Connector module right, plug-in coupling ø 8 mm	132 412 B	Basic module 12 valves basis, plug-in coupling ø 4 mm	132 418 R

Module **type MP02**, 5/2-way (type 6511)	**Item No.**	Module **type MP02**, 5/2-way (type 6511)	**Item No.**
Connector module left, G 1/8“	135 005 J		
Connector module left, NPT 1/8“	134 742 X	Basic module 2 valves basis, M5	135 010 J
Connector module left, plug-in coupling ø 8 mm	135 006 K	Basic module 2 valves basis, plug-in coupling ø 4 mm	135 011 F
Terminating module without supply port, left	135 007 L	Basic module 3 valves basis, M5	135 012 G
Connector module right, G 1/8“	135 008 V	Basic module 3 valves basis, plug-in coupling ø 4 mm	134 744 Z
Connector module right, NPT 1/8“	134 743 Y	Basic module 12 valves basis, M5	135 013 H
Connector module right, plug-in coupling ø 8 mm	135 009 W	Basic module 12 valves basis, plug-in coupling ø 4 mm	135 014 A

Ordering chart accessories

Version	Characteristics	**Item No.**
Blanking plug	for plug-in coupling ø 4 mm	781 664 A
Blanking screw	G 1/8“	631 019 Y
Silencer	G 1/8“	780 779 Y
Covering plate, complete	for left-free valve spaces on MP01	642 148 R
Covering plate, complete	for left-free valve spaces on MP02	642 156 H
Rectangular plug connector, straight, with 3 m cable	for electrical single connection of valves	133 486 F
Rectangular plug connector, with flying leads, 300mm length	for individual single wiring	644 068 N

In case of special requirements please consult for advice.

We reserve the right to make technical changes without notice.
803-GB/ 2-0148

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