

3/2 and 5/2 Way Valves
P = 36 - 100 PSI; 4.6 ft³/Min; 5/32" O.D. Tubing Connection



Advantages / Benefits

- ▶ Optimum system solutions due to high level of modularity
- ▶ Maintenance-free and no wear due to high level dry design
- ▶ High flow rates with compact design
- ▶ Multiple configurations possible through modular design
- ▶ Manual override available as option
- ▶ High cycle life
- ▶ Fieldbus compatible with several protocols
- ▶ Light weight
- ▶ Quick response times
- ▶ Common air exhaust
- ▶ CE

Design/Function

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

The valve has a reinforced diaphragm in the main valve and a 10mm rocker design solenoid as a pilot.

High pressures can be switched with quick response times while requiring only small power levels.

The bodies are made of high quality thermoplastic.

Electrical connection is made with rectangular plug or optional flying leads.

Types 6510 and 6511 manifold assemblies are easily expandable. Power can be supplied through a fieldbus system having various protocols, multipole or common collecting connections.

The valves with plug connections in front are used for wiring valves individually.

Valve modules are screwed to an integrated lock technology, sub-base assembly.

Applications

Fluids

Lubricated and non-lubricated air, neutral gases

Applications

Control valve actuation for pneumatic linear and rotary actuators ideal for:

- Food and beverage industry
- General processing industry
- Packaging machine manufacturers
- Textile industry
- Machine tool manufacturers
- Woodworking machine manufacturers



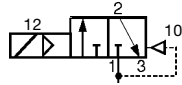
INGENIEROS ASOCIADOS DE CONTROL S.L.
Telf.: 913831390
comercial@iac-sl.es

bürkert
Easy Fluid Control Solutions

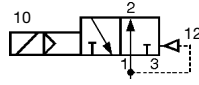
Technical Data Type 6510/6511

Circuit Functions

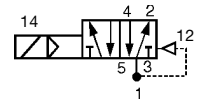
C- 3/2 way valve Type 6510, in de-energized position port 2 exhausted



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]	C _v ¹⁾	Pressure Range [PSI]	All Port Connections at the Back of the Valve	Output Ports 2 and 4 in the Pneumatic Sub-base Module	Supply Ports 1/3/5 in the End Connection Modules
C und D (3/2)	2.5	.15	36-100	sub-base	M5 or push-in coupling for 5/32" O.D. Tubing	1/8" NPT
H (5/2)	2.5	.15	36-100	sub-base		

¹⁾ Q= 4.6 ft³/min. with 87 PSI upstream and 15 PSI pressure drop across the valve at 68°F

Valve Specifications

Valve body	Polyamide (PA)
Sealing material	FPM (Viton) and NBR
Media	Lubricated or non-lubricated compressed air, neutral gases
Media temperature	+14°F to +122°F
Ambient temperature	+14°F to 130°F
Response times ²⁾	
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 1/8" NPT
• Output ports 2/4 at the pneumatic module	Push-in coupling for 5/32" O.D. tubing

²⁾ Measured at connection 2; time from electrical switching to pressure increase to 90% (opening) or pressure drop to 10% (closing) of operational pressure (87 PSI).

Solenoid Specifications

Operating voltage	24 VDC (other voltages on request)
Voltage tolerance	±10 %
Electrical power consumption	1 W
Duty cycle	100 % continuously rated
Electrical connection	• Rectangular plug • Round plug (on request) • 12 inch flying lead (on request)
Rating	IP 40 with rectangular plug connection NEMA 6 (IP 67) with round plug NEMA 4 (IP 65) with flying leads
Ex-approval	EEx ia IIC T6 on request (up to 104°F ambient temperature with manifold mounting, see separate datasheet)

Installation

- Preferably on multistation module assembly

Mounting position: Any, preferably solenoid system upright

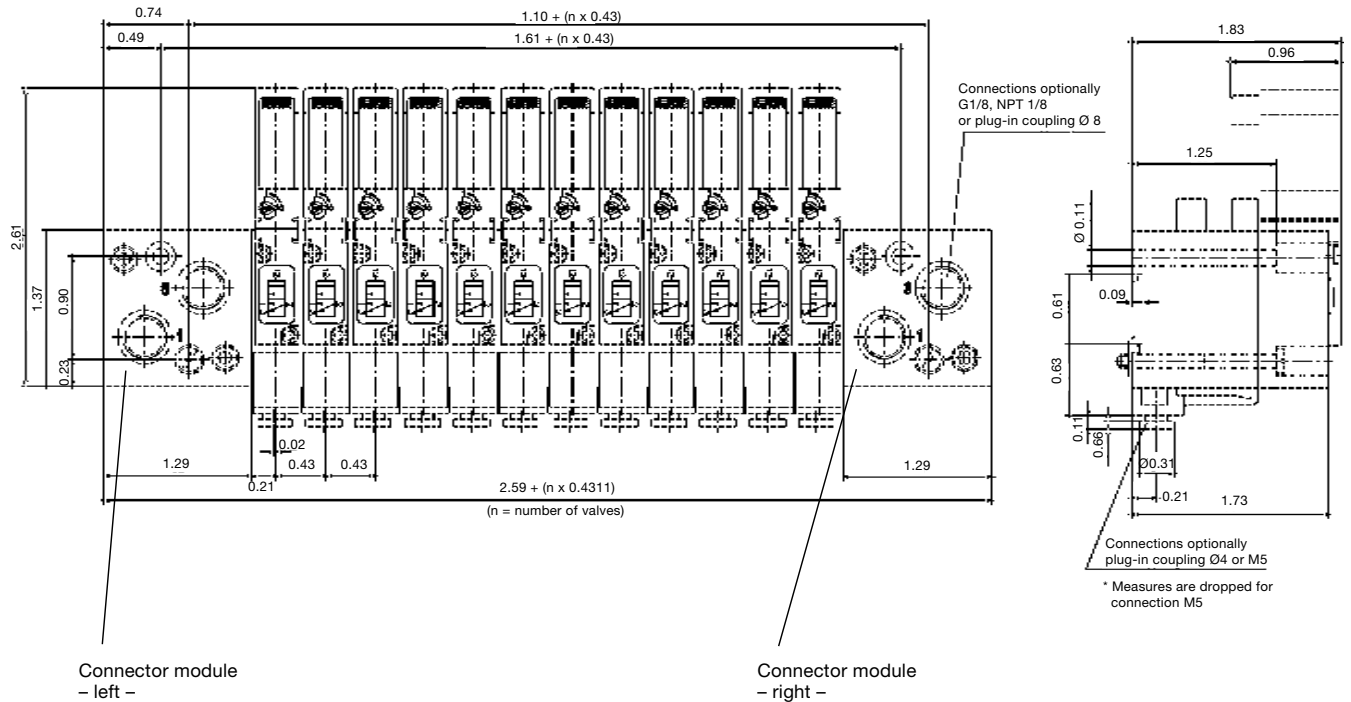
Multi-Way Valves for Pneumatics

Servo-Assisted, Extendable, 10mm Wide

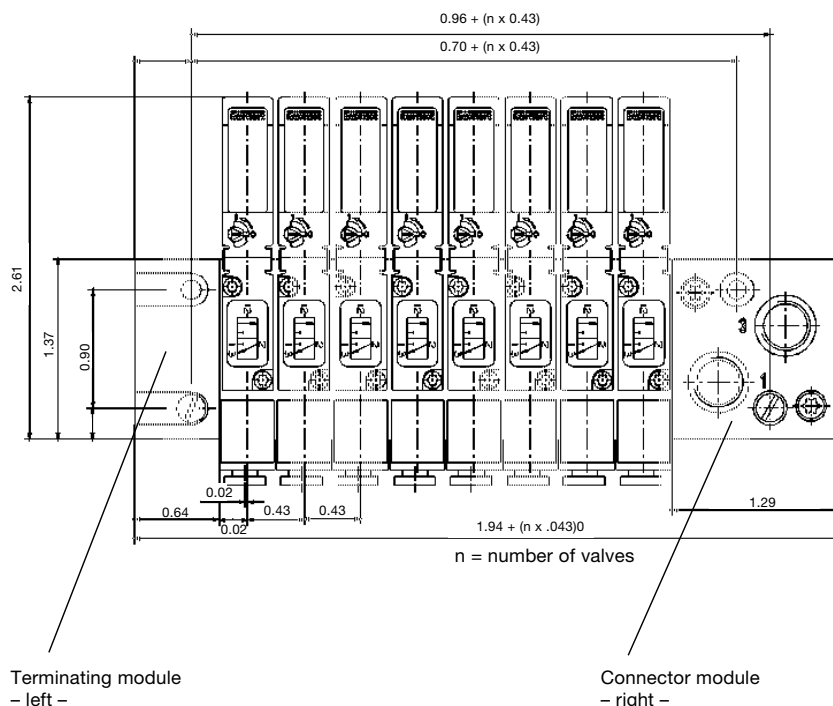
Type 6510/6511

Dimensions [inch] Block and Wall Mounting Valves Type 6510 with Pneumatic Modules Type MP01

Manifold design with connector module on the right and left (2 supply ports); manifold assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible: **Rectangular plug connector necessary (see accessories).**



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



For design specifications of a modular valve manifold, please see datasheet Customized Pneumatic Systems Solutions

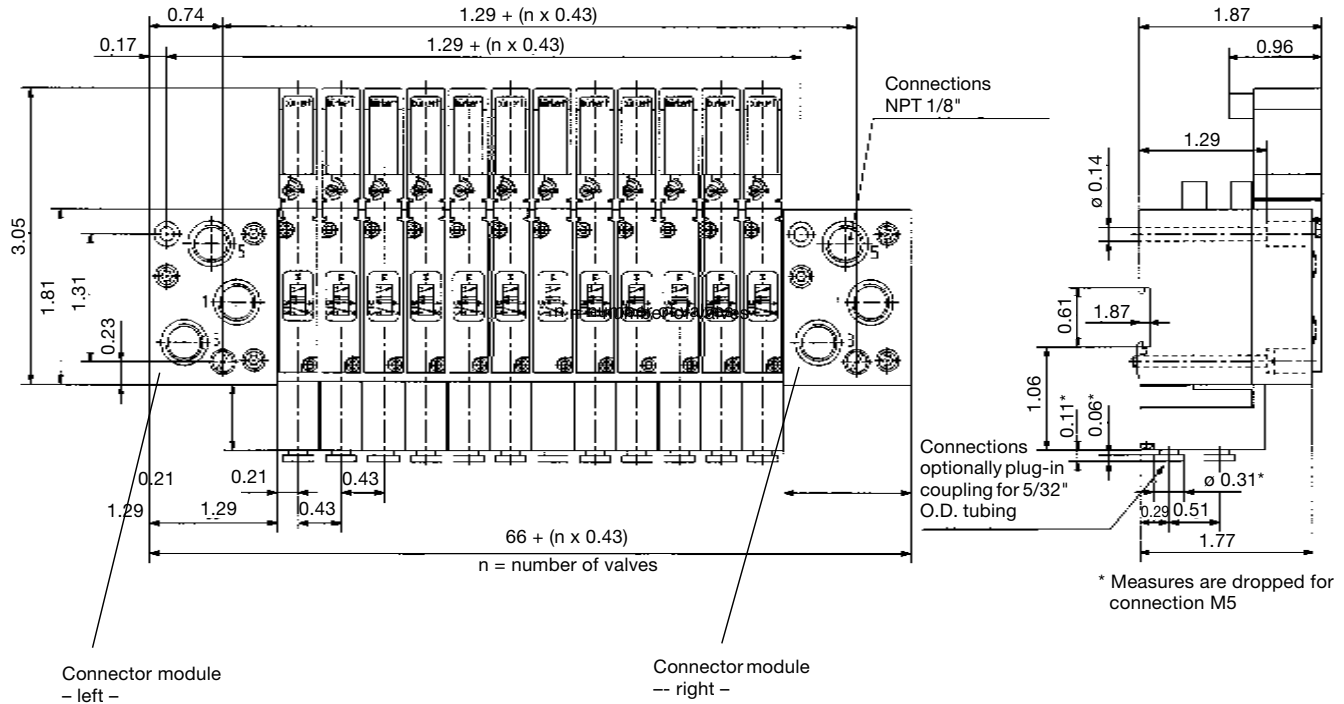
Multi-Way Valves for Pneumatics

Servo-Assisted, Extendable, 10mm Wide

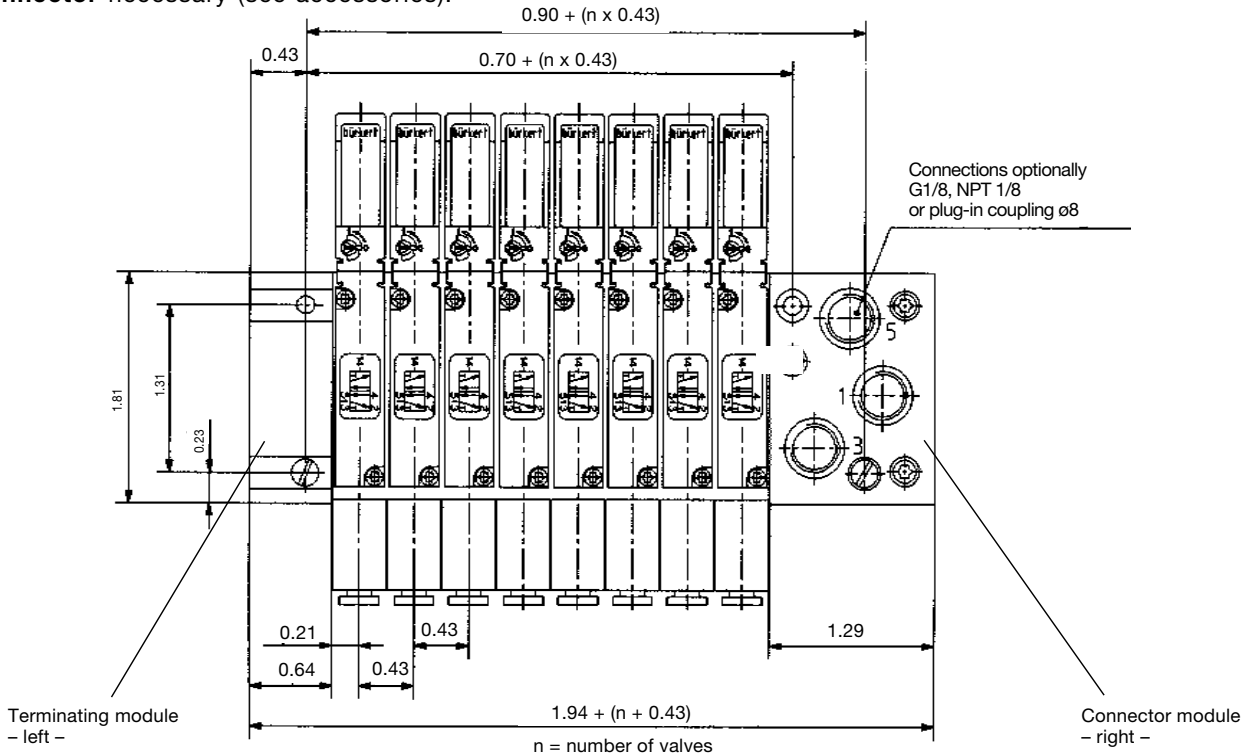
Type 6510/6511

Dimensions [inch] Block and Wall Mounting Valves Type 6511 with Pneumatic Modules Type MP02

Manifold design with connector modules on the right and left (2 supply ports); manifold assembly with rectangular plug at the back (Version 1) and in front (Version 2) possible: **Rectangular plug connector** necessary (see accessories).



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



For design specifications of a modular valve manifold, please see datasheet Customized Pneumatic Systems Solutions

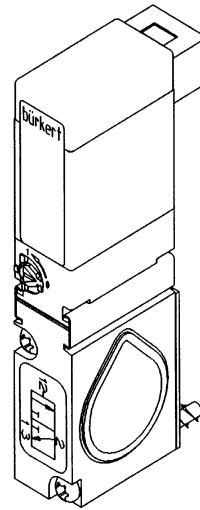
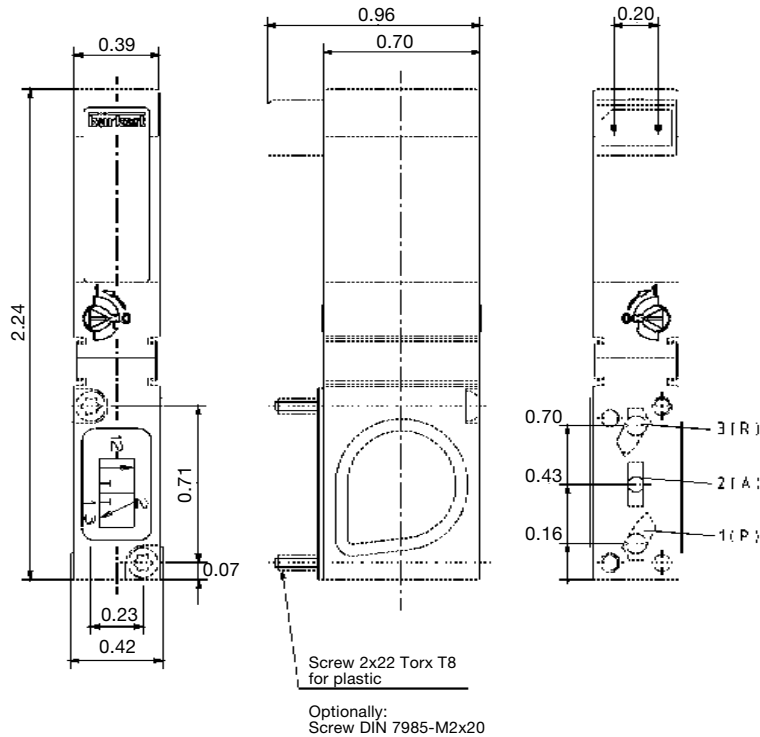
Multi-Way Valves for Pneumatics

Servo-Assisted, Extendable, 10mm Wide

Type 6510/6511

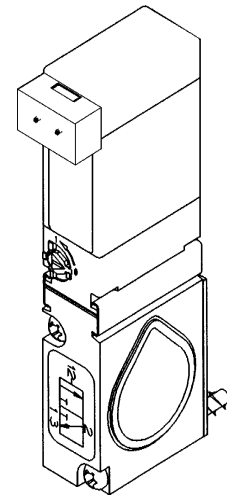
Dimensions Single Valve [inch]

Type 6510 (3/2-way valve) with Sub-Base Connection



Version 1

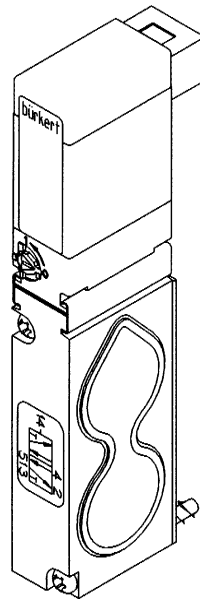
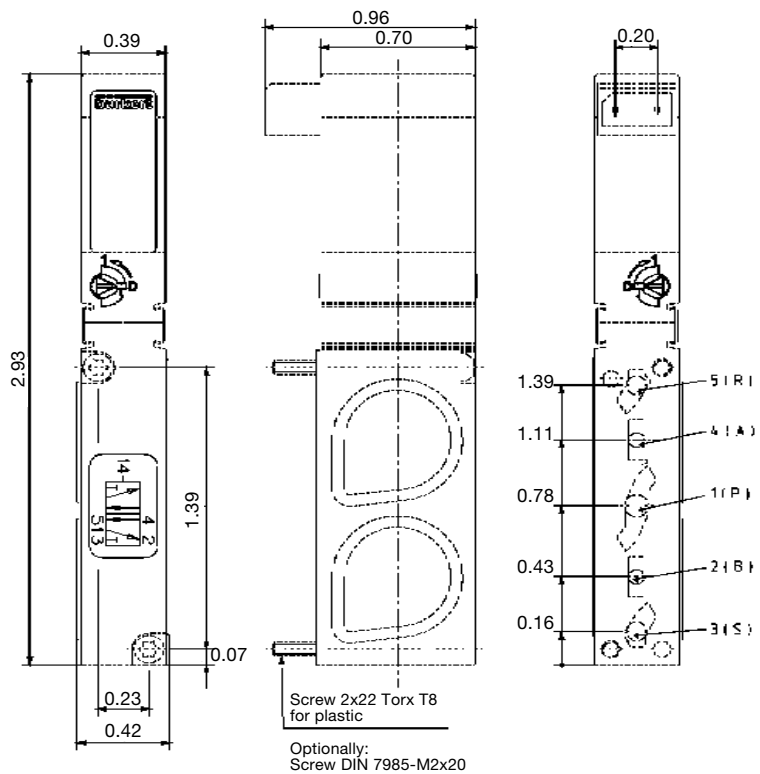
Rectangular plug at the back; compatible with the multiple manifold assembly for multipole and fieldbus wiring.



Version 2

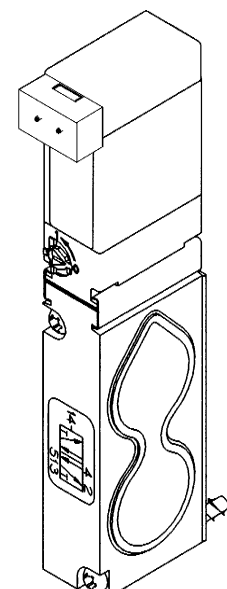
Rectangular plug in front; for simple wiring with cable plugs.

Type 6511 (5/2-way valve) with Sub-Base Connection



Version 1

Rectangular plug at the back; compatible with the multiple manifold assembly for multipole and fieldbus wiring.



Version 2

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

Ordering Chart Type 6510/6511 (Other Versions on Request)

Standard delivery: All valves with NBR and FPM (Viton) seal material; sub-base version with mounting screws and sub-base seal; with rectangular plug at the back¹⁾ or in front²⁾; **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**
 • Manifold assembly with Version 2: **rectangular plug connector** necessary (see accessories)

Valves with manual override

Circuit Function/Type	Orifice [mm]	C _v	Pressure range [PSI]	Voltage/frequency [V/Hz]	Electrical Power Consumption [W]	Item No. Version 1	Item No. Version 2
C/Type 6510	2.5	.15	36-100	24/DC	1	133 120 K	134 281 J
D/Type 6510	2.5	.15	36-100	24/DC	1	133 121 G	134 282 K
H/Type 6511	2.5	.15	36-100	24/DC	1	133 122 H	134 283 L

Valves without manual override

Circuit Function/Type	Orifice [mm]	C _v	Pressure range [PSI]	Voltage/frequency [V/Hz]	Electrical Power Consumption [W]	Item No. Version 1	Item No. Version 2
C/Type 6510	2.5	.15	36-100	24/DC	1	132 395 J	135 152 R
D/Type 6510	2.5	.15	36-100	24/DC	1	132 398 V	135 153 J
H/Type 6511	2.5	.15	36-100	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.

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, NPT 1/8"	133 464 Q	2 valve sub-base module, M5	132 413 C
Connector module left, push-in coupling for 5/32" O.D.	132 411 A	2 valve sub-base module, push-in coupling for 5/32" O.D.	132 414 D
Terminating module without supply port, left	132 405 M	3 valve sub-base module, M5	132 415 E
Connector module right, NPT 1/8"	133 465 R	12 valve sub-base module, M5	132 417 G
Connector module right, push-in coupling for 5/32" O.D.	132 412 B	12 valve sub-base module, push-in coupling for 5/32" O.D.	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, NPT 1/8"	134 742 X	2 valve sub-base module, M5	135 010 J
Connector module left, push-in coupling for 5/32" O.D.	135 006 K	2 valve sub-base module, push-in coupling for 5/32" O.D.	135 011 F
Terminating module without supply port, left	135 007 L	3 valve sub-base module, M5	135 012 G
Connector module right, NPT 1/8"	135 008 V	3 valve sub-base module, push-in coupling	134 744 Z
Connector module right, plug-in coupling for 5/32" O.D.	135 009 W	12 valve sub-base module, M5	135 013 H
		12 valve sub-base module, push-in coupling for 5/32" O.D.	135 014 A

Ordering Chart Accessories

Component	Description	Item No.
Blanking plug	for push-in coupling for 5/32" O.D.	781 664 A
Blanking screw	1/8" NPT	US 1032
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 10 ft. cable	for electrical single connection of valves	133 486 F
Rectangular plug connector, with flying leads, 12-inch 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.
US_6510/6611_10/00