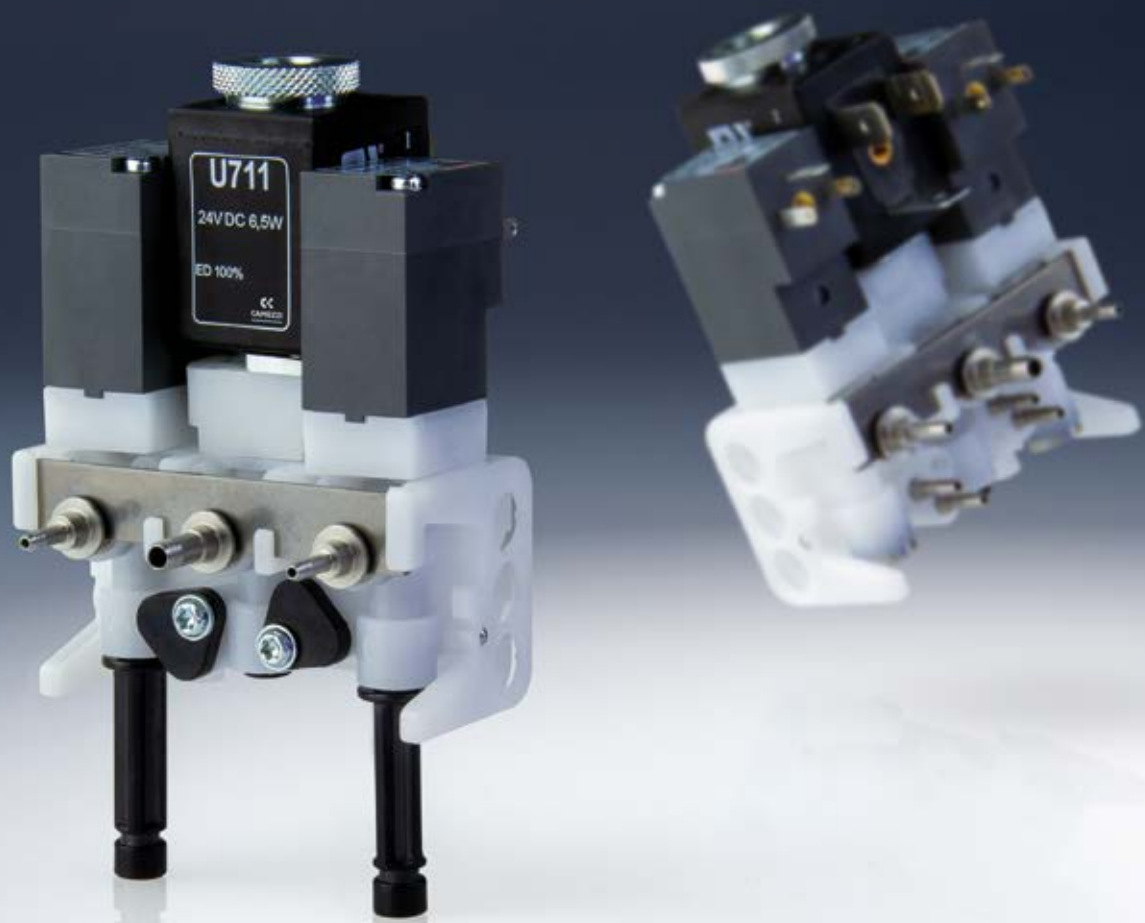
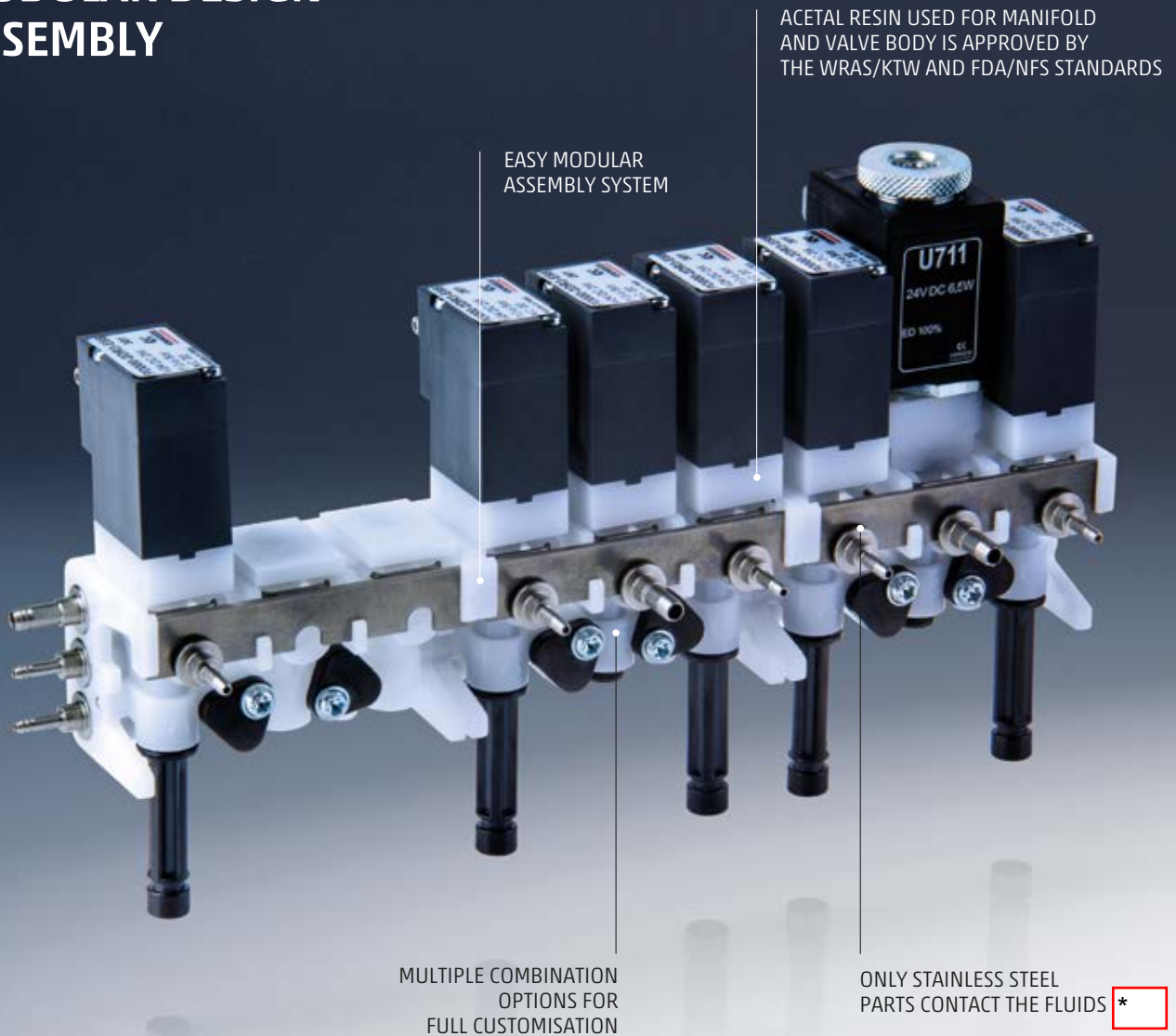


**SERIES DB**  
**DENTAL MULTICHANNEL**  
**MANIFOLD**



# SERIES DB MODULAR DESIGN ASSEMBLY



The Series DB is a modular and compact solution that optimises pneumatic, hydraulic and electrical connections and thereby reduces installation times on the machine for industrial and life science applications.

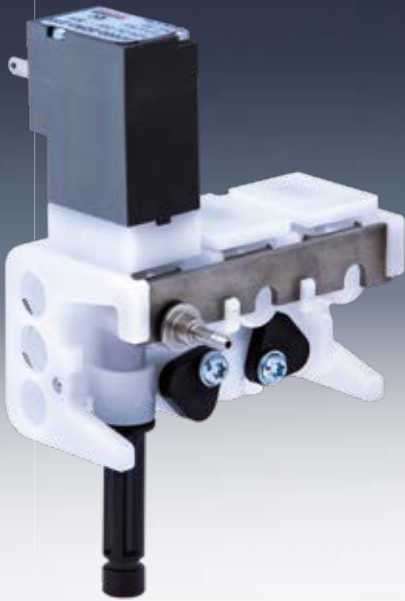
The concept behind the manifold allows maximum versatility in the configuration of multiple modules, combining miniature solenoid on-off valves and proportional control valves.

Each single manifold is configurable in several ways to match the operating requirements of each handpiece installed on the dental units.

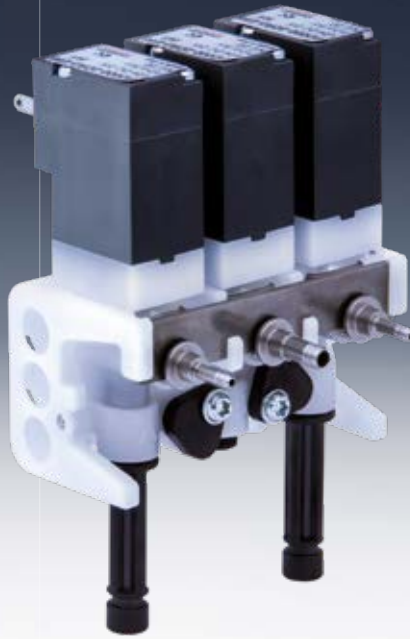
For example, with the proper configuration, it is possible to optimize the connections of the air and water tubing used for the operation of turbines, micromotors, scalers and syringes.

\* Not for proportional valve

Manifold configuration for the connection of **ultrasonic scalers**



Manifold configuration for the connection of **electric micromotors**



Manifold configuration for the connection of **pneumatic micromotors and turbines**



## BENEFITS



Easy to install



Modular



Configuration flexibility

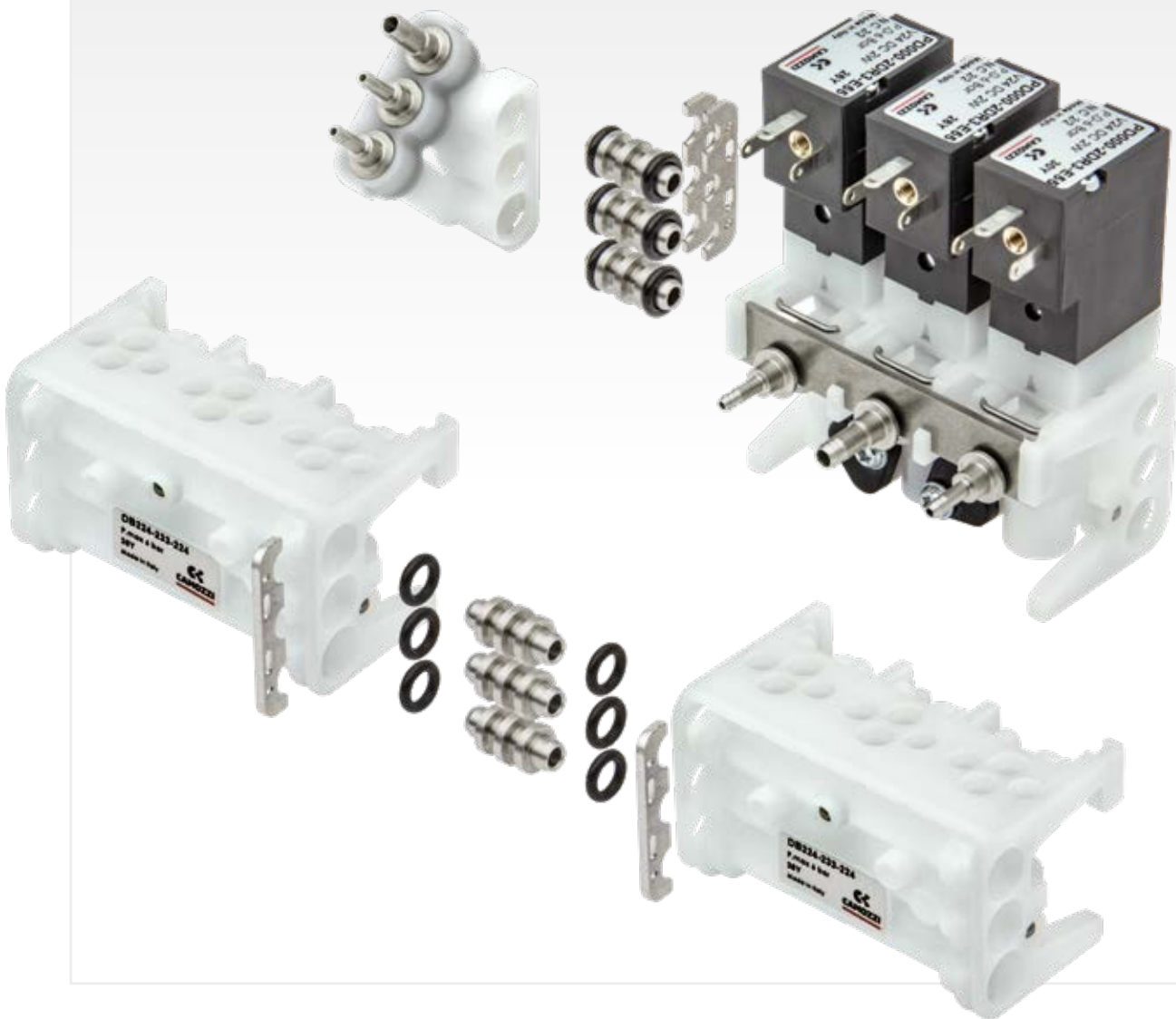


Compact and light design

# Design to be flexible

## Modularity

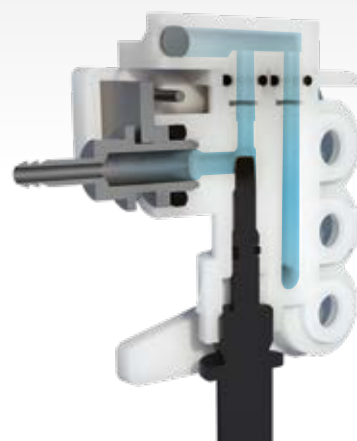
The manifolds can be quickly and simply assembled



## Plugs for valve positions

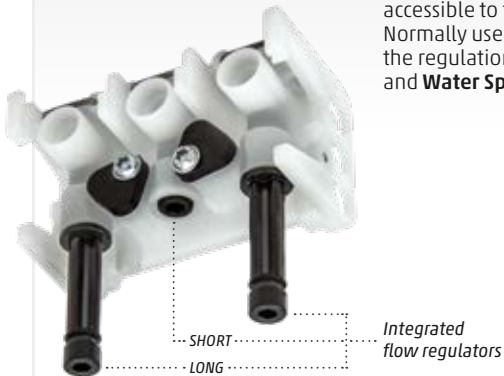
"Closed version" plugs

"Open version" plugs



## Integrated flow regulators

- "Short" flow regulator for factory settings. Normally used for the regulation of the **Air Drive**.
- "Long" flow regulators accessible to the dentist. Normally used for the regulation of **Air** and **Water Spray**.



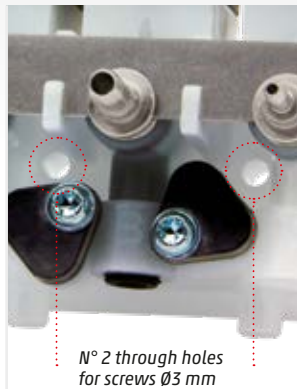
## Connections for external flow regulators

Hose barb fittings in 303 stainless steel material suitable for I.D. tubing  $\varnothing$  1.6 mm



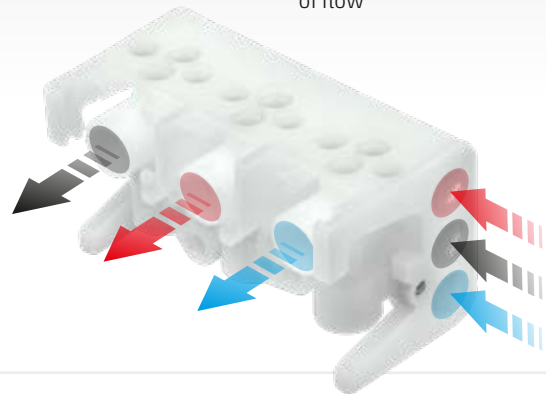
## Fixing holes

Located on the bottom and on the front of the manifold



## Flow direction

The standard direction of flow is from the lateral port to the frontal ports. It is possible to configure the manifold in order to reverse the direction of flow



## Accessories

### Connection fittings



- Manifold interconnection nipples
- Hose barb fittings I.D. tubing  $\varnothing$  1.6 - 3 - 4 mm
- Threaded M5 female fittings for input and output ports
- Plugs for input and output ports

### Angled element



Made of acetal resin (POM), the angled element allows the input ports of the manifold to turn through 90°

## General data

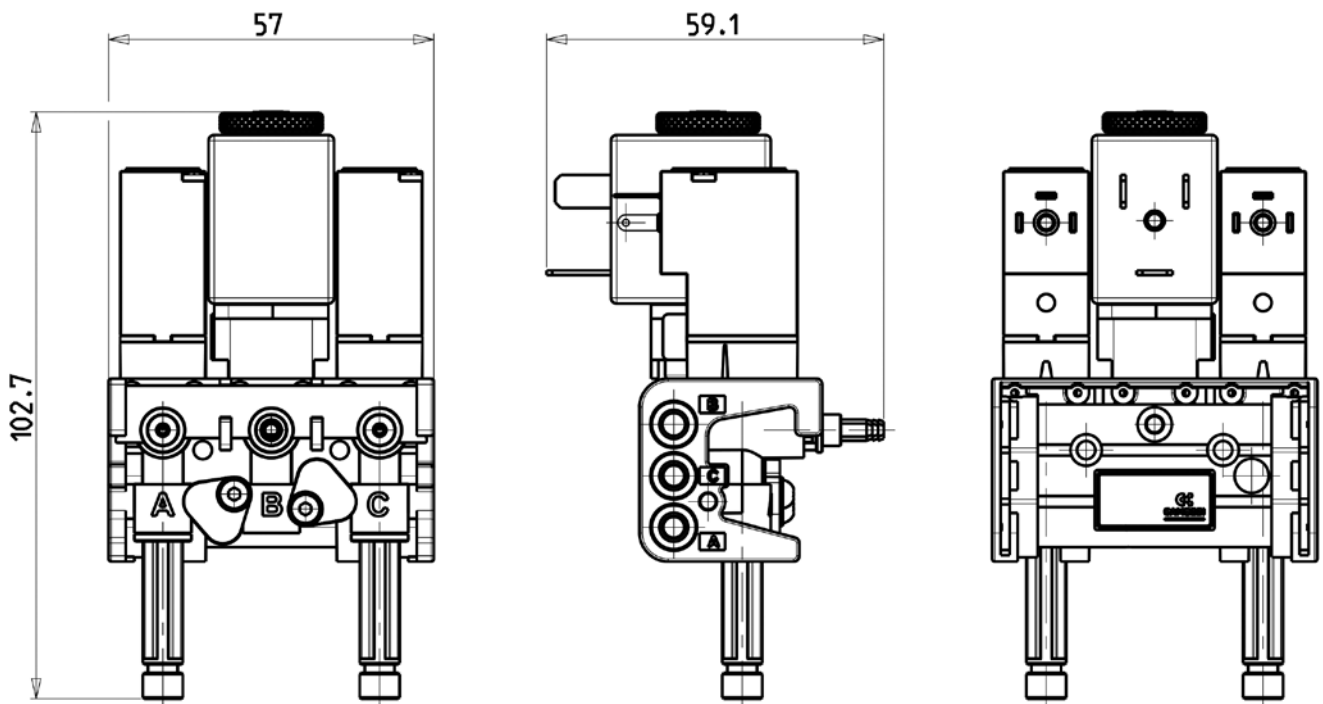
filtered air class 5.4.4 according to ISO 8573-1, inert gas, potable water, hydrogen peroxide 3%

TECHNICAL FEATURES			
Valve function	2/2 N.C.	2/2 proportional	2/2 proportional
Operation	direct acting poppet type		
Pneumatic connection	hose barb fittings for I.D. tubing Ø1.6 - 3 - 4 mm / M5 threaded		
Valve orifice diameter	1.6 mm	1.6 mm	2.0 mm
Flow coefficient kv (lt/min)	0.6	0.9	1.1
Nominal flow (air @ 6 bar free flow)	55 NL/min	83 NL/min	87 NL/min
Operating pressure	6 bar	6 bar	5 bar
Operating temperature	0 ÷ 50 °C		
Media	filtered air class 5.4.4 according to ISO 8573-1, inert gas, potable water, hydrogen peroxide 3%	filtered air class 5.4.4 according to ISO 8573-1, inert gas	
Installation	in any position		

MATERIAL IN CONTACT WITH THE MEDIUM			
Manifold and valve body	POM		
Seals	EPDM	FKM	FKM
Valve internal parts	IXEF - stainless steel 303 - 430	brass - stainless steel 303 - 430	
Fittings	stainless steel 303		

ELECTRICAL FEATURES			
Voltage	24 Vdc - Other voltage on request		
Power consumption	2W	6.5W	6.5W
Duty cycle	ED 100%		
Electrical connection	Micro Industrial Standard pitch 9.4 mm	EN 175 301-803-B pitch 11 mm	EN 175 301-803-B pitch 11 mm

## Dimensional characteristics



## Coding example

<b>DB</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>-</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>4</b>	
<b>DB</b>	SERIES											
<b>2</b>	SECTION A - VALVE POSITION 0 = plug element 1 = bypass element 2 = valve 2/2 NC - Ø 1.6 mm - rear electrical contacts 3 = valve 2/2 NC - Ø 1.6 mm - front electrical contacts					6 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - rear electrical contacts 7 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - front electrical contacts A = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - rear electrical contacts B = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - front electrical contacts						
<b>2</b>	SECTION A - OUTPUT PORT POSITION 0 = none 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm					3 = hose barb fitting for tubing Ø 3 x 5 mm 4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting						
<b>4</b>	SECTION A - FLOW REGULATOR POSITION 0 = none 1 = plug and external flow regulator hose barb fittings 2 = plug					3 = short flow regulator 4 = long flow regulator 5 = threaded M5 female fitting 6 = threaded M5 female fitting and external flow regulator hose barb fittings						
<b>-</b>	SECTION A - FLOW DIRECTION POSITION - = standard (output on the front or bottom of the manifold)					R = reverse mode (input on the front or bottom of the manifold)						
<b>6</b>	SECTION B - VALVE POSITION 0 = plug element 1 = bypass element 2 = valve 2/2 NC - Ø 1.6 mm - rear electrical contacts 3 = valve 2/2 NC - Ø 1.6 mm - front electrical contacts					6 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - rear electrical contacts 7 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - front electrical contacts A = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - rear electrical contacts B = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - front electrical contacts						
<b>3</b>	SECTION B - OUTPUT PORT POSITION 0 = none 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm					3 = hose barb fitting for tubing Ø 3 x 5 mm 4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting						
<b>3</b>	SECTION B - FLOW REGULATOR POSITION 0 = none 2 = plug					3 = short flow regulator 4 = long flow regulator 5 = threaded M5 female fitting						
<b>-</b>	SECTION B - FLOW DIRECTION POSITION - = standard (output on the front or bottom of the manifold)					R = reverse mode (input on the front or bottom of the manifold)						
<b>2</b>	SECTION C - VALVE POSITION 0 = plug element 1 = bypass element 2 = valve 2/2 NC - Ø 1.6 mm - rear electrical contacts 3 = valve 2/2 NC - Ø 1.6 mm - front electrical contacts					6 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - rear electrical contacts 7 = valve 2/2 PROPORTIONAL - AP22 Ø 1.6 mm - front electrical contacts A = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - rear electrical contacts B = valve 2/2 PROPORTIONAL - AP22 Ø 2.0 mm - front electrical contacts						
<b>2</b>	SECTION C - OUTPUT PORT POSITION 0 = none 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm					3 = hose barb fitting for tubing Ø 3 x 5 mm 4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting						
<b>4</b>	SECTION C - FLOW REGULATOR POSITION 0 = none 1 = plug and external flow regulator hose barb fittings 2 = plug					3 = short flow regulator 4 = long flow regulator 5 = threaded M5 female fitting 6 = threaded M5 female fitting and external flow regulator hose barb fittings						
	SECTION C - FLOW DIRECTION POSITION - = standard (output on the front or bottom of the manifold)					R = reverse mode (input on the front or bottom of the manifold)						
	POWER SUPPLY = 24 VDC					2 = 12 VDC						

## Coding example accessories

<b>DB</b>	<b>AT</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>DB</b>	SERIES				
<b>AT</b>	ACCESSORIES AT = terminal fittings (supplied with 1 fixing plate and 3 O-rings) AJ = joint fittings (supplied with 2 fixing plate and 6 O-rings)		AL = angled element (supplied with 3 joint fittings, 2 fixing plate and 6 O-rings)		
<b>2</b>	FITTING 1 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm 3 = hose barb fitting for tubing Ø 3 x 5 mm		4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting A = joint fitting C = blind joint fitting		
<b>2</b>	FITTING 2 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm 3 = hose barb fitting for tubing Ø 3 x 5 mm		4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting A = joint fitting C = blind joint fitting		
<b>3</b>	FITTING 3 1 = plug fitting 2 = hose barb fitting for tubing Ø 1.6 x 3.17 mm 3 = hose barb fitting for tubing Ø 3 x 5 mm		4 = hose barb fitting for tubing Ø 4 x 6 mm 5 = threaded M5 female fitting A = joint fitting C = blind joint fitting		

**Note only for the accessories:** Please indicate after the dash, the numbers or letters in ascending order during the composition of the code. (i.e. DBAT-135).

## Contacts

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