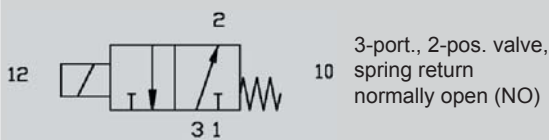
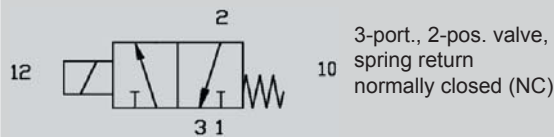
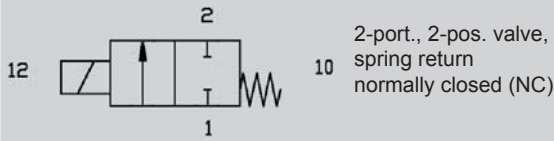




# Miniature Valves

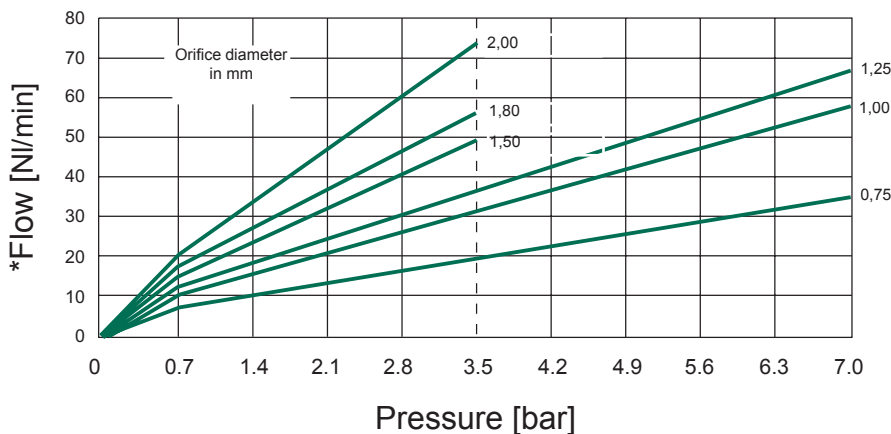
## S Series • Technical Data

### Direct solenoid actuated



### S Series miniature valves with housing made from stainless steel

- Tested in excess of 500 million cycles
- Maximum leakage rate: 0.016 cm<sup>3</sup>/min (bubble tight)
- Ambient temperature range: -20 °C to +65 °C
- Class "A" insulated coils
- All valves 100 % factory tested
- #20 AWG + #24 AWG Teflon insulated lead wires
- Tin-plated brass 0,110 x 0,020 fast-on terminals
- 10 m (micron) filtration recommended
- Response time: < 0,010 seconds
- All valves rated to 28" Hg. vac
- Oxygen clean available
- Recommended for use with dry air, lubricated air, vacuum, non-corrosive, non-toxic, non-flammable dry gases
- Consult factory for other service applications.



\* Flow: Ports 1 and 2, valve type NC

**Note:** Flow tests are based on average readings and nominal components. All outlets are vented to atmosphere utilizing silencers.

Description	Material
Outer casing:	430 FR stainless steel
Body:	430 FR stainless steel
Plunger:	430 FR stainless steel
Stop:	430 FR stainless steel
Spool:	Polyester
Spring:	Serie 300 stainless steel
Sealing material:	Buna / Viton® / EP

### Flow capacities

Valve Series	Wattage	Orifice Diameter		Flow Capacity NI/min	Flow C <sub>v</sub>	Maximum Operating Pressure	
		Port 1	Port 2			NC	NO
LS	0.65	0.75	0.75	25	0.025	7.0	3.5
	1.5	0.75	0.75	25	0.025	7.0	7.0
	1.5	1.00	1.00	35	0.035	7.0	3.5
HS	1.5	1.25	1.25	55	0.055	7.0	3.5
	1.5	1.50	1.50	65	0.065	3.5	3.5
	1.5	1.80	1.80	75	0.075	3.5	3.5
	1.5	2.00	2.00	100	0.100	3.5	3.5

Further pressures or orifice diameters on request.



# Miniature Valves

## S Series Valves • Overview

Valves Model Selection Table : (example)

**H S O 3 M 7 H 0 0 B**

<b>Wattage</b> <b>H</b> = Coil 1.5 Watt <b>L</b> = Coil 0.65 Watt	<b>Service</b> <b>S</b> = Standard valve <b>O</b> = Oxygen cleaned	<b>Port Threads</b> <b>O</b> = 10-32 UNF <b>M</b> = M5 <b>N</b> = 1/8 NPT (mounting option "C")	<b>Valve Type</b> <b>2</b> = 2-port., 2-pos. valve <b>3</b> = 2-port., 3-pos. valve	<b>Mounting</b> <b>L</b> = Line mounted <b>M</b> = Manifold mounted <b>C</b> = Cylinder mounted (only 10-32 UNF at 0.75 mm orifice)	<b>Voltage</b> <b>1</b> = 110 VAC, 50-60 Hz* <b>2</b> = 230 VAC, 50-60 Hz* <b>3</b> = 24 VAC, 50-60 Hz* <b>4</b> = 5 VDC <b>5</b> = 6 VDC <b>6</b> = 12 VDC <b>7</b> = 24 VDC <small>* rectified only</small>	<b>Seal Material</b> <b>B</b> = NBR (Standard) <b>V</b> = Viton® <b>E</b> = EPDM <b>N</b> = Neoprene	<b>Orifice diameter port 3</b> <b>0</b> = 1.00 mm (Standard) <b>1</b> = 1.25 mm	<b>Orifice diameter port 1</b> <b>0</b> = 0.75 mm (Standard) <b>1</b> = 1.00 mm <b>2</b> = 1.25 mm <b>3</b> = 1.50 mm <b>4</b> = 1.80 mm <b>5</b> = 2.00 mm	<b>Connectors</b> <b>H</b> = Hardwire (12"/20 AWG) <b>F</b> = 0.110 Fast-on <b>S</b> = Hardwire (12"/24 AWG)
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Valve with fast-on connectors



Valve with solenoid leads



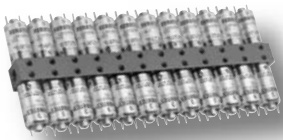
Individual base mounted valve

Valves

### Piping Arrangements

Function	Valve Ports		
	Port 1	Port 2	Port 3
2-port., 2-pos. valve, normally open (NO)	plugged	outlet	inlet
2-port., 2-pos. valve, normally closed (NC)	inlet	outlet	plugged
3-port., 2-pos. valve, normally open (NO)	exhaust	cylinder	inlet
3-port., 2-pos. valve, normally closed (NC)	inlet	cylinder	exhaust
Diverter	normally closed	inlet	normally open
Selector	inlet 1	outlet	inlet 2

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# Miniature Valves

## S Series Manifolds • Circuit Boards

Manifold Model Selection Table: (example)

**AK H S 2 — 10**

<b>Manifold Mounting Kit</b>	<b>Number of stations</b>
<b>Voltage</b>	02 = 2 stations
H = Valve with 1.5 Watt coil	04 = 4 stations
L = Valve with 0.65 Watt coil	06 = 6 stations
<b>Valve Type</b>	08 = 8 stations
S = Standard valve	10 = 10 stations
O = Oxygen Cleaned	12 = 12 stations
<b>Supply Ports</b>	14 = 14 stations
2 = M5	16 = 16 stations
Ports with UNF-thread on request	18 = 18 stations
	20 = 20 stations
	24 = 24 stations

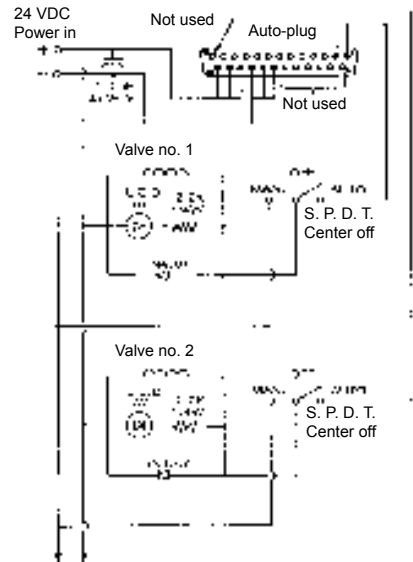
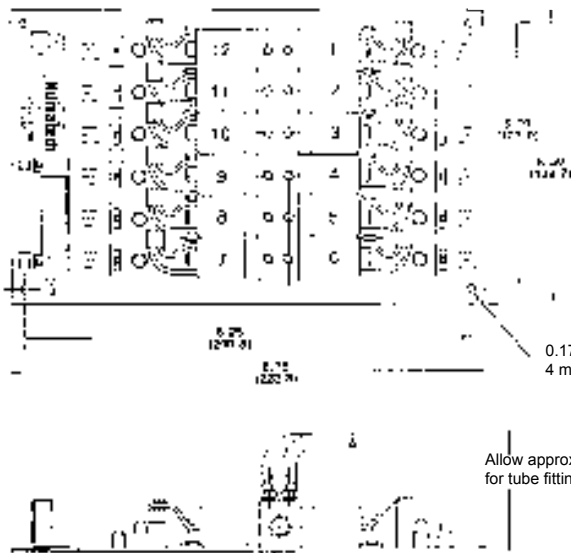
Valves

Electronic Board Model Selection Table: (example)

**011 91 — 10**

<b>Manifold Mounting Kit</b>	<b>Number of Stations</b>
<b>Voltage</b>	01 = 1 station
91 = 24 VDC	02 = 2 stations
95 = 12 VDC	03 = 3 stations
	04 = 4 stations
	05 = 5 stations
	06 = 6 stations
	07 = 7 stations
	08 = 8 stations
	09 = 9 stations
	10 = 10 stations
	11 = 11 stations

**Note:** Standard "S" Valve cards utilize LS03MXH00B with electronic connector



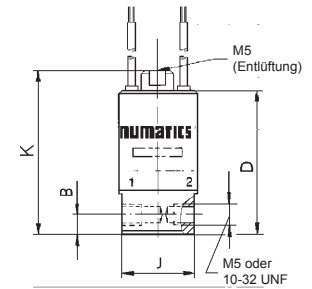
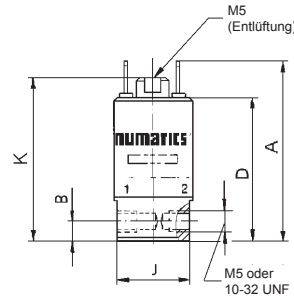
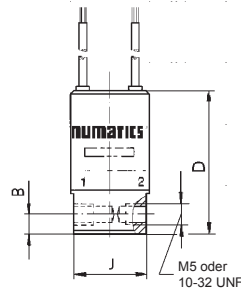
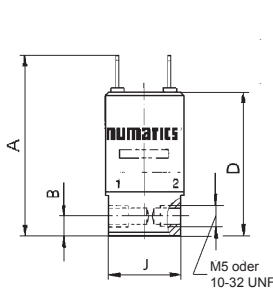
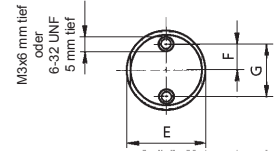
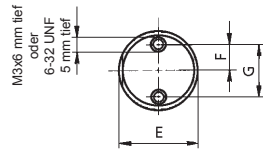
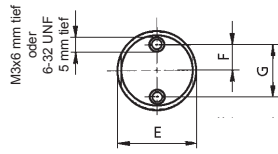
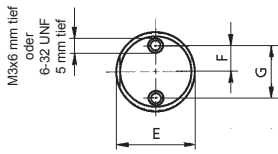
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# Miniature Valves

## S Series Valves • Dimensions

### 2-ported or 3-ported, 2-position valves for inline mount



2-port., 2-pos. valve with fast-on connectors

2-port., 2-pos. valve with 0.3 m solenoid leads

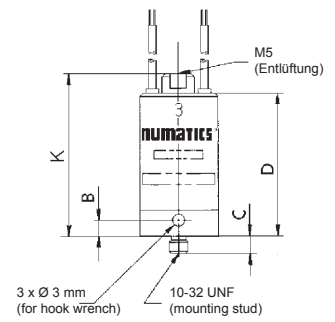
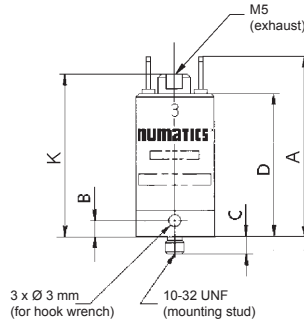
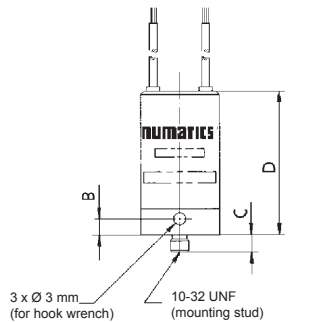
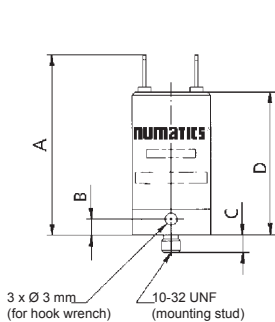
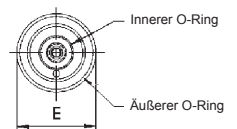
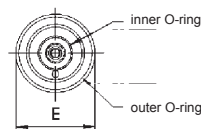
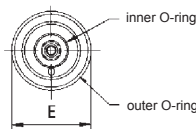
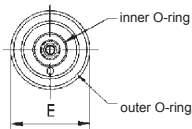
3-port., 2-pos. valve with fast-on connectors

3-port., 2-pos. valve with 0.3 m solenoid leads

#### Dimensions [mm]

Valve Type	A	B	D	E	F	G	J	K	Weight approx. [kg]
2-port., 2-pos. valve with fast-on connectors	49.2	4.8	39.1	19.1	6.4	12.7	17.5	—	0.059
2-port., 2-pos. valve with 0.3 m solenoid leads	—	4.8	39.1	19.1	6.4	12.7	17.5	—	0.067
2-port., 3-pos. with fast-on connectors	49.2	4.8	39.1	19.1	6.4	12.7	17.5	43.7	0.059
2-port., 3-pos. with 0.3 m solenoid leads	—	4.8	39.1	19.1	6.4	12.7	17.5	43.7	0.067

### 2-ported or 3-ported, 2-position valves for individual base mount or manifold mount



2-port., 2-pos. valve with fast-on connectors

2-port., 2-pos. valve with 0.3 m solenoid leads

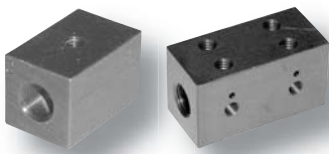
3-port., 2-pos. valve with fast-on connectors

3-port., 2-pos. valve with 0.3 m solenoid leads

#### Dimensions [mm]

Valve Type	A	B	C	D	E	K	Weight approx. [kg]
2-port., 2-pos. valve with fast-on connectors	45.2	4.1	4.8	35.1	19.1	—	0.053
2-port., 2-pos. valve with 0.3 m solenoid leads	—	4.1	4.8	35.1	19.1	—	0.059
2-port., 3-pos. valve with fast-on connectors	45.2	4.1	4.8	35.1	19.1	39.6	0.053
2-port., 3-pos. valve with 0.3 m solenoid leads	—	4.1	4.8	35.1	19.1	39.6	0.067

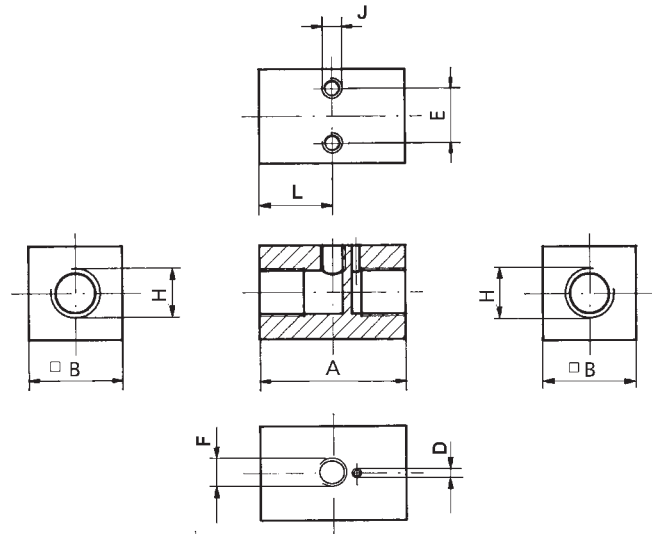
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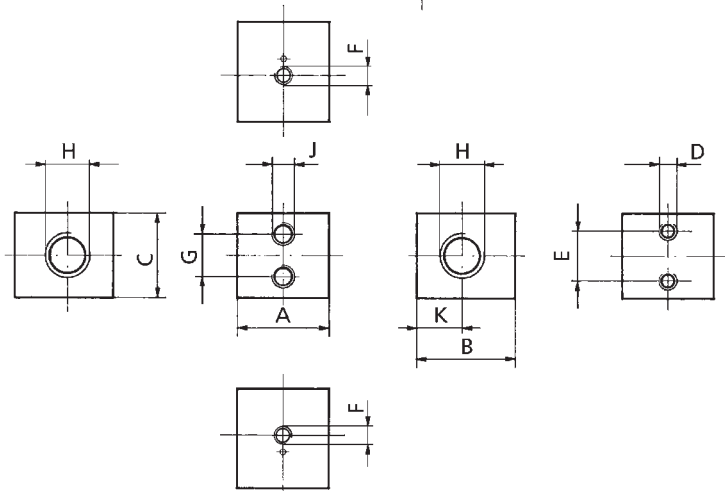
# Miniature Valves

## S Series Bases • Dimensions

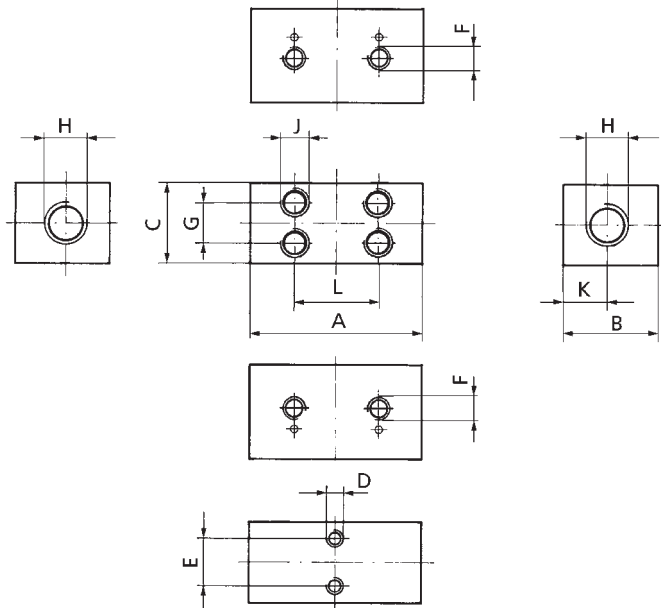
### Individual base



### Manifold for 2 stations

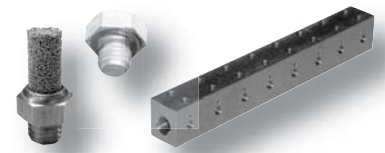


### Manifold for 4 stations



### Dimensions [mm]

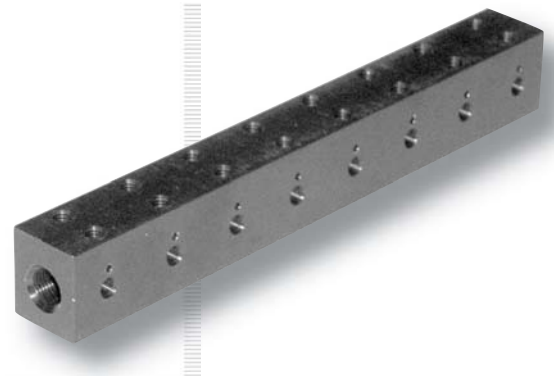
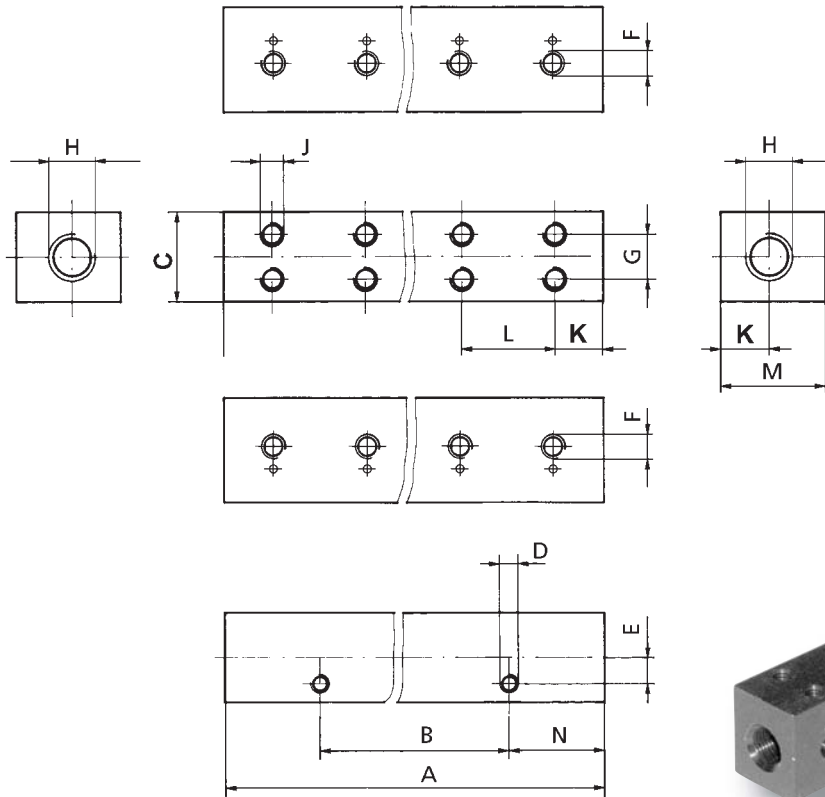
Description	A	B	C	D	E	F	G	H	J	K	L	Weight appr. [kg]	Order Code
Individual base	29.7	19.0	—	1.6	11.1	10-32 UNF	—	G 1/8	M4	—	14.8	0.019	106-473
Manifold for 2 stations	20.6	22.2	20.3	M4	11.1	10-32 UNF	9.5	G 1/8	M5	10.3	—	0.025	106-474
Manifold for 4 stations	40.5	22.2	20.3	M4	11.1	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	0.030	106-475



# Miniature Valves

## S Series Bases • Dimensions • Accessories

### Manifolds for 6 to 24 stations



Valves

### Dimensions [mm]

Number of stations	A	B	C	D	E	F	G	H	J	K	L	M	Weight appr. [kg]	Order Code
6	60.3	21.5	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	0.555	106-476
8	80.2	41.3	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	0.735	106-477
10	100.0	61.1	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	0.925	106-478
12	119.8	80.9	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	1.105	106-479
14	139.7	100.8	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	1.285	106-480
16	159.5	120.7	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	1.455	106-481
18	179.3	140.5	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	1.635	106-482
20	199.1	160.3	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	1.835	106-483
22	219.1	180.1	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	2.015	106-484
24	238.9	200.0	20.3	M4	5.6	10-32 UNF	9.5	G 1/8	M5	10.3	19.8	22.2	2.215	106-485

Outlet ports with 1/8 NPTF-thread on request

### Accessories

Description	Outlet Ports	Order Code
Plugs for manifolds	10-32 UNF	213-347
Plugs for all ports	M5	213-369
	10-32 UNF	129-127
Sintered muffler	M5	SE05S
	10-32 UNF	141-104
Cable sockets for insulating fast-on connectors	—	EL003-0005
Hook wrench for mounting valves on manifold	—	102.1651



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