



Series 1000 M12 - Size 1, 2 & 3

General

The ISO 5599/1 Solenoid valves Series 1000 M12 are available in three sizes with flow rates from 900 NI/min for size 1 up to the 3600 NI/min for size 3.

The standard features of the ISO valves are still included, however, they are now combined with a M12 electrical connector located in the middle of the valve to manage the electrical signals.

Versions are available to suit valves with both single and double 24VDC solenoids complete with IP65 protection.

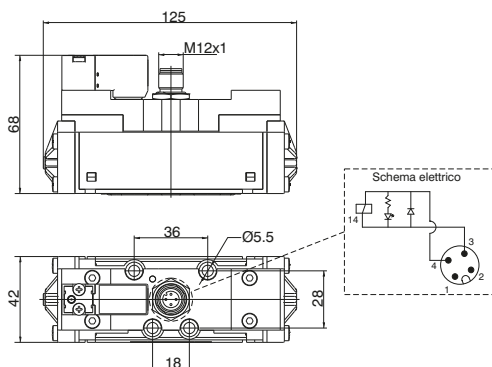
All version are supplied with LED indicators

“Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001, Pneumatic fluid power-Directional control valves-Measurement of shifting time”

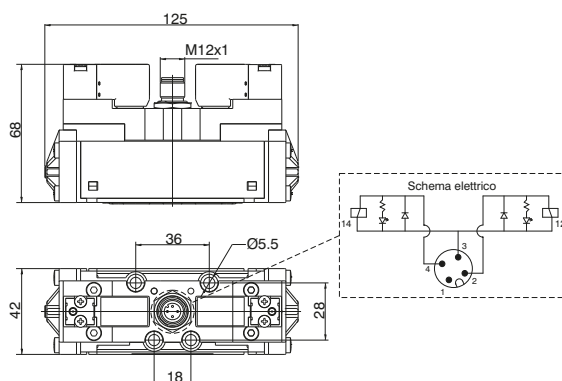
Electrical characteristics

Electrical connector M12x1
Protection degree IP65
Input voltage 24VDC
Nominal power 2,3W
LED identification

Monostable version



Bistable version



Solenoid - Spring

Coding: 1111.52.3.9.Ⓟ

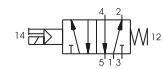
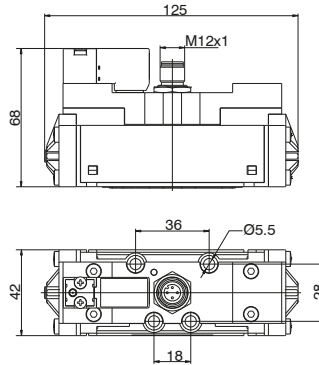
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	16
Response time according to ISO 12238, deactivation time (ms)	122

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 350 g



Solenoid-Differential

Coding: 1111.52.3.6.Ⓟ

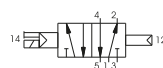
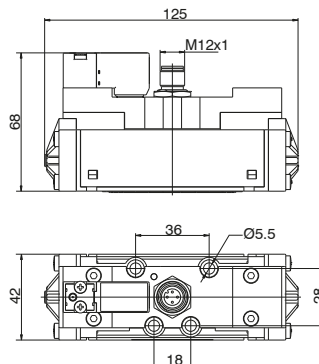
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	32
Response time according to ISO 12238, deactivation time (ms)	51

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 356 g



Solenoid-Solenoid 5/2

Coding: 1111.52.3.5.Ⓟ

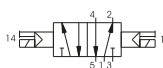
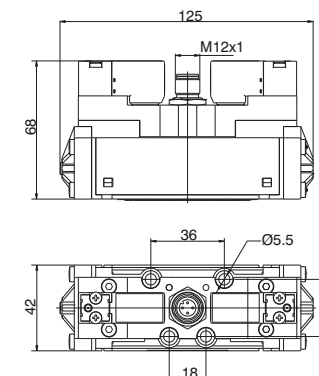
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	13
Response time according to ISO 12238, deactivation time (ms)	14

Ⓟ	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 390 g





Solenoid-Solenoid 5/3

Coding: 1111.53.F.3.5.T

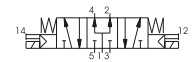
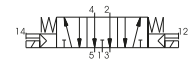
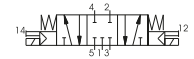
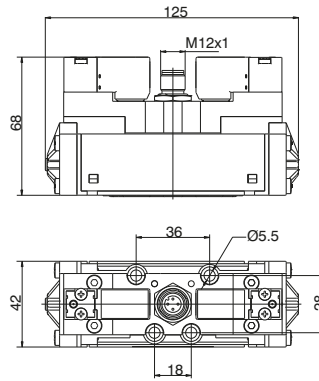
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	900
Response time according to ISO 12238, activation time (ms)	18 (Closed centres) 18 (Open centres) 19 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	19 (Closed centres) 20 (Open centres) 18 (Pressured centres)

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
COIL VOLTAGE	
T	12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

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AIR DISTRIBUTION



Weight 392 g

Solenoid - Spring

Coding: 1112.52.3.9. **T**

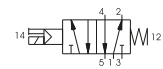
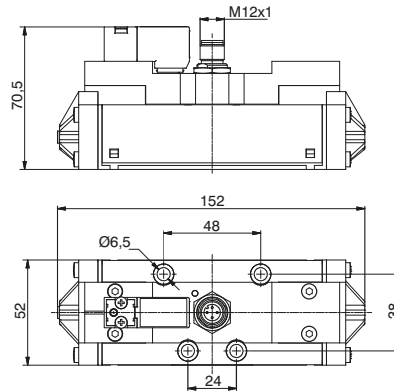
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	24
Response time according to ISO 12238, deactivation time (ms)	124

T COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 510 g



Solenoid-Differential

Coding: 1112.52.3.6. **T**

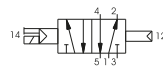
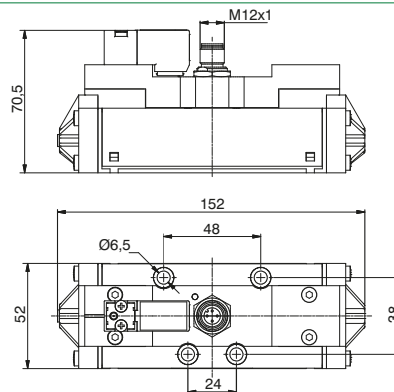
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	37
Response time according to ISO 12238, deactivation time (ms)	90

T COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 515 g



Solenoid-Solenoid 5/2

Coding: 1112.52.3.5. **T**

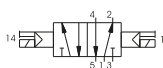
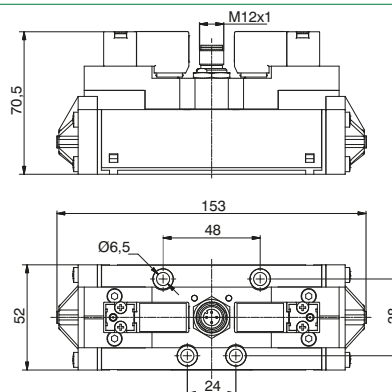
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	17
Response time according to ISO 12238, deactivation time (ms)	20

T COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 550 g





Solenoid-Solenoid 5/3

Coding: 1112.53.F.3.5.T

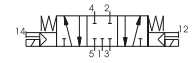
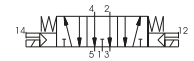
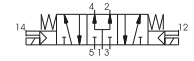
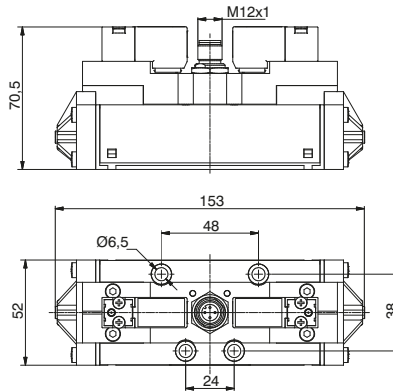
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	1600
Response time according to ISO 12238, activation time (ms)	18 (Closed centres) 18 (Open centres) 20 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	112 (Closed centres) 106 (Open centres) 118 (Pressured centres)

FUNCTION	
F	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
COIL VOLTAGE	
T	12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001

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AIR DISTRIBUTION



Weight 560 g

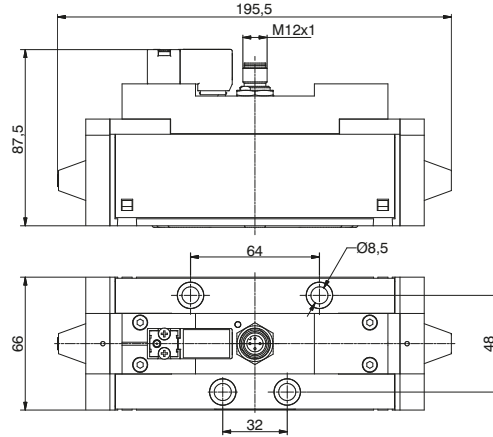
Solenoid - Spring

Coding: 1113.52.3.9.①

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	46
Response time according to ISO 12238, deactivation time (ms)	254

①	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1360 g



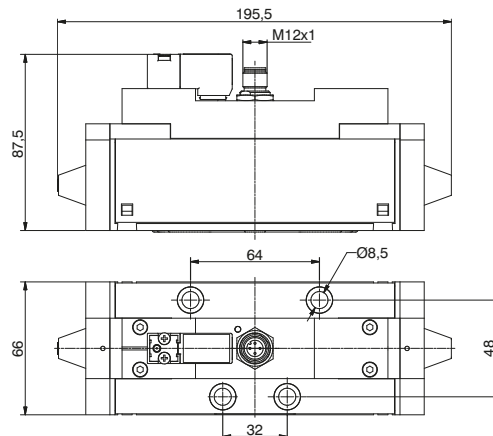
Solenoid-Differential

Coding: 1113.52.3.6.①

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	2
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	78
Response time according to ISO 12238, deactivation time (ms)	180

①	COIL VOLTAGE
12P	= 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1360 g



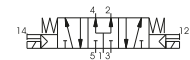
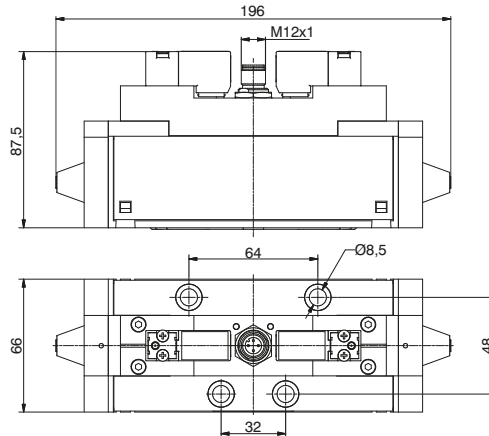
Solenoid-Solenoid 5/2

Coding: 1113.52.3.5.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	1.5
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	32
Response time according to ISO 12238, deactivation time (ms)	37

COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1370 g

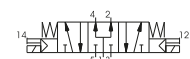
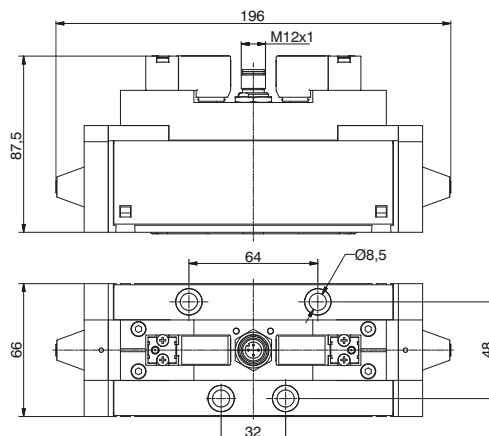
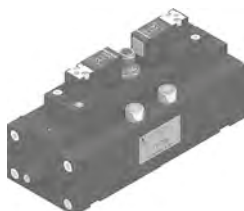
Solenoid-Solenoid 5/3

Coding: 1113.53.F.3.5.1

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	10
Minimum piloting pressure (bar)	3
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (NI/min)	3600
Response time according to ISO 12238, activation time (ms)	30 (Closed centres) 30 (Open centres) 32 (Pressured centres)
Response time according to ISO 12238, deactivation time (ms)	305 (Closed centres) 230 (Open centres) 270 (Pressured centres)

COIL VOLTAGE
12P = 24VDC

Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001



Weight 1380 g



Series 600 - M5 - G1"

General

These accessories are a range of devices for completing a pneumatic circuit. These valves, with their special functions, are inserted between two valves, between a valve and a cylinder, or following a cylinder.

One of the particular characteristic of these accessories is that they are automatically actuated without the need for external commands. Usually, operation and idle are controlled by the presence or absence of pressure as, for example, in the case of quick exhaust valves which pilots itself as a selector, changing the flow direction as the signal goes off and on.

On the other hand, other components are inert. That is, they do not have any internal variable function which is sensitive to pressure. Among these components are silencers, manifolds and flow regulators.

There are also the flow regulators, which like electronic components, can be defined as variable resistences. They are fundamental in regulating the flow rate, provide precise timings and regulate the cylinders' speed.

The selector valves, with "AND" and "OR" functions, are logic functions components which often are an essential element. Furthermore, they are built to allow high flow rate which cannot be obtained by classic pneumatic logic.

The block valves lock the cylinder in a position, avoiding unexpected depressurization of the cylinder's chamber due to lack of compressed air at the inlet port. Practically, it is a piloted unidirectional valve that blocks the exhaust port when there is no air in the pilot circuit.

Finally the economizer valves are in fact a pressure reducer valves installed between valve and cylinder for reducing the air consumption. For example this is applicable on the cylinder return stroke without penalizing the exhaust as happens with FRL pressure regulator.

Construction characteristics

We have not listed all different materials used for the construction of these components because the list would be too the long. We use corrosion proof material, brass or anodized aluminium and the most appropriate specific mixture for seals. If more information is required please contact our technical department.

Use and maintenance

In operation pay attention to the minimum and maximum criteria for temperature and pressure, and ensure good quality compressed air. In a dirty environment, protect the exhaust ports.

In this case, maintenance is minimal and is necessary only if the air is particularly dirty.

The components most subject to damage by the accumulation of dirt are flow regulators with fine regulation and silencers. As for regulators, follow the normal procedure for disassembling, washing with non-chemical cleaning agents and remounting. The silencers need only to be rinsed in petrol or solvent and blown dry with compressed air.

The number of requests for spare seals for flow regulators and shuttle valves are statistically irrelevant. More often, it is necessary to replace the lining of the quick exhaust because of the wear it undergoes due to the particular conditions of operating.

ATTENTION: use hydraulic oil class H for lubrication such as MAGNA GC 32 (Castrol).