Series 2100 - 2400 - 2600

General

The 2000 series solenoid valves have been developed to meet requirements for electronically controlled pneumatic systems and / or serial control systems already used in all manufacturing sectors.
They have been designed to be easily assembled into groups or manifolds and include integral electrical connection (2100 and 2400), to facilitate simple and speedy integration into a control system.
The series comprises a range of products classified according to type, size and performance.
There are tree main sizes, 10mm., 18 mm. and 26 mm.,
with each size further divided into 3 types " LINE ", " FLAT " and " VDMA " or "BASE".
The 10mm. and 18 mm. 24 VDC range of valves includes a range of accessories for the production of manifolded valve assemblies with integral electrical connections.
Modules are available in two or four station variants for flexibility and are supplied to IP40 or alternatively IP65 environmental protection.

Construction characteristics

	Series 2100	Series 2400	Series 2600
Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafleurethylene)	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafleurethylene)	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafleurethylene)
Connection plates	Technopolymer	Zincalloy	Die-cast aluminium
Piston seals	Oil resistant nitrile rubber - NBR	Oil resistant nitrile rubber - NBR	Oil resistant nitrile rubber - NBR
Spool seals	Oil resistant nitrile rubber - HNBR	Oil resistant nitrile rubber - HNBR	Oil resistant nitrile rubber - HNBR
Springs	AISI 302 stainless steel	AISI 302 stainless steel	AISI 302 stainless steel
Operators	Technopolymer	Technopolymer	Technopolymer
Pistons	Aluminium 2011	Technopolymer	Technopolymer
Spools	Aluminium 2011	Aluminium 2011	Aluminium 2011

Use and maintenance

The average life of the valve exceeds 50.000.000 cycles when used under optimum conditions.
Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction.
Ensure the valve is used within our recommended criteria for pressure and temperature.
In dirty or dusty environments, the exhaust ports should be protected.
A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.

Series 2100

General

This solenoid valves series has been developed to meet requirements for electronically controlled pneumatic systems and / or serial control systems already used in all manufacturing sectors.
They have been designed to be easily assembled into groups or manifolds and include integral electrical connection to facilitate simple and speedy integration into a control system.
The 2100 series comprises a range of products classified according to the body size of 10mm divided into 3 types "LINE", "FLAT" and "BASE".
The 10mm. and 18 mm. 24 VDC range of valves includes a range of accessories for the production of manifolded valve assemblies with integral electrical connections.
Modules are available in two or four station variants for flexibility and are supplied to IP40 or alternatively IP65 environmental protection.

Construction characteristics

Central body	Extruded aluminium bar with chemical nickel treatment and PTFE (polytetrafleurethylene)
Connection plates	Technopolymer
Operators	Technopolymer
Spool seals	Oil resistant nitrile rubber - HNBR
Spools	Aluminium 2011
Springs	AISI 302 stainless steel
Pistons	Aluminium 2011
Piston seals	Oil resistant nitrile rubber - NBR

Ordering codes for minature solenoid valves

The 10 mm. miniature solenoid valve with 0,7 mm. orifice has been selected for piloting this series of valves (see Series 300).
This results in low response times and reduced power consumption.
The valve can be supplied with the coil upward or downward depending on the application.

Codes are as follows:

Coil upward code

01 = miniature sol. 12 VDC 90°conn. with led
21 = miniature sol. 12 VDC line conn. with led
02 = miniature sol. 24 VDC 90°conn. with led
22 = miniature sol. 24 VDC line conn. with led

Coil downward code

11 = miniature sol. 12 VDC 90° conn. with led
31 = miniature sol. 12 VDC line conn. with led
12 = miniature sol. 24 VDC 90°conn. with led
32 = miniature sol. 24 VDC line conn. with led
91 = miniature sol. 12 VDC for integral electrical connections
92 = miniature sol. 24 VDC for integral electrical connections

Miniature solenoid c UL us homologated are available (see Series 300).

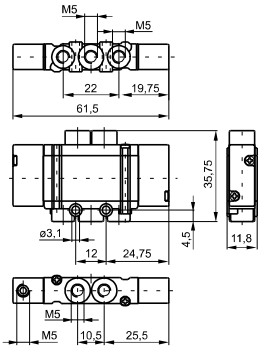
Use and maintenance

The average life of the solenoid valve exceeds 50.000.000 cycles when used under optimum conditions.
Adequate lubrication reduces seals wear, just as proper filtering of supply air prevents the build-up of dirt that can cause malfunction.
Ensure the valve is used within our recommended criteria for pressure and temperature.
In dirty or dusty environments, the exhaust ports should be protected.
A seal kit including the spool is available for overhauling the valve. This operation does not require a skilled worker, although a particular care should be taken when reassembling the valve.

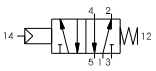
Pneumatic - Spring

Coding: 2115.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



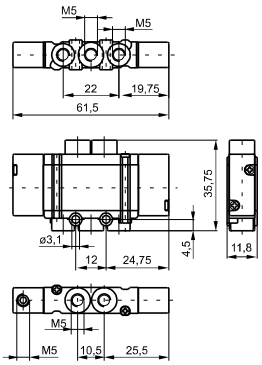
Weight 30 g
Minimum piloting pressure 2 bar



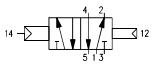
Pneumatic - Differential

Coding: 2115.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



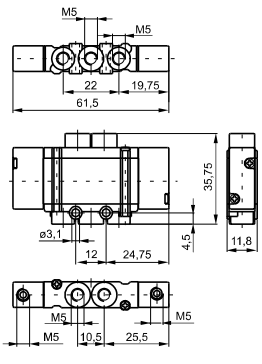
Weight 28 g
Minimum piloting pressure 2 bar



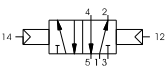
Pneumatic - Pneumatic

Coding: 2115.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 30 g
Minimum piloting pressure 2 bar

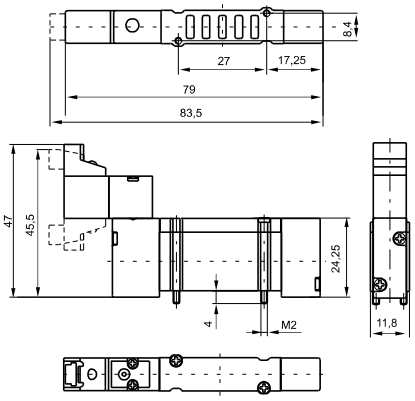


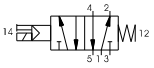
Solenoid - Spring

Coding: 2115.52.00.39.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

	VOLTAGE
T	**01** = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward





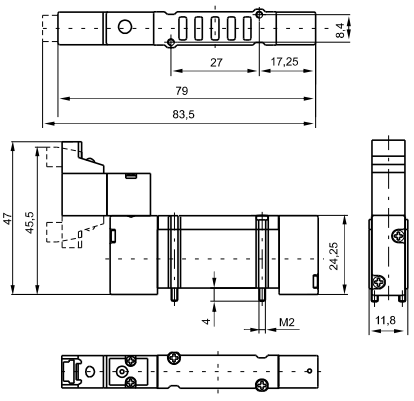
Weight 42 g
Minimum piloting pressure 2 bar

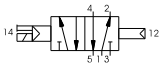
Solenoid - Differential

Coding: 2115.52.00.36.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

	VOLTAGE
T	**01** = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward





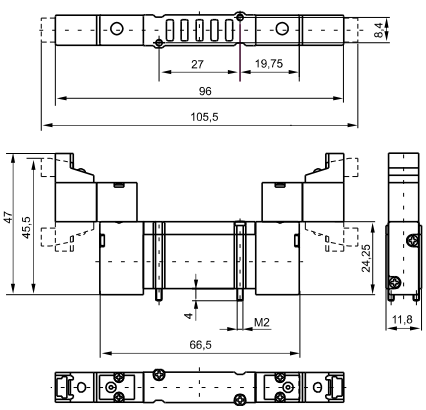
Weight 42 g
Minimum piloting pressure 2 bar

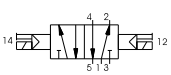
Solenoid - Solenoid

Coding: 2115.52.00.35.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

	VOLTAGE
T	**01** = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward





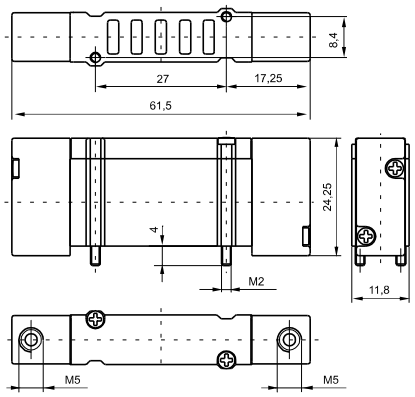
Weight 52 g
Minimum piloting pressure 2 bar

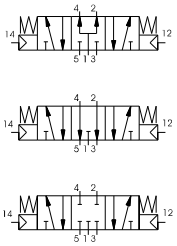
Pneumatic - Pneumatic

Coding: 2115.53.Ⓕ.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

Ⓕ	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres





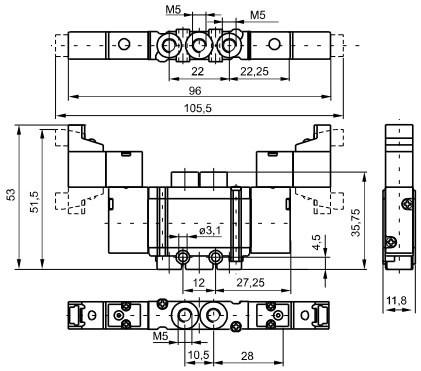
Weight 32 g
Minimum piloting pressure 2,5 bar

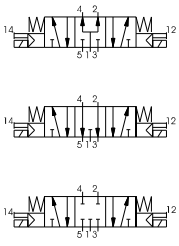
Solenoid - Solenoid

Coding: 2115.53.Ⓕ.35.Ⓣ

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

Ⓕ	FUNCTION
	31 = Closed centres
	32 = Open centres
	33 = Pressured centres
Ⓣ	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward



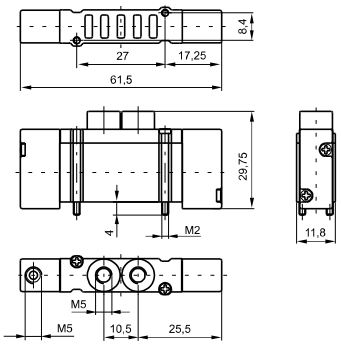


Weight 54 g
Minimum piloting pressure 2,5 bar

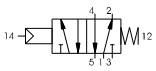
Pneumatic - Spring

Coding: 2135.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



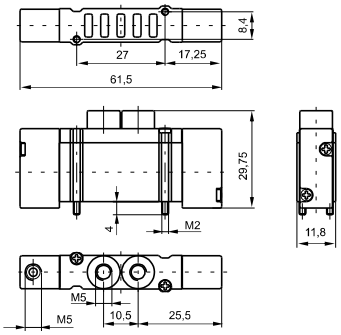
Weight 32 g
Minimum piloting pressure 2 bar



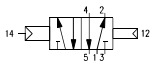
Pneumatic - Differential

Coding: 2135.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



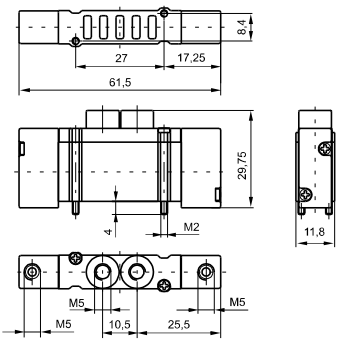
Weight 30 g
Minimum piloting pressure 2 bar



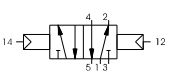
Pneumatic - Pneumatic

Coding: 2135.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 32 g
Minimum piloting pressure 2 bar

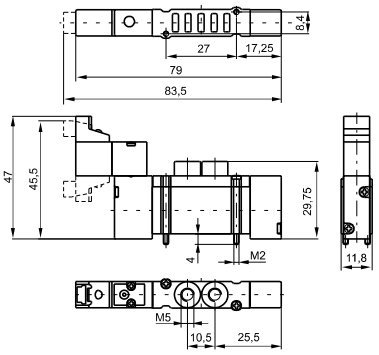


Solenoid - Spring

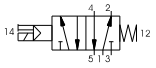
Coding: 2135.52.00.39.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

T	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward



Weight 38 g
Minimum piloting pressure 2 bar

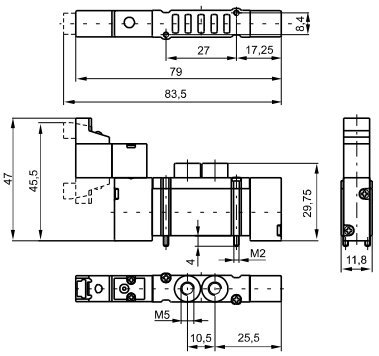


Solenoid - Differential

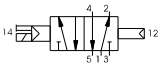
Coding: 2135.52.00.36.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

T	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward



Weight 38 g
Minimum piloting pressure 2 bar

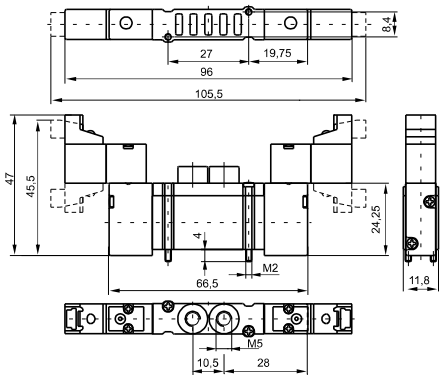


Solenoid - Solenoid

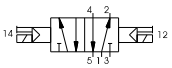
Coding: 2135.52.00.35.T

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5

T	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward



Weight 50 g
Minimum piloting pressure 1,5 bar

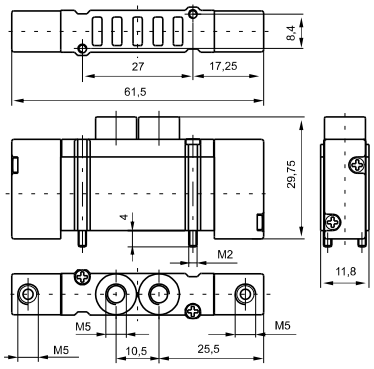


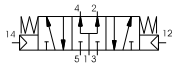
Pneumatic - Pneumatic

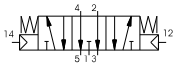
Coding: 2135.53.Ⓕ.18

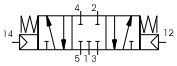
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

	FUNCTION
Ⓕ	**31** = Closed centres
	32 = Open centres
	33 = Pressured centres









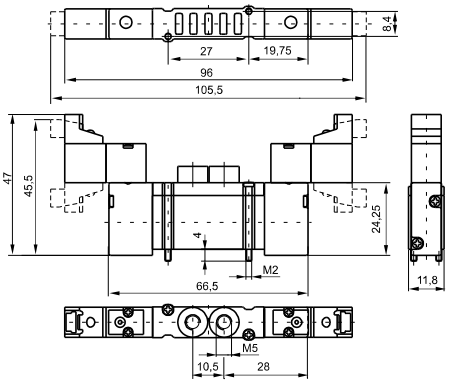
Weight 28 g
Minimum piloting pressure 2 bar

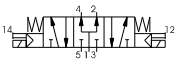
Solenoid - Solenoid

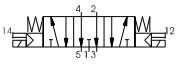
Coding: 2135.53.Ⓕ.35.Ⓣ

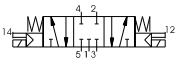
Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)
Orifice size (mm)	2.5
Working ports size	M5

	FUNCTION
Ⓕ	**31** = Closed centres
	32 = Open centres
	33 = Pressured centres
Ⓣ	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	02 = 24 VDC 90° conn. with led
	22 = 24 VDC line conn. with led
	11 = 12 VDC 90° conn. with led downward
	31 = 12 VDC line conn. with led downward
	12 = 24 VDC 90° conn. with led downward
	32 = 24 VDC line conn. with led downward
	91 = 12 VDC for integral electrical connections downward
	92 = 24 VDC for integral electrical connections downward







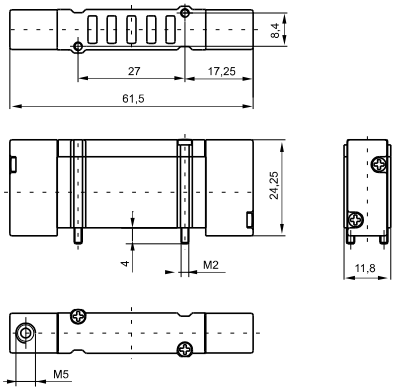


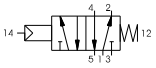
Weight 52 g
Minimum piloting pressure 2,5 bar

Pneumatic - Spring

Coding: 2141.52.00.19

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



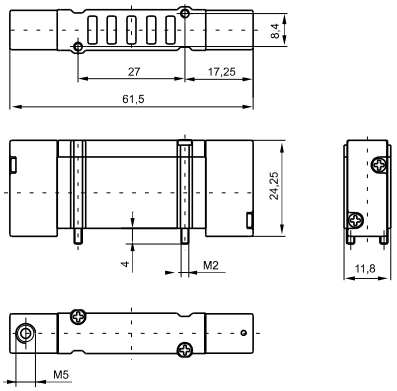


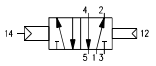
Weight 24 g
Minimum piloting pressure 2 bar

Pneumatic - Differential

Coding: 2141.52.00.16

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5



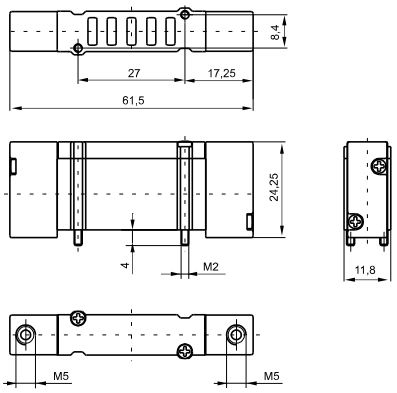


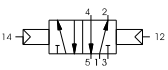
Weight 22 g
Minimum piloting pressure 2 bar

Pneumatic - Pneumatic

Coding: 2141.52.00.18

Operational characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Max working pressure (bar)	7
Temperature °C	-5 ÷ +50
Flow rate at 6 bar with Δp=1 (Nl/min)	150
Orifice size (mm)	2.5
Working ports size	M5





Weight 26 g
Minimum piloting pressure 1,5 bar