

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 2000	
	Series 2100	Series 2400	Series 2600	
Central body	Extruded aluminium bar with	Extruded aluminium bar with	Extruded aluminium bar with	
	chemical nickel treatment and	chemical nickel treatment and	chemical nickel treatment and	
	PTFE (polytetrafleurethylene)	PTFE (polytetrafleurethylene)	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

nical nickel treatment and PTFE rrethylene)
olymer
olymer
rubber - HNBR
m 2011
nless steel
m 2011
e rubber - NBR
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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

- $01 = miniature sol. 12 VDC 90^{\circ}conn.$ 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

- $11 = miniature sol. 12 VDC 90^{\circ} conn.$ 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 R III 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.

Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice

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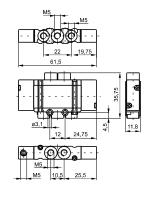


Pneumatic - Spring

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 $\Delta p = 1$ (NI/min)	150			
Orifice size (mm)	2.5			
Working ports size	M5			





Weight 30 g Minimum piloting pressure 2 bar

Pneumatic - Differential

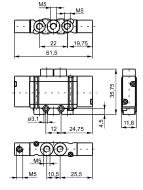
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Coding: 2115.52.00.16

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 $\Delta p=1$ (NI/min)	150			
Orifice size (mm)	2.5			
Working ports size	M5			



Weight 28 g Minimum piloting pressure 2 bar





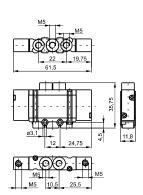
Coding: 2115.52.00.18

Pneumatic - Pneumatic

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 $\Delta p=1$ (NI/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.

Operational characteristics			VOLTAGE
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous		01 = 12 VDC 90° conn. with led
Max working pressure (bar)	7		21 = 12 VDC line conn. with led
Temperature °C	-5 ÷ +50		$02 = 24 \text{ VDC } 90^\circ \text{ conn. with led}$
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	150		22 = 24 VDC line conn. with led
Orifice size (mm)	2.5		11 = 12 VDC 90° conn. with led
Working ports size	M5	O	downward

 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 90° conn. with led

 downward

 32 = 24 VDC line conn. with led

 downward



Weight 42 g Minimum piloting pressure 2 bar

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27

79

83,5

17,25

- 4

24,25

Coding: 2115.52.00.36.

 $12 = 24 \text{ VDC } 90^\circ \text{ conn. with led}$

32 = 24 VDC line conn. with led

M12

14

downward

downward

downward

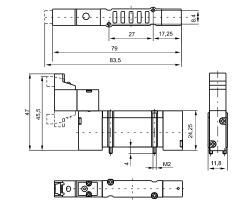
Solenoid - Differential

Operational characteristics			VOLTAGE
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	1	$01 = 12 \text{VDC} 90^\circ \text{conn.} \text{with} \text{led}$
Max working pressure (bar)	7	1	21 = 12 VDC line conn. with led
Temperature °C	-5 ÷ +50	11	$02 = 24 \text{ VDC } 90^\circ \text{ conn. with led}$
Flow rate at 6 bar with ∆p=1 (NI/min)	150	11	22 = 24 VDC line conn. with led
Orifice size (mm)	2.5]	11 = 12 VDC 90° conn. with led
Working ports size	M5] 🕢	downward
			31 = 12 VDC line conn. with led

45,5



Weight 42 g Minimum piloting pressure 2 bar



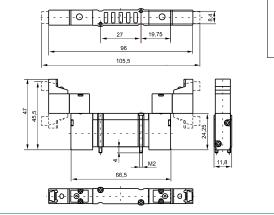
Solenoid - Solenoid

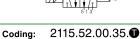
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Operational characteristics			VOLTAGE
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous		01 = 12 VDC 90
Max working pressure (bar)	7	1	21 = 12 VDC line
Temperature °C	-5 ÷ +50	1	02 = 24 VDC 90
Flow rate at 6 bar with $\Delta p = 1$ (NI/min)	150	וך	22 = 24 VDC line
Orifice size (mm)	2.5		11 = 12 VDC 90
Working ports size	M5] 🔒	downward

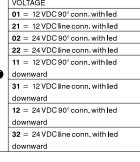
Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice



Weight 52 g Minimum piloting pressure 2 bar







1

12



Fluid

Pneumatic - Pneumatic

Max working pressure (bar)

Flow rate at 6 bar with $\Delta p = 1$ (NI/min)

Temperature °C

Orifice size (mm)

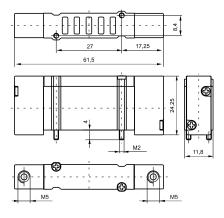
Working ports size

Coding:	2115.53.6.18
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racteristics		FUNCTION
Filtered air. No lubrication needed, if applied it shall be continuous	G	31 = Closed centres
7		32 = Open centres
-5 ÷ +50		33 = Pressured centres
180 (Pressured centres)		

1





180 (Pressured centres) 130 (Closed centres) 140 (Open centres)

2.5

M5

14 M

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downward

downward

downward

downward

31 = 12 VDC line conn. with led

12 = 24 VDC 90° conn. with led

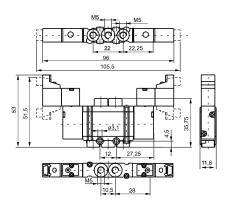
32 = 24 VDC line conn. with led

Weight 32 g Minimum piloting pressure 2,5 bar

	Operational characteristics		FUN	ICTION
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	_ a	31 =	 Closed centres
Max working pressure (bar)	7		32 =	Open centres
Temperature °C	-5 ÷ +50		33 =	 Pressured centres
	180 (Pressured centres)		VOL	TAGE
Flow rate at 6 bar with $\Delta p = 1$ (NI/min)	130 (Closed centres)		01 =	= 12 VDC 90° conn. with led
Orifice size (mm)	140 (Open centres) 2.5		21 =	12 VDC line conn. with led
Working ports size	2.5		02 =	24 VDC 90° conn. with led
working ports size	Wi5		22 =	24 VDC line conn. with led
			11 =	= 12 VDC 90° conn. with led



Weight 54 g Minimum piloting pressure 2,5 bar



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Operational characteristics



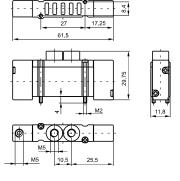
Coding: 2135.52.00.19

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



Weight 32 g Minimum piloting pressure 2 bar

Pneumatic - Spring





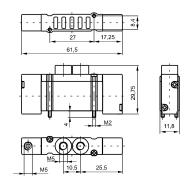
Coding: 2135.52.00.16

Pneumatic - Differential

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 $\Delta p = 1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	



Weight 30 g Minimum piloting pressure 2 bar



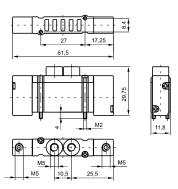
Coding: 2135.52.00.18

Pneumatic - Pneumatic

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 $\Delta p=1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	



Weight 32 g Minimum piloting pressure 2 bar



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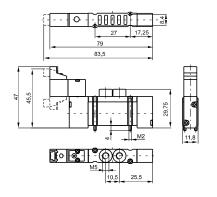
Solenoid - Spring

Coding: 2135.52.00.39.

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 $\Delta p = 1$ (NI/min)	150		
Orifice size (mm)	2.5		
Working ports size	M5		

1





	VOLTAGE
	01 = 12 VDC 90° conn. with led
	21 = 12 VDC line conn. with led
	$02 = 24 \text{ VDC } 90^{\circ} \text{ conn. with led}$
	22 = 24 VDC line conn. with led
	$11 = 12 \text{ VDC } 90^{\circ} \text{ conn. with led}$
	downward
	31 = 12 VDC line conn. with led
Ū	downward
	$12 = 24 \text{VDC} 90^{\circ} \text{ conn. with led}$
	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



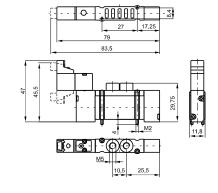
Weight 38 g Minimum piloting pressure 2 bar

Solenoid - Differential

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 $\Delta p = 1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	



Weight 38 g Minimum piloting pressure 2 bar



Coding: 2135.52.00.36.

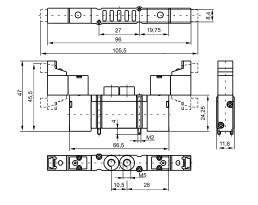
	VOLTAGE
	$01 = 12 \text{VDC} 90^\circ \text{conn.}$ with led
	21 = 12 VDC line conn. with led
	$02 = 24 \text{ VDC } 90^{\circ} \text{ conn. with led}$
	22 = 24 VDC line conn. with led
	$11 = 12 \text{ VDC } 90^{\circ} \text{ conn. with led}$
	downward
	31 = 12 VDC line conn. with led
Û	downward
	$12 = 24 \text{VDC} 90^{\circ} \text{ conn. with led}$
	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

Solenoid - Solenoid

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 $\Delta p=1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	



Weight 50 g Minimum piloting pressure 1,5 bar



Overall dimensions and technical information are provided solely for informative purposes and may be modified without notice

Coding: 2135.52.00.35.

VOLTAGE $\mathbf{01} = 12 \text{ VDC } 90^{\circ} \text{ conn. with led}$ $\mathbf{21} = 12 \, \text{VDC} \, \text{line conn.}$ with led $\mathbf{02} = 24 \, \text{VDC} \, 90^\circ \, \text{conn.}$ with led 22 = 24 VDC line conn. with led $11 = 12 \text{ VDC } 90^{\circ} \text{ conn. with led}$ downward $\mathbf{31} = 12 \, \text{VDC}$ line conn. with led Û downward 12 = 24 VDC 90° conn. with led downward $\mathbf{32} = 24 \, \text{VDC}$ line conn. with led downward 91 = 12 VDC for integral electrical connections downward 92 = 24 VDC for integral electrical connections downward

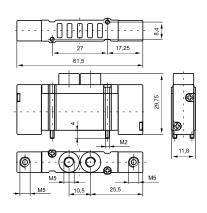




2135.53. Coding:

Operational characteristics			FUNCTION
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous		31 = Closed centres
Max working pressure (bar)	7	🕒	32 = Open centres
Temperature °C	-5 ÷ +50	11	33 = Pressured centres
Flow rate at 6 bar with Δp = 1 (NI/min)	180 (Pressured centres) 130 (Closed centres) 140 (Open centres)		
Orifice size (mm)	2.5	1	
Working ports size	M5]	





Weight 28 g Minimum piloting pressure 2 bar

2135.53.0.35.0

31 = Closed centres 32 = Open centres 33 = Pressured centres VOLTAGE

downward

downward

downward

downward

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 $\mathbf{01} = 12 \, \text{VDC} \, 90^{\circ} \, \text{conn. with led}$ 21 = 12 VDC line conn. with led $02 = 24 \text{VDC} 90^\circ \text{ conn. with led}$ 22 = 24 VDC line conn. with led 11 = 12 VDC 90° conn. with led

31 = 12 VDC line conn. with led

12 = 24 VDC 90° conn. with led

32 = 24 VDC line conn. with led

91 = 12 VDC for integral electrical

92 = 24 VDC for integral electrical connections downward

connections downward

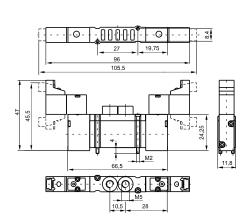
Coding:

Solenoid - Solenoid

Operational characteristics			FUNCTION
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous	6	31 = Closed
Max working pressure (bar)	7		32 = Open c
Temperature °C	-5 ÷ +50	1	33 = Pressur
Flow rate at 6 bar with $\Delta p=1$ (NI/min)	180 (Pressured centres)		VOLTAGE
	130 (Closed centres)		01 = 12 VDC
	140 (Open centres)	-1	21 = 12 VDC
Orifice size (mm)	2.5		02 = 24 VDC
Working ports size	M5		
		-	22 = 24 VDC



Weight 52 g Minimum piloting pressure 2,5 bar





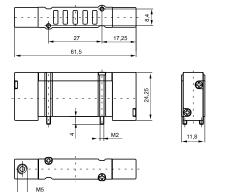


Pneumatic - Spring

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 $\Delta p=1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	





AIR DISTRIBUTION

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Pneumatic - Differential

Weight 24 g Minimum piloting pressure 2 bar

2141.52.00.16 Coding:

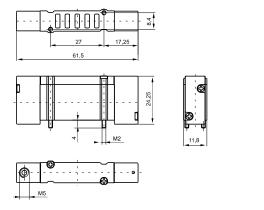
14 -

/ M12

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 $\Delta p=1$ (NI/min)	150	
Orifice size (mm)	2.5	
Working ports size	M5	



Weight 22 g Minimum piloting pressure 2 bar





Coding:

2141.52.00.18

Pneumatic - Pneumatic

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 $\Delta p = 1$ (NI/min)	150
Orifice size (mm)	2.5
Working ports size	M5



Weight 26 g Minimum piloting pressure 1,5 bar

