numatics

501 series

FEATURES

- *High flow rate up to 400 l/min*
- *Wide electrical connection selection : G3 or 580 Fieldbus Electronics, 25 or 37 Pin Sub-D connector, 19 Pin Round connector or Terminal Strip*
- *Internal or external pilot pressure supply capability*
- *Version with integrated LED and electrical protection. LED indicator visible from 3 sides*
- *Solenoid air operated valves for use in potentially explosive atmospheres according to ATEX-Directive 94/9/EC, zone 2 or zones 2-22*
- *580 Electronics (See X021-28)*

GENERAL

Operating pressure	See «SPECIFICATIONS» [1 bar =100 kPa]
Ambient temperature range (TS)	See «SPECIFICATIONS»
Rated flow	See «SPECIFICATIONS»
conforming to ISO 6358	C (5/2) = 1,45 x 10^{-8} m^3/s.Pa (sonic conductance) b (5/2) = 0,40 (critical pressure ratio)
Pneumatic base	4 station subbases
Connection	Joinable subbase
Response time	See «SPECIFICATIONS»

fluids (∗)	temperature range (TS)	technology	seal materials (∗)
air or inert gas filtered at 50 µm, lubricated or not	-10°C to +50°C	rubber packed	FPM (fluoroelastomer)

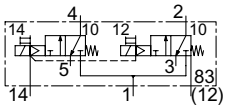
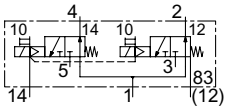
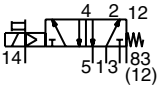
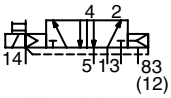
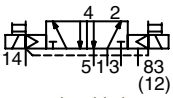
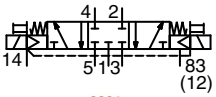
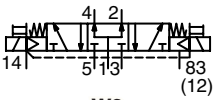
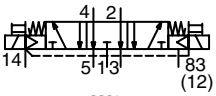
CONSTRUCTION

MATERIALS IN CONTACT WITH FLUID (∗) Ensure that the compatibility of the fluids in contact with the materials is verified	
Body	Zamak, E-coating treatment
Spool	Aluminium
Piston	POM
Spring	Stainless steel
Distribution seals	FPM (fluoroelastomer)
Other seals	NBR
Other materials	PAM (polyarylamide) , GF 50% (glass fiber reinforced)
Pad mount gasket	NBR
Subbases	Aluminium, E-coating treatment

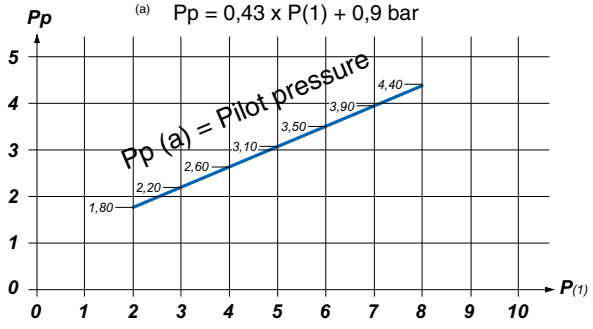
ELECTRICAL CHARACTERISTICS

Coil insulation class	F
Electrical safety	IEC-EN 60730-1 / IEC-EN 60730-2-8
Electrical enclosure protection	IP65 (EN 60529)
Standard voltages	DC (=) : 24V
power ratings (hot/cold) (=)	0,68 W / 0,82 W

SPECIFICATIONS

function	type	symbol pilot (14) return (12)	rated flow at 6,3 bar l/min (ANR) 1→2 1→4	 2→3 4→5	response time open / closed (ms)	pilot pressure at 23°C (bar) min.	 max.	operating pressure port 1 min.	 max. (PS) air (∗) =	15-DIGIT PRODUCT CODE
SPOOL VALVE, RUBBER PACKED TECHNOLOGY, WITH IMPULSE MANUAL OPERATOR										
2 x 3/2 NC	K	 spring	405	415	18 / 18	(a)	8	2	8	**R501A2BD0MA00F1**
2 x 3/2 NO	N	 spring	400	400	18 / 18	(a)	8	2	8	**R501A2BA0MA00F1**
5/2	S	 spring	405	410	14 / 29	2	8	-0,95	8	**R501A2B10MA00F1**
	M	 differential return	405	410	25 / 21	2	8	-0,95	8	**R501A2BN0MA00F1**
	J	 solenoid air	405	410	11 / 11	2	8	-0,95	8	**R501A2B40MA00F1**
5/3	G	 **W1** closed centre position	405	410	13 / 12	2	8	-0,95	8	**R501A2B60MA00F1**
	B	 **W2** centre open to pressure	405	360	17 / 38	2,5	8	-0,95	8	**R501A2B70MA00F1**
	E	 **W3** centre open to exhaust	365	415	27 / 12	2	8	-0,95	8	**R501A2B50MA00F1**

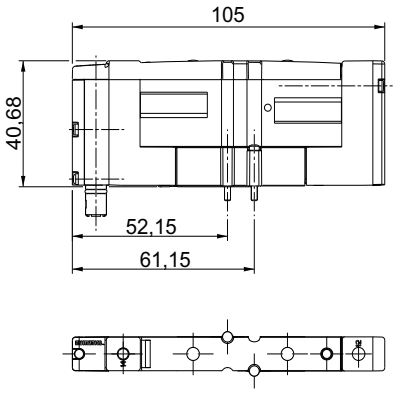
(a) Pp = 0,43 x P(1) + 0,9 bar

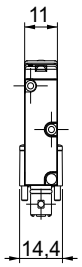


Plug in Valve

Dimensions (mm)

501 Series

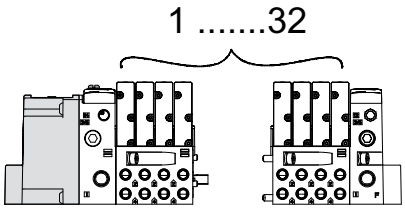




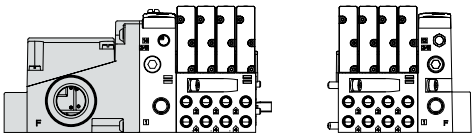
weight (kg)
0,093

Assembly kits

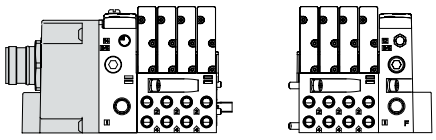
25 or 37 Pin Sub-D



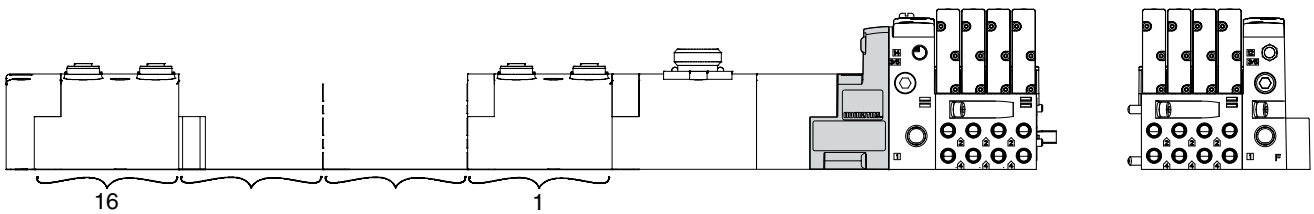
1-32 Terminal Strip



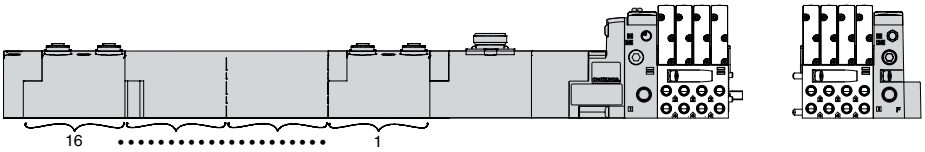
19 Pin Round Connector



Manifold assembly with G3 Electronics & Discrete I/O (see pages 13 and X021-26)



2D/3D CAD models - *In 3D*



How to Order

Manifold assemblies kit (Electronic + End plate)

15-DIGIT PRODUCT CODE

G	501	A	V	3	H	1	0 0	V	A00

Thread connection
G = ISO 228/1
8 = NPT (contact us)
K = Push-in connectors

Product series
501 (11 mm valve)

Revision letter
A = Initial release

Product type
V = Valve Manifold Assembly

Electronics
8 = **580 Fieldbus Electronics** (➠ page X021-28-17)
3 = **G3 Fieldbus Electronics**
J = 25 Pin Sub-D Connector
M = 37 Pin Sub-D Connector
Q = 19 Pin Round Connector
T = Terminal Strip 1-32

Number of Valve Stations

D = 4	**T** = 20
H = 8	**X** = 24
L = 12	**3** = 28
P = 16	**7** = 32

Options
A00 = Standard (no options)
MUF = Muffler in End Plates

DRM = DIN Rail Mount
DWM= DIN Rail Mount with Muffler in End Plates

14X = External pilot supply from port 14
D12 = External pilot supply from port 14 and Muffler in End Plates

D14 = External pilot supply from port 14 and DIN Rail Mount
F06 = External pilot supply from port 14 Muffler in End Plates and DIN Rail Mount

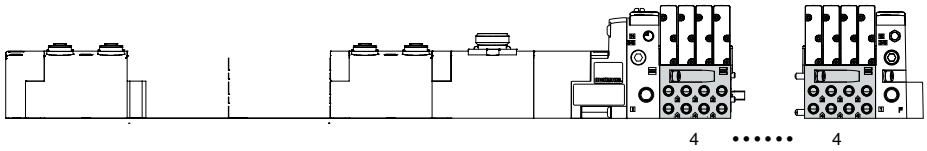
End Plate Style
V = Vertical

End Plate Port Size (1-3-5)
Used with the first digit «G» or «8»:
1 = 1/8 (female thread only)
Used with the first digit «K»:
H = 6 x 8 mm (push-in connector)

Maximum Solenoid Outputs

Terminal Strip 1-32	25 Pin Sub-D Connector	37 Pin Sub-D Connector	19 Pin Round Connector	G3 Fieldbus Electronics
32	22	32	16	32

*Note: Maximum number of valve stations is determined by:
- The electrical connection type.
- The valve type: single and/or double solenoid valves
- Combination of all stations cannot exceed 32 (by step of 4)



How to Order

Subbase

15-DIGIT PRODUCT CODE

H	501	A	M	S4	B	M	A00	1	0

Thread connection
H = Metric thread
K = Push-in connectors

Product series
501 (11 mm valve)

Revision letter
A = Initial release

Product type
M = Manifold base
Z = Mid station supply

Mounting
S4 = Manifold base, 4 stations, side port, single Z-Board™

M4 = Manifold base, 4 stations, side port, double Z-Board™

Not use

Interface
1 = High flow

Options
A00 = Standard (No option)

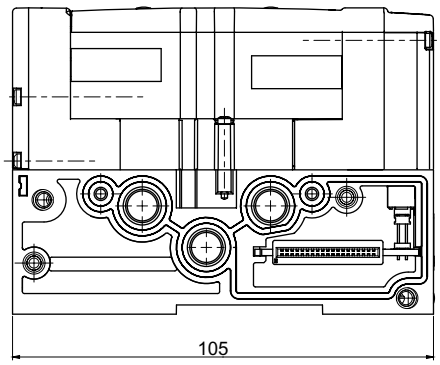
Wiring option
M = Plug-in

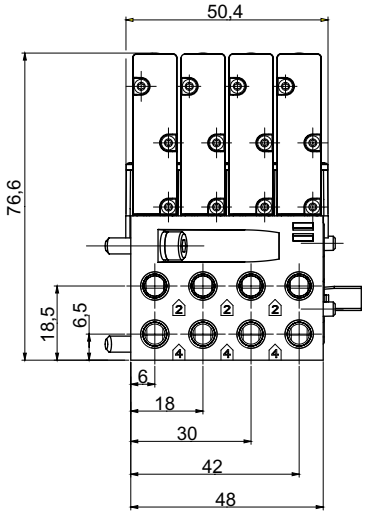
Port connection
B = M7 (female thread only)
D = 2,7 x 4 mm (5/32) [push-in connector only] (Mid station supply not available)

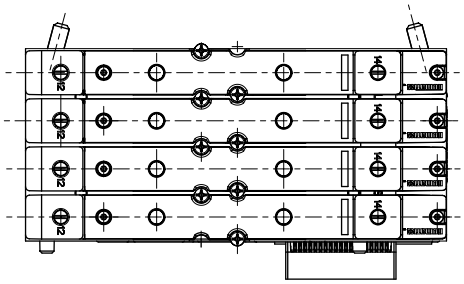
F = 4 x 6 mm [push-in connector only]

Dimensions (mm)

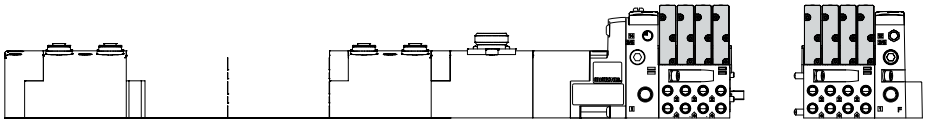
Plug in Valve Mounted







weight (kg) (1)
0,65



How to Order

Valves

15-DIGIT PRODUCT CODE

R	501	A	2	B	4	0	M	A00	F1

Thread connection
R = Pad mount

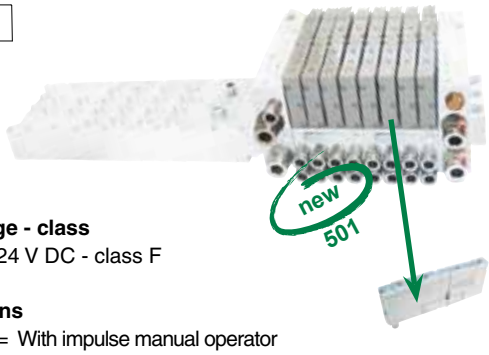
Product series
501 (11 mm valve)

Revision letter
A = Initial release

Actuation
2 = Rubber packed

Valve type
B = Solenoid pilot

Function
A = 2x3/2 NO, dual 3-way
D = 2x3/2 NC, dual 3-way
N = 5/2, Differential air return
1 = 5/2, spring return
4 = 5/2, solenoid air return
5 = 5/3, W3, open center to exhaust
6 = 5/3, W1, center closed
7 = 5/3, W2, open center to pressure



Voltage - class
F1 = 24 V DC - class F

Options
A00 = With impulse manual operator
11B = With maintained manual operator
11M = Without manual operator

Electrical interface
M = Plug-in (with LED indicator / DC)

How to Order

Regulators

15-DIGIT PRODUCT CODE

R	501	A	R	S	5	2	J	A00	1	0

Thread connection
R = Pad mount

Product series
501 (11 mm valve)

Revision letter
A = Initial release

Product type
R = Pressure regulator

Regulator type

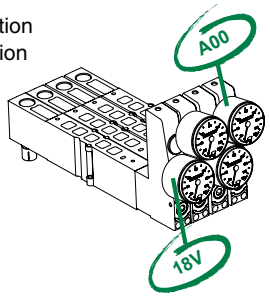
S = Single regulator - Pressure to port 1

Not use

Interface
1 = Pneumatic

12H = W/O Gauge

Options
A00 = Gauge upper position
18V = Gauge lower position



Wiring option
J = Plug-in

Gauge type
0 = W/O Gauge
2 = Gauge scale (bar)

Pressure range
5 = 0,7 to 8 bar (10 to 115 psi)