

Valve Manifolds VS45 Series

2x3/2, 5/2 and 5/3 valves

Size 45 mm

24V DC or 115V AC Multipole

Integrated Fieldbus

Field expandable with single add-on stations

Dual spool technology

VS45G Glandless spool and sleeve for long life

VS45S Softseal spool for high flow

Wide range of accessories

Universal PNP/NPN 24V DC Multipole

Technical data

Medium

Compressed air, filtered to 40 µm, lubricated or non-lubricated

Operation

VS45G: Glandless spool valve, solenoid pilot actuated

VS45S: Softseal spool valve, solenoid pilot actuated

Mounting

Sub-base

Ports 2+4

3/8 NPTF, 1/2 NPTF and 3/4 NPTF

3/8 ISO G, 1/2 ISO G and 3/4 ISO G

Operating pressure

Maximum pressure

145 psi (10 bar) VS45S models and VS45G solenoid pilot actuated valves with internal pilot supply, 232 psi (16 bar) VS45G solenoid pilot actuated valves with external pilot supply

Details of minimum and maximum pilot pressure see overleaf.

Flow characteristics

Series	Function	Cv	l/min
VS45G	5/2	3.2	3200
VS45G	5/3	2.9	2900
VS45S	2x3/2	3.9	3900
VS45S	5/2	4.2	4200
VS45S	5/3	3.7	3700

Ambient temperature

5°F to 122°F (-15°C to +50°C)

Medium temperature

23°F to 122°F (-5°C to +50°C)

Consult our technical service for use below 35°F (+2°C).

Materials

Body/sub-base: die-cast aluminum

Glandless spool & sleeve (VS45G): aluminum, hard anodized, teflon coated

Softseal spool (VS45S): aluminum with HNBR seals

Plastic parts: POM, PA, PPA, TPE, PBT

Mounting sheets/screws: steel, zinc coated

Springs: stainless steel

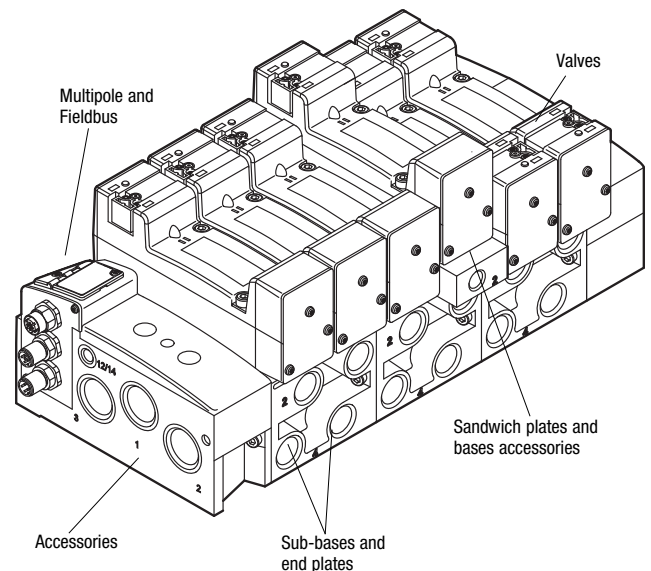
Sandwich plates: aluminum bar material

Electrical contacts: brass, tin/gold coated

PCB: glass reinforced epoxy



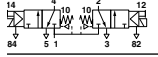
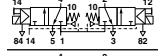
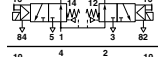


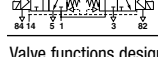
To order please use valve manifold configurator available at www.norgren.com/usa.



Valve Manifolds VS45 Series

Size 45 mm 2x3/2, 5/2 and 5/3 valves,

Plug-in connection, solenoid pilot actuated valves 2x3/2 Double Solenoid, NC/NC, NO/NO, or NC/NO

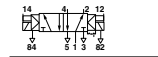
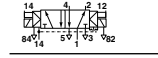
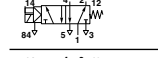
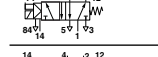


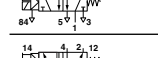
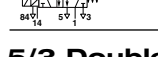
	Model	Spool technology	Function 2 x 3/2	Actuation	Cv	Pilot supply	Pilot pressure psi	Operating pressure psi (bar)	Manual override	Voltage
	VS45SA11DF313A	Softseal	NC or COE	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
	VS45SA11DF213A	Softseal	NC or COE	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
	VS45SA22DF313A	Softseal	NC or COE	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
	VS45SA22DF213A	Softseal	NC or COE	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W
	VS45SB11DF313A	Softseal	NO or COP	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
	VS45SB11DF213A	Softseal	NO or COP	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
	VS45SB22DF313A	Softseal	NO or COP	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
	VS45SB22DF213A	Softseal	NO or COP	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W
	VS45SC11DF313A	Softseal	NO/NC	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
	VS45SC11DF213A	Softseal	NO/NC	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
	VS45SC22DF313A	Softseal	NO/NC	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
	VS45SC22DF213A	Softseal	NO/NC	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W

Valve functions designations

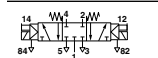
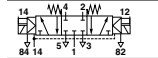


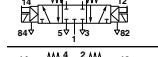
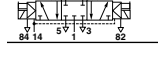
NO = Normally open
NC = Normally closed

COE = Cylinder Open Exhaust
COP = Cylinder Open Pressure

5/2 Single and Double Solenoid

	Model	Spool technology	Function	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)	Manual override	Voltage
	VS45G511DF313A	Glandless	5/2	Sol/Sol	3.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G511DF213A	Glandless	5/2	Sol/Sol	3.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G522DF313A	Glandless	5/2	Sol/Sol	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G522DF213A	Glandless	5/2	Sol/Sol	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45G517DF313A	Glandless	5/2	Sol/Spring	3.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G517DF213A	Glandless	5/2	Sol/Spring	3.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G527DF313A	Glandless	5/2	Sol/Spring	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G527DF213A	Glandless	5/2	Sol/Spring	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45S511DF313A	Softseal	5/2	Sol/Sol	4.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45S511DF213A	Softseal	5/2	Sol/Sol	4.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45S522DF313A	Softseal	5/2	Sol/Sol	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
	VS45S522DF213A	Softseal	5/2	Sol/Sol	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W
	VS45S517DF313A	Softseal	5/2	Sol/Spring	4.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45S517DF213A	Softseal	5/2	Sol/Spring	4.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45S527DF313A	Softseal	5/2	Sol/Spring	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
	VS45S527DF213A	Softseal	5/2	Sol/Spring	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W

5/3 Double Solenoid, APB and COE

	Model	Spool technology	Function 5/3	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)	Manual override	Voltage
	VS45G611DF313A	Glandless	APB	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G611DF213A	Glandless	APB	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G622DF313A	Glandless	APB	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G622DF213A	Glandless	APB	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45G711DF313A	Glandless	COE	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G711DF213A	Glandless	COE	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G722DF313A	Glandless	COE	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G722DF213A	Glandless	COE	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45S611DF313A	Softseal	APB	Sol/Sol	3.7	Internal	-	36 to 145 (2.5 to 10)	Push only	24V DC 1.2W
	VS45S611DF213A	Softseal	APB	Sol/Sol	3.7	Internal	-	36 to 145 (2.5 to 10)	Push & turn	24V DC 1.2W
	VS45S622DF313A	Softseal	APB	Sol/Sol	3.7	External	36 to 145 (2.5 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
	VS45S622DF213A	Softseal	APB	Sol/Sol	3.7	External	36 to 145 (2.5 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W

Valve function designations:

APB = All Ports Blocked
COE = Cylinders Open Exhaust
COP = Cylinder Open Pressure

Valve Manifolds VS45 Series

Size 45 mm 2x3/2, 5/2 and 5/3 valves

Non-plug-in solenoid pilot actuated valves

2x3/2 Double Solenoid, NC/NC, NO/NO, or NC/NO

Model	Spool technology	Function 2 x 3/2	Actuation	Cv	Pilot supply	Pilot pressure psi	Operating pressure psi (bar)	Manual override	Voltage
VS45SA11DC3**†	Softseal	NC or COE	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
VS45SA11DC2**†	Softseal	NC or COE	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
VS45SA22DC3**†	Softseal	NC or COE	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
VS45SA22DC2**†	Softseal	NC or COE	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W
VS45SB11DC3**†	Softseal	NO or COP	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
VS45SB11DC2**†	Softseal	NO or COP	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
VS45SB22DC3**†	Softseal	NO or COP	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
VS45SB22DC2**†	Softseal	NO or COP	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W
VS45SC11DC3**†	Softseal	NO/NC	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push only	24V DC 1.2W
VS45SC11DC2**†	Softseal	NO/NC	Sol/Spring	3.9	Internal	-	44 to 145 (3 to 10)	Push & turn	24V DC 1.2W
VS45SC22DC3**†	Softseal	NO/NC	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push only	24V DC 1.2W
VS45SC22DC2**†	Softseal	NO/NC	Sol/Spring	3.9	External	25 + (0.6 x op. press.)	0 to 145 (0 to 10)	Push & turn	24V DC 1.2W

Valve functions designations

NO = Normally open
NC = Normally closed

COE = Cylinder Open Exhaust
COP = Cylinder Open Pressure

5/2 Single and Double Solenoid

Model	Spool technology	Function	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)	Manual override	Voltage
VS45G511DC3**†	Glandless	5/2	Sol/Sol	3.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
VS45G511DC2**†	Glandless	5/2	Sol/Sol	3.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
VS45G522DC3**†	Glandless	5/2	Sol/Sol	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
VS45G522DC2**†	Glandless	5/2	Sol/Sol	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
VS45G517DC3**†	Glandless	5/2	Sol/Spring	3.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
VS45G517DC2**†	Glandless	5/2	Sol/Spring	3.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
VS45G527DC3**†	Glandless	5/2	Sol/Spring	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
VS45G527DC2**†	Glandless	5/2	Sol/Spring	3.2	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
VS45S511DC3**†	Softseal	5/2	Sol/Sol	4.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
VS45S511DC2**†	Softseal	5/2	Sol/Sol	4.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
VS45S522DC3**†	Softseal	5/2	Sol/Sol	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
VS45S522DC2**†	Softseal	5/2	Sol/Sol	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W
VS45S517DC3**†	Softseal	5/2	Sol/Spring	4.2	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
VS45S517DC2**†	Softseal	5/2	Sol/Spring	4.2	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
VS45S527DC3**†	Softseal	5/2	Sol/Spring	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
VS45S527DC2**†	Softseal	5/2	Sol/Spring	4.2	External	29 to 145 (2 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W

Table 1
****Voltage Codes and Spare Pilot Valves**

Voltage	Code	Manual Override	Power Inrush / Hold	Pilot Valve Part.-no.
24 V d.c.	13	Push & turn	1.2W	VS45DC213-KG00
115 V 50/60 Hz	18	Push & turn	2.1 / 1.5 VA	VS45DC218-KG00
24 V d.c.	13	Push only	1.2W	VS45DC313-KG00
115 V 50/60 Hz	18	Push only	2.1 / 1.5 VA	VS45DC318-KG00

Other voltages available on request.

Spare pilot valves are delivered with mounting screws.

Table 2
†Connector Codes and Part Number

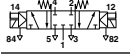
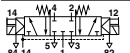

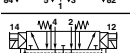
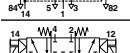
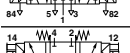
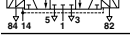
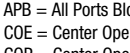
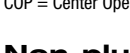

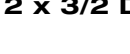
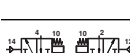
Code	Part Number
A = Solenoid without connector	
B = Cable grip	V10027-D00
C = 10 ft. molded cable, 0-240 VAC/VDC	V10013-D03
H = Cable grip w/indicator light, 24 VAC/VDC	V10012-D13
J = Cable grip w/indicator light, 120 VAC/VDC	V10012-D18
5 = 10 ft. molded cable with indicator light, surge suppression, 24 VAC/VDC	V10014-D03
6 = 10 ft. molded cable with indicator light, 110V/50 Hz-120V.60Hz	V10015-D03

Valve Manifolds VS45 Series

Size 45 mm 2x3/2, 5/2 and 5/3 valves,

Non-plug-in solenoid pilot actuated valves

5/3 Double Solenoid, APB and COE

	Model	Spool technology	Function	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)	Manual override	Voltage
	VS45G611DC3**†	Glandless	APB	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G611DC2**†	Glandless	APB	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G622DC3**†	Glandless	APB	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G622DC2**†	Glandless	APB	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45G711DC3**†	Glandless	COE	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push only	24V DC 1.2W
	VS45G711DC2**†	Glandless	COE	Sol/Sol	2.9	Internal	-	29 to 145 (2 to 10)	Push & turn	24V DC 1.2W
	VS45G722DC3**†	Glandless	COE	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push only	24V DC 1.2W
	VS45G722DC2**†	Glandless	COE	Sol/Sol	2.9	External	29 to 145 (2 to 10)	26" Hg to 232 (-0.9 to 16)	Push & turn	24V DC 1.2W
	VS45S611DC3**†	Softseal	APB	Sol/Sol	3.7	Internal	-	36 to 145 (2.5 to 10)	Push only	24V DC 1.2W
	VS45S611DC2**†	Softseal	APB	Sol/Sol	3.7	Internal	-	36 to 145 (2.5 to 10)	Push & turn	24V DC 1.2W
	VS45S622DC3**†	Softseal	APB	Sol/Sol	3.7	External	36 to 145 (2.5 to 10)	26" Hg to 145 (-0.9 to 10)	Push only	24V DC 1.2W
	VS45S622DC2**†	Softseal	APB	Sol/Sol	3.7	External	36 to 145 (2.5 to 10)	26" Hg to 145 (-0.9 to 10)	Push & turn	24V DC 1.2W


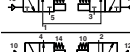

APB = All Ports Blocked

COE = Center Open Exhaust

COP = Center Open Pressure

Non-plug-in air pilot actuated valves

2 x 3/2 Double Solenoid, NC/NC, NO/NO, or NC/NO

	Model	Spool technology	Function 2 x 3/2	Actuation	Cv	Pilot supply	Pilot pressure psi	Operating pressure psi (bar)
	VS45SADDAX900A	Softseal	NC or COE	Air Pilot/air pilot	3.9	External	25 + (0.6 x op. press.)	44 to 145 (3 to 10)
	VS45SBDDAX900A	Softseal	NO or COP	Air Pilot/air pilot	3.9	External	25 + (0.6 x op. press.)	44 to 145 (3 to 10)
	VS45SCDDAX900A	Softseal	NO/NC	Air Pilot/air pilot	3.9	External	25 + (0.6 x op. press.)	44 to 145 (3 to 10)

Valve functions designations



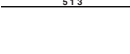

NO = Normally Open

NC = Normally Closed

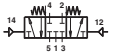


COE = Cylinder Open Exhaust

COP = Cylinder Open Pressure

5/2 Single and Double Solenoid

	Model	Spool technology	Function	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)
	VS45G5D7AX900A	Glandless	5/2	Air Pilot/spring	3.2	External	29 to 145 (2 to 10)	23 to 145 (1.6 to 10)
	VS45S5D7AX900A	Softseal	5/2	Air Pilot/spring	4.2	External	29 to 145 (2 to 10)	29 to 145 (2 to 10)
	VS45G5DDAX900A	Glandless	5/2	Air Pilot/air pilot	3.2	External	29 to 145 (2 to 10)	29 to 145 (2 to 10)
	VS45S5DDAX900A	Softseal	5/2	Air Pilot/air pilot	4.2	External	29 to 145 (2 to 10)	29 to 145 (2 to 10)

5/3 Double Solenoid, APB and COE

	Model	Spool technology	Function 5/3	Actuation	Cv	Pilot supply	Pilot pressure psi (bar)	Operating pressure psi (bar)
	VS45G6DDAX900A	Glandless	APB	Air Pilot/air pilot	2.9	External	29 to 145 (2 to 10)	29 to 145 (2 to 10)
	VS45G7DDAX900A	Glandless	COE	Air Pilot/air pilot	2.9	External	29 to 145 (2 to 10)	29 to 145 (2 to 10)
	VS45S6DDAX900A	Softseal	APB	Air Pilot/air pilot	3.7	External	36 to 145 (2 to 10)	36 to 145 (2.5 to 10)

APB = All Ports Blocked

COE = Center Open Exhaust

COP = Center Open Pressure

Valve Manifolds VS45 Series

Size 45 mm 2x3/2, 5/2 and 5/3 valves

Valve part number breakdown

VS45*****A

Spool technology	Substitute
Glandless spool & sleeve	G
Softseal spool	S
Guiding systems	Substitute
2x3/2 Normally closed or Cylinder Open Exhaust	A*
2x3/2 Normally open or Cylinder Open Pressure	B*
2x3/2 Normally open/Normally closed	C*
5/2	5
5/3 All ports blocked	6
5/3 Cylinder open exhaust	7**

* Available with softseal spool only

** Available with glandless spool only

Voltage	Substitute
110/120 VAC	18
24V DC 1.2W	13
Air pilot	00
Manual override	Substitute
Push & turn	2
Push only	3
Extended, push only†	5
Air pilot 5/32 PIF	9
Connection	Substitute
Plug in	DF
Non Plug-in	DC
Non plug-in air pilot	AX

Actuation/Pilot supply	Substitute
Solenoid/Spring	17
Internal pilot supply	
Solenoid/Spring	27
External pilot supply	
Solenoid/Solenoid	11
Internal pilot supply	
Solenoid/Solenoid	22
External pilot supply	
Air/Spring	D7
Air/Air	DD

†Available with plug-in valves only

Electrical details for solenoid operators

Voltage tolerances	(24V DC) +/- 10%
Rating	100 % Continuous duty
Inlet orifice	0.8 mm
Indication	LED green
Surge suppression	Transil diode
Materials	PPS (body), Viton and NBR (seal)

Protection classification (IP Code)

All VS45 valve manifolds fulfill IP65 and NEMA4 ratings.

Power supply and precautions

All VS45 24 V d.c products are designed to be used with a protective extra low voltage (PELV) power supply.

All VS45 115 V a.c products correspond to the protection class I.

Connection of the protective earth (PE) ground is required.

Valve Manifolds VS45 Series

Size 45 mm

Accessories

Blanking disc to modular sub-base



V40414-K00 (Ports 1, 3, 5)

D-sub connector 25-pin IP65



V11569-E01 3' (1m)
V11569-E03 10' (3m)
V11569-E05 16' (5m)

D-sub connector 44-pin IP65



V11570-E01 3' (1m)
V11570-E03 10' (3m)
V11570-E05 16' (5m)



Replacement Solenoids

Plug-in replacement solenoids

Pilot valves Part no.	Description*	Voltage	Manual override Plug-in
VS45DF313-KG00	Pilot valve	24V DC 1.2W	Push only
VS45DF213-KG00	Pilot valve	24V DC 1.2W	Push & turn
VS45DF513-KG00	Pilot valve	24V DC 1.2W	Extended, push only

* Kit includes screws, gasket and V-ring

Intermediate supply/exhaust module



G 1/2 VS4540416-BG00
1/2 NPTF VS4540416-RG00

Blanking plate



VS4540415-KG00

Replacement gauge



18-013-212



Non plug-in replacement solenoids

Pilot valves Part no.	Description*	Voltage	Manual override Non-Plug-in
VS45DC313-KG00	Pilot valve	24V DC 1.2W	Push only
VS45DC213-KG00	Pilot valve	24V DC 1.2W	Push & turn
VS45DC318-KG00	Pilot valve	120/120 Vac	Push only
VS45DC218-KG00	Pilot valve	120/120 Vac	Push & turn

Single pressure regulator



VS4540410-KG10

Double pressure regulator plate



VS4540410-KG40

Flow control plate



VS4540408-KG00



Air pilot replacement operator

Air Pilot Part no.	Description*	Voltage	Manual override Non-Plug-in
VS45AX900-KG00	Pilot	na	na

* Kit includes screws, gasket and V-ring

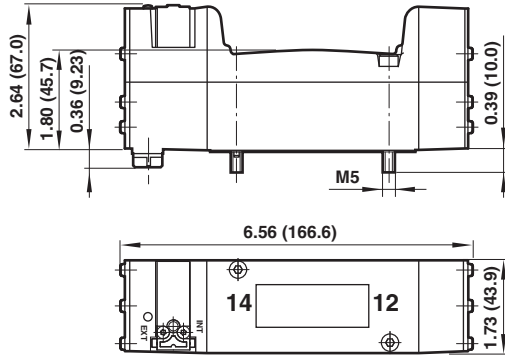
Valve Manifolds VS45 Series

Size 45 mm 2x3/2, 5/2 and 5/3 valves

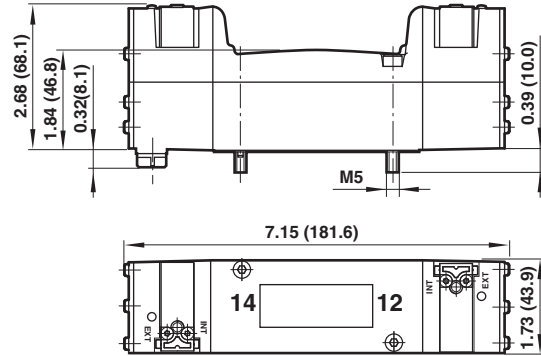
Dimensions in inches (mm)

Plug-in

VS45*5*7DF*1*A models
5/2 Single solenoid pilot valve
Mechanical spring return

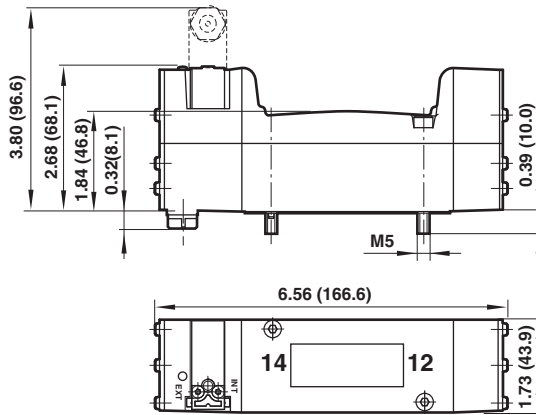


VS45****DF*1*A models
2x3/2, 5/2 and 5/3 Double solenoid pilot valve

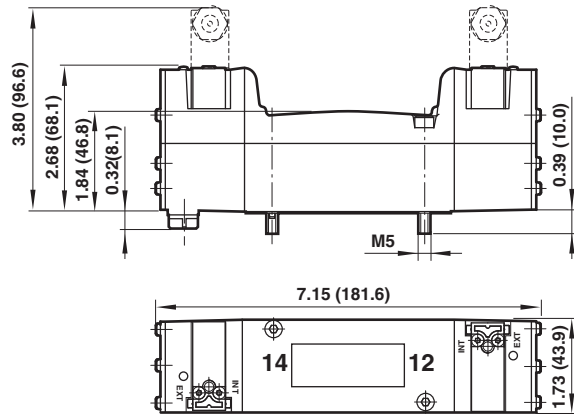


Non-plug-in

VS45*5*7DC*1*A models
5/2 Single solenoid pilot valve
Mechanical spring return

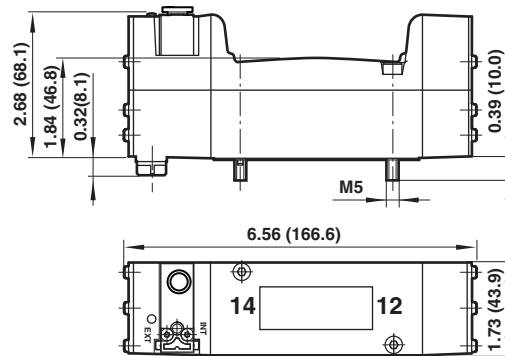


VS45****DC*1*A models
2x3/2, 5/2 and 5/3 Double solenoid pilot valve

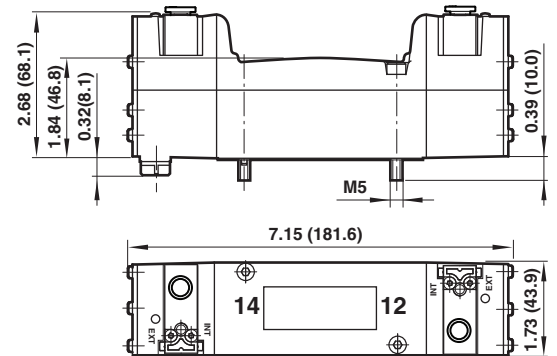


Non-plug-in Air pilot

VS45*5*7AX**** models
5/2 Single solenoid pilot valve
Mechanical spring return



VS45****AX**** models
2x3/2, 5/2 and 5/3 Double solenoid pilot valve



Valve Manifolds VS45 Series

Size 45 mm

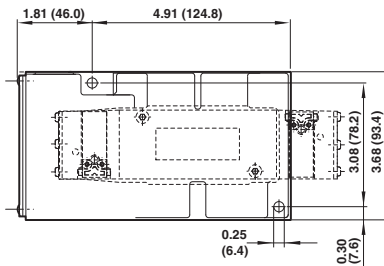
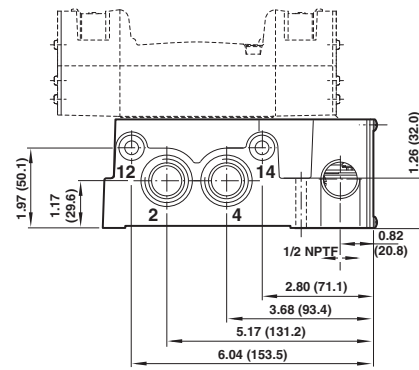
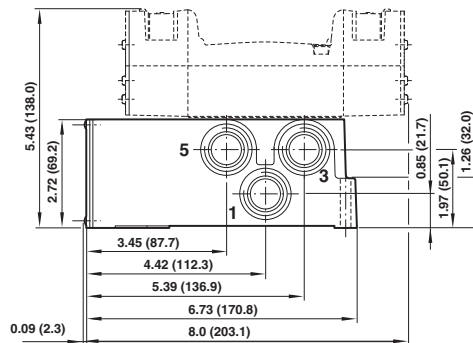
Single station sub-base

Part Number	Description	Ports 1, 3 & 5	Ports 12/14	Ports 2 & 4	Connector Type	Voltage
VS4540438-DG00	Stand alone, single subbase, plug-in, 24Vdc	G1/2"	G1/8"	G1/2"	M12	24Vdc
VS4540438-DG01	Stand alone, single subbase, non-plug-in, individually wired	G1/2"	G1/8"	G1/2"	N/A	24Vdc & 110/120Vac
VS4540438-EG00	Stand alone, single subbase, plug-in, 24Vdc	G3/4"	G1/8"	G3/4"	M12	24Vdc
VS4540438-EG01	Stand alone, single subbase, non-plug-in, individually wired	G3/4"	G1/8"	G3/4"	N/A	24Vdc & 110/120Vac
VS4540438-TG00	Stand alone, single subbase, plug-in, 24Vdc	1/2" NPT	1/8" NPT	1/2" NPT	M12	24Vdc
VS4540438-TG01	Stand alone, single subbase, non-plug-in, individually wired	1/2" NPT	1/8" NPT	1/2" NPT	N/A	24Vdc & 110/120Vac
VS4540438-TG02	Stand alone, single subbase, plug-in, 115Vac	1/2" NPT	1/8" NPT	1/2" NPT	1/2" Conduit	110/120Vac
VS4540438-UG00	Stand alone, single subbase, plug-in, 24Vdc	3/4" NPT	1/8" NPT	3/4" NPT	M12	24Vdc
VS4540438-UG01	Stand alone, single subbase, non-plug-in, individually wired	3/4" NPT	1/8" NPT	3/4" NPT	N/A	24Vdc & 110/120Vac
VS4540438-UG02	Stand alone, single subbase, plug-in, 115Vac	3/4" NPT	1/8" NPT	3/4" NPT	1/2" Conduit	110/120Vac

NOTE: The 1/2" conduit output boards used on the VS45 incorporate integrated power rectification and regulation from 115Vac to 24Vdc on the output boards. The 115Vac voltage being supplied to the 1/2" conduit is converted to a 24Vdc signal to the valves on the manifold. Therefore, even though the manifold is wired for AC, the valves used on the manifold are 24Vdc.

Dimensions in inches (mm)

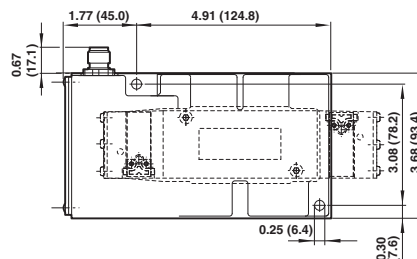
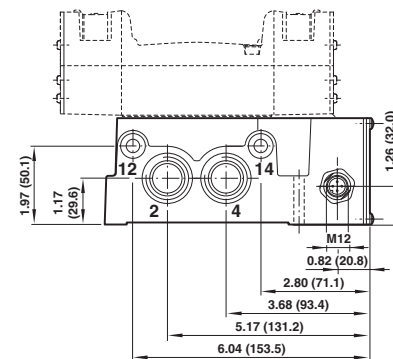
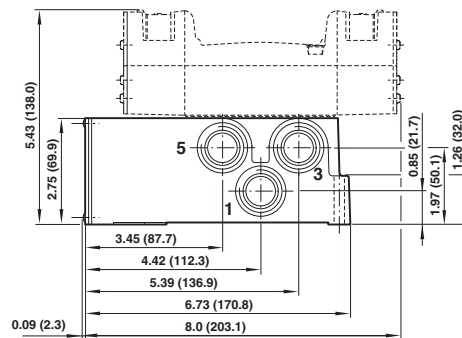
Connector type: NPTF1/2 Conduit with flying leads



Wiring information

Wire color	Function
Green	Earth
Yellow	Signal for solenoid 12
Black	Common for solenoid 12 and 14
Red	Signal for solenoid 14

Connector type: M12



Pin assignment (acc. VDMA 24571)

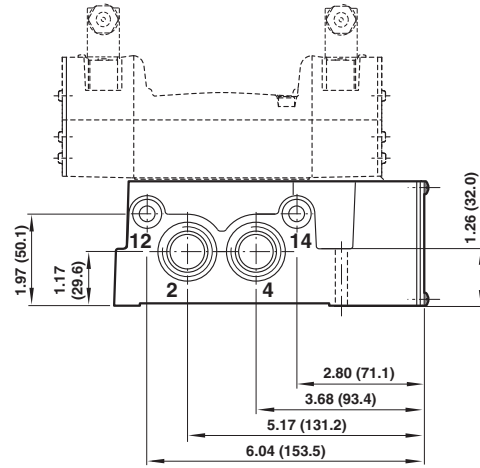
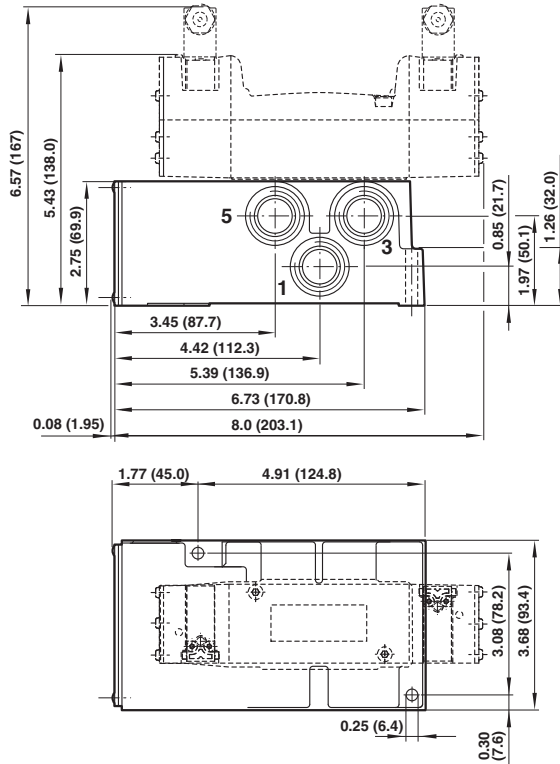
Pin no.	Function
1	not used
2	Signal for solenoid 12
3	Common for solenoid 12 and 14
4	Signal for solenoid 14



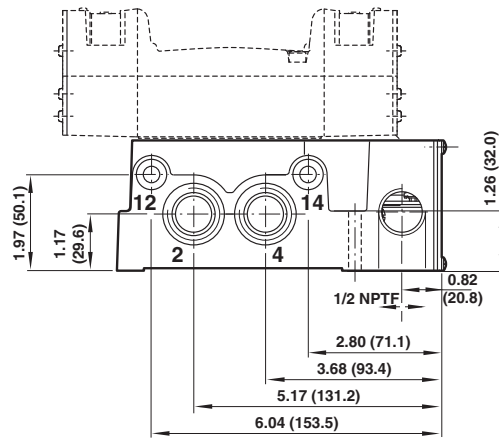
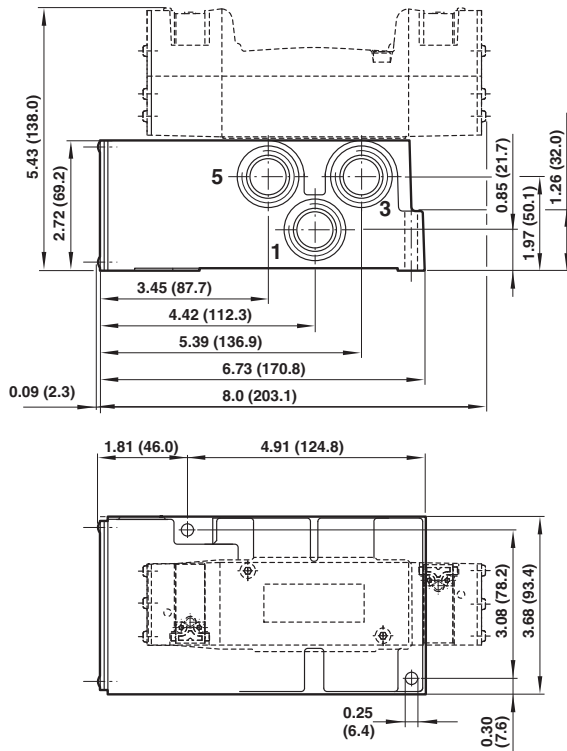
Valve Manifolds VS45 Series

Size 45

Single subbase, individually wired



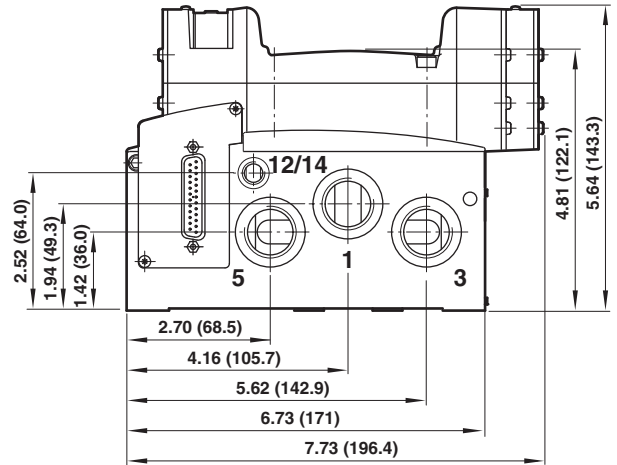
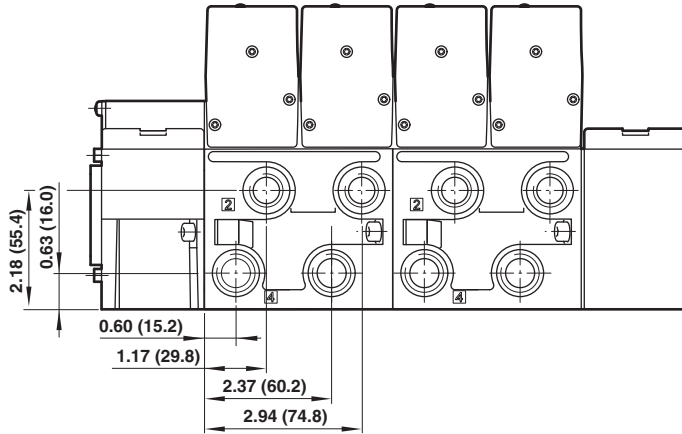
Single subbase, air pilot



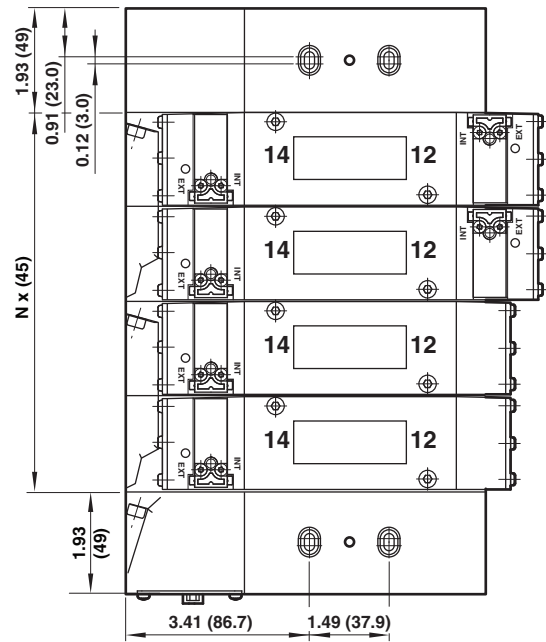
Valve Manifolds VS45 Series

Size 45 mm

Multipole and fieldbus valve manifold dimensions



Electrical connection	Min. no of valve stations	Max. no. of valve stations
Multipole	2	16
Other Fieldbus protocols	4	16

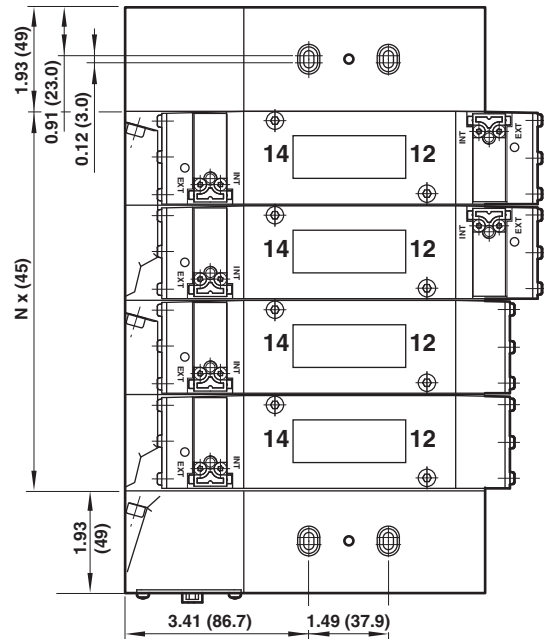
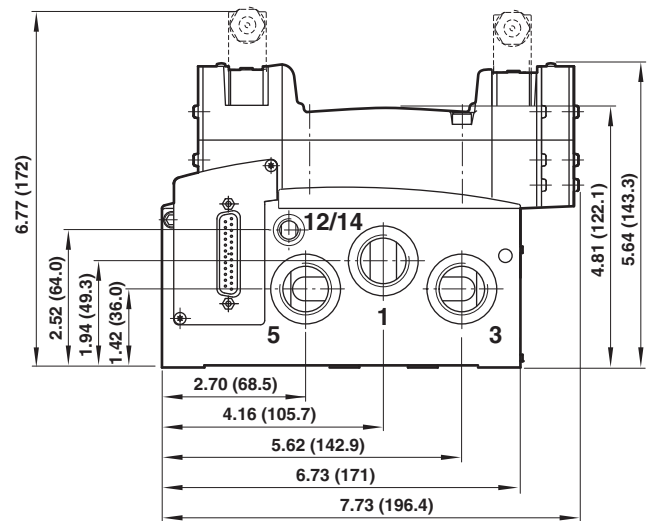
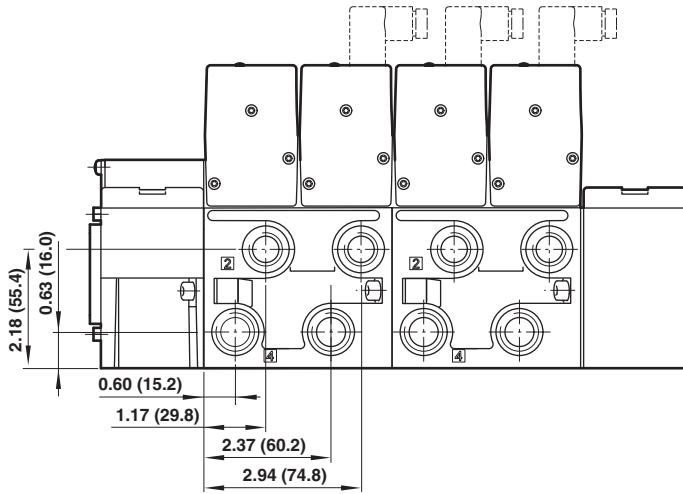


N Number of station

Valve Manifolds VS45 Series

Size 45 mm

Individually wired or air pilot valve manifold dimensions



N Number of station

Electrical connection	Min. no of valve stations	Max. no. of valve stations
Non-plugin	2	16

Valve Manifolds VS45 Series

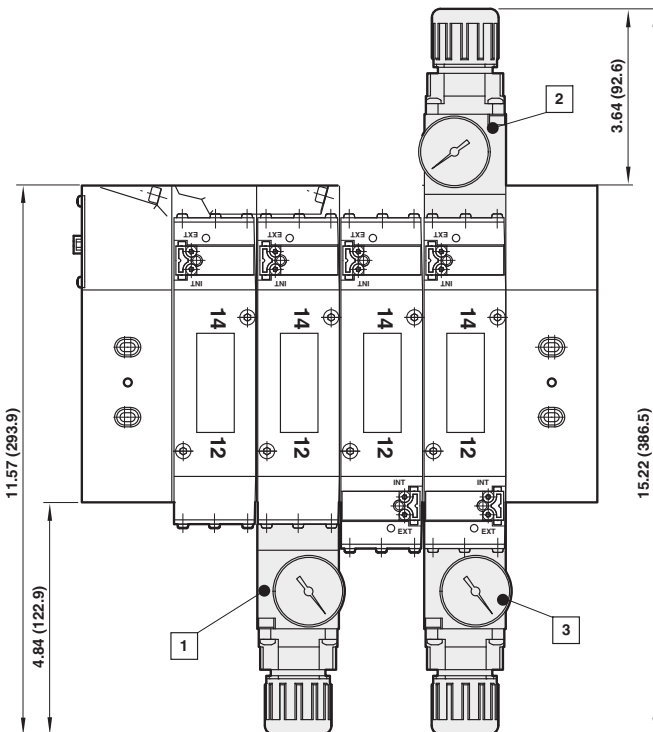
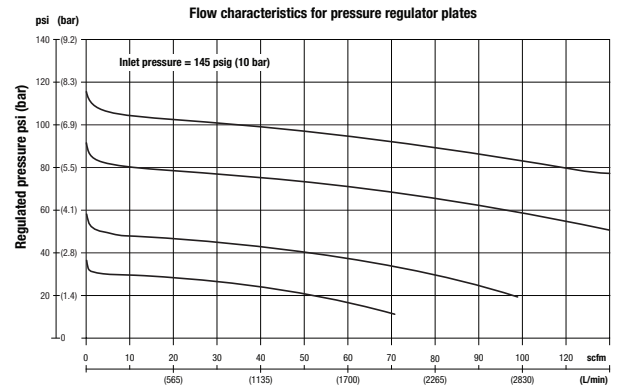
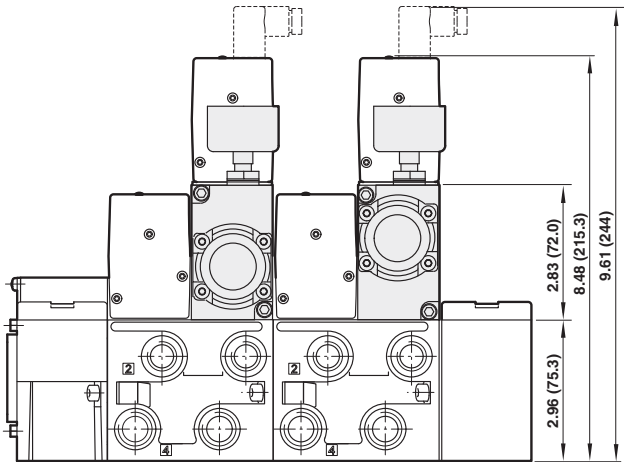
Size 45 mm

Pressure regulator sandwich plates

Symbol	Model	Description
	VS4540410-KG10	Regulation of port 1, regulator on side 12

NOTE: Sandwich regulator rated to 150 psi inlet.

Symbol	Model	Description
	VS4540410-KG40	Regulation of port 2+4



Inlet pressure

- 1 Regulation of port 1
- 2 Regulation of port 2+4
- 3 Gauge

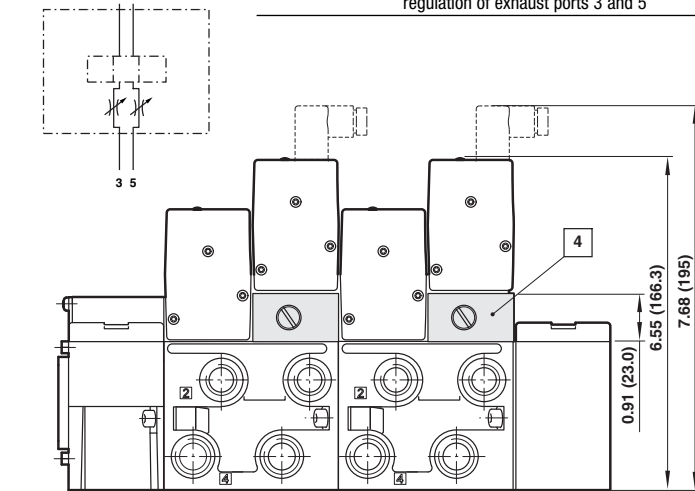
Gauge part number = 18-013-212

Valve Manifolds VS45 Series

Size 45 mm

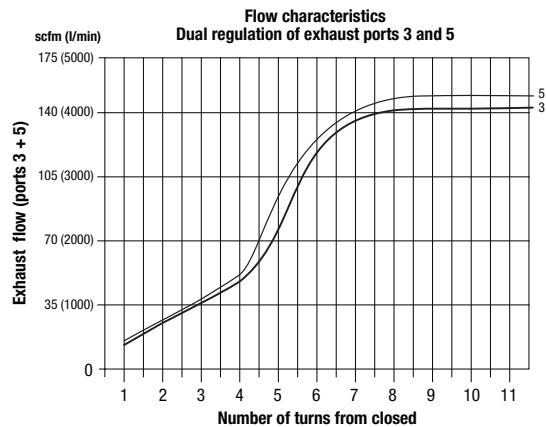
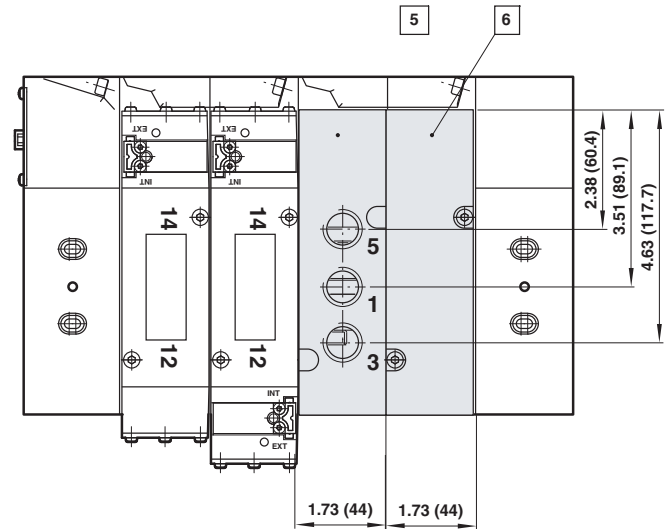
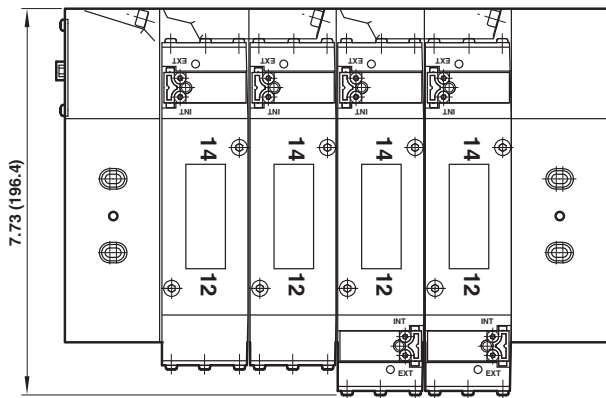
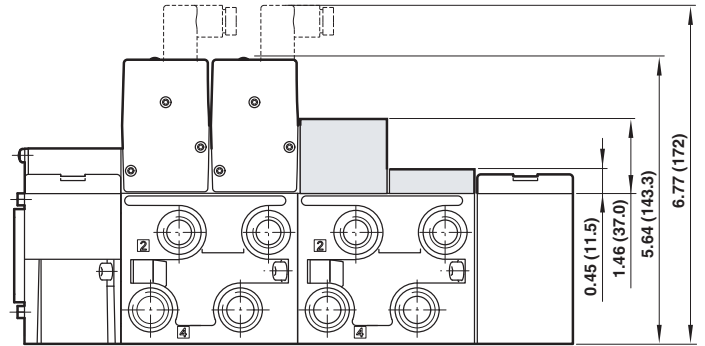
Flow control sandwich plate

Symbol	Model	Description
	VS4540408-KG00	Flow control supplied with gasket, dual regulation of exhaust ports 3 and 5



Base accessories

Model	Description
VS4540416-RG00	Intermediate supply/exhaust module, port size NPTF 1/2
VS4540416-BG00	Intermediate supply/exhaust module, port size G1/2
VS4540415-KG00	Blanking plate for blocking of unused station (supplied with gasket)



Flow: port 1-2 and 1-4: remains unchanged.
Flow measured at 87 psi (6 bar) inlet,
pressure drop 14.5 psi (1 bar)

- 4** Flow control plate
- 5** Intermediate supply/exhaust module
- 6** Blanking plate

Valve Manifolds VS45 Series

Size 45 mm

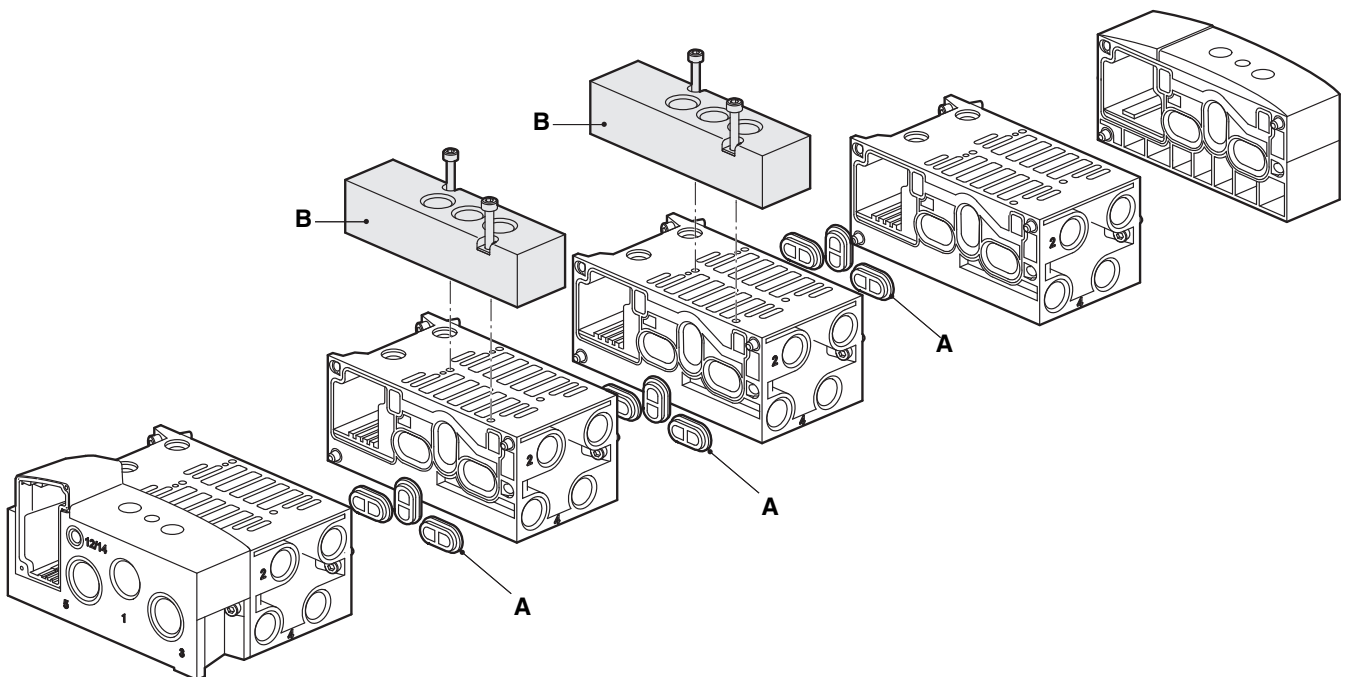
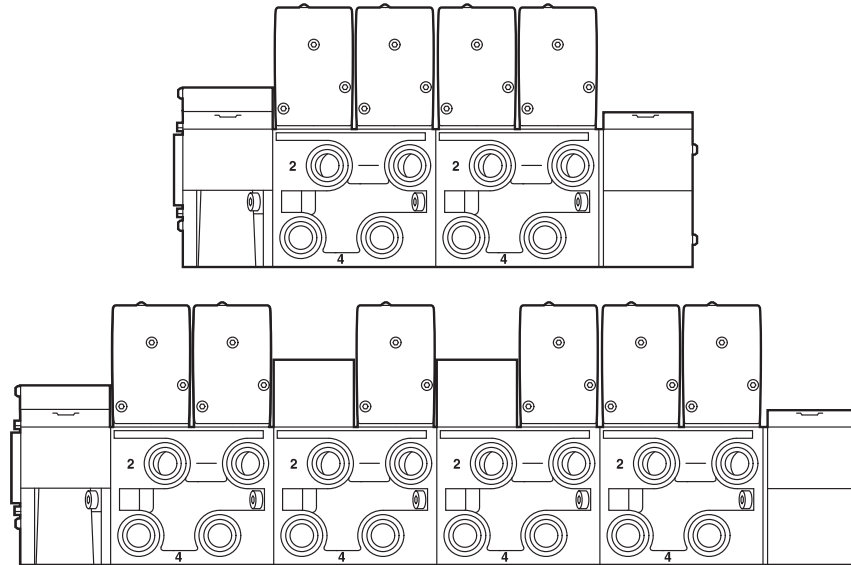
Multi pressure configurations

A

Blanking disc	Type
V40414-K00	Suitable for ports 1, 3 or 5

B

Intermediate supply/exhaust module	Type
VS4540416-RG00	NPTF1/4
VS4540416-BG00	G1/4



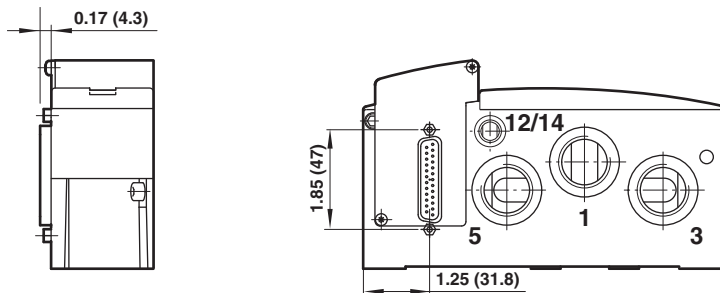
Valve Manifolds VS45 Series

Size 45 mm

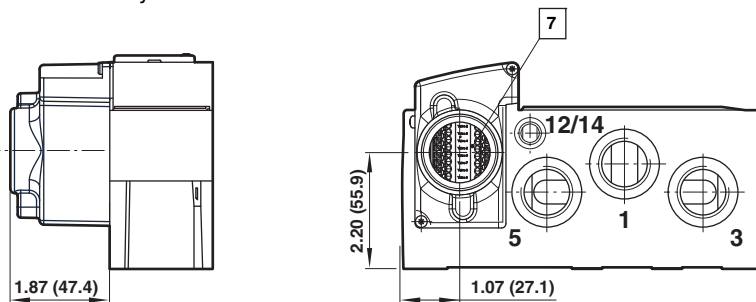
Multipole options

Connector type	Voltage	No. of stations	Max. no. coils
D-Sub 25-pin	24V DC	02/03/04/05/06/07/08/09/10/11/12	24
D-Sub 44-pin	24V DC	10/11/12/13/14/15/16	32
NPTF1 Conduit entry with terminals	115V AC, 24V DC	02/03/04/05/06/07/08/09/10/11/12	24
Non-plug-in	115V AC, 24V DC	2 to 16	32

D-Sub 25-pin / 44-pin

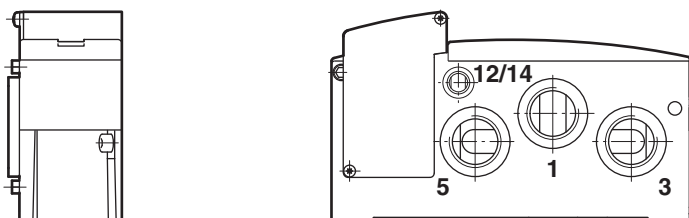


NPTF1 Conduit entry with terminals



7 Max. wire size AWG18

Non plug-in



Valve Manifolds VS45 Series

Size 45 mm

D-Sub connector 44-pin

Pin no.	Wire color	Socket	Pilot	Station
1	white	Solenoid 1-a	14	1
2	brown	Solenoid 2-a	14	2
3	green	Solenoid 3-a	14	3
4	yellow	Solenoid 4-a	14	4
5	grey	Solenoid 5-a	14	5
6	pink	Solenoid 6-a	14	6
7	blue	Solenoid 7-a	14	7
8	red	Solenoid 8-a	14	8
9	black	Solenoid 9-a	14	9
10	violet	Solenoid 10-a	14	10
11	grey/pink	Solenoid 11-a	14	11
12	red/blue	Solenoid 12-a	14	12
13	white/green	Solenoid 13-a	14	13
14	brown/green	Solenoid 14-a	14	14
15	white/yellow	Solenoid 15-a	14	15
16	yellow/brown	Solenoid 1-b	12	1
17	white/grey	Solenoid 2-b	12	2
18	grey/brown	Solenoid 3-b	12	3
19	white/pink	Solenoid 4-b	12	4
20	pink/brown	Solenoid 5-b	12	5
21	white/blue	Solenoid 6-b	12	6
22	brown/blue	Solenoid 7-b	12	7
23	white/red	Solenoid 8-b	12	8
24	brown/red	Solenoid 9-b	12	9
25	white/black	Solenoid 10-b	12	10
26	brown/black	Solenoid 11-b	12	11
27	grey/green	Solenoid 12-b	12	12
28	yellow/grey	Solenoid 13-b	12	13
29	pink/green	Solenoid 14-b	12	14
30	yellow/pink	Solenoid 15-b	12	15
31	green/blue	Solenoid 16-a	14	16
32	yellow/blue	Solenoid 16-b	12	16
33	-	not used	-	-
34	-	not used	-	-
35	-	not used	-	-
36	-	not used	-	-
37	-	not used	-	-
38	-	not used	-	-
39	-	not used	-	-
40	-	not used	-	-
41	-	not used	-	-
42	-	not used	-	-
43	green/black	Common	-	-
44	yellow/black	Common	-	-

Multipole accessories

D-Sub connector 25-pin IP65 ¹⁾ D-Sub connector 44-pin IP65 ¹⁾



V11569-E01	3' (1m)	V11570-E01	3' (1m)
V11569-E03	10' (3m)	V11570-E03	10' (3m)
V11569-E05	16' (5m)	V11570-E05	16' (5m)

¹⁾ Required for ATEX

D-Sub connector 25-pin^{A)}

Pin no.	Wire color	Socket	Pilot	Station
1	White	Solenoid 1-a	14	1
2	Brown	Solenoid 2-a	14	2
3	Green	Solenoid 3-a	14	3
4	Yellow	Solenoid 4-a	14	4
5	Grey	Solenoid 5-a	14	5
6	Pink	Solenoid 6-a	14	6
7	Blue	Solenoid 7-a	14	7
8	Red	Solenoid 8-a	14	8
9	Black	Solenoid 9-a	14	9
10	Violet	Solenoid 10-a	14	10
11	Grey/Pink	Solenoid 11-a	14	11
12	Red/Blue	Solenoid 12-a	14	12
13	White/Green	Common	-	-
14	Brown/Green	Solenoid 1-b	12	1
15	White/Yellow	Solenoid 2-b	12	2
16	Yellow/Brown	Solenoid 3-b	12	3
17	White/Grey	Solenoid 4-b	12	4
18	Grey/Brown	Solenoid 5-b	12	5
19	White/Pink	Solenoid 6-b	12	6
20	Pink/Brown	Solenoid 7-b	12	7
21	White/Blue	Solenoid 8-b	12	8
22	Brown/Blue	Solenoid 9-b	12	9
23	White/Red	Solenoid 10-b	12	10
24	Brown/Red	Solenoid 11-b	12	11
25	White/Black	Solenoid 12-b	12	12

^{A)} According to DIN 47100

NPTF1 Conduit entry with terminals ²⁾

Clamp no.	Socket	Pilot	Station
C1	Solenoid 1-a	14	1
C2	Solenoid 2-a	14	2
C3	Solenoid 3-a	14	3
C4	Solenoid 4-a	14	4
C5	Solenoid 5-a	14	5
C6	Solenoid 6-a	14	6
C7	Solenoid 7-a	14	7
C8	Solenoid 8-a	14	8
C9	Solenoid 9-a	14	9
C10	Solenoid 10-a	14	10
C11	Solenoid 11-a	14	11
C12	Solenoid 12-a	14	12
C13	Solenoid 1-b	12	1
C14	Solenoid 2-b	12	2
C15	Solenoid 3-b	12	3
C16	Solenoid 4-b	12	4
C17	Solenoid 5-b	12	5
C18	Solenoid 6-b	12	6
C19	Solenoid 7-b	12	7
C20	Solenoid 8-b	12	8
C21	Solenoid 9-b	12	9
C22	Solenoid 10-b	12	10
C23	Solenoid 11-b	12	11
C24	Solenoid 12-b	12	12
C25	Common	-	-
C26	Common	-	-
C27	Earth	-	-
C28	Earth	-	-

²⁾ Max. wire size AWG18

Valve Manifolds VS45 Series

Size 45 mm

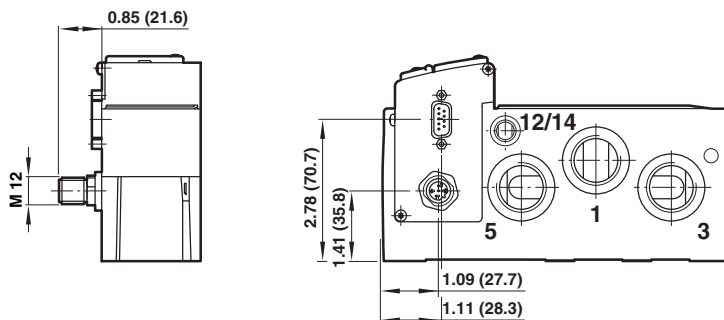
Fieldbus options: Overview

Fieldbus protocol	Fieldbus interface/connector	Supply voltage connector (Fieldbus and valves)	No. of stations	Max. no coils
Profibus DP	1 x D-Sub 9-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12 5-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12 5-pin	7/8 5-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
DeviceNet	1 x M12 5-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
CANopen	1 x M12 5-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32

For parts and assembly instructions of Fieldbus components, consult our technical service.

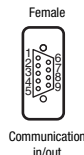
Fieldbus protocol: Profibus DP

Connector: 1 x D-Sub 9-pin / M12 4-pin



Bus connector: D-Sub 9-pin

Pin no.	Function
1	Shield
2	N/C
3	B-line (red) Rx/D / Tx/D-P
4	N/C
5	DGND (OVI) isolated
6	VP (5V) isolated
7	N/C
8	A-line (green) Rx/D / Tx/D-N
9	N/C

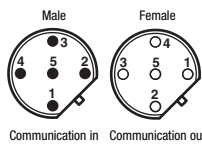
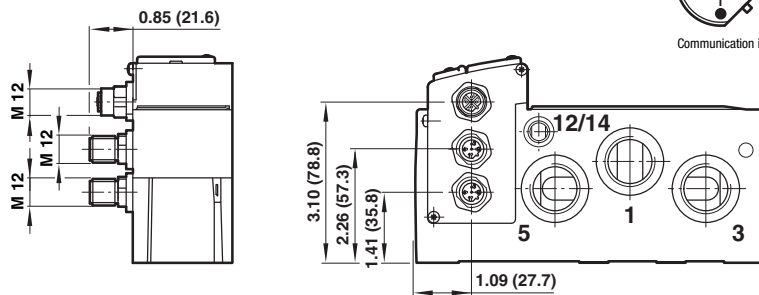


Power connector: M12 4-pin

Pin no.	Function	Tolerance	Max. current
1	24 VB logic circuit supply	+/-25%	300 mA
2	24 VA valves	+/-10%	1)
3	0 volts	-	2)
4	Earth	-	-



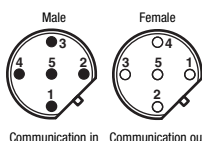
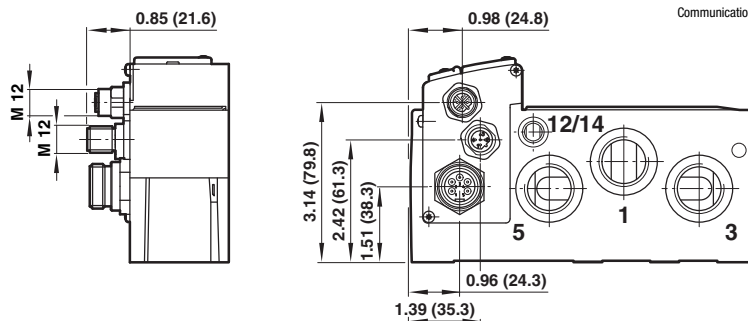
Connector: 2 x M12 5-pin / M12 4-pin



Bus connector: M12 5-pin (B-coded)

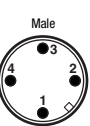
Pin no.	Function
1	5VI opto isolated
2	A-line (green)
3	OVI isolated
4	B-line (red)
5	Shield
Threaded joint	Shield

Connector: 2 x M12 5-pin / 7/8 5-pin



Power connector: M12 4-pin

Pin no.	Function	Tolerance	Max. current
1	24 VB logic circuit supply	+/-25%	300 mA
2	24 VA valves	+/-10%	1)
3	0 volts	-	2)
4	Earth	-	-

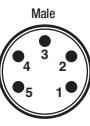


Bus connector: M12 5-pin (B-coded)

Pin no.	Function
1	5VI isolated
2	A-line (green)
3	OVI isolated
4	B-line (red)
5	Shield
Threaded joint	Shield

Power connector: 7/8 5-pin

Pin no.	Function	Tolerance	Max. current
1	-	-	-
2	0 volts	-	2)
3	Earth	-	-
4	24 VA valves	+/-10%	1)
5	24 VB logic circuit supply	+/-25%	300 mA



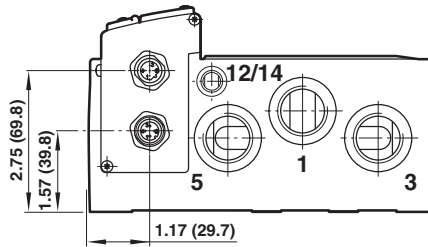
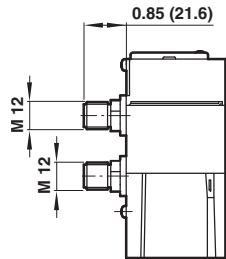
1) $I_{max} = 10 \text{ mA} + n \cdot 60 \text{ mA}$
 $n = \text{number of energized solenoids}$
 2) $I_{max} = I_{VA} + I_{VB}$

Valve Manifolds VS45 Series

Size 45 mm

Fieldbus protocol: DeviceNet

Connector: 1 x M12 5-pin / M12 4-pin



Bus connector: M12 5-pin (A-coded)

Pin no.	Function
1	Drain
2	V+ ³⁾
3	V- ³⁾
4	CAN_H
5	CAN_L

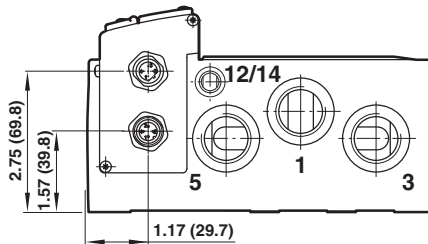
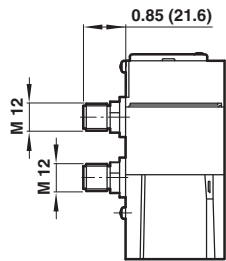


Power connector: M12 4-pin

Pin no.	Function	Tolerance	Max. current
1	24 VB logic circuit supply	+/-25%	300 mA
2	24 VA valves	+/-10%	1)
3	0 volts	-	2)
4	Earth	-	-

Fieldbus protocol: CANopen

Connector: 1 x M12 5-pin / M12 4-pin



Bus connector: M12 5-pin (A-coded)

Pin no.	Function
1	Drain
2	V+ ³⁾
3	V- ³⁾
4	CAN_H
5	CAN_L



Power connector: M12 4-pin

Pin no.	Function	Tolerance	Max. current
1	24 VB logic circuit supply	+/-25%	300 mA
2	24 VA valves	+/-10%	1)
3	0 volts	-	2)
4	Earth	-	-

1) $I_{max} = 10 \text{ mA} + n \cdot 60 \text{ mA}$

n = number of energized solenoids








2) $I_{max} = I_{VA} + I_{VB}$

3) Must be galvanic isolated to 24 VA valves.

Valve Manifolds VS45 Series

Size 45 mm

Fieldbus accessories

Symbol	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female)	M12	Wireable	IP65 Required for ATEX
	FD6760R5S75010	Profibus DP (5-pin, female)	7/8	Wireable	IP67 when plugged and screwed down DIN VDE 0470 Required for ATEX
Communication cable and connector					
	FD6710H5S75S10	DeviceNet (5-pin, female) CANopen (5-pin, female)	M12	Wireable	IP67 when plugged and screwed down DIN VDE 0470 Required for ATEX
	FD6710D5S75S10	DeviceNet (5-pin, male) CANopen (5-pin, female)	M12	Wireable	IP67 when plugged and screwed down DIN VDE 0470 Required for ATEX
	FD6710G5S75S10	Profibus DP, reverse keyway (5-pin, female)	M12	Wireable	IP67 when plugged and screwed down DIN VDE 0470 Required for ATEX
	V11591-E01	Profibus DP, reverse keyway (5-pin, male)	M12	Wireable	IP67 when plugged and screwed down DIN VDE 0470 Required for ATEX
	V11654-E01	Profibus DP connector (9-pin, male) with terminating resistor	D-Sub	Wireable	IP40

Valve Manifolds VS45 Series

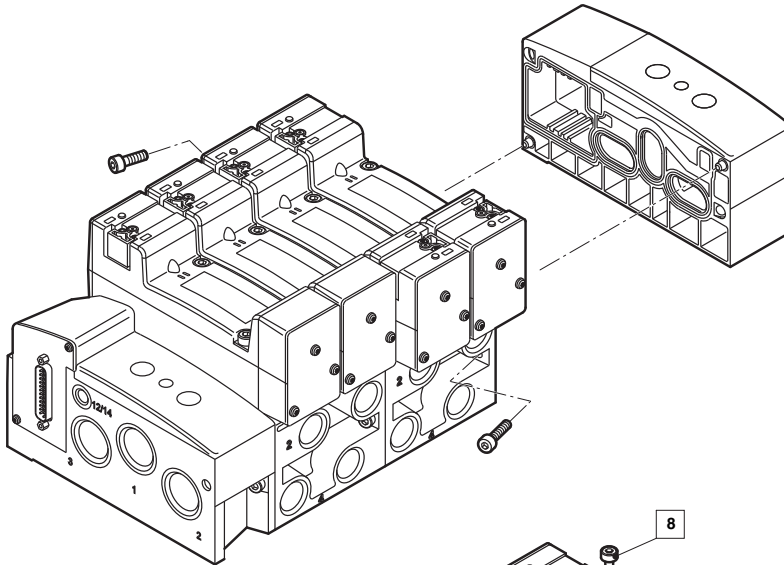
Size 45 mm

A – Single add-on stations

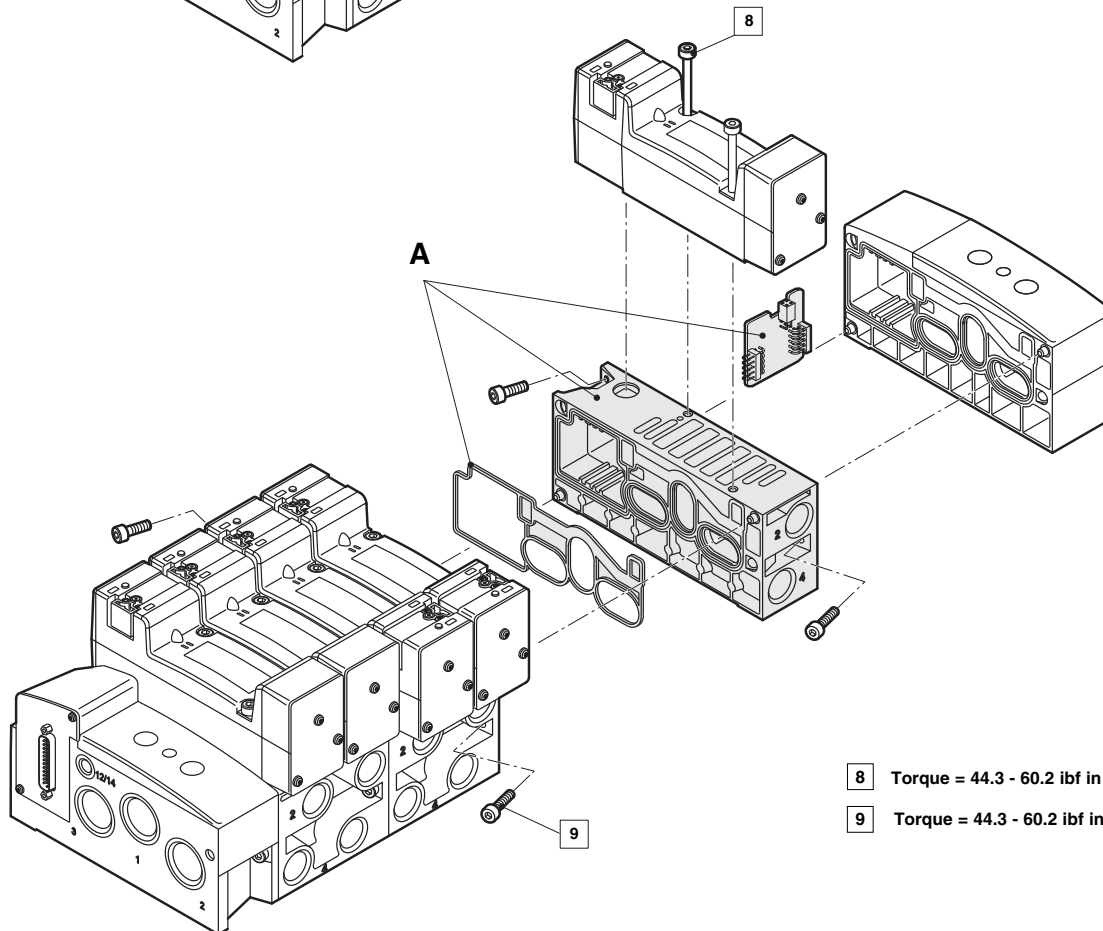
including PCB, sub-base, gasket and screws

Model	Description	Port 2 & 4
VS4540400-SGC1	Add-on station for D-Sub connectors and Fieldbus	3/8" NPTF
VS4540400-TGC1	Add-on station for D-Sub connectors and Fieldbus	1/2" NPTF
VS4540400-CGC1	Add-on station for D-Sub connectors and Fieldbus	3/8" ISO G
VS4540400-DGC1	Add-on station for D-Sub connectors and Fieldbus	1/2" ISO G

Step 1



Step 2



8 Torque = 44.3 - 60.2 lbf in (5.0 - 6.8 Nm)

9 Torque = 44.3 - 60.2 lbf in (5.0 - 6.8 Nm)

For detailed assembly instructions, please see maintenance & instruction booklet!

Valve Manifolds VS45 Series

Size 45 mm Sub-bases and end plates (without PCB's)

Includes screws and gaskets

A – End plate kit

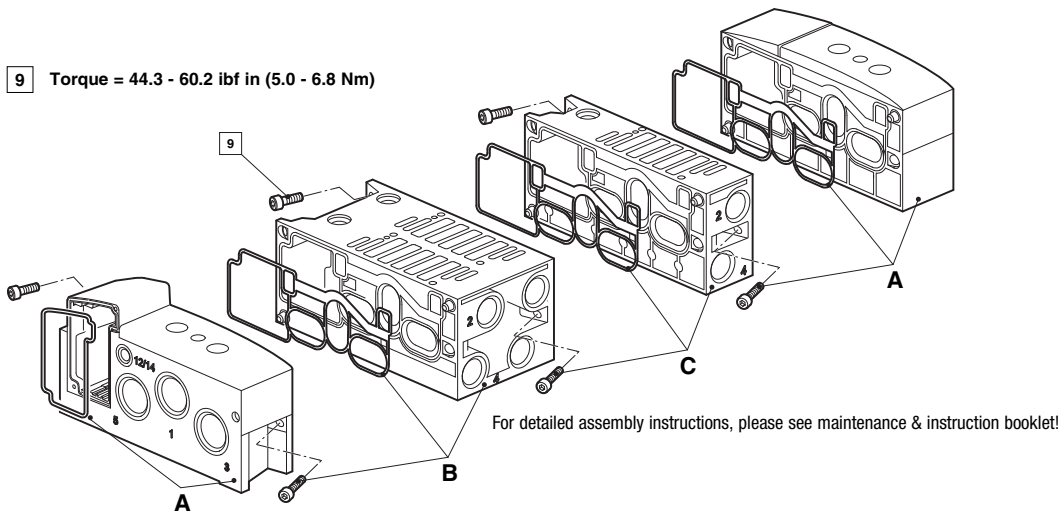
Model	Description	Ports 1, 3 & 5	Ports 12/14 & 82/84
VS4540403-UGCO	End plate kit for Multipole	3/4 NPT	1/8
VS4540403-EGCO	End plate kit for Multipole	G 3/4	1/8
VS4540403-UGC1	End plate kit for Fieldbus	3/4 NPT	1/8
VS4540403-EGC1	End plate kit for Fieldbus	G 3/4	1/8

B – Double station modular sub-base

Model	Ports 2 & 4
VS4540401-SGCO	3/8" NPTF
VS4540401-TGCO	1/2" NPTF
VS4540401-CGCO	3/8" ISO G
VS4540401-DGCO	1/2" ISO G

C – Single station modular sub-base

Model	Ports 2 & 4
VS4540400-SGCO	3/8" NPTF
VS4540400-TGCO	1/2" NPTF
VS4540400-CGCO	3/8" ISO G
VS4540400-DGCO	1/2" ISO G



Multipole components

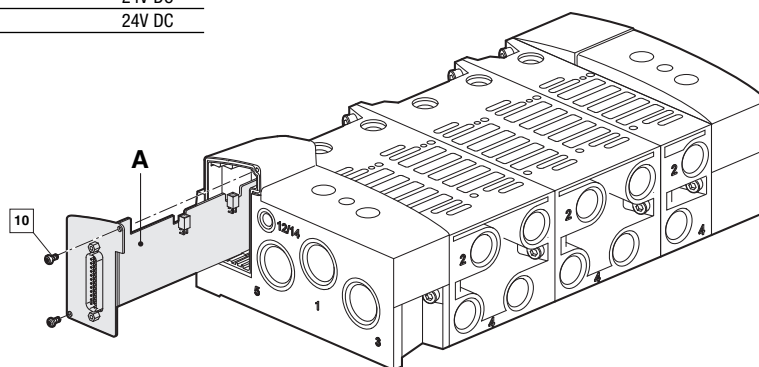
A – Output boards with D-Sub connectors

Model	Connector type	Description	Expandable to max x no. of stations ¹⁾	Voltage
VS4540550-KG00	D-Sub 25-pin	Multipole PCB 2 stations	6	24V DC
VS4540550-KG01	D-Sub 25-pin	Multipole PCB 4 stations	8	24V DC
VS4540550-KG02	D-Sub 25-pin	Multipole PCB 6 stations	10	24V DC
VS4540550-KG03	D-Sub 25-pin	Multipole PCB 8 stations	12	24V DC
VS4540550-KG04	D-Sub 44-pin	Multipole PCB 10 stations	14	24V DC
VS4540550-KG05	D-Sub 44-pin	Multipole PCB 12 stations	16	24V DC

¹⁾ By using below expansion output boards.

Expansion output boards for D-Sub connectors

Model	Description	Voltage
VS4540553-KG00	Multipole PCB 1 station	24V DC
VS4540553-KG01	Multipole PCB 2 stations	24V DC



Valve Manifolds VS45 Series

Size 45 mm

Multipole components

A - Connector kit for conduit entry

Model	Description	Voltage
VS4540440-KG00	E-Connector-kit NPTF1 Conduit entry	115V AC, 24V DC

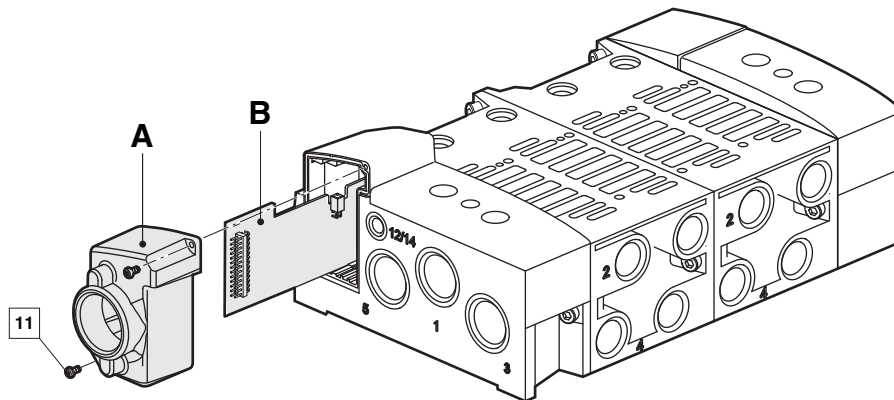
NOTE: The 1" conduit output boards used on the VS45 incorporate integrated power rectification and regulation from 115Vac to 24Vdc on the output boards. The 115Vac voltage being supplied to the 1" conduit is converted to a 24Vdc signal to the valves on the manifold. Therefore, even though the manifold is wired for AC, the valves used on the manifold are

B - Output boards for conduit entry

Part Number	Connector Type	Description	Expandable to max. no. of stations 1)	Voltage
VS4540551-KG00	1" Conduit entry	Multipole PCB 2 stations	6	110/120Vac
VS4540551-KG01	1" Conduit entry	Multipole PCB 4 stations	8	110/120Vac
VS4540551-KG02	1" Conduit entry	Multipole PCB 6 stations	10	110/120Vac
VS4540551-KG03	1" Conduit entry	Multipole PCB 8 stations	12	110/120Vac
VS4540556-KG00	1" Conduit entry	Multipole PCB 2 stations	6	24Vdc
VS4540556-KG01	1" Conduit entry	Multipole PCB 4 stations	8	24Vdc
VS4540556-KG02	1" Conduit entry	Multipole PCB 6 stations	10	24Vdc
VS4540556-KG03	1" Conduit entry	Multipole PCB 8 stations	12	24Vdc

Expansion output boards

Model	Description	Voltage
VS4540553-KG00	Multipole PCB 1 station	24V DC
VS4540553-KG01	Multipole PCB 2 stations	24V DC



11 Torque = 7.1 - 8.0 lbf in (0.8 - 0.9 Nm)

For detailed assembly instructions, please see maintenance & instruction booklet!

Valve Manifolds VS45 Series

Size 45 mm Non-plugin

Sub-bases and end plates (without PCB's)

includes screws and gaskets

A – End plate kit

Model	Description	Ports 1, 3 & 5	Ports 12/14 & 82/84
VS4540403-UGCO	End plate kit	3/4 NPT	1/8
VS4540403-EGCO	End plate kit	G 3/4	1/8

C – Single station modular sub-base

Model	Ports 2 & 4
VS4540400-SGCO	3/8" NPTF
VS4540400-TGCO	1/2" NPTF
VS4540400-CGCO	3/8" ISO G
VS4540400-DGCO	1/2" ISO G

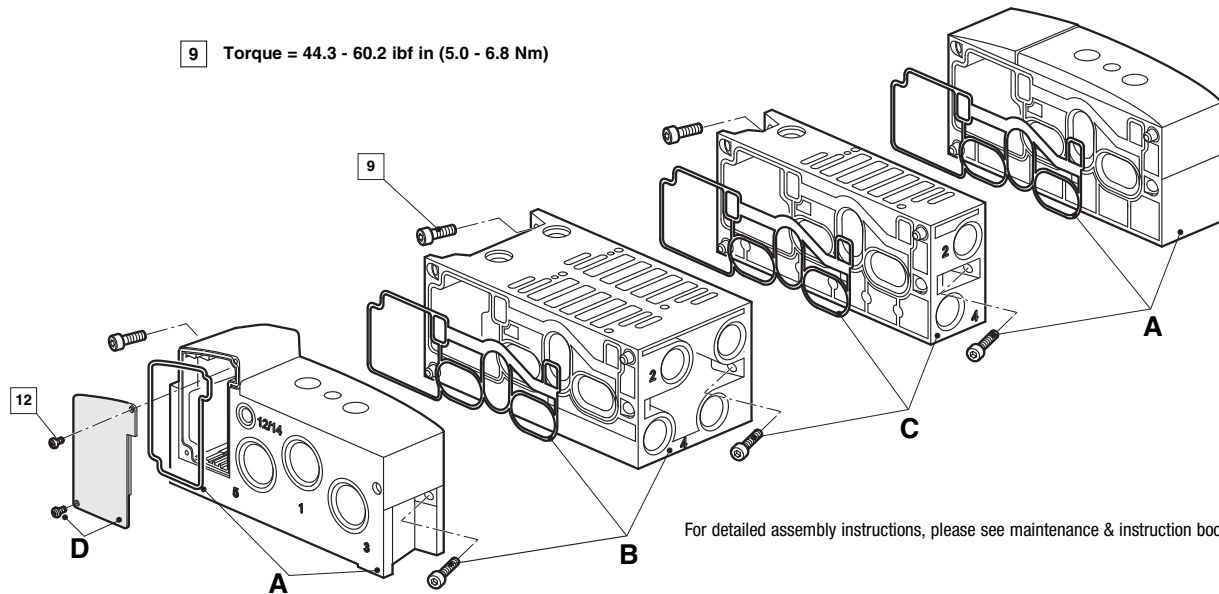
B – Double station modular sub-base

Model	Ports 2 & 4
VS4540401-SGCO	3/8" NPTF
VS4540401-TGCO	1/2" NPTF
VS4540401-CGCO	3/8" ISO G
VS4540401-DGCO	1/2" ISO G

D – Wireway cover

Model	Description
VS4540442-KG00	Cover plate

9 Torque = 44.3 - 60.2 ibf in (5.0 - 6.8 Nm)



For detailed assembly instructions, please see maintenance & instruction booklet!

12 Torque = 7.1 - 8.0 ibf in (0.8 - 0.9 Nm)