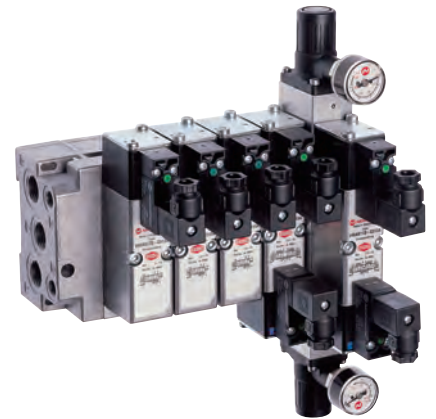


V44/V45, 2 x 3/2, 5/2 & 5/3 Mini ISO Valves

- 2 x 3/2, 5/2 and 5/3 valves, ISO 15407-1/VDMA 24 563, Size 26 mm
- Solenoid and pilot actuated
- High performance, compact design
- Flexible sub-base system
- Multipressure system capability
- Dual spool technology:
 - V44 Glandless spool and sleeve (long life)
 - V45 Softseal spool (high flow)
- Collected pilot exhaust with internal pilot air supply
- Easy to convert from internal to external pilot supply
- Valve exchange under pressure



Technical features

Medium:

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

Operation:

V44: Glandless spool valve, solenoid pilot or air pilot actuated
V45: Softseal spool valve, solenoid pilot or air pilot actuated

Flow:

V45 Softseal:				
Function	l/min	Cv	Kv	
2x3/2 NC	1100	1,12	0,96	
2X3/2 NO	1000	0,98	0,87	
5/2	1200	1,22	1,05	
5/3	1150	1,17	1,00	
V44 Glandless:				
Function	l/min	Cv	Kv	
5/2	900	0,92	0,79	
5/3	900	0,92	0,79	

Mounting:

Sub-base

Operating pressure:

See tables for individual details

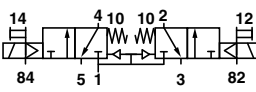
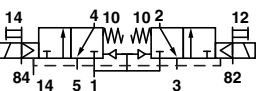
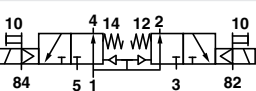
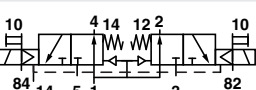
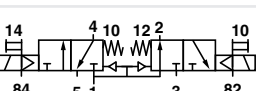
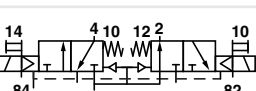
Media/Ambient temperature:

-15 ... +50°C (+5 ... 122°F)
V44/V45 solenoid and V45 air pilot models
-15 ... +80°C (+5 ... 176°F)
V44 air pilot models
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

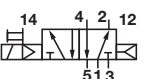

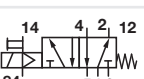
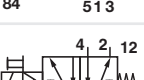
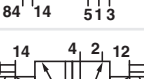
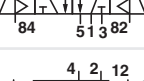
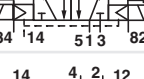
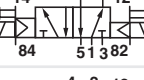

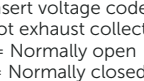


Materials:

Body: die-cast aluminium
Sub-bases: aluminium alloy
Spool and sleeve: hard anodized, Teflon coated, matched aluminium
(V44); aluminium alloy spool with HNBR Seals (V45)
Plastic parts: POM
Static seals: NBR
End cover and screws: zinc plated
Springs: stainless steel

2 x 3/2 Solenoid pilot actuated softseal valves

Symbol	Function 2 x 3/2	Actuation/return	Pilot supply	Pilot exhaust	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)	Model
	NC	Solenoid/Spring	Internal	Collected #	3 ... 10	-	1000	V45AA11D-*1)
	NC	Solenoid/Spring	External	Not collected	0 ... 10	1,5 + (0,35 x operating pressure)	1000	V45AA22D-*1)
	NO	Solenoid/Spring	Internal	Collected #	3 ... 10	-	1000	V45AB11D-*1)
	NO	Solenoid/Spring	External	Not collected	0 ... 10	1,5 + (0,35 x operating pressure)	1000	V45AB22D-*1)
	NO/NC	Solenoid/Spring	Internal	Collected #	3 ... 10	-	1000/1100	V45AC11D-*1)
	NO/NC	Solenoid/Spring	External	Not collected	0 ... 10	1,5 + (0,35 x operating pressure)	1000/1100	V45AC22D-*1)

5/2 Solenoid pilot actuated glandless and softseal valves

Symbol	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)	Model
	Internal	Collected #	Solenoid	Air spring	1 ... 10	-	Glandless	900	V44A513D-*1)
	External	Not collected	Solenoid	Air spring	-0,9 ... 16	1 ... 10	Glandless	900	V44A523D-*1)
	Internal	Collected #	Solenoid	Spring	1,6 ... 10	-	Glandless	900	V44A517D-*1)
	Internal	Collected #	Solenoid	Spring	2 ... 10	-	Softseal	1200	V45A517D-*1)
	External	Not collected	Solenoid	Spring	-0,9 ... 16	1,6 ... 10	Glandless	900	V44A527D-*1)
	External	Not collected	Solenoid	Spring	-0,9 ... 10	2 ... 10	Softseal	1200	V45A527D-*1)
	Internal	Collected #	Solenoid	Solenoid	2 ... 10	-	Glandless	900	V44A511D-*1)
	Internal	Collected #	Solenoid	Solenoid	2 ... 10	-	Softseal	1200	V45A511D-*1)
	External	Not collected	Solenoid	Solenoid	-0,9 ... 16	2 ... 10	Glandless	900	V44A522D-*1)
	External	Not collected	Solenoid	Solenoid	-0,9 ... 10	2 ... 10	Softseal	1200	V45A522D-*1)
	Internal	Collected #	Solenoid (priority)	Solenoid	2 ... 10	-	Glandless	900	V44A591D-*1)
	External	Not collected	Solenoid (priority)	Solenoid	-0,9 ... 16	2 ... 10	Glandless	900	V44A592D-*1)

*1) Insert voltage code from tables on page 3

Pilot exhaust collected and exhausted via port 14

NO = Normally open

NC = Normally closed

5/3 Solenoid pilot actuated glandless and softseal valves

Symbol	Function	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)	Model
	APB	Internal	Collected #	Solenoid	Solenoid	2 ... 10	-	Glandless	900	V44A611D-*2)
	APB	Internal	Collected #	Solenoid	Solenoid	2,5 ... 10	-	Softseal	1150	V45A611D-*2)
	APB	External	Not collected	Solenoid	Solenoid	-0,9 ... 16	2 ... 10	Glandless	900	V44A622D-*2)
	APB	External	Not collected	Solenoid	Solenoid	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A622D-*2)
	COE	Internal	Collected #	Solenoid	Solenoid	2 ... 10	-	Glandless	900	V44A711D-*2)
	COE	Internal	Collected #	Solenoid	Solenoid	2,5 ... 10	-	Softseal	1150	V45A711D-*2)
	COE	External	Not collected	Solenoid	Solenoid	-0,9 ... 16	2 ... 10	Glandless	900	V44A722D-*2)
	COE	External	Not collected	Solenoid	Solenoid	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A722D-*2)
	COP	Internal	Collected #	Solenoid	Solenoid	2 ... 10	-	Glandless	900	V44A811D-*2)
	COP	Internal	Collected #	Solenoid	Solenoid	2,5 ... 10	-	Softseal	1150	V45A811D-*2)
	COP	External	Not collected	Solenoid	Solenoid	-0,9 ... 16	2 ... 10	Glandless	900	V44A822D-*2)
	COP	External	Not collected	Solenoid	Solenoid	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A822D-*2)

*2) Insert voltage code from tables below
 # Pilot exhaust collected and exhausted via port 14
 APB = All Ports Blocked
 COE = Centre Open Exhaust
 COP = Centre open pressure

Electrical details for solenoid operators

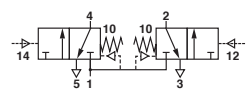
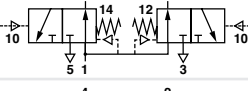

Voltage tolerances	-10%/+15%
Rating	100 % Continuous duty
Inlet orifice	0,8 mm
Electrical connection	15 mm DIN EN 175301-803 (DIN 43 650) Table C
Manual override	Shrouded push button, spring return Convertible into lockable type with set-up kit, part no. V70532-K00 (see next page)
Protection class	IP 65 with sealed plug (ISO 6952) NEMA 4
Materials	PPS (body), FPM and NBR (seal)

Voltage codes & spare pilots

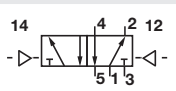
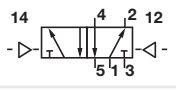
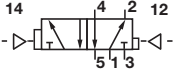
Voltage	Coil code	Current	Spare pilot valve
12 V d.c.	C312A	1 W	VZC7L2C1-C312A
24 V d.c.	C313A	1,2 W	VZC7L2C1-C313A
24 V 50/60 Hz.	C314A	2,1/1,5 VA	VZC7L2C1-C314A
48 V 50/60 Hz	C316A	2,1/1,5 VA	VZC7L2C1-C316A
110 V d.c.	C317A	1 W	VZC7L2C1-C317A
115 V 50/60 Hz	C318A	2,1/1,5 VA	VZC7L2C1-C318A
230 V 50/60 Hz	C319A	2,1/1,5 VA	VZC7L2C1-C319A

Other voltages available on request. Spare pilot valves are delivered with mounting screws.

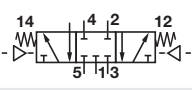
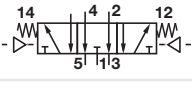
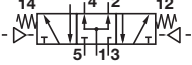
2 x 3/2 Air pilot actuated softseal valves

Symbol	Function 2 x 3/2	Actuation/return 2 x 3/2	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)	Model
	NC	Air/Spring	0 ... 10	1,7 + (0,35 x operating pressure)	Softseal	1100	V45AA33A-X0020
	NO	Air/Spring	0 ... 10	1,7 + (0,35 x operating pressure)	Softseal	1000	V45AB33A-X0020
	NO/NC	Air/Spring	0 ... 10	1,7 + (0,35 x operating pressure)	Softseal	1000/1100	V45AC33A-X0020

5/2 Air pilot actuated glandless and softseal valves

Symbol	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)	Model
	Air	Spring	-0,9 ... 16	1,6 ... 16	Glandless	900	V44A537A-X0090
	Air	Spring	-0,9 ... 10	2 ... 10	Softseal	1200	V45A537A-X0090
	Air	Air	-0,9 ... 16	2 ... 16	Glandless	900	V44A533A-X0020
	Air	Air	-0,9 ... 10	2 ... 10	Softseal	1200	V45A533A-X0020
	Air (priority)	Air	-0,9 ... 16	2 ... 16	Glandless	900	V44A533A-X0070

5/3 Air pilot actuated glandless and softseal valves

Symbol	Function	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)	Model
	APB	Air	Air	-0,9 ... 16	2 ... 16	Glandless	900	V44A633A-X0020
	APB	Air	Air	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A633A-X0020
	COE	Air	Air	-0,9 ... 16	2 ... 16	Glandless	900	V44A733A-X0020
	COE	Air	Air	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A733A-X0020
	COP	Air	Air	-0,9 ... 16	2 ... 16	Glandless	900	V44A833A-X0020
	COP	Air	Air	-0,9 ... 10	2,5 ... 10	Softseal	1150	V45A833A-X0020

Valve function: NO = Normally open,
 NC = Normally closed
 APB = All Ports Blocked
 COE = Centre Open Exhaust
 COP = Centre Open Pressure

Accessories

DIN EN 50 022 rail (1 m)	DIN-rail mounting kit	Blanking disc to modular sub-base	Manual override set-up kit	Blanking plate for unused station	Transition plate V40/V41 » V44/V45
V10009-C00 (35 x 7,5 mm)	V70531-KA0	V70522-K00 (Ports 1,3,5)	V70532-K00	Page 11	Page 11
V10592-C01 (35 x 15 mm)		V70523-K00 (Ports 12 & 14)		V70500-KA0	V70436-K00
					V70436-B00 *3)

*3) With supply and exhaust portsg

Sandwich plates

Intermediate supply/ exhaust manifold	Single valve shut-off plate	Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Sandwich plate with additional pressure port 1
Page 10	Page 10	Page 12 & 13	Page 13	Page 10	Page 11
V70529-BA0 (G1/4)	V70530-KA0 (Port 1 blocked)	V70527-KA1 (Port 1 reg.)	V70527-KA4 (Ports 2+4 reg.)	V70528-KA0 (Ports 3+5 reg.)	V70535-BA0 (G1/4)
		V70527-KA2 (Port 2 reg.)			V70535-RA0 (1/4 NPTF)
		V70527-KA3 (Port 4 reg.)			

Sub-bases and end plates

Single station sub-base	Single station modular sub-base, side ported	Single station modular sub-base, bottom ported	End plate kit	Fixed length sub-base
Page 9	Page 7	Page 7	Page 7	Page 9
V70501-BAB (G1/4)	V70525-*AF *4)	V70525-BAE (G1/4) *4)	V70524-CAC (G3/8)	V705**-BA0 (G1/4)
V70501-RAB (1/4 NPTF)	V70526-*AF *5)	V70526-BAE (G1/4) *5)	V70524-SAC (3/8 NPTF)	V705**-RA0 (1/4 NPTF)

* = Insert code for port type, see on page 7

** = Insert number of valve stations in sub-base assemblies, see page 8

*4) Without pilot ports

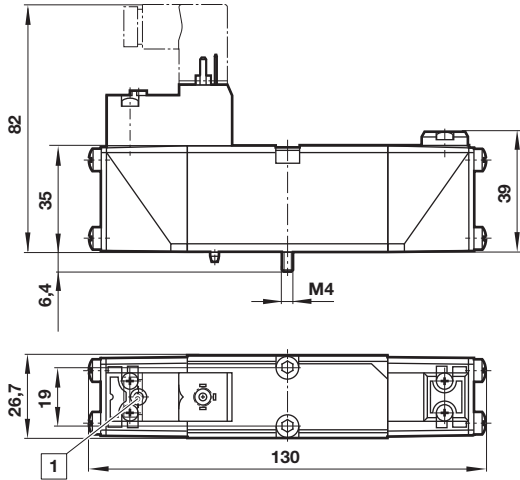
*5) With pilot ports

Connector plug - ordered separately

15 mm DIN EN 175301-803 (DIN 43 650) Table C
V10027-D00 250 V AC/300 V DC.

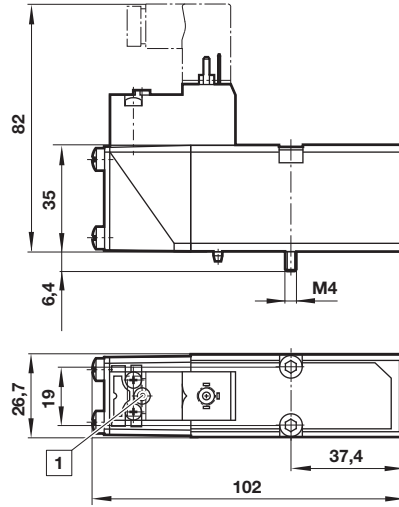
Valve dimensions

V44A5*3D-C3***
5/2 Single solenoid pilot valve
Air spring return

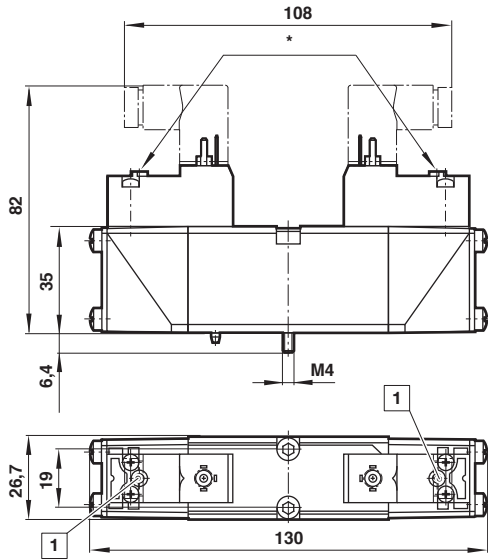


V44A5*7D-C3*** & V45A5*7D-C3***
5/2 Single solenoid pilot valve
Mechanical spring return

Dimensions in mm
Projection/First angle

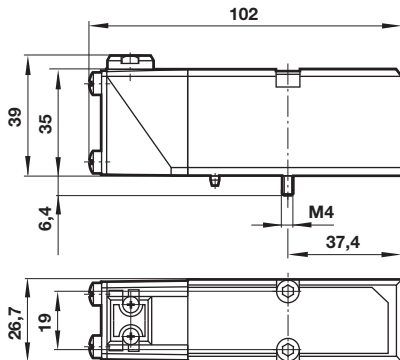


V44A5**D-C3*** & V45A5**D-C3***
5/2 Double solenoid pilot valve
V44A***D-C3*** & V45A***D-C3***
2x3/2 + 5/3 Double solenoid pilot valve

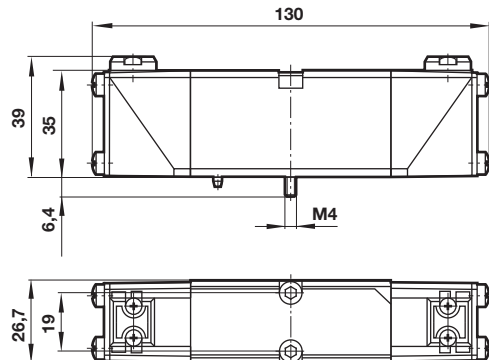


1 Manual override

V44A537A-X00*0 & V45A537A-X00*0
5/2 Single air pilot valve

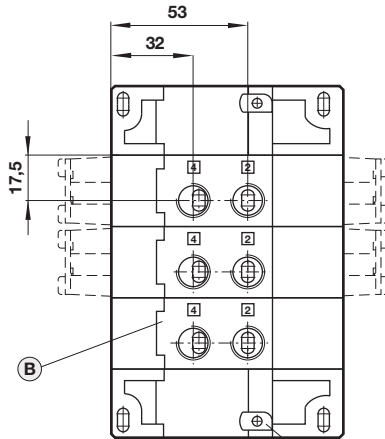


V44A*33A-X00*0 & V45A*33A-X00*0
2 x 3/2, 5/2 + 5/3 Double air pilot valve

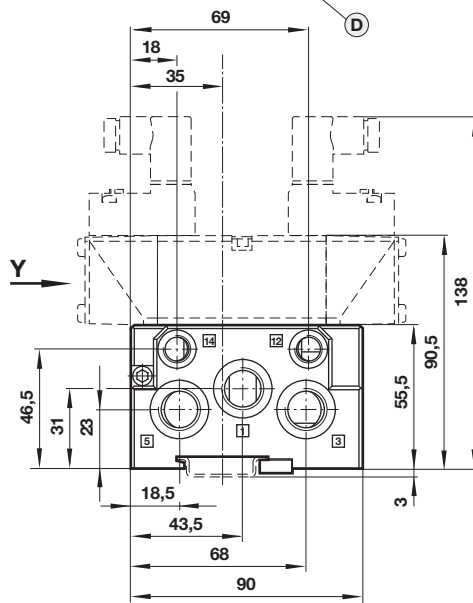
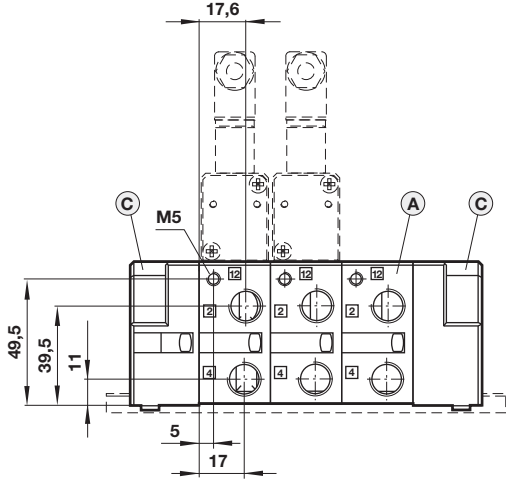


Modular sub-bases parts for DIN rail or surface mounting
Bottom ported sub-base

Dimensions in mm
 Projection/First angle

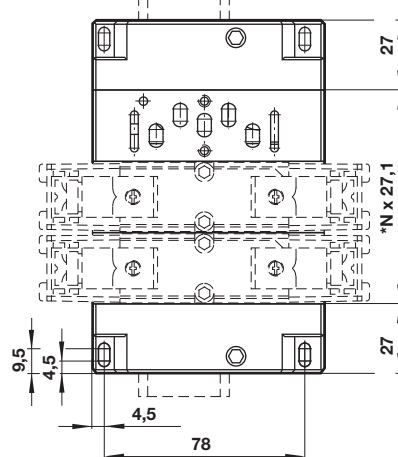
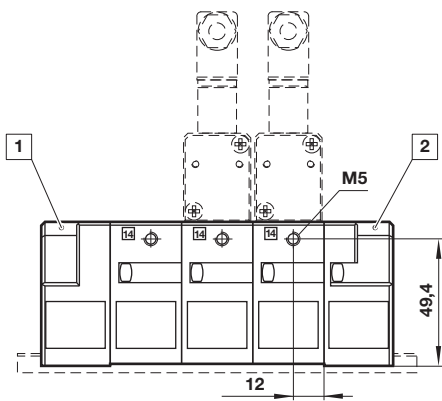


Side ported sub-base



Bottom and side ported sub-base

View Y



- 1 Right hand side
- 2 Left hand side

Individual components

Modular sub-base (A)	Ports 2+4 on side without pilot ports	Ports 2+4 on side with pilot ports
	Model: V70525-*AF (0,18 kg)	Model: V70526-*AF (0,18 kg)
Modular sub-base (B)	Ports 2+4 on bottom without pilot ports	Ports 2+4 on bottom with pilot ports
	Model: V70525-BAE (G1/4) 0,18 kg	Model: V70526-BAE (G1/4) 0,18 kg
End plate kit (C)		
Side ported	Model: V70524-CAC G3/8, 12 & 14 G1/8) 0,36 kg Model: V70524-SAC (3/8 NPTF 12 & 14 1/8 NPTF)*6) 0,36 kg	

* Insert code for port type, see table on the right hand

*6) End ported end caps 1 left and 1 right hand

N = number of stations

Note: Port 14 either used for external pilot air supply or for collected pilot air exhaust. Therefore, never plug port 14 when using valves with internal pilot air supply.

Port 12 is not used, plugging not necessary.

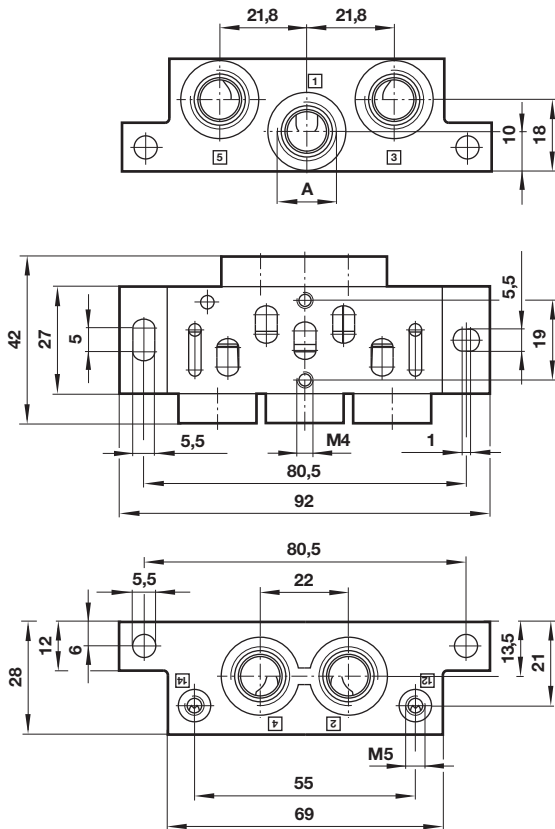
Code	Port size 2 & 4	Port sizes 12/14
B	G1/4	M5
P	1/8 NPTF	M5
R	1/4 NPTF	M5
8	Ø 8 mm PIF	M5
Y	Ø 6 mm PIF	M5
2	Ø 3/8 PIF	M5

Accessories

DIN EN 50022 rail	
35 x 7,5 mm, 1m	V10009-C00 (0,31 kg)
35 x 15 mm, 1m	V10592-C01 (1,02 kg)
DIN rail (D) Mounting kit	
	V70531-KAO (0,01 kg)
Blanking disk to modular sub-base Ports 1, 3, 5	
	V70522-K00 (0,01 kg)
Blanking disk to modular sub-base Ports 12+14	
	V70523-K00 (0,01 kg)

Single station sub-base – side ported with pilot ports

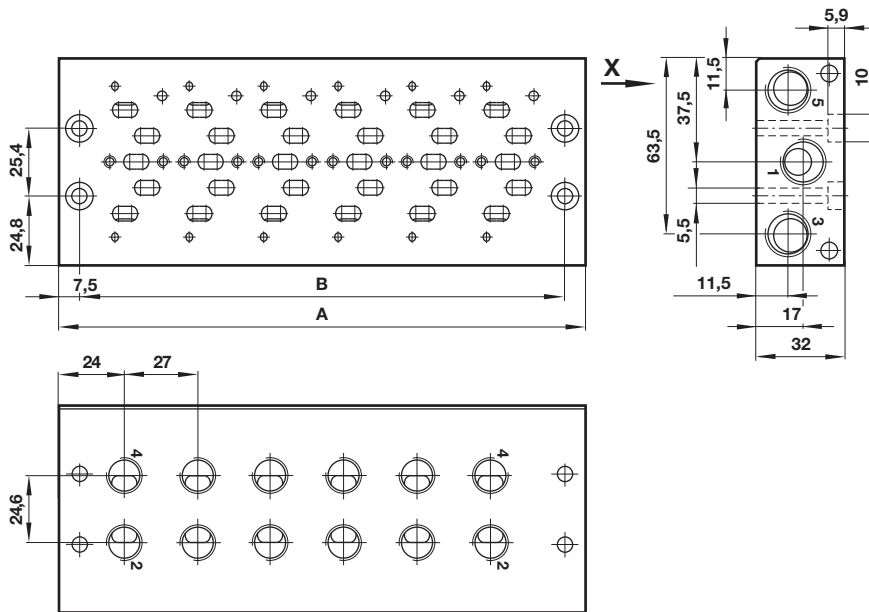
Dimensions in mm
Projection/First angle



Port size A	Model
G1/4 side ported with pilot ports	V70501-BAB
NPTF1/4 side ported with pilot ports	V70501-RAB

Note: Pilot ports = M5

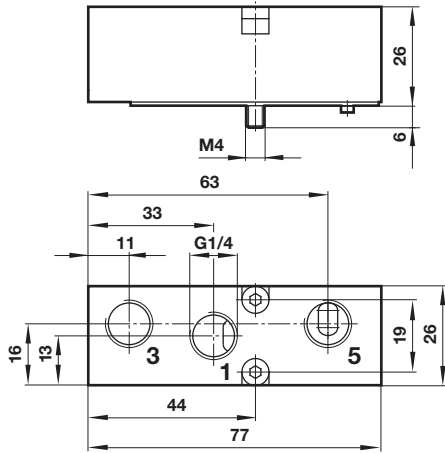
Fixed length sub-base - bottom ported



Number of stations	A	B	Weight (kg)	Model	Code	Ports 2 & 4	Ports 1, 3 & 5
2	83	68	0.4	V70502-xAO	B	G1/4	G3/8
4	137	122	0.65	V70504-xAO	R	1/4NPTF	3/8 NPTF
6	191	176	0.91	V70506-xAO	Note: This sub-base is suitable for solenoid pilot actuated valves with internal pilot air supply only		
8	245	230	1.15	V70508-xAO			
10	299	284	1.41	V70510-xAO			
12	353	338	1.66	V70512-xAO			

x = Insert port type from table

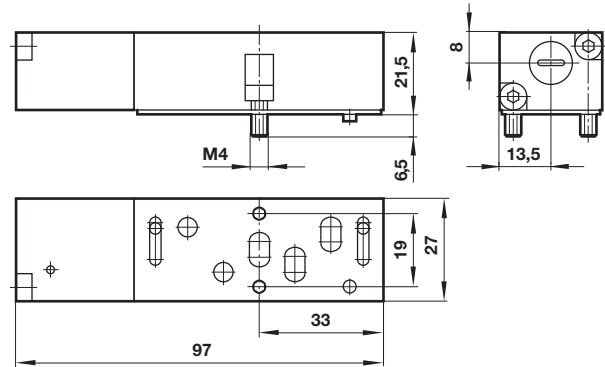
Intermediate supply/exhaust manifold



Port size A	Model
G1/4 (0,12 kg)	V70529-BAO

Single valve shut-off plate

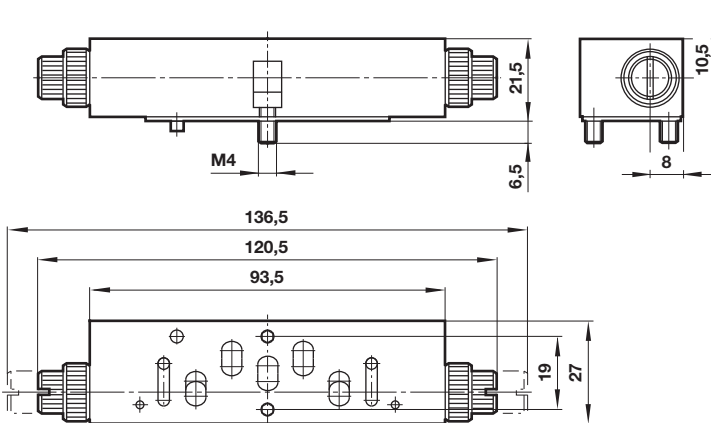
Dimensions in mm
Projection/First angle



Symbol	Description	Model
	Single shut-off plate supplied with gasket (0,13 kg)	V70530-KAO

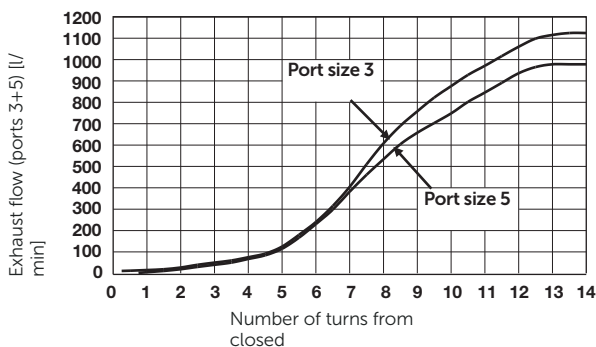
Allows individual exchange of valve, while valve island is pressurised by port 1.
Note: Flow restricted to max. 500 l/min.

Flow regulator plate



Symbol	Description	Model
	Flow regulator supplied with gasket (0,17 kg)	V70528-KAO

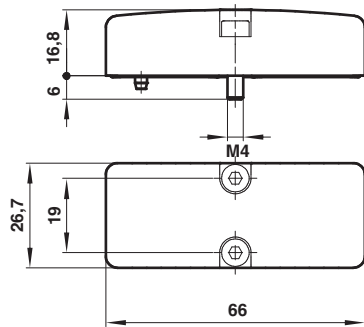
Flow characteristics for pressure regulator plates Dual regulation of exhaust ports 3 & 5



Flow: Port 1 > 2 & 1 > 4: remains unchanged
Flow measured at 6 bar inlet, pressure drop 1 bar

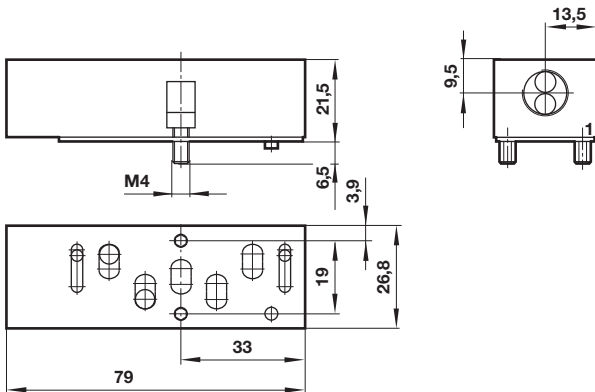
Blanking plate

Dimensions in mm
Projection/First angle



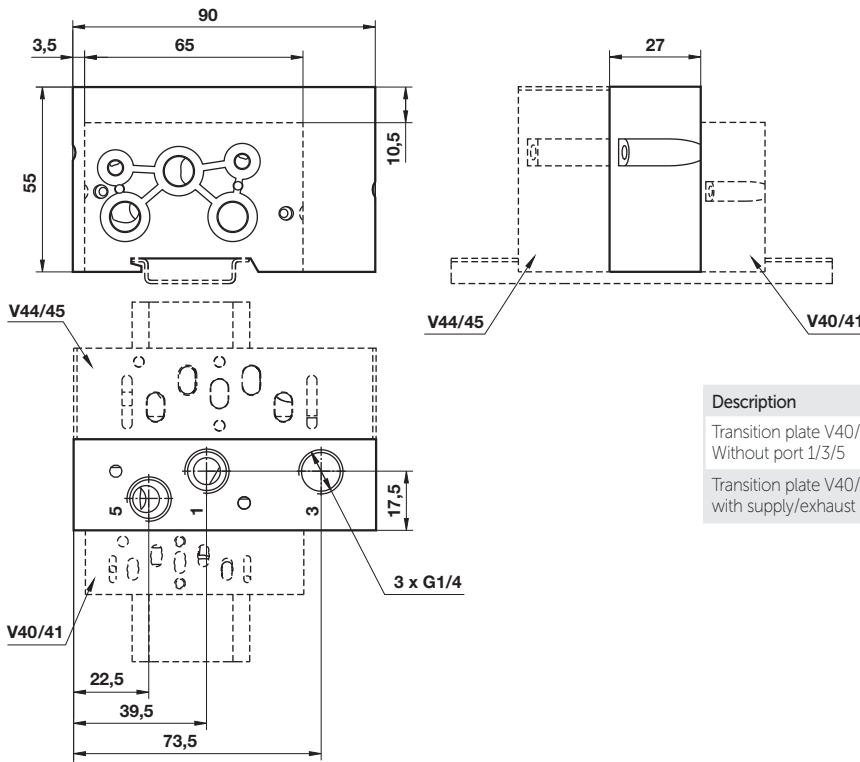
Description	Model
Blanking plate for blocking of unused stations (supplied with gasket, 0,03 kg)	V70500-KAO

Sandwich plate with additional pressure port 1



Symbol	Description	Model
	Sandwich plate with additional port 1 G1/4, supplied with gasket (0,12 kg)	V70535-BAO
	Sandwich plate with additional port 1 G1/4, supplied with gasket (0,12 kg)	V70535-RAO

Transition plate #18 mm > #26 mm



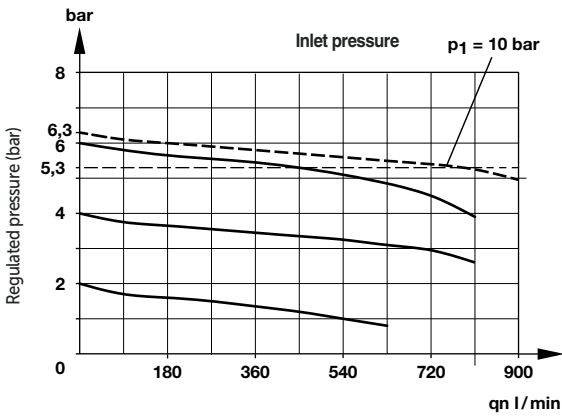
Description	Model
Transition plate V40/V41 » V44/V45 Without port 1/3/5	V70436-K00
Transition plate V40/V41 » V44/V45 with supply/exhaust ports G1/4	V70436-B00

Sandwich plates

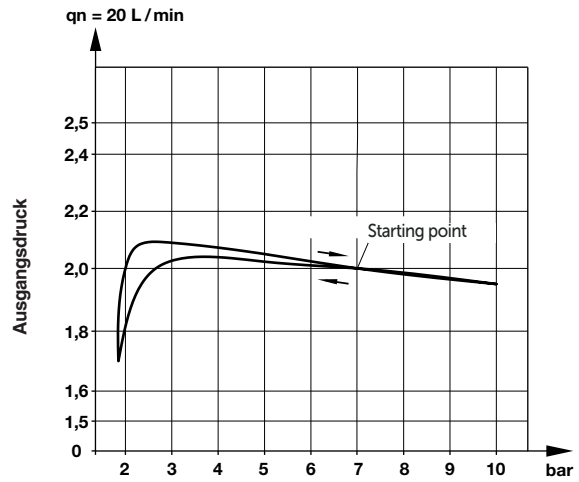
Pressure regulator sandwich plates

Symbol	Model	Description	Symbol	Model	Description
	V70527-KA1	Regulation of port 1, regulator on side 12		V70527-KA3	Regulation of port 4, regulator on side 14
	V70527-KA2	Regulation of port 2, regulator on side 1		V70527-KA4	Regulation of ports 2+4

Flow characteristics for pressure regulator plates

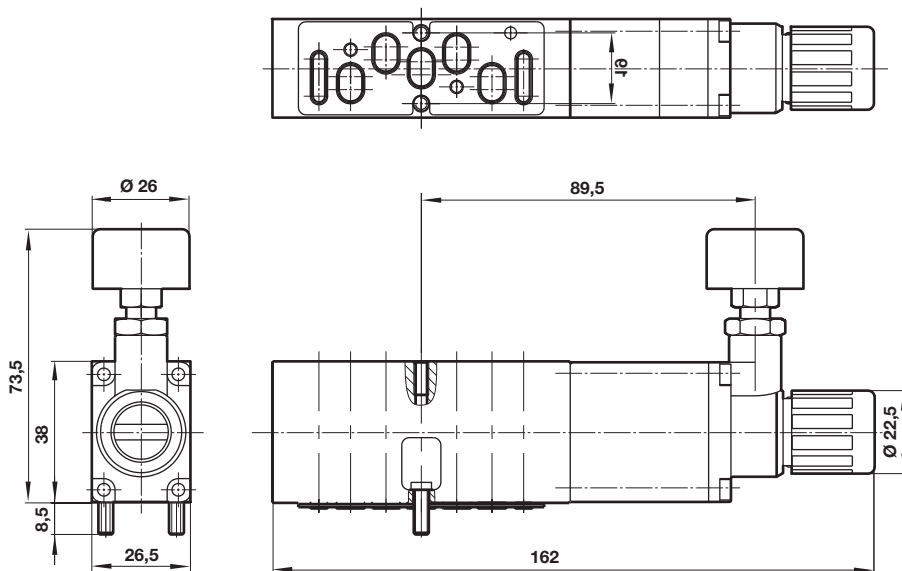


Hysteresis



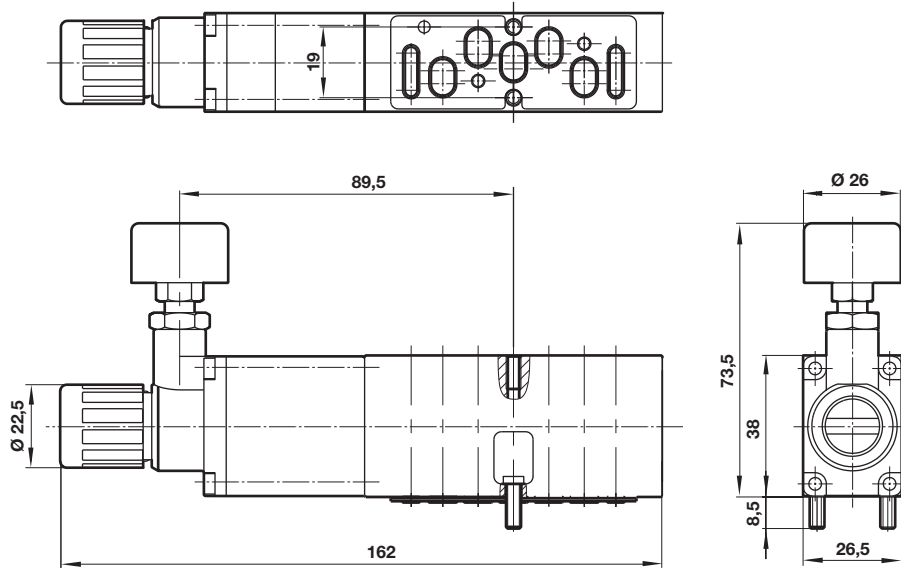
Pressure regulator plates V70527-KA1 & V70527-KA2 (including gauges)

Dimensions in mm
Projection/First angle

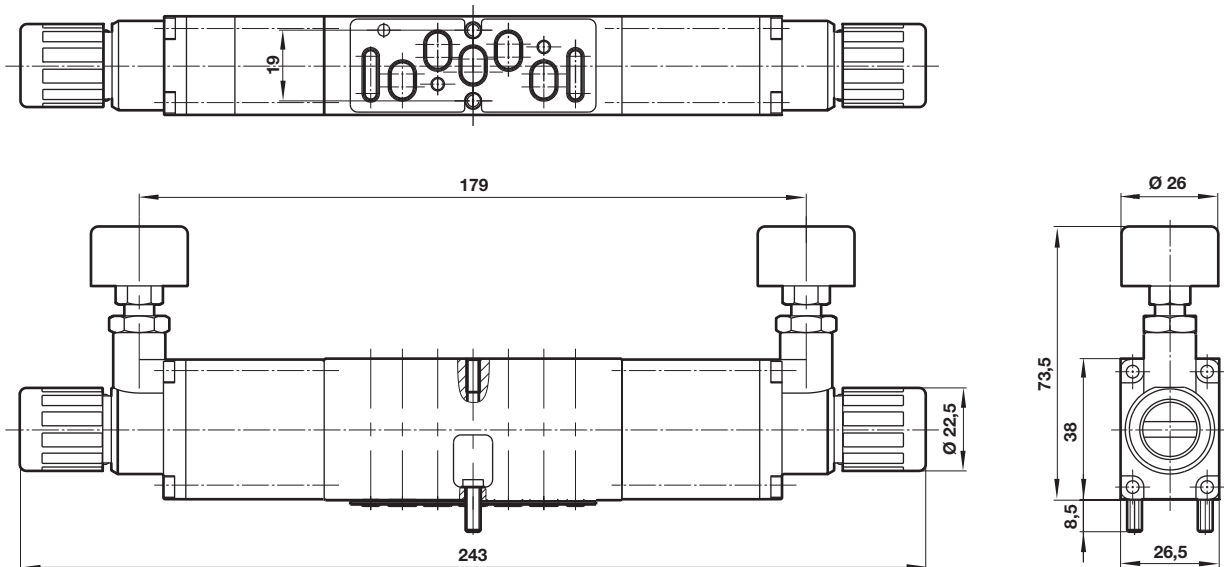


**Pressure regulator plate V70527-KA3
(including gauges)**

Dimensions in mm
Projection/First angle



**Pressure regulator plate V70527-KA4
(including gauges)**



Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/ data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.