

- > **Port size: 1/4"**
(ISO G/NPT)
- > **High flow rate**
- > **Proven sealing system**
using Herion
experience in the
chemical and process
industry
- > **Maintenance-free**
- > **Optional manual
overrides**
- > **Wide temperature
range**
- > **Shock and vibration
tested to EN 61373,
Category 1, class A
and B**



+65°C
(+149°F)

-40°C
(-40°F)



Technical features

Medium:

Compressed air, filtered lubricated
or non lubricated

Operation:

Electromagnetically or
pneumatically controlled

Operating pressure:

Solenoid actuated:

3 ... 10 bar (43,5 ... 145 psi)

Solenoid actuated with external

supply: -0,9 ... 10 bar

(-13 ... 145 psi)

Pilot actuated: -0,9 ... 10 bar

(-13 ... 145 psi)

Details on the following pages

Flow:

950 ... 1300 l/min

Flow direction:

Internal pilot: Supply must
be port 1

External pilot and air pilot:
Supply to any port

Port size:

G1/4, 1/4 NPT

For valves with NPT ports see
option selector

Mounting position:

Optional, spring return valves,
preferably horizontal

Ambient/Media temperature:

Versions 3/2 & 5/2 WV; solenoid/
spring & solenoid/solenoid:

- 40 ... +65°C (-40 ... +149°F)

Versions 3/2 & 5/2 WV;

solenoid/air spring:

-25 ... +65°C (-13 ... +149°F)

Versions 2x3/2 WV;

solenoid/solenoid:

-20 ... +65°C (-4 ... +149°F)

Air supply must be dry enough to

avoid ice formation at temperatures
below +2°C (+35°F).

Materials:

Housing and base plate:

aluminium

Spindle: stainless steel

Piston, spacers and cover:

synthetic material, aluminium

Static and dynamic seals: NBR/VMQ

Screws: zinc plated

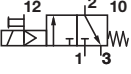
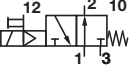
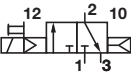
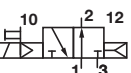
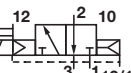
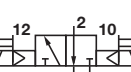
Springs: stainless steel

Electrical details for solenoid operators

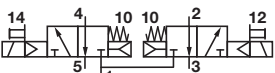
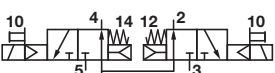
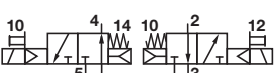
Voltage tolerance	± 30%
Power consumption	4,5 ... 5,4 W (12, 24, 36, 72, 85, 110 V d.c.), details see page 4
Rating	100 % ED
Protection class	IP 65 with sealed plugs (ISO 6952)
Manual override	Push only - Standard
Solenoid	4 x 90° rotatable
Solenoid plug interface	Type A, EN 175301-803 (DIN 43650)
Material	Thermoset (body), NBR (seals)

3/2 directional control valves, solenoid actuated

Amb./Media temp.: versions sol./spring & sol./sol. -40 ... +65°C (-40 ... +149°F); versions sol./air-spring: -25 ... +65°C (-13 ... +149°F)

Symbol	Port size	Function	Actuation/return	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure*1) (bar)	Weight (kg)	Drawing No.	Model
	G1/4	NC	Solenoid/spring	internal	1300	3 ... 10	–	0,29	1	VR61B417A-D#*
	1/4 NPT	NC	Solenoid/spring	internal	1300	3 ... 10	–	0,29	1	VR61R417A-D#*
	G1/4	NO	Solenoid/spring	internal	1300	3 ... 10	–	0,29	1	VR61B317A-D#*
	1/4 NPT	NO	Solenoid/spring	internal	1300	3 ... 10	–	0,29	1	VR61R317A-D#*
	G1/4	NC	Solenoid/air-spring	internal	1300	3 ... 10	–	0,29	3	VR61B413A-D#*
	1/4 NPT	NC	Solenoid/air-spring	internal	1300	3 ... 10	–	0,29	3	VR61R413A-D#*
	G1/4	NO	Solenoid/air-spring	internal	1300	3 ... 10	–	0,29	5	VR61B313A-D#*
	1/4 NPT	NO	Solenoid/air-spring	internal	1300	3 ... 10	–	0,29	5	VR61R313A-D#*
	G1/4	NC	Solenoid/air-spring	external	1300	-0,9 ... 10	3 ... 10	0,29	3	VR61B423A-D#*
	1/4 NPT	NC	Solenoid/air-spring	external	1300	-0,9 ... 10	3 ... 10	0,29	3	VR61R423A-D#*
	G1/4	NC	Solenoid/solenoid	internal	1300	3 ... 10	–	0,38	7	VR61B411A-D#*
	1/4 NPT	NC	Solenoid/solenoid	internal	1300	3 ... 10	–	0,38	7	VR61R411A-D#*

2 x 3/2 directional control valves, solenoid actuated, Amb./Media temp.: -20 ... +65°C (-4 ... +149°F)

Symbol	Port size	Function	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model *1)
	G1/4	NC/NC	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61BA11A-D#*
	1/4 NPT	NC/NC	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61RA11A-D#*
	G1/4	NO/NO	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61BB11A-D#*
	1/4 NPT	NO/NO	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61RB11A-D#*
	G1/4	NO/NC	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61BC11A-D#*
	1/4 NPT	NO/NC	Solenoid/solenoid	internal	950	3 ... 10	0,43	13	VR61RC11A-D#*

Insert code for manual override. Note: Standard option is 3 = push only, see page 4

* Insert voltage code from table on page 4

*1) However ≥ operating pressure

NC Normally closed

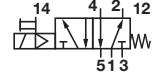
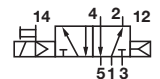
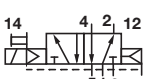
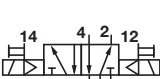
NO = Normally open

NC/NC = Both valves normally closed (port P)

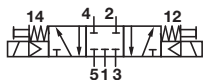
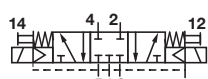


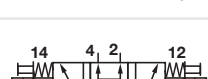
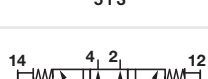
NO/NO = Both valves normally open (port P)

NO/NC = 1 valve normally open, 1 valve normally closed (port P)

5/2 directional control valves, solenoid actuated
Amb./Media temp.: versions sol./spring & sol./sol. -40 ... +65°C (-40 ... +149°F); versions sol./air-spring: -25 ... +65°C (-13 ... +149°F)

Symbol	Port size	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Weight (kg)	Drawing No.	Model *1)
	G1/4	Solenoid/spring	internal	1300	3 ... 10	-	0,29	9	VR61B517A-D#*
	1/4 NPT	Solenoid/spring	internal	1300	3 ... 10	-	0,29	9	VR61R517A-D#*
	G1/4	Solenoid/air-spring	internal	1300	3 ... 10	-	0,33	11	VR61B513A-D#*
	1/4 NPT	Solenoid/air-spring	internal	1300	3 ... 10	-	0,33	11	VR61R513A-D#*
	G1/4	Solenoid/air-spring	external	1300	-0,9 ... 10	3 ... 10	0,33	11	VR61B523A-D#*
	1/4 NPT	Solenoid/air-spring	external	1300	-0,9 ... 10	3 ... 10	0,33	11	VR61R523A-D#*
	G1/4	Solenoid/solenoid	internal	1300	3 ... 10	-	0,42	13	VR61B511A-D#*
	1/4 NPT	Solenoid/solenoid	internal	1300	3 ... 10	-	0,42	13	VR61R511A-D#*

5/3 directional control valves, solenoid actuated, Amb./Media temp.: -40 ... +65°C (-40 ... +149°F)

Symbol	Port size	Function	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Weight (kg)	Drawing No.	Model *1)
	G1/4	APB	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61B611A-D#*
	1/4 NPT	APB	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61R611A-D#*
	G1/4	APB	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61B622A-D#*
	1/4 NPT	APB	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61R622A-D#*
	G1/4	COE	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61B711A-D#*
	1/4 NPT	COE	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61R711A-D#*
	G1/4	COE	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61B722A-D#*
	1/4 NPT	COE	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61R722A-D#*
	G1/4	COP	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61B811A-D#*
	1/4 NPT	COP	Solenoid/solenoid	internal	950	3 ... 10	-	0,47	15	VR61R811A-D#*
	G1/4	COP	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61B822A-D#*
	1/4 NPT	COP	Solenoid/solenoid	external	950	-0,9 ... 10	3 ... 10	0,47	15	VR61R822A-D#*

Insert code for manual override. Note: Standard option is 3 = push only, see page 4

* Insert voltage code from table on page 4

*1) However ≥ operating pressure

APB = All ports blocked

COE = Centre open exhaust

COP = Centre open pressure


Option selector
(directional control valves,
solenoid actuated)

VR61***A-D*****N**

Thread size	Substitute
G1/4	B
1/4 NPT	R
Function	Substitute
3/2 - NO	3
3/2 - NC	4
5/2	5
5/3 - APB	6
5/3 - COE	7
5/3 - COP	8
2 x 3/2 - NC	A
2 x 3/2 - NO	B
2 x 3/2 - NO/NC	C

Voltage	Substitute	
12 V d.c.	22	
24 V d.c.	23	
36 V d.c.	24	
72 V d.c.	2A	
85 V d.c.	2C	
110 V d.c.	27	
Manual override	Substitute	
Without	1	
Push and turn	2	
Push only	3	
Actuation/return	Pilot Supply	Substitute
Solenoid/Solenoid	Internal	11
Solenoid/air spring	Internal	13
Solenoid/spring	Internal	17
Solenoid/Solenoid	External	22
Solenoid/air spring	External	23
Solenoid/spring	External	27

Selection of voltage codes

	Voltage	Voltage code	Power consumption
	12 V d.c.	22N	5,2 W
	24 V d.c.	23N	4,5 W
	36 V d.c.	24N	4,7 W
	72 V d.c.	2AN	4,8 W
	85 V d.c.	2CN	5,4 W
	110 V d.c.	27N	5,3 W

Solenoids comply with ROHS directive 2011/165/EU
 Coils are CE marked in accordance with low voltage directive 2007/95/EG

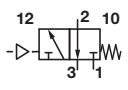
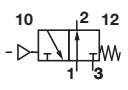
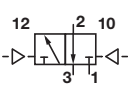
Accessories

Connector DIN EN 175301-803, form A (DIN 43650 A)

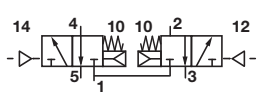
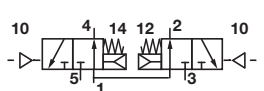
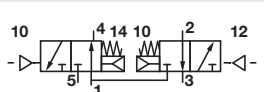


0570275
 12 ... 250 V a.c./d.c.

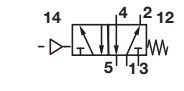
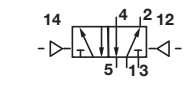
3/2 directional control valves, pilot actuated, Amb./Media temp.: -40 ... +65°C (-40 ... +149°F)

Symbol	Port size	Function	Actuation	Flow (l/min)	Operating pressure (bar)	Pilot pressure external (bar)	Weight (kg)	Drawing No.	Model
	G1/4	NC	Air/spring	1300	-0,9 ... 10	3 ... 10	0,21	33	VR61B4D7A-XA090
	1/4 NPT	NC	Air/spring	1300	-0,9 ... 10	3 ... 10	0,21	33	VR61R4D7A-XP090
	G1/4	NO	Air/spring	1300	-0,9 ... 10	3 ... 10	0,21	33	VR61B3D7A-XA090
	1/4 NPT	NO	Air/spring	1300	-0,9 ... 10	3 ... 10	0,21	33	VR61R3D7A-XP090
	G1/4	NC	Air/air	1300	-0,9 ... 10	3 ... 10	0,21	37	VR61B4DDA-XA020
	1/4 NPT	NC	Air/air	1300	-0,9 ... 10	3 ... 10	0,21	37	VR61R4DDA-XP020

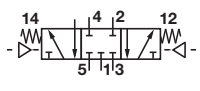
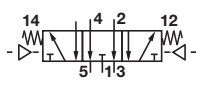
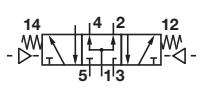
2 x 3/2 directional control valves, pilot actuated, Amb./Media temp.: -20 ... +65°C (-4 ... +149°F) only

Symbol	Port size	Function	Actuation	Flow (l/min)	Operating pressure (bar)	Pilot pressure external (bar)	Weight (kg)	Drawing No.	Model
	G1/4	NC/NC	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61BADDA-XA020
	1/4 NPT	NC/NC	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61RADDA-XP020
	G1/4	NO/NO	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61BBDDA-XA020
	1/4 NPT	NO/NO	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61RBDDA-XP020
	G1/4	NO/NC	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61BCDDA-XA020
	1/4 NPT	NO/NC	Air/air	950	3 ... 10	3 ... 10	0,28	43	VR61RCDDA-XP020

5/2 directional control valves, pilot actuated, Amb./Media temp.: -40 ... +65°C (-40 ... +149°F)

Symbol	Port size	Actuation	Flow (l/min)	Operating pressure (bar)	Pilot pressure external (bar)	Weight (kg)	Drawing No.	Model
	G1/4	Air/spring	1300	-0,9 ... 10	3 ... 10	0,26	41	VR61B5D7A-XA090
	1/4 NPT	Air/spring	1300	-0,9 ... 10	3 ... 10	0,26	41	VR61R5D7A-XP090
	G1/4	Air/air	1300	-0,9 ... 10	3 ... 10	0,27	43	VR61B5DDA-XA020
	1/4 NPT	Air/air	1300	-0,9 ... 10	3 ... 10	0,27	43	VR61R5DDA-XP020

5/3 directional control valves, pilot actuated, Amb./Media temp.: -40 ... +65°C (-40 ... +149°F)

Symbol	Port size	Function	Actuation	Flow (l/min)	Operating pressure (bar)	Pilot pressure external (bar)	Weight (kg)	Drawing No.	Model
	G1/4	APB	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61B6DDA-XA020
	1/4 NPT	APB	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61R6DDA-XP020
	G1/4	COE	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61B7DDA-XA020
	1/4 NPT	COE	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61R7DDA-XP020
	G1/4	COP	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61B8DDA-XA020
	1/4 NPT	COP	Air/air	950	-0,9 ... 10	3 ... 10	0,32	46	VR61R8DDA-XP020

*1) However \geq operating pressure

NC = Normally closed

NO = Normally open

NC/NC = Both valves normally closed (port P)

NO/NO = Both valves normally open (port P)

NO/NC = 1 valve normally open, 1 valve normally closed (port P)

APB = All ports blocked

COE = Centre open exhaust

COP = Centre open pressure

Option selector
(directional control valves,
pilot actuated)

VR61D*A-X**0**

Thread size	Substitute
G1/4	B
1/4 NPT	R
Function	Substitute
3/2 - NO	3
3/2 - NC	4
5/2	5
5/3 - APB	6
5/3 - COE	7
5/3 - COP	8
2 x 3/2 - NC	A
2 x 3/2 - NO	B
2 x 3/2 - NO/NC	C

Actuation/return	Substitute
Air/Air	02
Air/Spring	09
Pilot port	Substitute
G1/8	A
1/8 NPT	P
Actuation/return	Substitute
Air/Air	D
Air/Spring	7

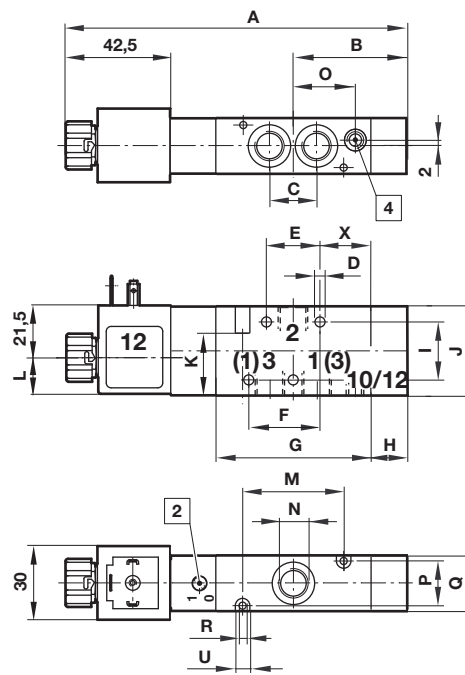
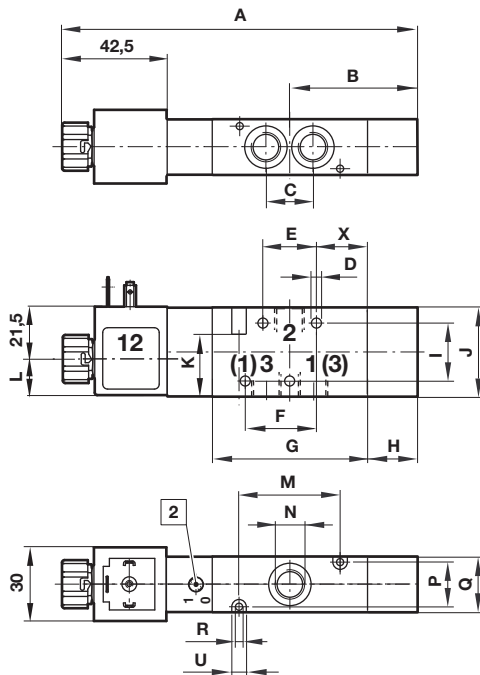
Dimensions

Dimensions in mm
 Projection/First angle



1

3

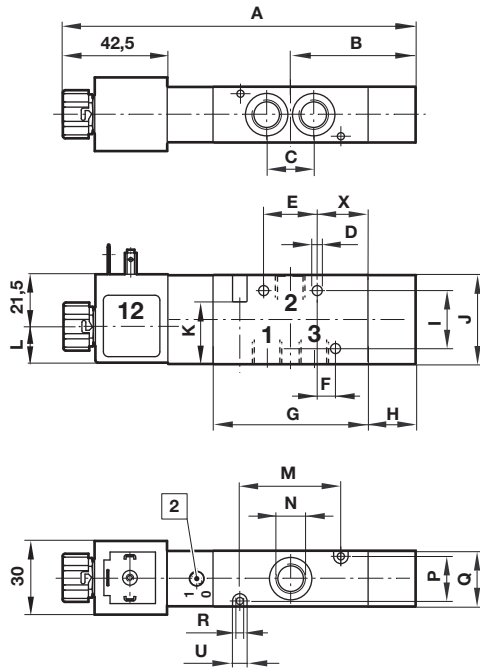


- 2** Manual Override
- 4** External pilot port, M5 or 10-32 UNF

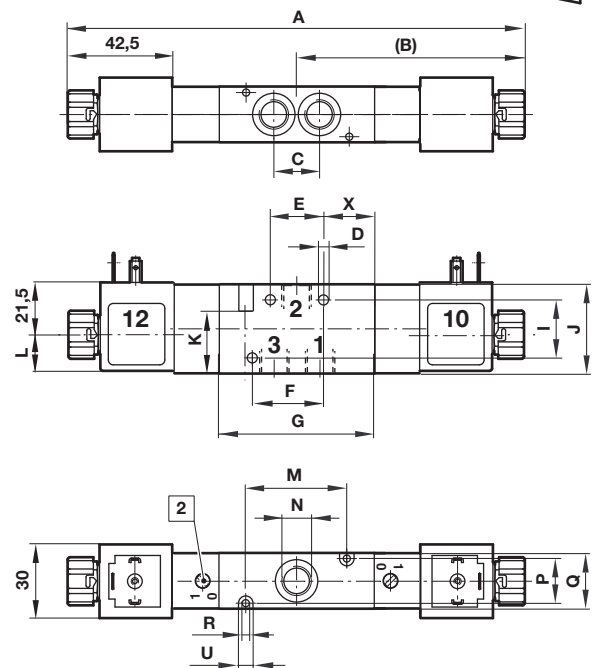
No.	A	B	C	ØD	E	F	G	H	I	J	K	L	M	N	O	P	Q	ØR	ØU	X	Model
1	154	53	21	4,5	24	—	74	16	41	55	—	32	—	1/4"	—	—	30	—	—	25	VR61#317A-...
3	140,5	43	21	4,5	24	32	70	8	26	40	28	17	46	1/4"	—	20	25	3,2	6,5	23	VR61#413A-...
1	154	53	21	4,5	24	—	74	16	41	55	—	32	—	1/4"	—	—	30	—	—	25	VR61#417A-...
3	140,5	43	21	4,5	24	32	70	8	26	40	28	17	46	1/4"	29	20	25	3,2	6,5	23	VR61#423A-...

= 'B' for ISO G and 'R' for NPT threads

5



7



Dimensions in mm
Projection/First angle

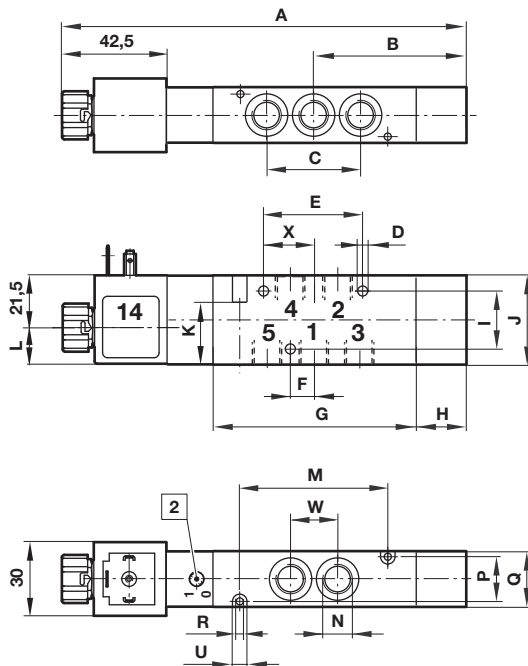


2 Manual Override

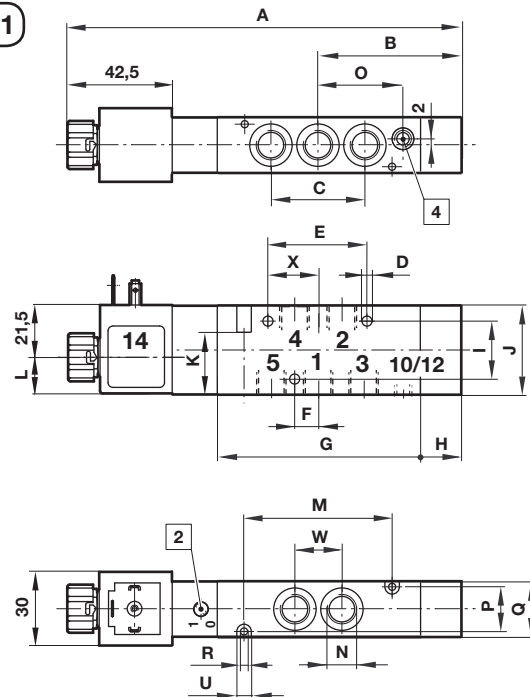
No.	A	B	C	ØD	E	F	G	H	I	J	K	L	M	N	P	Q	ØR	ØU	X	Model
5	140,5	43	21	4,5	24	8	70	8	26	40	28	17	46	1/4"	20	25	3,2	6,5	23	VR61#313A-...
7	195	97,5	21	4,5	24	32	70	-	26	40	28	17	46	1/4"	20	25	3,2	6,5	23	VR61#411A-...

= 'B' for ISO G and 'R' for NPT threads

9



11



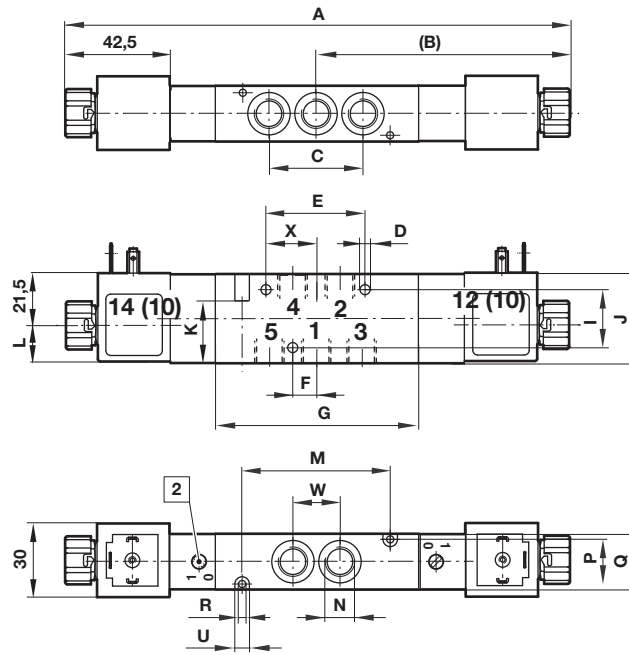
2 Manual Override

4 External pilot port, M5 or 10-32 UNF

No.	A	B	C	ØD	E	F	G	H	I	J	K	L	M	N	O	P	Q	ØR	ØU	W	X	Model
9	174	63	42	4,5	44	10	94	16	36	55	—	32	—	1/4"	—	30	—	—	21	22	VR61#517A-...	
11	161	53	42	4,5	44	10	90	8	26	40	28	17	66	1/4"	—	20	25	3,2	6,5	21	22	VR61#513A-...
11	161	53	42	4,5	44	10	90	8	26	40	28	17	66	1/4"	39	20	25	3,2	6,5	21	22	VR61#523A-...

= 'B' for ISO G and 'R' for NPT threads

13



Dimensions in mm
Projection/First angle

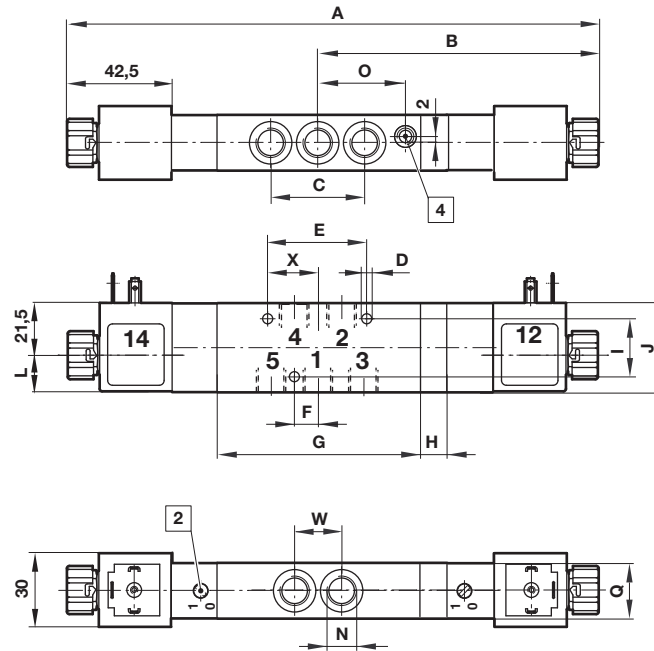


2 Manual Override

No.	A	B	C	ØD	E	F	G	I	J	K	L	M	N	P	Q	ØR	ØU	W	X	Model
13	215	107,5	42	4,5	44	10	90	26	40	28	17	66	1/4"	20	25	3,2	6,5	21	22	VR61#511A-...
																				VR61#A11A-...
																				VR61#B11A-...
																				VR61#C11A-...

Insert 'B' for ISO G and 'R' for NPT threads

15

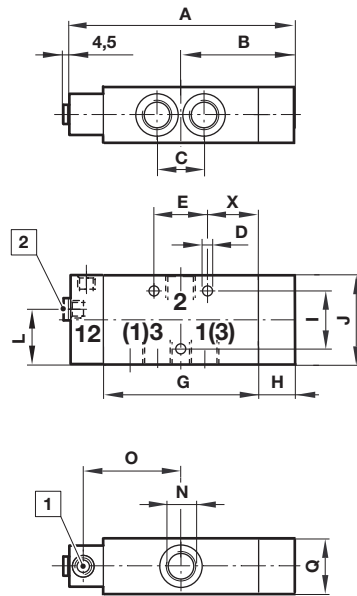


2 Manual Override

4 External pilot port, M5 or 10-32 UNF

No.	A	B	C	ØD	E	F	G	H	I	J	L	N	O	Q	W	X	Model
15	239	128,5	42	4,5	44	10	94	18	36	55	23	1/4"	—	30	21	22	VR61#611A-...
																	VR61#711A-...
																	VR61#811A-...
																	VR61#622A-...
15	239	128,5	42	4,5	44	10	94	18	36	55	23	1/4"	41	30	21	22	VR61#722A-...
																	VR61#822A-...

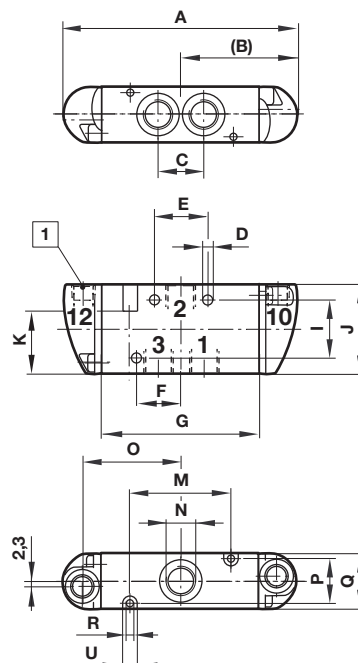
Insert 'B' for ISO G and 'R' for NPT threads

33

 Dimensions in mm
 Projection/First angle


- 1 Pilot ports G1/8 or 1/8-27 NPT
 2 Alternative pilot ports G1/8 or 1/8-27 NPT

No.	A	B	C	Ø D	E	G	H	I	J	L	N	O	Q	X	Model
33	110	53	21	4,5	24	74	16	41	55	33,5	1/4"	47	30	25	VR61#4D7A-... VR61#3D7A-...

= 'B' for ISO G and 'R' for NPT threads

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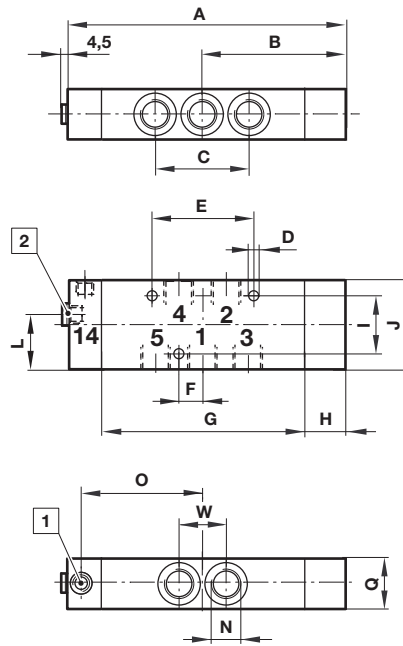
- 1 Pilot ports G1/8 or 1/8-27 NPT
 2 Alternative pilot ports G1/8 or 1/8-27 NPT

No.	A	B	C	D	E	F	G	I	J	K	M	N	O	P	Q	R	U	Model
37	104	52	21	4,5	24	20	70	26	40	28	46	1/4"	43	20	25	3,2	6,5	VR61#4DDA-...

= 'B' for ISO G and 'R' for NPT threads

41

Dimensions in mm
 Projection/First angle

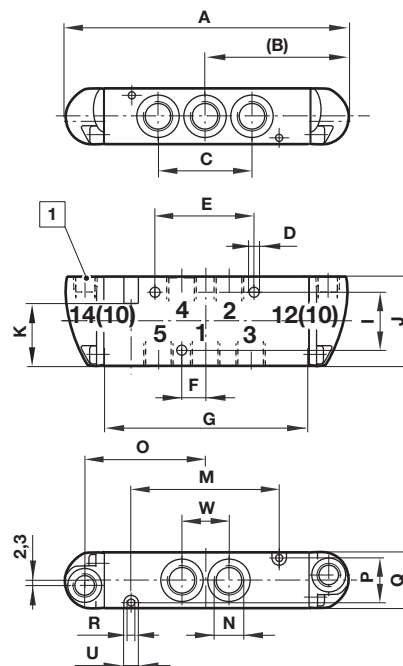


- 1 Pilot ports G1/8 or 1/8-27 NPT
- 2 Alternative pilot ports G1/8 or 1/8-27 NPT

No.	A	B	C	D	E	F	G	H	I	J	L	N	O	Q	W	Model
41	130	63	42	4,5	44	10	94	16	36	55	33,5	1/4"	57	30	21	VR61#5D7A-...

= 'B' for ISO G and 'R' for NPT threads

43

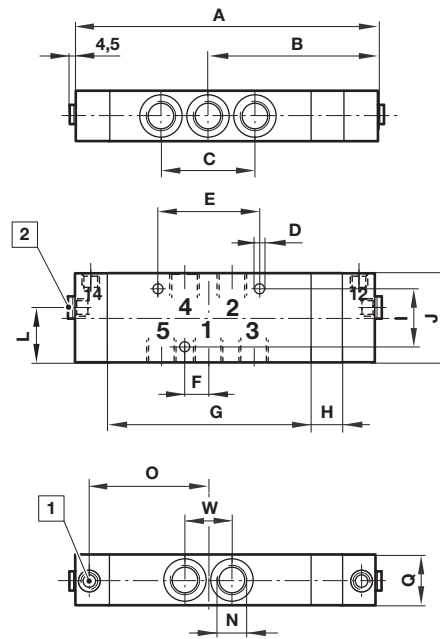


- 1 Pilot ports G1/8 or 1/8-27 NPT
- 2 Alternative pilot ports G1/8 or 1/8-27 NPT

No.	A	B	C	D	E	F	G	I	J	K	M	N	O	P	Q	R	U	W	Model
43	124	62	42	4,5	44	10	90	26	40	28	66	1/4"	53	20	25	3,2	6,5	21	VR61#5DDA-...
																			VR61#ADDA-...
																			VR61#BDDA-...
																			VR61#CDDA-...

= 'B' for ISO G and 'R' for NPT threads

46

 Dimensions in mm
 Projection/First angle

1 Pilot ports G1/8 or 1/8-27 NPT

2 Alternative pilot ports G1/8 or 1/8-27 NPT

No.	A	B	C	D	E	F	G	H	I	J	L	N	O	Q	W	Model
46	161	85	42	4,5	44	10	94	18	36	55	33,5	1/4"	57	30	21	VR61#6DDA-...
																VR61#7DDA-...
																VR61#8DDA-...

= 'B' for ISO G and 'R' for NPT threads

Warning

These products are intended for use in industrial compressed air and rail transport 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 IMI 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.