- **Port size:**
  In-line:
  M5, 1/8 ... 1/2 (ISO G & NPT)
  NAMUR:
  1/4, 3/8 (ISO G & NPT)
- **High flow rate**
- **Connector with LED light as standard**
- **3/2, 5/2, 5/3 way**
- **Robust design**
- **Sub-base system for easy assembly**
- **NAMUR option available**

Technical features

Medium:
Compressed air, filtered to 40 µm, lubricated or non lubricated
Operation:
Solenoid
Operating pressure:
1,5 … 8 bar (22 ... 116 psi)

Flow:
245 … 3350 l/min
at inlet pressure 6 bar (87 psi)
with 1 bar (14,5 psi) drop
Mounting position:
Optional, prefered horizontal

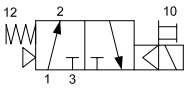
Ambient/Media temperature:
-5 ... +70°C (+23 ... +158°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F)

Materials:
Housing and sub-bases: Aluminium
Blanking plate: Zinc plated steel
Spool: Aluminium
Seals: NBR
Screws: Nickel plated steel
Springs: Stainless steel
Manual override:
Metal (M5, G1/8),
Plastic (G1/4 ... 1/2)

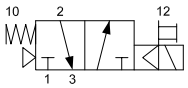
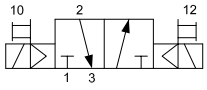
Electrical details for solenoid operators

Voltage tolerance	± 10%
Rating	100% continuous duty
Electrical connection (corresponding to chosen coil)	Industrial Standard; 22 mm
Solenoid	2 x 180° for M5 and G1/8, 4 x 90° for G1/4 ... 1/2
Manual override	Push and turn to lock
Protection class	IP65

3/2 directional control valves, Normally Open (NO)

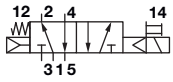
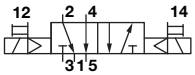
Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/spring	-5…+70	Internal	240	1,5 … 8	0.13	1	VCB22A317D-C52***
	G1/8	Solenoid/spring	-5…+70	Internal	600	1,5 … 8	0.13	1	VCB22A317D-CA2***
	G1/4	Solenoid/spring	-5…+70	Internal	1050	1,5 … 8	0.2	1	VCB22B317A-AB2***
	G3/8	Solenoid/spring	-5…+70	Internal	1500	1,5 … 8	0.27	1	VCB22C317A-AC2***
	G1/2	Solenoid/spring	-5…+70	Internal	3300	1,5 … 8	0.3	1	VCB22D317A-AD2***

3/2 directional control valves, Normally Close (NC)

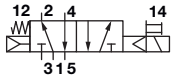
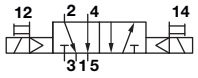
Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/spring	-5…+70	Internal	240	1,5 … 8	0.13	1	VCB22A417D-C52***
	G1/8	Solenoid/spring	-5…+70	Internal	600	1,5 … 8	0.13	1	VCB22A417D-CA2***
	G1/4	Solenoid/spring	-5…+70	Internal	1050	1,5 … 8	0.2	1	VCB22B417A-AB2***
	G3/8	Solenoid/spring	-5…+70	Internal	1500	1,5 … 8	0.27	1	VCB22C417A-AC2***
	G1/2	Solenoid/spring	-5…+70	Internal	3300	1,5 … 8	0.38	1	VCB22D417A-AD2***
	M5	Solenoid/ solenoid	-5…+70	Internal	240	1,5 … 8	0.18	2	VCB22A411D-C52***
	G1/8	Solenoid/ solenoid	-5…+70	Internal	600	1,5 … 8	0.18	2	VCB22A411D-CA2***
	G1/4	Solenoid/ solenoid	-5…+70	Internal	1050	1,5 … 8	0.3	2	VCB22B411A-AB2***
	G3/8	Solenoid/ solenoid	-5…+70	Internal	1500	1,5 … 8	0.32	2	VCB22C411A-AC2***
	G1/2	Solenoid/ solenoid	-5…+70	Internal	3300	1,5 … 8	0.51	2	VCB22D411A-AD2***

*3/2 NAMUR function can be achieved by applying conversion plate on 5/2 NAMUR valve
*NC = Normally Closed, NO = Normally Open

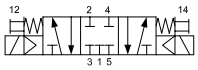
5/2 directional control valves, in-line version

Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/spring	0 ... +70	Internal	245	1,5 … 8	0,13	3	VCB22A517D-C52***
	G1/8	Solenoid/spring	0 ... +70	Internal	600	1,5 … 8	0,13	3	VCB22A517D-CA2***
	G1/4	Solenoid/spring	-5 ... +70	Internal	1050	1,5 … 8	0,2	3	VCB22B517A-AB2***
	G3/8	Solenoid/spring	-5 ... +70	Internal	1800	1,5 … 8	0,28	3	VCB22C517A-AC2***
	G1/2	Solenoid/spring	-5 ... +70	Internal	3350	1,5 … 8	0,5	3	VCB22D517A-AD2***
	M5	Solenoid/ solenoid	0 ... +70	Internal	245	1,5 … 8	0,19	4	VCB22A511D-C52***
	G1/8	Solenoid/ solenoid	0 ... +70	Internal	600	1,5 … 8	0,19	4	VCB22A511D-CA2***
	G1/4	Solenoid/ solenoid	-5 ... +70	Internal	1050	1,5 … 8	0,31	4	VCB22B511A-AB2***
	G3/8	Solenoid/ solenoid	-5 ... +70	Internal	1800	1,5 … 8	0,39	4	VCB22C511A-AC2***
	G1/2	Solenoid/ solenoid	-5 ... +70	Internal	3350	1,5 … 8	0,62	4	VCB22D511A-AD2***

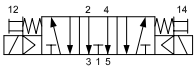
5/2 directional control valves, NAMUR version

Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	G1/4	Solenoid/spring	0…+70	Internal	1050	1,5 … 8	0,29	6	VCB22C517A-AE2***
	G3/8	Solenoid/spring	0…+70	Internal	1800	1,5 … 8	0,29	6	VCB22C517A-AF2***
	G1/4	Solenoid/ solenoid	-5…+70	Internal	1050	1,5 … 8	0,39	7	VCB22C511A-AE2***
	G3/8	Solenoid/ solenoid	-5…+70	Internal	1800	1,5 … 8	0,39	7	VCB22C511A-AF2***

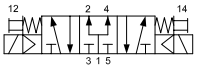
5/3 directional control valves, All Ports Blocked (APB)

Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/ solenoid	-5…+70	Internal	240	1,5 … 8	0.21	5	VCB22A611D-C52***
	G1/8	Solenoid/ solenoid	-5…+70	Internal	470	1,5 … 8	0.21	5	VCB22A611D-CA2***
	G1/4	Solenoid/ solenoid	-5…+70	Internal	700	1,5 … 8	0.36	5	VCB22B611A-AB2***
	G3/8	Solenoid/ solenoid	-5…+70	Internal	1200	1,5 … 8	0.46	5	VCB22C611A-AC2***
	G1/2	Solenoid/ solenoid	-5…+70	Internal	2400	1,5 … 8	0.71	5	VCB22D611A-AD2***

5/3 directional control valves, Centre Open Exhaust (COE)

Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/ solenoid	-5…+70	Internal	240	1,5 … 8	0.21	5	VCB22A711D-C52***
	G1/8	Solenoid/ solenoid	-5…+70	Internal	470	1,5 … 8	0.21	5	VCB22A711D-CA2***
	G1/4	Solenoid/ solenoid	-5…+70	Internal	700	1,5 … 8	0.36	5	VCB22B711A-AB2***
	G3/8	Solenoid/ solenoid	-5…+70	Internal	1200	1,5 … 8	0.46	5	VCB22C711A-AC2***
	G1/2	Solenoid/ solenoid	-5…+70	Internal	2400	1,5 … 8	0.71	5	VCB22D711A-AD2***

5/3 directional control valves, Centre Open Pressure (COP)

Symbol	Port size	Actuation	Fluid/ Ambient (°C)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Weight (kg)	Drawing No.	Model
	M5	Solenoid/ solenoid	-5…+70	Internal	240	1,5 … 8	0.21	5	VCB22A811D-C52***
	G1/8	Solenoid/ solenoid	-5…+70	Internal	470	1,5 … 8	0.21	5	VCB22A811D-CA2***
	G1/4	Solenoid/ solenoid	-5…+70	Internal	700	1,5 … 8	0.36	5	VCB22B811A-AB2***
	G3/8	Solenoid/ solenoid	-5…+70	Internal	1200	1,5 … 8	0.46	5	VCB22C811A-AC2***
	G1/2	Solenoid/ solenoid	-5…+70	Internal	2400	1,5 … 8	0.71	5	VCB22D811A-AD2***

Option selector

VCB22★★★★★-★★★★★★

Valve width	Substitute
18 mm	A
22 mm	B
27 mm	C
34 mm	D

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

Actuation	Substitute
Sol/sol	11
Sol/spring	17

Operator	Substitute
15 mm solenoid coil (18 mm only)	D-C
22 mm solenoid coil	A-A

Voltage (for VCB22A)	Substitute
24 V d.c.	13F
110 V a.c.	18F
220 V a.c.	19F

Voltage (for VCB22B/C/D)	Substitute
24 V d.c.	13J
24 V a.c.	14J
110 V a.c.	18J
220 V a.c.	19J
240 V a.c.	20J

Manual override	Substitute
Push and turn to lock	2

Thread	Substitute
M5 (18mm width)	5
G1/8 (18mm width)	A
G1/4 (22mm width)	B
G3/8 (27mm width)	C
G1/2 (34mm width)	D
G1/4 NAMUR (27mm width)	E
G3/8 NAMUR (27mm width)	F
1/8 NPT (18mm width)	P
1/4 NPT (22mm width)	R
3/8 NPT (27mm width)	S
1/2 NPT (34mm width)	T
1/4 NPT NAMUR (27mm width)	U
3/8 NPT NAMUR (27mm width)	V

* 3/2 NAMUR function can be achieved by applying conversion plate on 5/2 NAMUR valve
** Conversion plate needs to be ordered seperately

Sub-bases and accessories

Series	Sub-bases 5/2 and 5/3 valves *2)	Blanking plate 5/2 and 5/3 subbase	Sub-base for 3/2 way valves *2)	Blanking plate 3/2 way subbase	NAMUR conversion plate
					
VCB22A	VCB22A**	VCB22A0551	VCB22A/3**	VCB22A0351	–
VCB22B	VCB22B**	VCB22B0551	VCB22B/3**	VCB22B0351	–
VCB22C	VCB22C**	VCB22C0551	VCB22C/3**	VCB22C0351	VCB22C-Z01 *3) *4)
VCB22D	VCB22D**	VCB22D0551	VCB22D/3**	VCB22D0351	–

*2) Insert station code after model numbers**: 01 ... 17
*3) For G1/4 & G3/8 models
*4) 3/2 NAMUR function can be achieved by applying conversion plate on 5/2 NAMUR valve. The conversion plate needs to be ordered separately.

15 mm coil (for VCB22A)

	Voltage	Power inrush/ hold	Connector form	Code	Part number (to order as accessory)
	24 V d.c.	2,8 W	Industrial standard	13F	VCB22-15-13F
	110 V a.c.	3 VA	Industrial standard	18F	VCB22-15-18F
	220 V a.c.	2,5 VA	Industrial standard	19F	VCB22-15-19F

22 mm coil (for VCB22 B/C/D)

	Voltage	Power inrush/hold	Connector form	Code	Part number (to order as accessory)
	24 V d.c.	3 W	Industrial standard	13J	VCB22-22-13J
	24 V a.c.	4/2.5 VA	Industrial standard	14J	309902450
	110 V a.c.	3,5 VA	Industrial standard	18J	VCB22-22-18J
	220 V a.c.	3,5 VA	Industrial standard	19J	VCB22-22-19J
	240 V a.c.	6/5.0 VA	Industrial standard	20J	309923050

*Please consult technical engineer for application of Coil 14J, 18J, 19J above +40°C

Coil connector

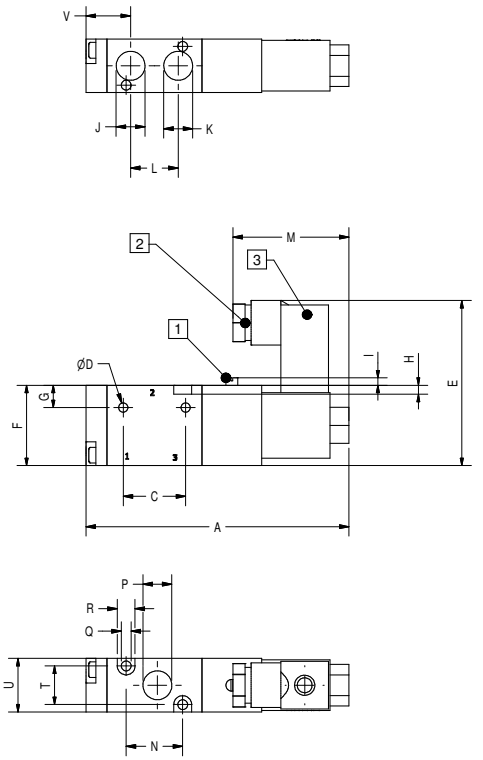
15 mm Industrial Standard	22 mm industrial standard	22 mm industrial standard
		
VCB22-13F 24 V d.c.	VCB22-13J 24 V d.c.	M/P24121/1 24 V a.c./d.c.
VCB22-19F 110/ 220 V a.c.	VCB22-19J 110/ 220 V a.c.	M/P24121/3 150 - 250 V a.c.

*Connector with LED light is offered as standard

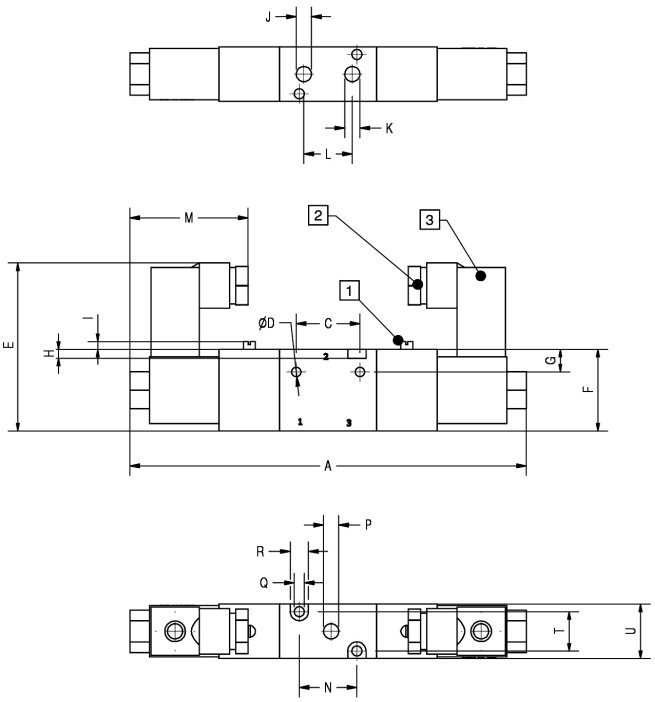
Dimensions

Dimensions in mm
Projection/First angle

1 3/2 single solenoid valve spring return



2 3/2 double solenoid valve



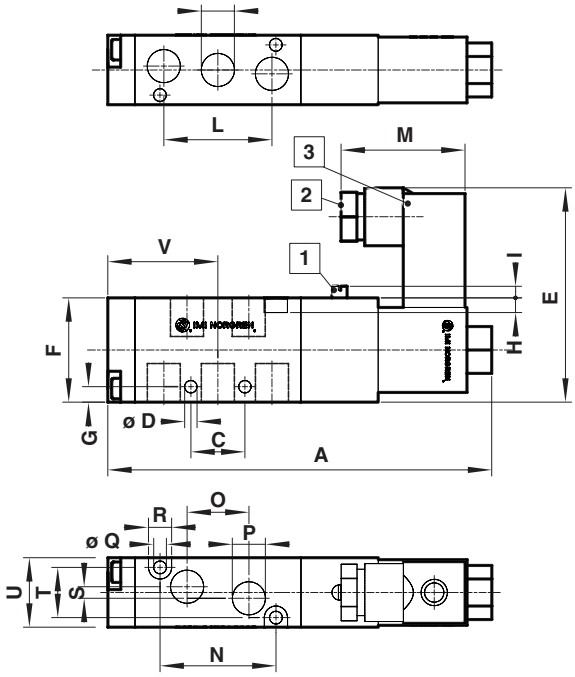
1 Manual override (Push & turn to lock)
2 Gland Size Pg 9
3 2 x 180° for M5 and G1/8
4 x 90° for G1/4 and G1/2

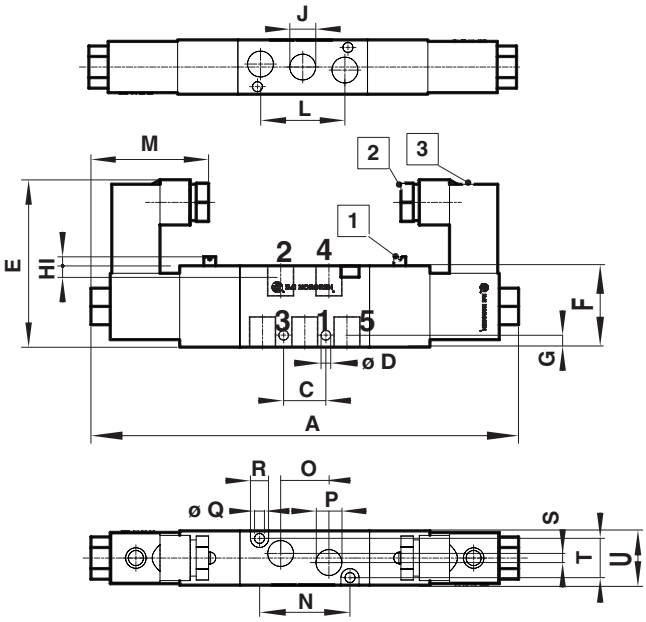
No.	A	C	ø D	E	F	G	H	I	J	K	L	M	N	O	ø P	ø Q	R	S	T	U	V	Model
1	88	21	3.2	54	27	7.5	3	2.5	M5	M5	16	39	19	–	M5	3.3	6	–	13	18	–	VCB22A317D-C52*** VCB22A417D-C52***
1	88	21	3.2	54	27	7.5	3	2.5	G1/8	G1/8	16	39	19	–	G1/8	3.3	6	–	13	18	–	VCB22A317D-CA2*** VCB22A417D-CA2***
1	110	25	4.3	67	35	8.2	3	5	G1/4	G1/4	22.5	55	30	–	G1/4	3.3	6	–	17	22	–	VCB22B317A-AB2*** VCB22B417A-AB2***
1	118	30	4.3	70	40	10.5	3	5	G3/8	G3/8	24	55	35	–	G3/8	4.3	8	–	20	27	–	VCB22C317A-AC2*** VCB22C417A-AC2***
2	131	21	3.2	54	27	7.5	3	2.5	M/5	M5	16	39	19	–	M5	3.3	6	–	13	18	–	VCB22A411D-C52***
2	131	21	3.2	54	27	7.5	3	2.5	G1/8	G1/8	16	39	19	–	G1/8	3.3	6	–	13	18	–	VCB22A411D-CA2***
2	165	25	4.3	67	35	8.2	3	5	G1/4	G1/4	22.5	55	30	–	G1/4	3.3	6	–	17	22	–	VCB22B411A-AB2***
2	173	24	4.3	70	40	10.5	4	5	G3/8	G3/8	24	55	35	–	G3/8	4.3	8	–	20	27	–	VCB22C411A-AC2***

3 5/2 Single solenoid valve, spring return

4 5/2 Double solenoid valve

Dimensions in mm
Projection/First angle



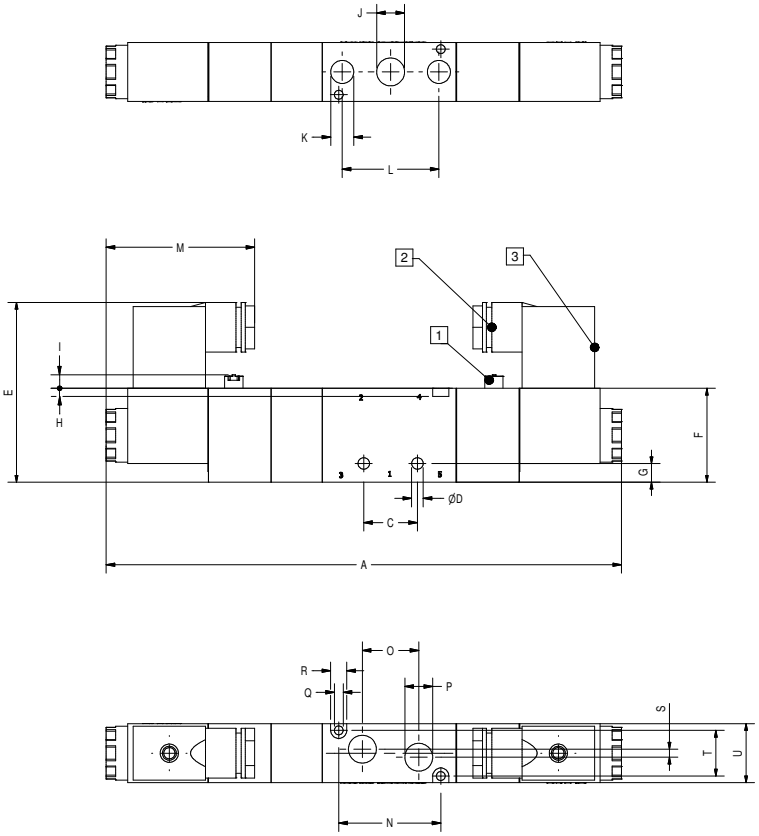


1 Manual override (Push & turn to lock)
2 Gland Size Pg 9
3 2 x 180° for M5 and G1/8
4 x 90° for G1/4 and G1/2

No.	A	C	ø D	E	F	G	H	I	J	K	L	M	N	O	P	ø Q	R	S	T	U	V	Model
3	99	14	3,2	54	27	4	3	2,5	M5	–	27,1	39	30	13,9	M5	3,3	6	–	13	18	28.5	VCB22A517D-C52***
3	99	14	3,2	54	27	4	3	2,5	G1/8	–	28	39	30	16	G1/8	3,3	6	3	13	18	28.5	VCB22A517D-CA2***
3	118	20	4.3	67	35	7	3	5	G1/4	G1/8	36	55	38	21	G1/4	3.3	6	3	17	22	32	VCB22B517A-AB2***
3	135	24	4.3	70	40	6.5	4	5	G3/8	G1/4	45	55	50	24	G3/8	4.3	8	4	20	27	40	VCB22C517A-AC2***
3	170	28	5.5	74	50	7.5	4	5	G1/2	G1/2	63	55	72	36	G1/2	4.3	8	4	27	34	58	VCB22D517A-AD2***
4	142	14	3,2	54	27	4	3	2,5	M5	–	27,1	39	30	13,9	M5	3,3	6	–	13	18	–	VCB22A511D-C52***
4	142	14	3,2	54	27	4	3	2,5	G1/8	–	28	39	30	16	G1/8	3,3	6	3	13	18	–	VCB22A511D-CA2***
4	117	20	4.3	67	35	7	3	5	G1/4	G1/8	36	55	38	21	G1/4	3.3	6	3	17	22	–	VCB22B511A-AB2***
4	190	24	4.3	70	40	6.5	4	5	G3/8	G1/4	45	55	50	24	G3/8	4.3	8	4	20	27	–	VCB22C511A-AC2***
4	225	28	5.5	74	50	7.5	4	5	G1/2	G1/2	63	55	72	36	G1/2	4.3	8	4	27	34	–	VCB22D511A-AD2***

5

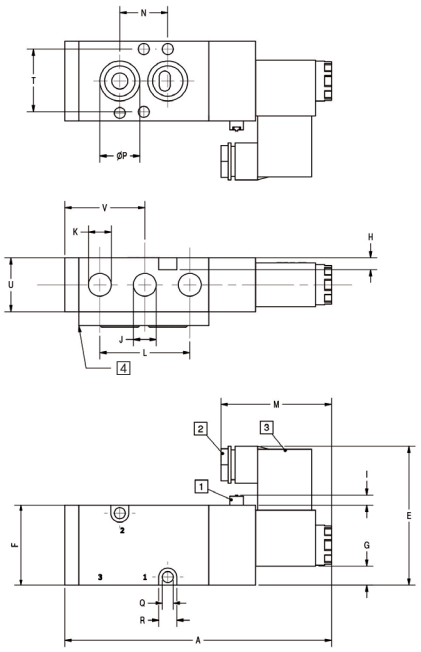
Dimensions in mm
Projection/First angle



1 Manual override (Push & turn to lock)
2 Gland Size Pg 9
3 2 x 180° for M5 and G1/8
4 x 90° for G1/4 and G1/2

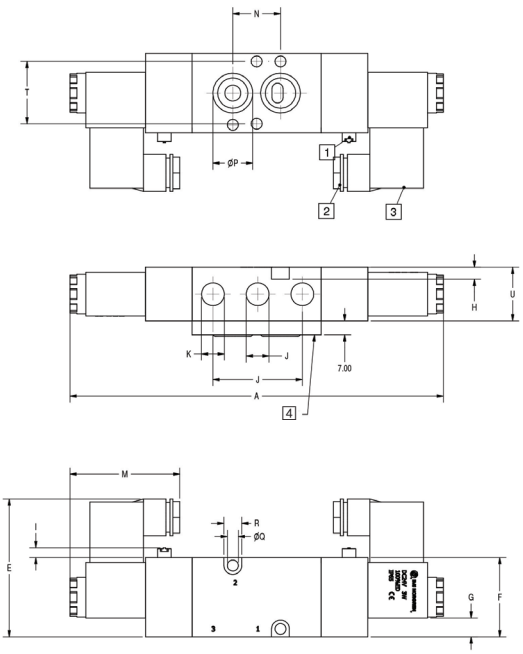
No.	A	C	ø D	E	F	G	H	I	J	K	L	M	N	O	ø P	ø Q	R	S	T	U	V	Model
5	157	14	3.2	54	27	4	3	2.5	M5	M5	27.1	39	30	13.9	M5	3.3	6	–	13	18	–	VCB22A611D-C52*** VCB22A711D-C52*** VCB22A811D-C52***
5	157	14	3.2	54	27	4	3	2.5	G1/8	G1/8	29.1	39	30	13.9	G1/8	3.3	6	–	13	18	–	VCB22A611D-CA2*** VCB22A711D-CA2*** VCB22A811D-CA2***
5	192	20	4.3	67	35	7	3	5	G1/4	G1/8	36	55	38	21	G1/4	3.3	6	3	17	22	–	VCB22B611A-AB2*** VCB22B711A-AB2*** VCB22B811A-AB2***
5	207	24	4.3	70	40	6.5	4	5	G3/8	G1/4	45	55	50	24	G3/8	4.3	8	4	20	27	–	VCB22C611A-AC2*** VCB22C711A-AC2*** VCB22C811A-AC2***
5	248	28	5.5	74	50	7.5	4	5	G1/2	G1/2	63	55	72	36	G1/2	4.3	8	4	27	34	–	VCB22D611A-AD2*** VCB22D711A-AD2*** VCB22D811A-AD2***

6 5/2 & 3/2 single solenoid valve, NAMUR

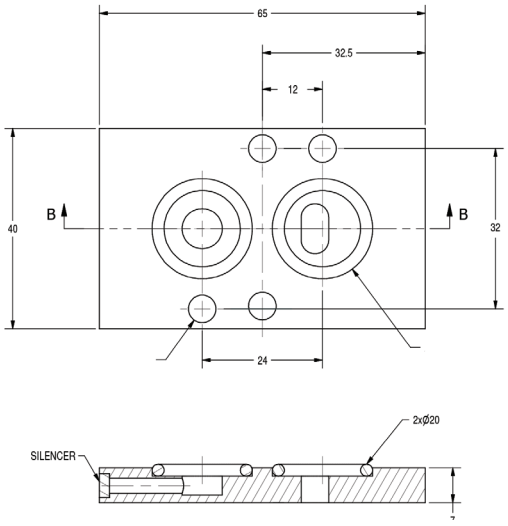


7 5/2 & 3/2 double solenoid valve, NAMUR

Dimensions in mm
Projection/First angle



8 Conversion plate (5/2 to 3/2 function)*



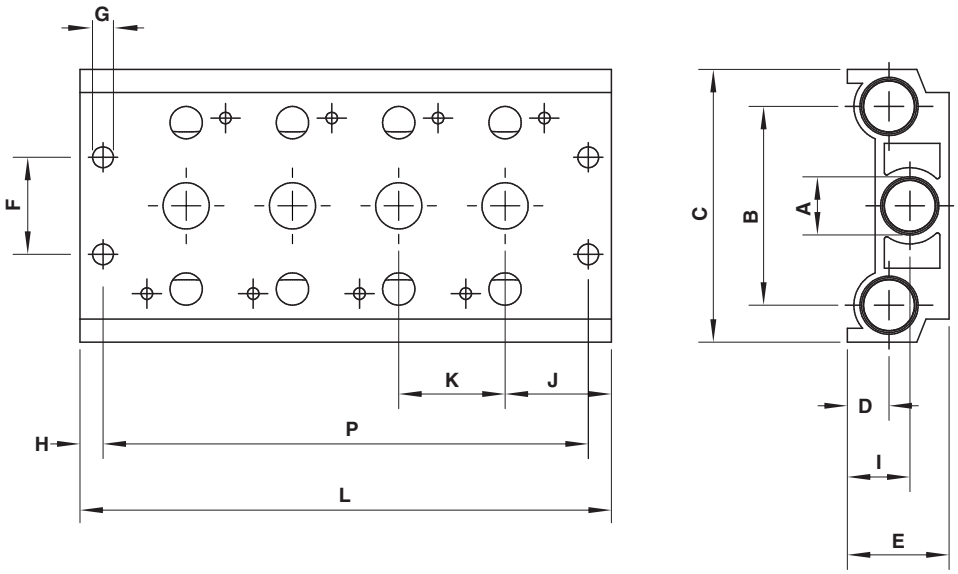
1 Manual override (Push & turn to lock)
2 Gland Size Pg 9
3 2 x 180° for M5 and G1/8
4 x 90° for G1/4 and G1/2
4 Connecting plate is assembled by customer's side

No.	A	C	D	E	F	G	H	I	J	K	L	M	N	O	ø P	ø Q	R	S	T	U	V	Model
6	135	–	–	70	40	9.5	6	5	G1/4	G1/4	45	55	24	–	20	5.5	9	–	32	27	40	VCB22C517A-AE2***
6	135	–	–	70	40	9.5	6	5	G3/8	G1/4	45	55	24	–	20	5.5	9	–	32	27	40	VCB22C517A-AF2***
7	190	–	–	70	40	9.5	6	5	G1/4	G1/4	45	55	24	–	20	5.5	9	–	32	27	–	VCB22C511A-AE2***
7	190	–	–	70	40	9.5	6	5	G3/8	G1/4	45	55	24	–	20	5.5	9	–	32	27	–	VCB22C511A-AF2***

*3/2 NAMUR function can be achieved by applying conversion plate on 5/2 NAMUR valve

9 5/2 & 5/3 Sub-base

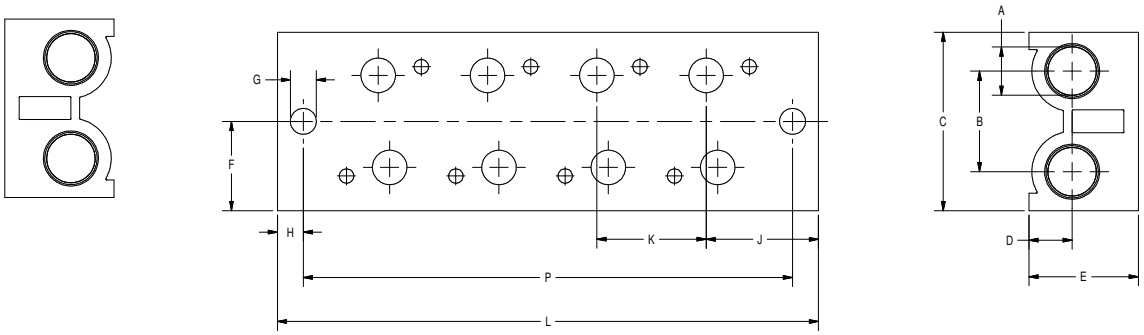
Dimensions in mm
Projection/First angle



No.	A	B	C	D	E	F	ø G	H	I	J	K	L	P	Model
9	G1/4	40	56,5	9	22	20	4,5	5	13,5	19	19	19+(N x 19)	9+(N x 19)	VCB22A**
9	G1/4	43	59	9	22	21	4,5	6	13,5	23	23	23+(N x 23)	11+(N x 23)	VCB22B**
9	G3/8	53	73	11,7	27	26	4,5	6	17	27	28	26+(N x 28)	14+(N x 28)	VCB22C**
9	G1/2	70	98	16,5	36	32	5,5	7	24	31,5	35	28+(N x 35)	14+(N x 35)	VCB22D**

10 3/2 Sub-base

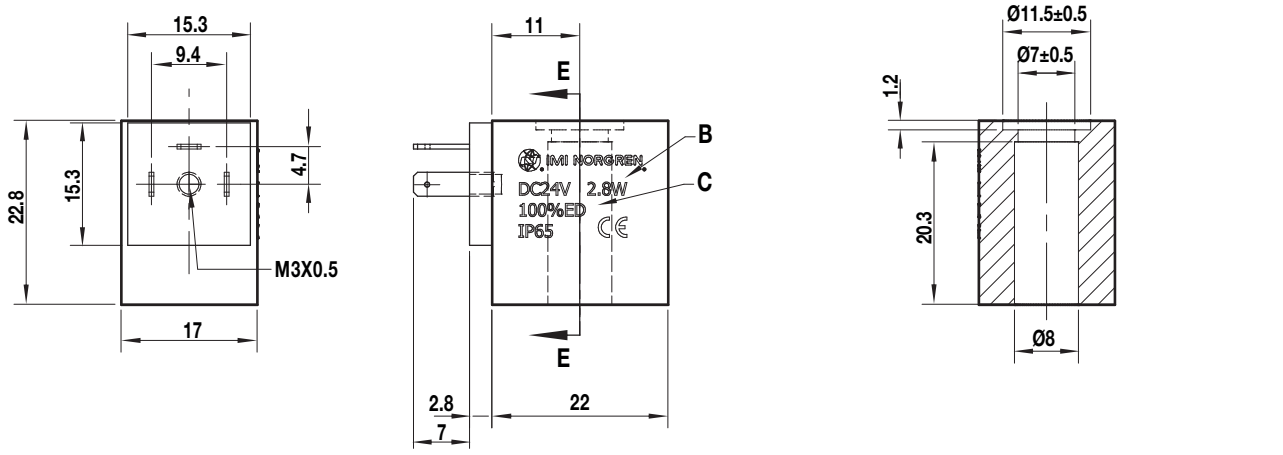
Dimensions in mm
Projection/First angle



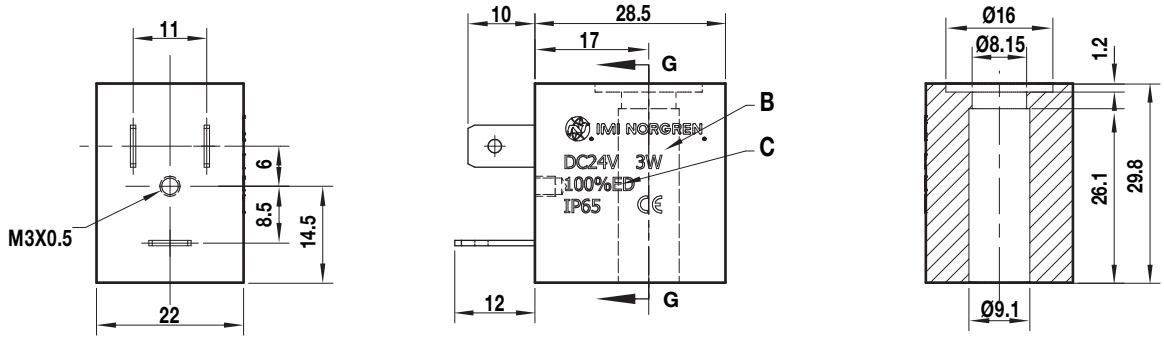
No.	A	B	C	D	E	F	ø G	H	J	K	L	P	Model
10	1/8	17.5	31	6	19	15.5	4.5	4.5	19.5	19	18+(N x 19)	9+(N x 19)	VCB22A/3**
10	1/4	23	45	8.5	22.5	22.5	4.5	6	23	23	23+(N x 23)	11+(N x 23)	VCB22B/3**
10	3/8	29	50	12	28	25	4.5	6	27	28	26+(N x 28)	14+(N x 28)	VCB22C/3**
10	1/2	35.5	62.5	16	35	31	5.5	7	31.5	32	28+(N x 35)	14+(N x 35)	VCB22D/3**

(11) Coil – 15 mm

Dimensions in mm
Projection/First angle



(12) Coil – 22 mm



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
IMI Precision Engineering, Norgren Ltd.

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.