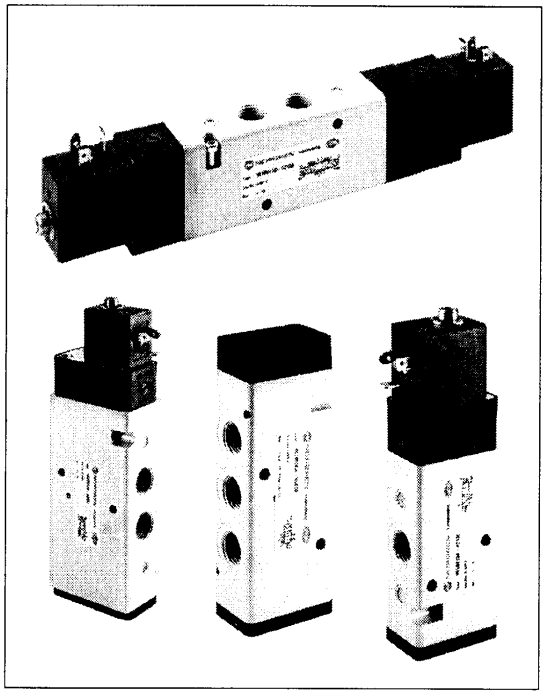
3552 8730 to 8935

NORGREN

Pneumatic Valves
Series XF V60 - 63

3/2, 5/2, 5/3 and 2 x 3/2 Directional control valves, electromagnetically and pneumatically actuated, rest position and impulse versions

- **High flow rate**
- **Small volumetric size**
- **Multiply proven sealing system**
- **With and without manual override**
- **Maintenance-free**
- **Low power consumption**
- **Application oriented pilot controls**
- **Manifold system for easy assembly**
- **Different pressure ranges possible**



Technical Data

Fluid:
Filtered (filter fineness < 50 µm), lubricated or non-lubricated compressed air

Actuation:
Electromagnetically or pneumatically controlled

Mounting position:
Optional

Connection :
G 1/8 up to G 3/8, NPT

Operating pressure :
1.5 up to 8 (10) bar

Flow direction:
Fixed

Flow rate :
750 up to 2600 l/min

Temperatures :

Fluid:	- 10 up to + 50 °C
Ambient	- 10 up to + 50 °C

Material:
Housing and base plate made of aluminium
Spindle made of stainless steel,
Piston, distance pieces and cover made of synthetic material,
static and dynamic seals made of NBR,
galvanised screws,
springs made of stainless steel.

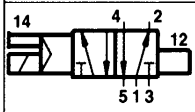
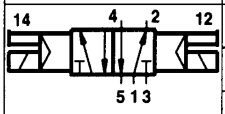
Ordering information

To place an order, choose the valve design and then complement with the code from Table 2. E.g. V61B513A-A213L for a 5/2 directional control valve, electromagnetically actuated, with return and a 24 V solenoid

HERION

Valve choice

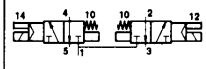
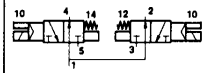
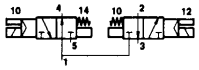
5/2 directional control valves, electropneumatically actuated

Symbol	Model	Type	Size	Pilot supply ++	Pilot exhaust +	Operator 14	Operator 12	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [Nr.]
	V60A513A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Pneumatic internal	750	2-8		0.24	02
	V60A523A-Ax***	XF5	G 1/8	external	not collected			750	- 0.9-8	3-8	0.24	02
	V60A513D-Cy13A	XF5	G 1/8	internal	collected			750	2-10		0.23	05
	V60A523D-Cy13A	XF5	G 1/8	external	collected			750	- 0.9-10	3-10	0.23	05
	V61B513A-Ax***	XF8	G 1/4	internal	not collected			1300	2-8		0.33	02
	V61B523A-Ax***	XF8	G 1/4	external	not collected			1300	- 0.9-8	3-8	0.33	02
	V61B513D-Cy13A	XF8	G 1/4	internal	collected			1300	2-10		0.32	05
	V61B523D-Cy13A	XF8	G 1/4	external	collected			1300	- 0.9-10	3-10	0.32	05
	V62C513A-Ax***	XF13	G 3/8	internal	not collected			2600	2-8		0.62	02
	V62C523A-Ax***	XF13	G 3/8	external	not collected			2600	- 0.9-8	3-8	0.62	02
	V62C513D-Cy13A	XF13	G 3/8	internal	collected			2600	2-10		0.61	05
	V62C523D-Cy13A	XF13	G 3/8	external	collected			2600	- 0.9-10	3-10	0.61	05
	V60A511A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Electromagnetic (Solenoid 2)	750	1.5-8		0.33	02
	V60A522A-Ax***	XF5	G 1/8	external	not collected			750	- 0.9-8	3-8	0.33	02
	V60A511D-Cy13A	XF5	G 1/8	internal	collected			750	1.5-10		0.23	05
	V60A522D-CY13A	XF5	G 1/8	external	collected			750	- 0.9-10	3-10	0.23	05
	V61B511A-Ax***	XF8	G 1/4	internal	not collected			1300	1.5-8		0.42	02
	V61B522A-Ax***	XF8	G 1/4	external	not collected			1300	- 0.9-8	3-8	0.42	02
	V61B511D-Cy13A	XF8	G 1/4	internal	collected			1300	1.5-10		0.32	05
	V61B522D-Cy13A	XF8	G 1/4	external	collected			1300	- 0.9-10	3-10	0.32	05
	V62C511A-Ax***	XF13	G 3/8	internal	not collected			2600	1.5-8		0.72	02
	V62C522A-Ax**	XF13	G 3/8	external	not collected			2600	- 0.9-8	3-8	0.72	02
	V62C511D-Cy13A	XF13	G 3/8	internal	collected			2600	1.5-10		0.62	05
	V62C522D-Cy13A	XF13	G 3/8	external	collected			2600	- 0.9-10	3-10	0.62	05

*** Insert voltage code from Table 2 on Page 14, or 000 for versions without solenoid.
x Choose and insert manual actuation from Table 1, Page 14.
+ Valves with collected pilot control exhaust air. Design with double pilot controls (only 24 V possible). Solenoid not exchangeable.
++ Connection for external control air and collected pilot control air, M5 thread inside housing, see Drawing 01 ... 06.
y Choose manual actuation in the table on Page 14.

Valve choice

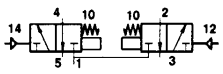
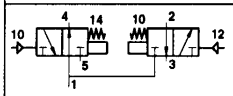
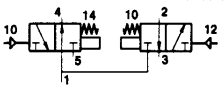
2 x 3/2 directional control valves, electropneumatically actuated

Symbol	Design	Type	Size	Pilot supply ++	Pilot exhaust	Operator	Operator	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 NC[1)]	V60AA11A-Ax***	XF5	G 1/8	internal	not collected	14 (Solenoid 1) electro-magnetic	12 (Solenoid 2) electro-magnetic	500	2-8		0.34	02
	V60AA11D-Cy13A	XF5	G 1/8	internal	collected			500	2-10		0.24	05
	V61BA11A-Ax***	XF8	G 1/4	internal	not collected			950	2-8		0.43	02
	V61BA11D-Cy13A	XF8	G 1/4	internal	collected			950	2-10		0.33	05
	V62CA11A--Ax***	XF13	G 3/8	internal	not collected			1900	2-8		0.73	02
	V62CA11D-Cy13A	XF13	G 3/8	internal	collected			1900	2-10		0.63	05
 NO[1)]	V60AB11A-Ax***	XF5	G 1/8	internal	not collected	10 (Solenoid 1) electro-magnetic	10 (Solenoid 2) electro-magnetic	500	2-8		0.34	02
	V60AB11D-Cy13A	XF5	G 1/8	internal	collected			500	2-10		0.24	05
	V61BB11A-Ax***	XF8	G 1/4	internal	not collected			950	2-8		0.43	02
	V61BB11D-Cy13A	XF8	G 1/4	internal	collected			950	2-10		0.33	05
	V62CB11A-Ax***	XF13	G 3/8	internal	not collected			1900	2-8		0.73	02
	V62CB11D-Cy13A	XF13	G 3/8	internal	collected			1900	2-10		0.63	05
 NO/NC[1)]	V60AC11A-Ax***	XF5	G 1/8	internal	not collected	10 (Solenoid 1) electro-magnetic	12 (Solenoid 2) electro-magnetic	500	2-8		0.34	02
	V60AC11D-Cy13A	XF5	G 1/8	internal	collected			500	2-10		0.24	05
	V61BC11A-Ax***	XF8	G 1/4	internal	not collected			950	2-8		0.43	02
	V61BC11D-Cy13A	XF8	G 1/4	internal	collected			950	2-10		0.33	05
	V62CC11A-Ax***	XF13	G 3/8	internal	not collected			1900	2-8		0.73	02
	V62CC11D-Cy13A	XF13	G 3/8	internal	collected			1900	2-10		0.63	05

*** Insert voltage code from Table 2 on Page 14, or 000 for versions without solenoid.
x Choose and insert manual actuation from Table 1, Page 14.
\+ Valves with collected pilot control exhaust air. Design with double pilot controls (only 24 V possible). Solenoid not exchangeable.
++ Connection for external control air and collected pilot control air, M5 thread inside housing, see Drawing 01 ... 06.
y Choose manual actuation in the table on Page 14.
1) See page 7.

Hint: Internal resetting via pressure and spring .

Valve choice
2 x 3/2 directional control valves, pneumatically actuated

Symbol	Design	Type	Size	Operator	Operator	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 NC[1)]	V60AADDA-X5020	XF5	G 1/8	14 Air	12 Air	500	2-10	2-10	0.18	08
	V61BADDA-X5020	XF8	G 1/4	14 Air	12 Air	950	2-10	2-10	0.28	08
	V62CADDA-X5020	XF13	G 3/8	14 Air	12 Air	1900	2-10	2-10	0.60	08
 NO[1)]	V60ABDDA-X5020	XF5	G 1/8	10 Air	10 Air	500	2-10	2-10	0.18	08
	V61BBDDA-X5020	XF8	G 1/4	10 Air	10 Air	950	2-10	2-10	0.28	08
	V62CBDDA-X5020	XF13	G 3/8	10 Air	10 Air	1900	2-10	2-10	0.60	08
 NO/NC[1)]	V60ACDDA-X5020	XF5	G 1/8	10 Air	12 Air	500	2-10	2-10	0.18	08
	V61BCDDA-X5020	XF8	G 1/4	10 Air	12 Air	950	2-10	2-10	0.28	08
	V62CCDDA-X5020	XF13	G 3/8	10 Air	12 Air	1900	2-10	2-10	0.60	08

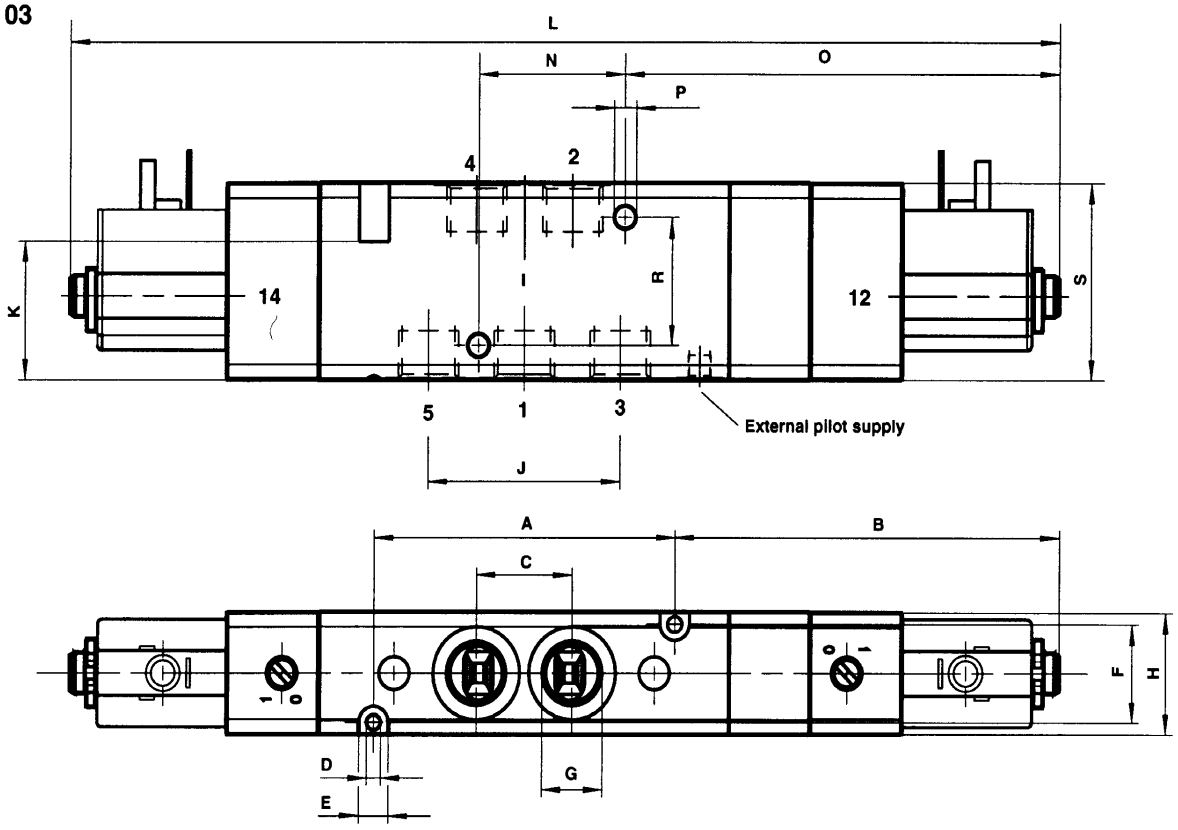
See page 7.

Hint: Internal resetting via pressure and spring.

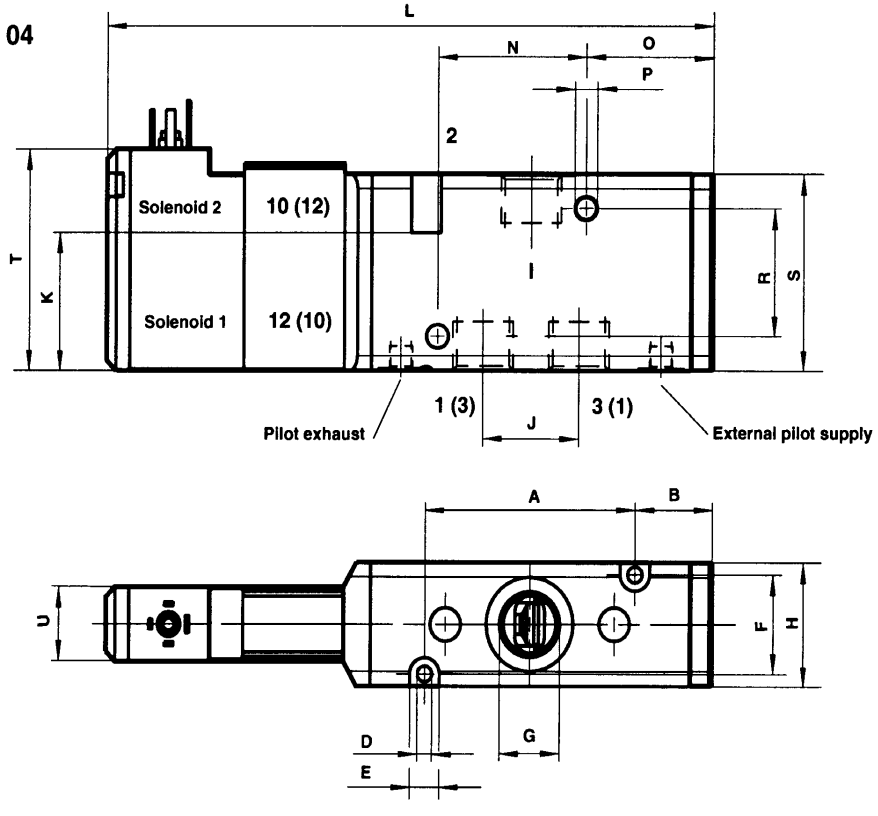
NO	=	normally open
NC	=	normally closed
APB	=	all ports blocked
COE	=	central open exhaust
COP	=	central open pressure

Dimensional drawings

03

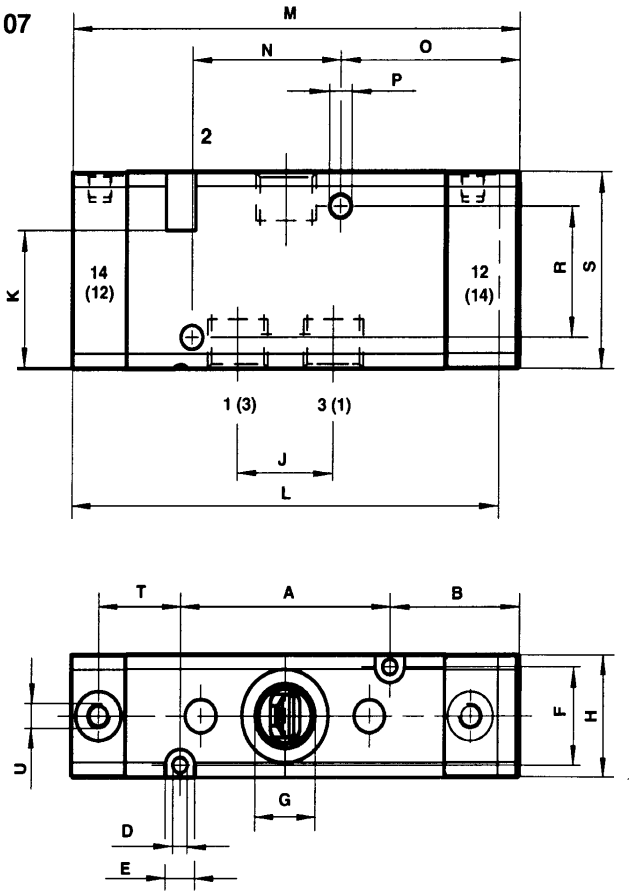


04

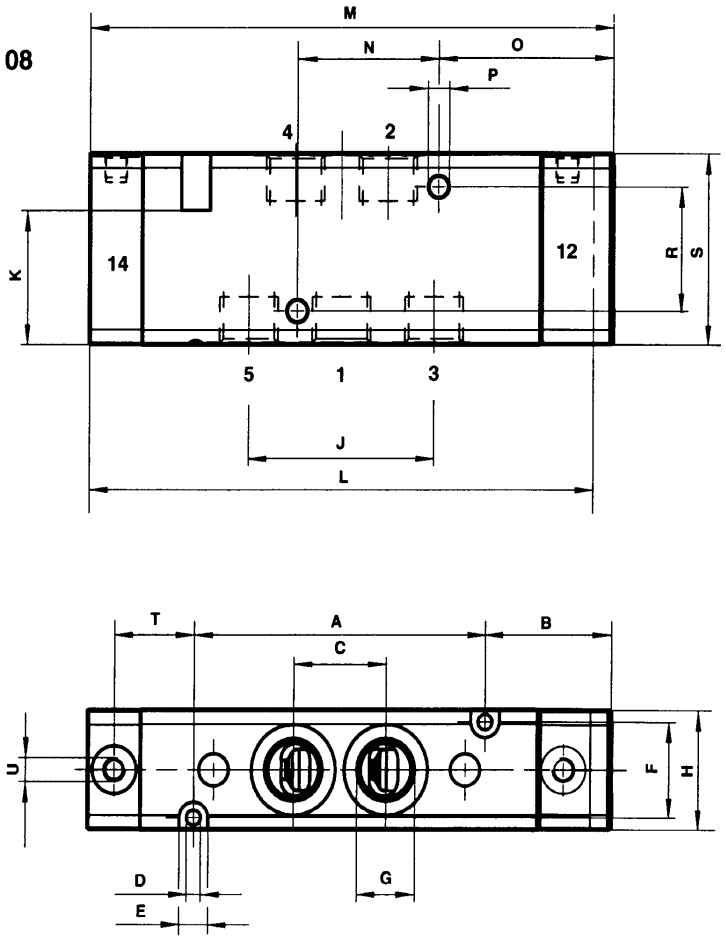


Dimensional drawings

07



08

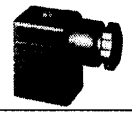
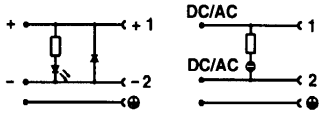
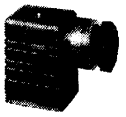


Electromagnetically actuated									Pneumatically actuated		
XF8 V61	5/2 Rest position	5/2 Impulse version and 2 x 3/2	5/3	3/2 Rest position	3/2 Impulse version	Double pilot control, rest position, impulse version and 2 x 3/2	5/3 Double pilot control	3/2 Double pilot control	3/2 Rest position, impulse version	5/2 Rest position, impulse version	5/3
Dimensional drawing No.	2	2	3	1	1	5	6	4	7	8	9
A	66	66	66	46	46	66	66	46	46	66	66
B	18	-	-	18	-	18	36	18	35/24	35/24	42
C	21	21	21	-	-	21	21	-	-	21	21
D	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
E	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F	20	20	20	20	20	20	20	20	20	20	20
G	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4	G1/4, NPT 1/4
H	25	25	25	25	25	25	25	25	25	25	25
J	42	42	42	21	21	42	42	21	21	42	42
K	28	28	28	28	28	28	28	28	28	28	28
L	-	199	217	-	179	153	171	133	94	114	132
M	150	-	-	130	-	-	-	-	105	125	-
N	32	32	32	32	32	32	32	32	32	32	32
O	29	-	-	29	-	29	47	29	46/35	46/35	53
P	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
R	26	26	26	26	26	26	26	26	26	26	26
S	40	40	40	40	40	40	40	40	40	40	40
T	-	-	-	-	-	45	45	45	18	18	18
U	-	-	-	-	-	15	15	15	M 5	M 5	M 5

Electromagnetically actuated									Pneumatically actuated		
XF13 V62	5/2 Rest position	5/2 Impulse version and 2 x 3/2	5/3	3/2 Rest position	3/2 Impulse version	Double pilot control, rest position, impulse version and 2 x 3/2	5/3 Double pilot control	3/2 Double pilot control	3/2 Rest position, impulse version	5/2 Rest position, impulse version	5/3
Dimensional drawing No.	2	2	3	1	1	5	6	4	7	8	9
A	78	78	78	54	54	78	78	54	54	78	78
B	21	-	-	21	-	21	43	21	43/27	43/27	49
C	24.4	24.4	24.4	-	-	24.4	24.4	-	-	24.4	24.4
D	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
E	8	8	8	8	8	8	8	8	8	8	8
F	28	28	28	28	28	28	28	28	28	28	28
G	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8	G3/8, NPT 3/8
H	34	34	34	34	34	34	34	34	34	34	34
J	48.8	48.8	48.8	24.4	24.4	48.8	48.8	48.8	24.4	48.8	48.8
K	44	44	44	44	44	44	44	44	44	44	44
L	-	220	242	-	196	172	194	148	108	132	154
M	170	-	-	146	-	-	-	-	124	148	-
N	12	12	12	12	12	12	12	12	12	12	12
O	60	-	-	36	-	60	82	36	58/42	82/66	88
P	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
R	36	36	36	36	36	36	36	36	36	36	36
S	55	55	55	55	55	55	55	55	55	55	55
T	-	-	-	-	-	45	45	45	21	21	21
U	-	-	-	-	-	15	15	15	M 5	M 5	M 5

Device plug connectors for actuating solenoids with protection class IP 65

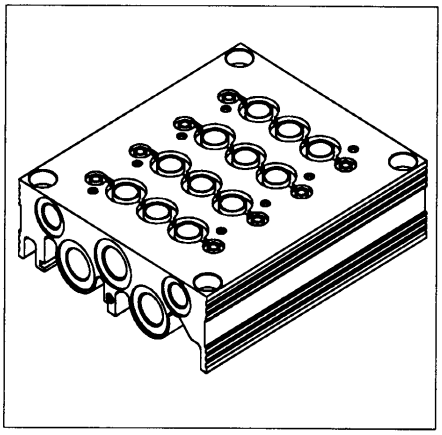
Table 5

Picture	Designation	Electrical circuit diagram	Application temperature [°C]	Operating voltage [V]	Ordering No.
	Connector acc. to industrial standard, without cable, without LED		- 40 ... + 125	12 ... 250 DC/AC	0657868 0000 000 00
	Connector acc. to DIN 43650 Form B, without cable, without LED		- 40 ... + 125	12 ... 250 DC/AC	0680003 0000 000 00
	Connector acc. to industrial standard, without cable, with LED and extinguished diode, or glow lamp		- 40 ... + 90 - 40 ... + 90	15 ... 30 DC 150 ... 250 DC/AC	0680000 0000 000 00 0680001 0000 000 00
	Connector acc. to DIN 43650 Form B, without cable, with LED and extinguished diode or glow lamp		- 40 ... + 100 - 40 ... + 100	15 ... 30 DC 150 ... 250 DC/AC	0664811 0000 000 00 0664812 0000 000 00
	Connector acc. to DIN 43650 Form C, without cable, without LED		- 40 ... + 90	12 ... 250 DC/AC	0588666 0000 000 00

XF Manifold System

Manifold Plate

Valve ports	XF5		XF8		XF13	
	Ordering No.	Weight [kg]	Ordering No.	Weight [kg]	Ordering No.	Weight [kg]
4	2221004 0000 000 00	0.61	2221104 0000 000 00	0.72	2221204 0000 000 00	1.25
6	2221006 0000 000 00	0.86	2221106 0000 000 00	1.02	2221206 0000 000 00	1.79
8	2221008 0000 000 00	1.11	2221108 0000 000 00	1.32	2221208 0000 000 00	2.33
10	2221010 0000 000 00	1.36	2221110 0000 000 00	1.62	2221210 0000 000 00	2.87
12	2221012 0000 000 00	1.61	2221112 0000 000 00	1.92	2221212 0000 000 00	3.41
14	2221014 0000 000 00	1.86	2221114 0000 000 00	2.22	2221214 0000 000 00	3.95
16	2221016 0000 000 00	2.11	2221116 0000 000 00	2.52	2221216 0000 000 00	4.49
18	2221018 0000 000 00	2.36	2221118 0000 000 00	2.82	2221218 0000 000 00	5.03
20	2221020 0000 000 00	2.61	2221120 0000 000 00	3.12	2221220 0000 000 00	5.57



Accessories

Pressure shut-off part* Ordering No.	Blanking plate, complete** Ordering No.	For manifold
0100567 0000 000 00	0100561 0000 000 00	XF5 / V60
0100569 0000 000 00	0100563 0000 000 00	XF8 / V61
0100571 0000 000 00	0100565 0000 000 00	XF13 / V62

* Necessary for separate supply of two different pressures.
** For closing reserve valve ports.

Included in the delivery scope:
seals and fastening screws.

Dimensional drawing

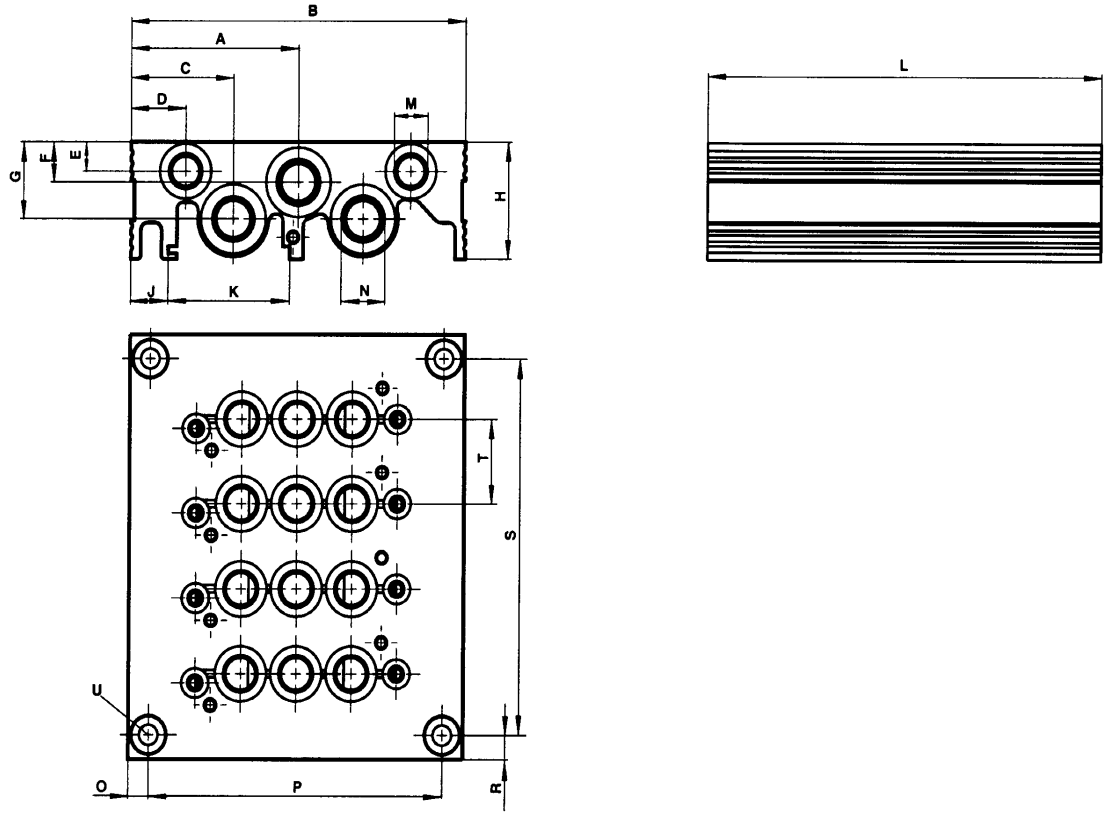


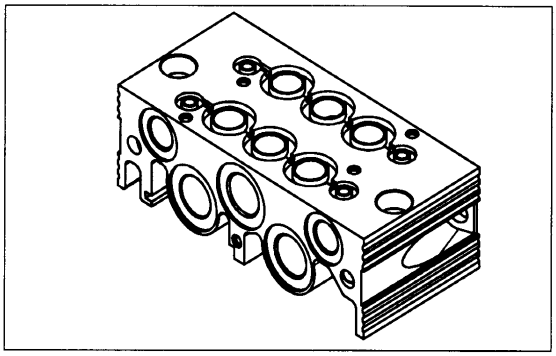
Table of Dimensions [mm]

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
XF5-2er	49	98	30	16	8	11	21	32	11	35.5	46	G 1/8	G 1/4	6	86	18	-	23	for M5
XF8-fixed	49	98	30	16	8	11	21	32	11	35.5	=(Number of valves x 23) + 23	G 1/8	G 1/4	6	86	6.5	=(Number of valves x 23) + 10	23	for M5
XF8-2er	52	104	26	9	8	13	20	33	10	35.5	52	G 1/8	G 3/8	40	24	26	-	26	for M5
XF8-fixed	52	104	26	9	8	13	20	33	10	35.5	=(Number of valves x 26) + 23	G 1/8	G 3/8	40	24	6.5	=(Number of valves x 26) + 10	26	for M5
XF13-2er	60	120	29	9	8	15	22	38	13	35.5	70	G 1/8	G 1/2	44	32	35	-	35	for M6
XF13-fixed	60	120	29	9	8	15	22	38	13	35.5	=(Number of valves x 35) + 26	G 1/8	G 1/2	44	32	7	=(Number of valves x 35) + 12	35	for M6

XF Manifold System

Double Segment

Ordering No.	For valves	Weight [kg]
2221002 0000 000 00	XF5	0.23
2221102 0000 000 00	XF8	0.28
2221202 0000 000 00	XF13	0.50



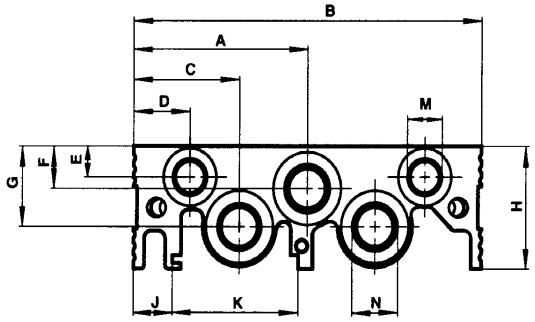
Accessories

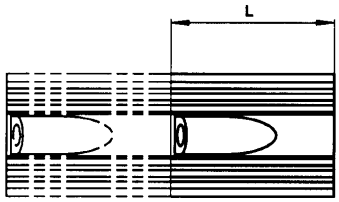
Pressure shut-off part* Ordering No.	Blanking plate, complete** Ordering No.	For manifold
0701208 0000 000 00	0100561 0000 000 00	XF5 / V60
0701209 0000 000 00	0100563 0000 000 00	XF8 / V61
0701210 0000 000 00	0100565 0000 000 00	XF13 / V62

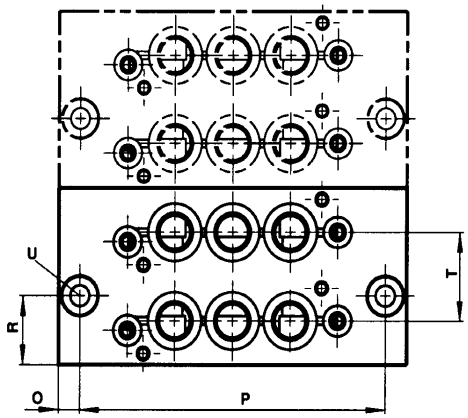
* Necessary for separate supply of two different pressures.
** For closing reserve valve ports.

Included in the delivery scope: seals and fastening screws .

Dimensional drawing







Electrical data of solenoids / single pilot controls

Table 1

Voltage tolerance	Switching time	Port size	Plug picture	Solenoid	Manual actuation		Protection class
± 10%	100% ED	1.0 mm	Industrial standard 22 mm, acc. to DIN 43650 Form B	Can be rotated in 90°-steps	Without manual overriding, press and detent press	x = 1 x = 2 x = 3	IP 65 with sealed plugs (ISO 6952)

Voltage codes and substitute solenoids

Table 2

Voltage	22 mm Solenoid with plug picture acc. to industrial standard		Solenoid	22 mm Solenoid with plug picture acc. to DIN 43650 Form B		Solenoid
	Code	Power cons. Active/Operation	No.	Code	Power cons. Active/Operation	No.
12 V DC	12J	2 W	QM/48/160/21	12L	2 W	V10626-A12
24 V DC	13J	2 W	QM/48/127/21	13L	2 W	V10626-A13
24 V 50/60 Hz	14J	4 / 2.5 VA	QM/48/164/21	14L	4 / 2.5 VA	V10626-A14
48 V 50/60 Hz	16J	4 / 2.5 VA	QM/48/165/21	16L	4 / 2.5 VA	V10626-A16
110/120 V 50/60 Hz	18J	4 / 2.5 VA	QM/48/166/21	18L	4 / 2.5 VA	V10626-A18
220/240 V 50/60 Hz	19J	6 / 5.0 VA	QM/48/167/21	19L	6 / 5.0 VA	V10626-A19

Connection plugs must be ordered separately. Technical data in Table 5.

Electrical data of solenoids / double pilot control

Table 3

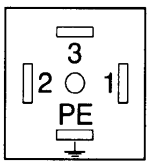
Voltage tolerance	Switching time	Port size	Plug picture	Solenoid	Manual actuation	Protection class
± 10%	100% ED	0.8 mm	DIN 43650 Form C (3 Pin + Ground)	Integrated, cannot be rotated	See voltage code and substitute solenoids	IP 65 with sealed plugs (ISO 6952)

Manual override / double pilot control

Table 4

Voltage			Double pilot control, complete	Manual actuation
	Code	Power consumption	No.	
24 V DC	y = 3	2 W	9031703 9000 024 00	press
	y = 2	2 W	9031704 9000 024 00	detent
	y = 1	2 W	9031705 9000 024 00	without

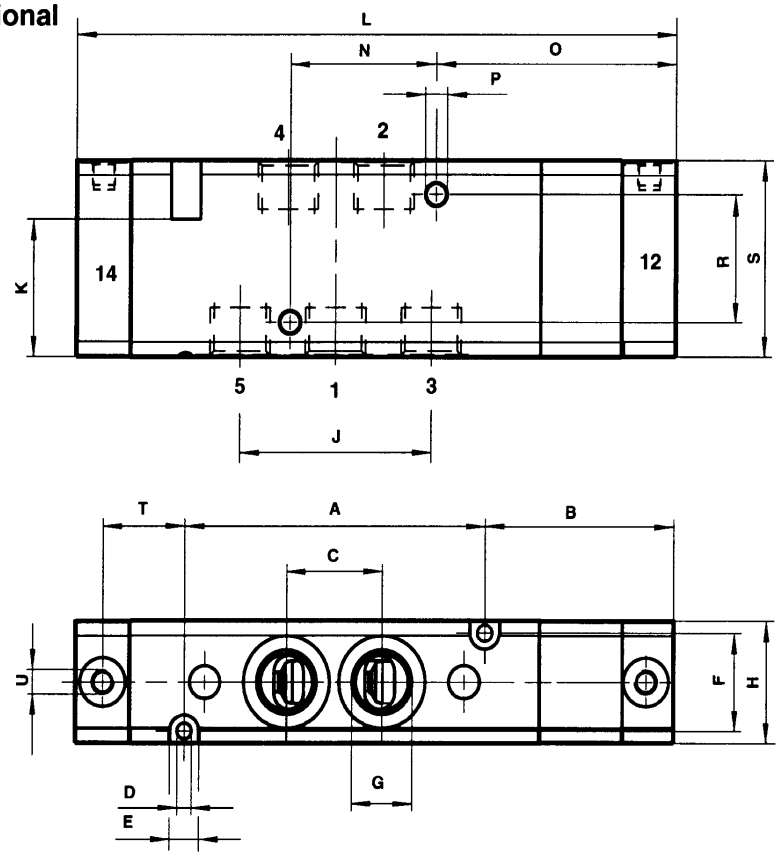
Plug configuration, valve side / double pilot control

Symbol	Plug number	Function	Actuation
	1	(+)	12 (Solenoid 2)
	2	(-)	12 + 14
	3	(+)	14 (Solenoid 1)
	PE	⏚	(Ground)

Pneumatic Valves Series XF V 60 - 63

Dimensional drawing

09

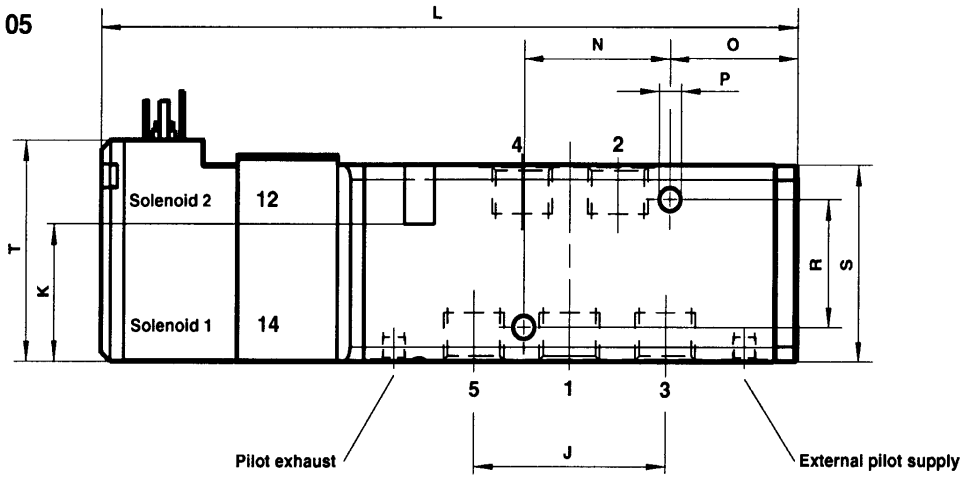


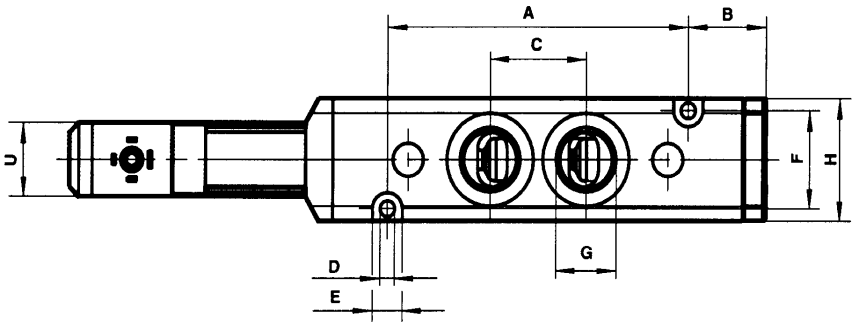
Dimensional tables

Electromagnetically actuated									Pneumatically actuated		
XF5 V60	5/2 Rest position	5/2 Impulse version and 2 x 3/2	5/3	3/2 Rest position	3/2 Impulse version	Double pilot control, rest position, impulse version and 2 x 3/2	5/3 Double pilot control	3/2 Double pilot control	3/2 Rest position, impulse version	5/2 Rest position, impulse version	5/3
Dimensional drawing No.	2	2	3	1	1	5	6	4	7	8	9
A	50	50	50	35	35	50	50	35	35	50	50
B	16	-	-	16	-	16	30	16	29/23	29/23	37
C	16.2	16.2	16.2	-	-	16.2	16.2	-	-	16.2	16.2
D	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
E	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
F	17	17	17	17	17	17	17	17	17	17	17
G	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8	G1/8, NPT 1/8
H	22	22	22	22	22	22	22	22	22	22	22
J	32.4	32.4	32.4	16.2	16.2	32.4	32.4	16.2	16.2	32.4	32.4
K	28	28	28	28	28	28	28	28	28	28	28
L	-	175	189	-	160	134	148	119	80	95	109
M	129	-	-	114	-	-	-	-	86	101	-
N	25	25	25	25	25	25	25	25	25	25	25
O	25	-	-	25	-	25	39	25	37/31	37/31	45
P	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
R	26	26	26	26	26	26	26	26	26	26	26
S	35	35	35	35	35	35	35	35	35	35	35
T	-	-	-	-	-	45	45	45	17	17	17
U	-	-	-	-	-	15	15	15	M 5	M 5	M 5

Dimensional drawings

05





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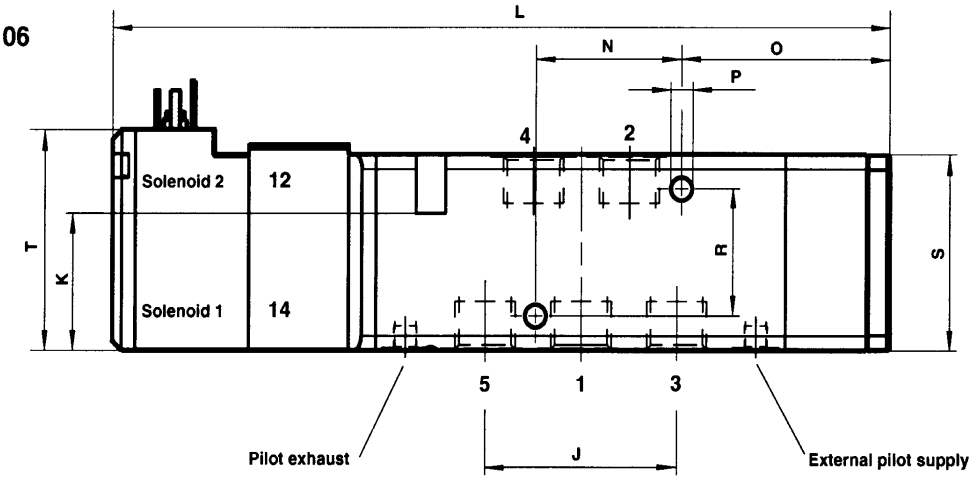
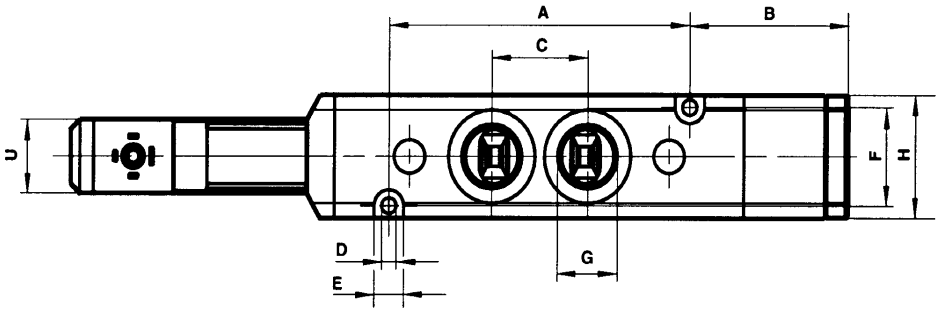
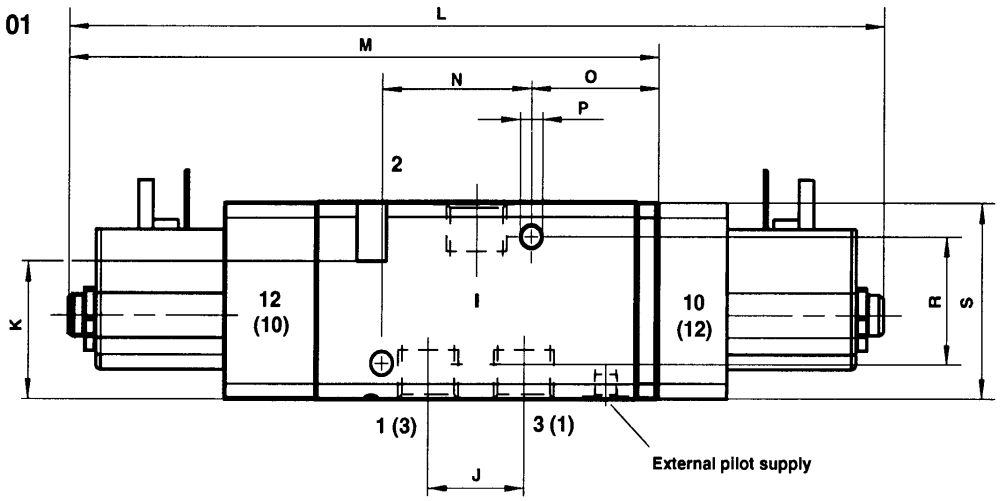
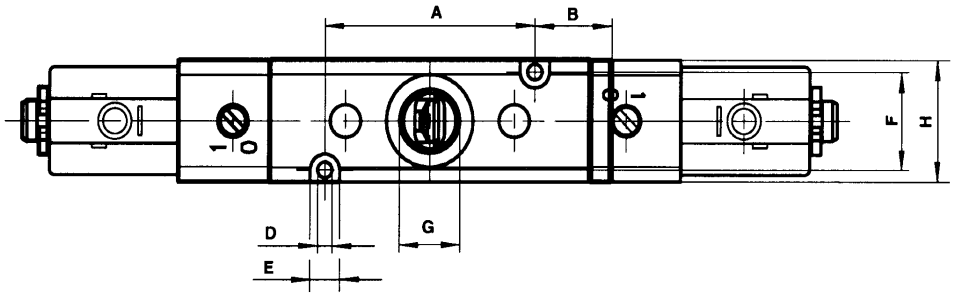




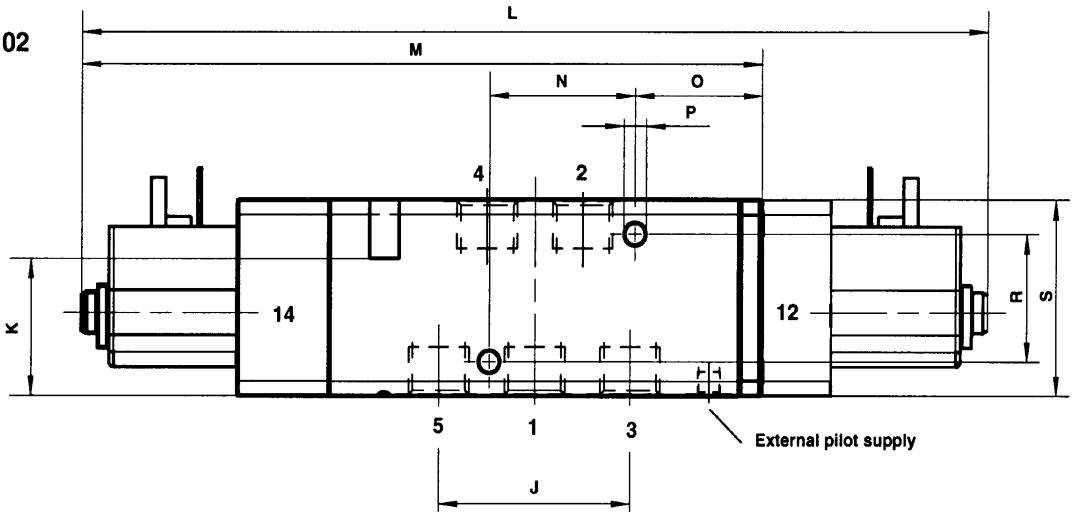
Dimensional drawings

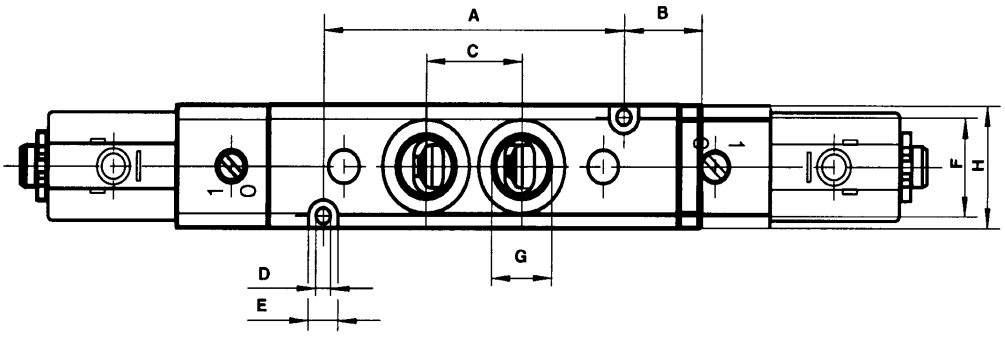
01





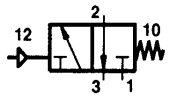
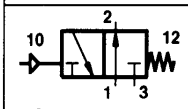
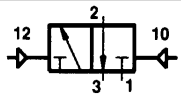
02





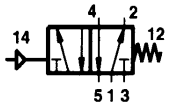
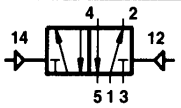
Valve choice

3/2 directional control valves, pneumatically actuated

Symbol	Design	Type	Size	Operator 12	Operator 10	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 NC[1]	V60A4D7A-X5090	XF5	G 1/8	Air	Spring	750	- 0.9-10	2.5-10	0.13	07
	V61B4D7A-X5090	XF8	G 1/4	Air	Spring	1300	- 0.9-10	2.5-10	0.21	07
	V62C4D7A-X5090	XF13	G 3/8	Air	Spring	2600	- 0.9-10	2.5-10	0.43	07
 NO[1]	V60A3D7A-X5090	XF5	G 1/8	Spring	Air	750	- 0.9-10	2.5-10	0.13	07
	V61B3D7A-X5090	XF8	G 1/4	Spring	Air	1300	- 0.9-10	2.5-10	0.21	07
	V62C3D7A-X5090	XF13	G 3/8	Spring	Air	2600	- 0.9-10	2.5-10	0.43	07
	V60A4DDA-X5020	XF5	G 1/8	Air	Air	750	- 0.9-10	1.5-10	0.15	07
	V61B4DDA-X5020	XF8	G 1/4	Air	Air	1300	- 0.9-10	1.5-10	0.24	07
	V62C4DDA-X5020	XF13	G 3/8	Air	Air	2600	- 0.9-10	1.5-10	0.47	07

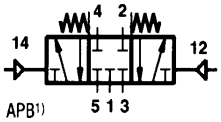
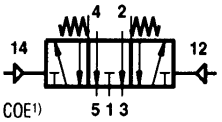
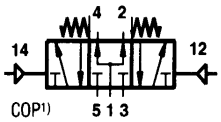
Valve choice

5/2 directional control valves, pneumatically actuated

Symbol	Design	Type	Size	Operator 14	Operator 12	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
	V60A5D7A-X5090	XF5	G 1/8	Air	Spring	750	- 0.9-10	2.5-10	0.16	08
	V61B5D7A-X5090	XF8	G 1/4	Air	Spring	1300	- 0.9-10	2.5-10	0.26	08
	V62C5D7A-X5090	XF13	G 3/8	Air	Spring	2600	- 0.9-10	2.5-10	0.56	08
	V60A5DDA-X5020	XF5	G 1/8	Air	Air	750	- 0.9-10	1.5-10	0.17	08
	V61B5DDA-X5020	XF8	G 1/4	Air	Air	1300	- 0.9-10	1.5-10	0.27	08
	V62C5DDA-X5020	XF13	G 3/8	Air	Air	2600	- 0.9-10	1.5-10	0.58	08

Valve choice

5/3 directional control valves, pneumatically actuated

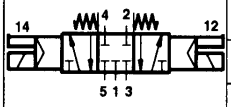
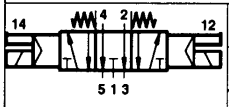
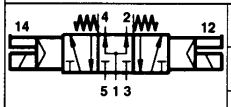
Symbol	Design	Type	Size	Operator 14	Operator 12	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 APB[1]	V60A6DDA-X5020	XF5	G 1/8	Air	Air	500	- 0.9-10	3-10	0.20	09
	V61B6DDA-X5020	XF8	G 1/4	Air	Air	950	- 0.9-10	3-10	0.32	09
	V62C6DDA-X5020	XF13	G 3/8	Air	Air	1900	- 0.9-10	3-10	0.67	09
 COE[1]	V60A7DDA-X5020	XF5	G 1/8	Air	Air	500	- 0.9-10	3-10	0.20	09
	V61B7DDA-X5020	XF8	G 1/4	Air	Air	950	- 0.9-10	3-10	0.32	09
	V62C7DDA-X5020	XF13	G 3/8	Air	Air	1900	- 0.9-10	3-10	0.67	09
 COP[1]	V60A8DDA-X5020	XF5	G 1/8	Air	Air	500	- 0.9-10	3-10	0.20	09
	V61B8DDA-X5020	XF8	G 1/4	Air	Air	950	- 0.9-10	3-10	0.32	09
	V62C8DDA-X5020	XF13	G 3/8	Air	Air	1900	- 0.9-10	3-10	0.67	09

1) See page 7.

Hint: Reversal switching in middle position via spring.

Valve choice

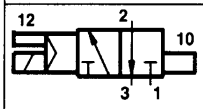
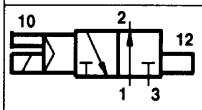
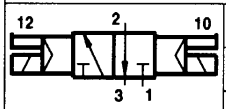
5/3 directional control valves, electropneumatically actuated

Symbol	Design	Type	Size	Pilot supply ++	Pilot exhaust +	Operator 14	Operator 12	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 APB[1)]	V60A611A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Electromagnetic (Solenoid 2)	500	3-8		0.35	03
	V60A622A-Ax***	XF5	G 1/8	external	not collected			500	- 0.9-8	3-8	0.35	03
	V60A611D-Cy13A	XF5	G 1/8	internal	collected			500	3-10		0.25	06
	V60A622D-Cy13A	XF5	G 1/8	external	collected			500	- 0.9-10	3-10	0.25	06
	V61B611A-Ax***	XF8	G 1/4	internal	not collected			950	3-8		0.47	03
	V61B622A-Ax***	XF8	G 1/4	external	not collected			950	- 0.9-8	3-8	0.47	03
	V61B611D-Cy13A	XF8	G 1/4	internal	collected			950	3-10		0.37	06
	V61B622D-Cy13A	XF8	G 1/4	external	collected			950	- 0.9-10	3-10	0.37	06
	V62C611A-Ax***	XF13	G 3/8	internal	not collected			1900	3-8		0.81	03
	V62C622A-Ax***	XF13	G 3/8	external	not collected			1900	- 0.9-8	3-8	0.81	03
	V62C611D-Cy13A	XF13	G 3/8	internal	collected			1900	3-10		0.71	06
	V62C622D-Cy13A	XF13	G 3/8	external	collected			1900	- 0.9-10	3-10	0.71	06
 COE[1)]	V60A711A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Electromagnetic (Solenoid 2)	500	3-8		0.35	03
	V60A722A-Ax***	XF5	G 1/8	external	not collected			500	- 0.9-8	3-8	0.35	03
	V60A711D-Cy13A	XF5	G 1/8	internal	collected			500	3-10		0.25	06
	V60A722D-Cy13A	XF5	G 1/8	external	collected			500	- 0.9-10	3-10	0.25	06
	V61B711A-Ax***	XF8	G 1/4	internal	not collected			950	3-8		0.47	03
	V61B722A-Ax***	XF8	G 1/4	external	not collected			950	- 0.9-8	3-8	0.47	03
	V61B711D-Cy13A	XF8	G 1/4	internal	collected			950	3-10		0.37	06
	V61B722D-Cy13A	XF8	G 1/4	external	collected			950	- 0.9-10	3-10	0.37	06
	V62C711A-Ax***	XF13	G 3/8	internal	not collected			1900	3-8		0.81	03
	V62C722A-Ax***	XF13	G 3/8	external	not collected			1900	- 0.9-8	3-8	0.81	03
	V62C711D-Cy13A	XF13	G 3/8	internal	collected			1900	3-10		0.71	06
	V62C722D-Cy13A	XF13	G 3/8	external	collected			1900	- 0.9-10	3-10	0.71	06
 COP[1)]	V60A811A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Electromagnetic (Solenoid 2)	500	3-8		0.35	03
	V60A822A-Ax***	XF5	G 1/8	external	not collected			500	- 0.9-8	3-8	0.35	03
	V60A811D-Cy13A	XF5	G 1/8	internal	collected			500	3-10		0.25	06
	V60A822D-Cy13A	XF5	G 1/8	external	collected			500	- 0.9-10	3-10	0.25	06
	V61B811A-Ax***	XF8	G 1/4	internal	not collected			950	3-8		0.47	03
	V61B822A-Ax***	XF8	G 1/4	external	not collected			950	- 0.9-8	3-8	0.47	03
	V61B811D-Cy13A	XF8	G 1/4	internal	collected			950	3-10		0.37	06
	V61B822D-Cy13A	XF8	G 1/4	external	collected			950	- 0.9-10	3-10	0.37	06
	V62C811A-Ax***	XF13	G 3/8	internal	not collected			1900	3-8		0.81	03
	V62C822A-Ax***	XF13	G 3/8	external	not collected			1900	- 0.9-8	3-8	0.81	03
	V62C811D-Cy13A	XF13	G 3/8	internal	collected			1900	3-10		0.71	06
	V62C822D-Cy13A	XF13	G 3/8	external	collected			1900	- 0.9-10	3-10	0.71	06

*** Insert voltage code from Table 2 on Page 14, or 000 for versions without solenoid.
x Choose and insert manual actuation from Table 1, Page 14.
\+ Valves with collected pilot control exhaust air. Design with double pilot controls (only 24 V possible). Solenoid not exchangeable.
++ Connection for external control air and collected pilot control air, M5 thread inside housing, see Drawing 01 ... 06.
y Choose manual actuation in the table on Page 14.
1) See page 7.
Hint: Reversal switching in middle position via spring.

Valve choice

3/2 directional control valves, electropneumatically actuated

Symbol	Model	Type	Size	Pilot supply ++	Pilot exhaust +	Operator 12	Operator 10	Flow [l/min]	Operating pressure [bar]	Pilot pressure [bar]	Weight [kg]	Dimensional drawing [No.]
 NC[1)]	V60A413A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Pneumatic internal	750	2-8		0.22	01
	V60A423A-Ax***	XF5	G 1/8	external	not collected			750	- 0.9-8	3-8	0.22	01
	V60A413D-Cy13A	XF5	G 1/8	internal	collected			750	2-10		0.21	04
	V60A423D-Cy13A	XF5	G 1/8	external	collected			750	- 0.9-10	3-10	0.21	04
	V61B413A-Ax***	XF8	G 1/4	internal	not collected			1300	2-8		0.29	01
	V61B423A-Ax***	XF8	G 1/4	external	not collected			1300	- 0.9-8	3-8	0.29	01
	V61B413D-Cy13A	XF8	G 1/4	internal	collected			1300	2-10		0.27	04
	V61B423D-Cy13A	XF8	G 1/4	external	collected			1300	- 0.9-10	3-10	0.27	04
	V62C413A-Ax***	XF13	G 3/8	internal	not collected			2600	2-8		0.52	01
	V62C423A-Ax***	XF13	G 3/8	external	not collected			2600	- 0.9-8	3-8	0.52	01
	V62C413D-Cy13A	XF13	G 3/8	internal	collected			2600	2-10		0.50	04
	V62C423D-Cy13A	XF13	G 3/8	external	collected			2600	- 0.9-10	3-10	0.50	04
 NO[1)]	V60A313A-Ax***	XF5	G 1/8	internal	not collected	Pneumatic internal	Electric (Solenoid 1)	750	2-8		0.22	01
	V60A323A-Ax***	XF5	G 1/8	external	not collected			750	- 0.9-8	3-8	0.22	01
	V60A313D-Cy13A	XF5	G 1/8	internal	collected			750	2-10		0.21	04
	V60A323D-Cy13A	XF5	G 1/8	external	collected			750	- 0.9-10	3-10	0.21	04
	V61B313A-Ax***	XF8	G 1/4	internal	not collected			1300	2-8		0.29	01
	V61B323A-Ax***	XF8	G 1/4	external	not collected			1300	- 0.9-8	3-8	0.29	01
	V61B313D-Cy13A	XF8	G 1/4	internal	collected			1300	2-10		0.27	04
	V61B323D-Cy13A	XF8	G 1/4	external	collected			1300	- 0.9-10	3-10	0.27	04
	V62C313A-Ax***	XF13	G 3/8	internal	not collected			2600	2-8		0.52	01
	V62C323A-Ax***	XF13	G 3/8	external	not collected			2600	- 0.9-8	3-8	0.52	01
	V62C313D-Cy13A	XF13	G 3/8	internal	collected			2600	2-10		0.50	04
	V62C323D-Cy13A	XF13	G 3/8	external	collected			2600	- 0.9-10	3-10	0.50	04
	V60A411A-Ax***	XF5	G 1/8	internal	not collected	Electromagnetic (Solenoid 1)	Electromagnetic (Solenoid 2)	750	1.5-8		0.30	01
	V60A422A-Ax***	XF5	G 1/8	external	not collected			750	- 0.9-8	3-8	0.30	01
	V60A411D-Cy13A	XF5	G 1/8	internal	collected			750	1.5-10		0.20	04
	V60A422D-Cy13A	XF5	G 1/8	external	collected			750	- 0.9-10	3-10	0.20	04
	V61B411A-Ax***	XF8	G 1/4	internal	not collected			1300	1.5-8		0.38	01
	V61B422A-Ax***	XF8	G 1/4	external	not collected			1300	- 0.9-8	3-8	0.38	01
	V61B411D-Cy13A	XF8	G 1/4	internal	collected			1300	1.5-10		0.27	04
	V61B422D-Cy13A	XF8	G 1/4	external	collected			1300	- 0.9-10	3-10	0.27	04
	V62C411A-Ax***	XF13	G 3/8	internal	not collected			2600	1.5-8		0.61	01
	V62C422A-Ax***	XF13	G 3/8	external	not collected			2600	- 0.9-8	3-8	0.61	01
	V62C411D-Cy13A	XF13	G 3/8	internal	collected			2600	1.5-10		0.50	04
	V62C422D-Cy13A	XF13	G 3/8	external	collected			2600	- 0.9-10	3-10	0.50	04

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