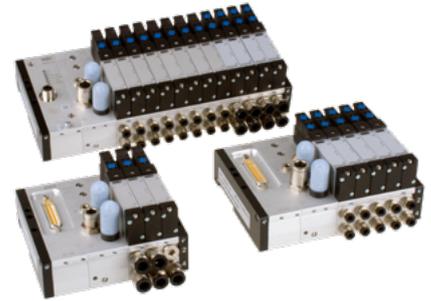


Technical details

Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, in each case free of aggressive additives. Alternative the pressure dew point has to be at least 10°C below deepest occurring ambient temperature.
Materials	Body: Al (anodized), brass, stainless steel, zinc coated steel, plastic, Seals: NBR
Protection	IP 65 according to EN 60529


Description

- modular valve-terminal for pneumatic control systems
- flexible and extendable
- terminal up to 24 stations
- valve sizes 14 mm width
- outlet ports of the valve Lateral
- mounting with mounting screws or on DIN Rail
- Multi-pin and IO Link available
- optionally:
 - internal or external pilot port
 - adapter plate for additional operating port
 - pressure dividing plate in air channel 1, 3 and 5 or only in channel 1
 - separate suitable pressure zones

Technical data

Number of stations	3 to 24
electrical Connection	Multi-pin (Sub-D25/44), IO-Link
Voltage	24 V DC ± 10%,
Power consumption	max. 1,3 W solenoid, electronic according version
Flow rate	up to 600 NI/min (depending on valve type*)
Pneumatical ports	1, 3 and 5 G1/4, E1 (external pilot port) and 82/87 (solenoid exhausts) M7
Operating ports	G1/8
Operating pressure	depending on valve type*
Pilot pressure	depending on valve type*

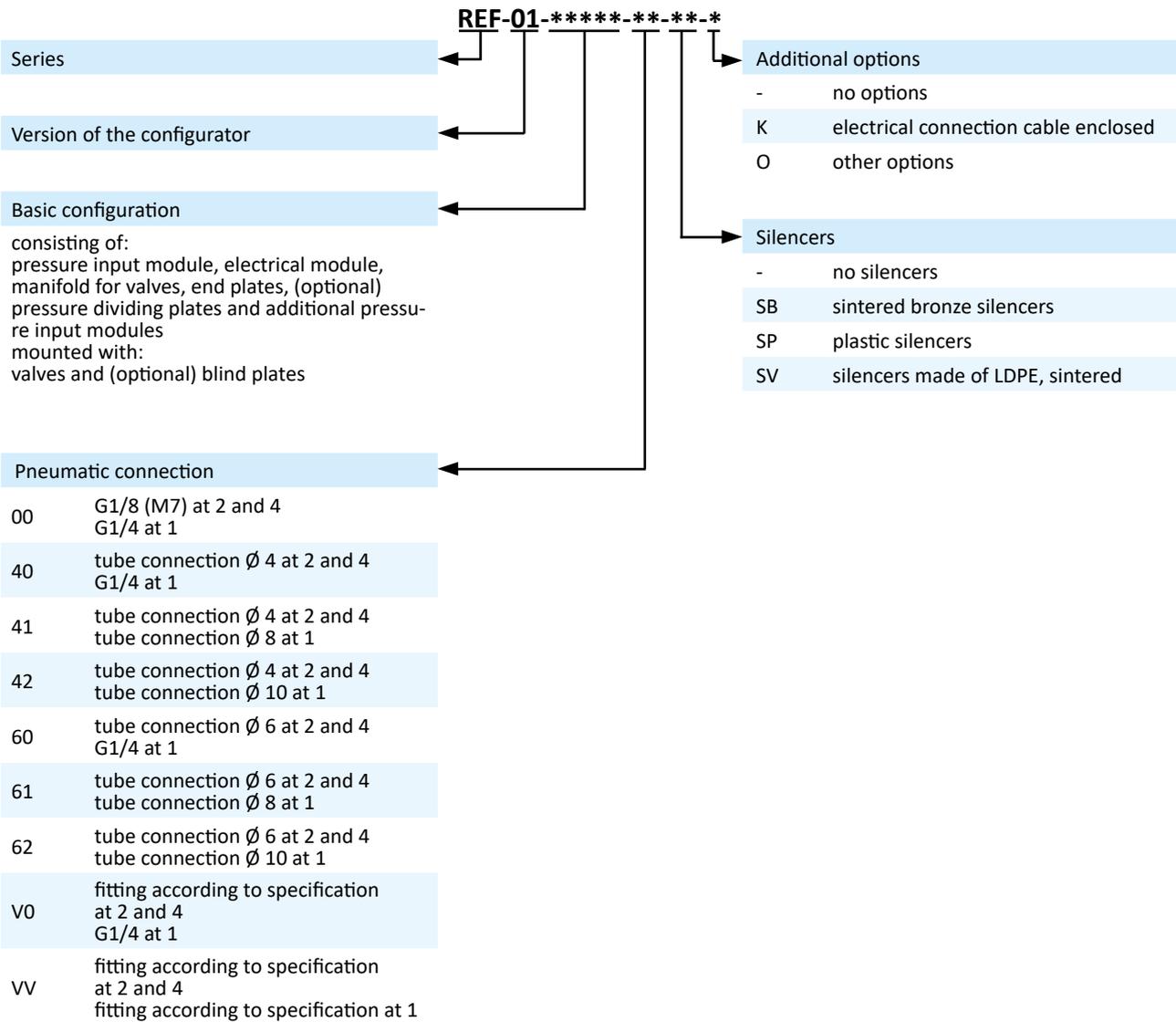
* see page 10

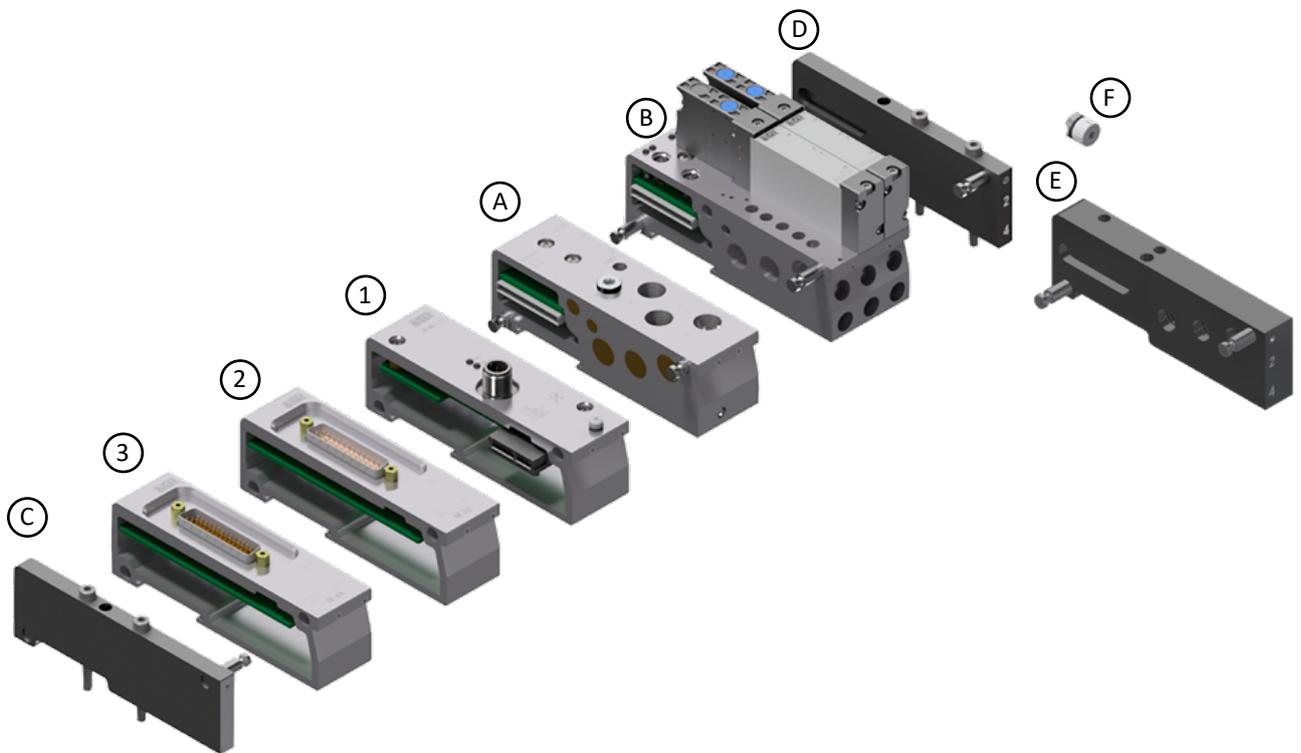


More detailed installation information see manuals at www.airtec.de.

Series REF-14

Order code

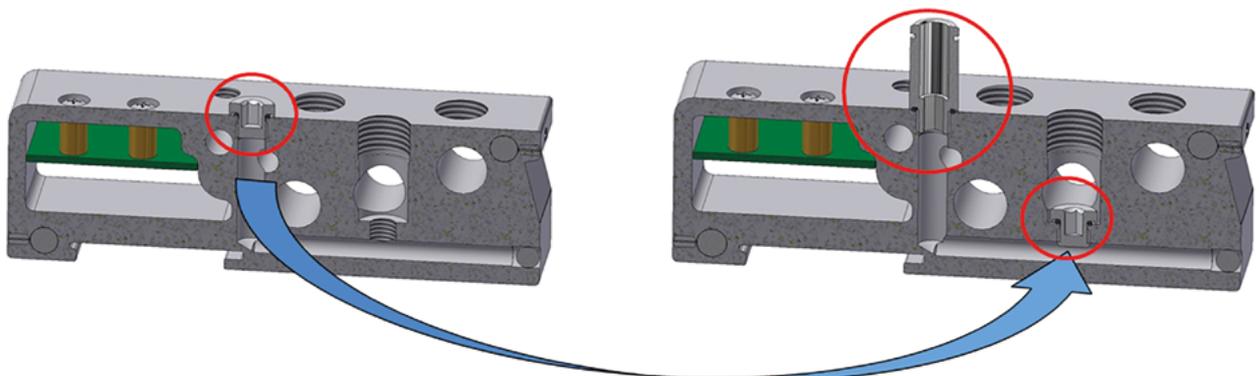


Modular platform

Electrical modules

- 1 IO-Link
- 2 Multi-pin, 25-pin
- 3 Multi-pin, 44-pin

Pneumatical modules

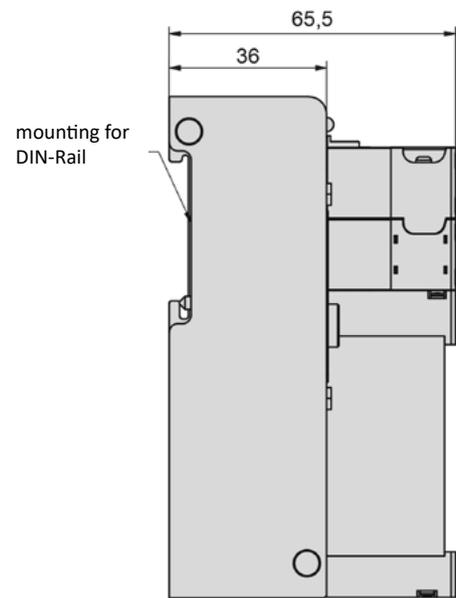
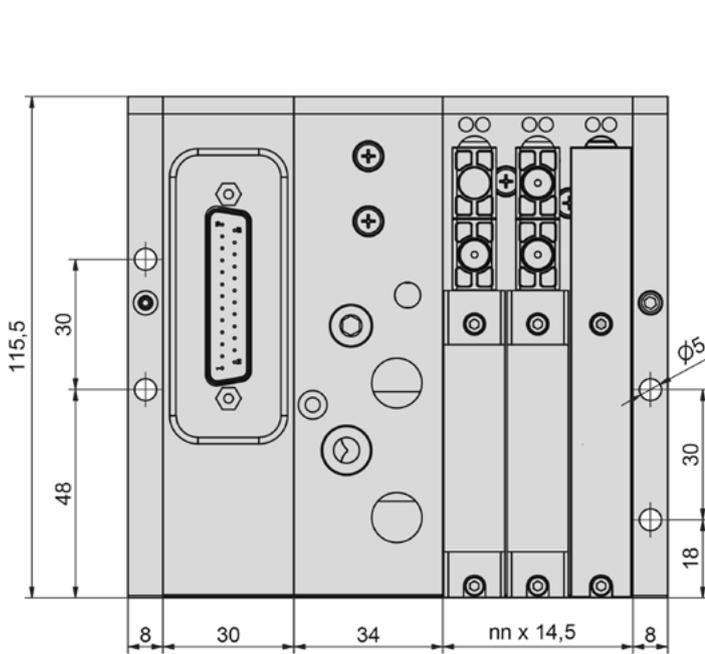
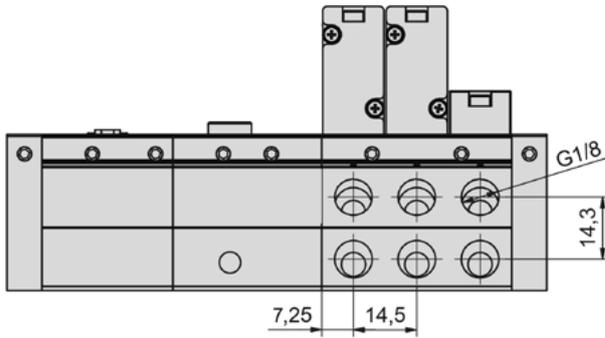
- A Pressure input module, upside
- B Manifold for 14 mm valves, outlet ports lateral
- C End plate, left
- D End plate, right
- E End plate, right, with additional pressure input
- F Pressure dividing plate

Changing from internal to external pilot pressure


Internal pilot pressure:
- plug on pilot pressure port

External pilot pressure:
- plug displaced to port 1
- pilot port with M7 push in fitting

Dimensions



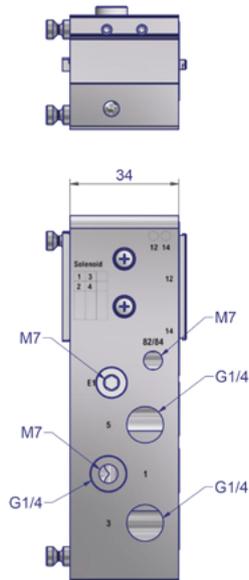
nn = 03 ... 24 stations

Dimensions of modules
Pressure input modules, upside

REF1-01-01

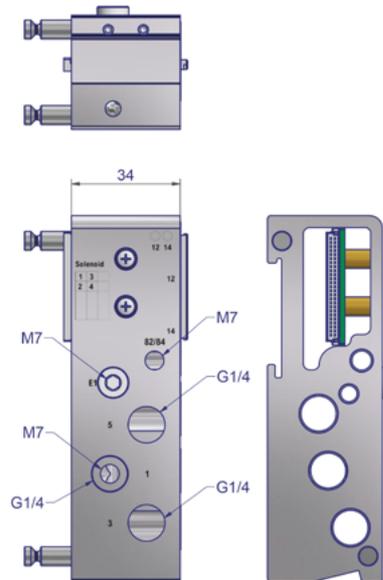
Standard module

Module for pressure separation



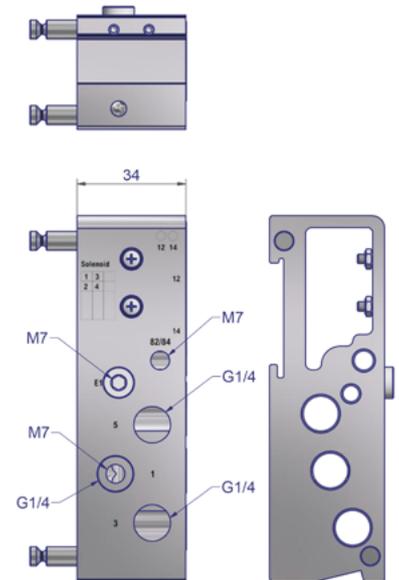
REF1-02-01

Module for additional air supply



REF1-03-01

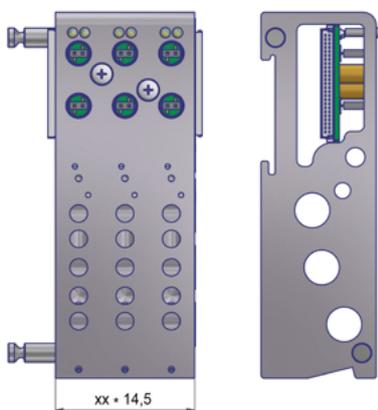
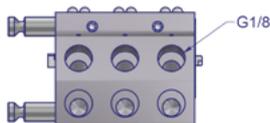
End module for additional air supply



For external pilot pressure version please remove the plug from port E1 to port 1. (see page 2)
The module model number changes from REF1 to REF1E.

Manifolds for valves, outlet ports lateral

REF-14S-xx-01



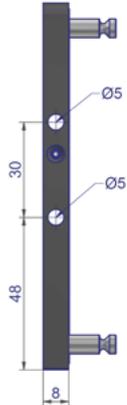
xx = n= 03, 04, 05, 06, 08, 10, 12
(By combining single subbases 3 - 24 stations possible.)

Series REF-14

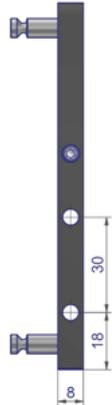
Dimensions of modules

End plates

REF-EPL-01

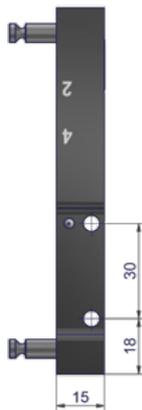


REF-EPR-01



End plate, right, with additional pressure input

REF-EPR-02



Electrical modules

REF-M25-01

Multi-pin, Sub-D 25-pin



REF-M44-01

Multi-pin, Sub-D 44-pin



REF-B11-24-02

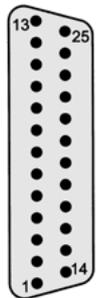
IO-Link



Electrical options
Multi-pin, Sub-D 25-pin, up to 12 stations

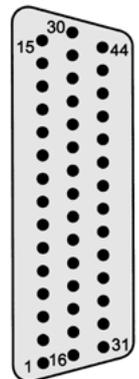
The 25-pin multi plug has to be ordered separately.

Pin	Function	Wire colour	Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white	14	valve 7 / solenoid 14 (bottom)	brown/ green
2	valve 1 / solenoid 2 (bottom)	brown	15	valve 8 / solenoid 15 (top)	white/ yellow
3	valve 2 / solenoid 3 (top)	green	16	valve 8 / solenoid 16 (bottom)	yellow/ brown
4	valve 2 / solenoid 4 (bottom)	yellow	17	valve 9 / solenoid 17 (top)	white/ grey
5	valve 3 / solenoid 5 (top)	grey	18	valve 9 / solenoid 18 (bottom)	grey/ brown
6	valve 3 / solenoid 6 (bottom)	pink	19	valve 10 / solenoid 19 (top)	white/ pink
7	valve 4 / solenoid 7 (top)	blue	20	valve 10 / solenoid 20 (bottom)	pink/ brown
8	valve 4 / solenoid 8 (bottom)	red	21	valve 11 / solenoid 21 (top)	white/ blue
9	valve 5 / solenoid 9 (top)	black	22	valve 11 / solenoid 22 (bottom)	brown/ blue
10	valve 5 / solenoid 10 (bottom)	violet	23	valve 12 / solenoid 23 (top)	white/ red
11	valve 6 / solenoid 11 (top)	grey/ pink	24	valve 12 / solenoid 24 (bottom)	brown/ red
12	valve 6 / solenoid 12 (bottom)	red/ blue	25	GND (common ground)	white/ black
13	valve 7 / solenoid 13 (top)	white/ green			


Multi-pin, Sub-D 44-pin, up to 20 stations

The 44-pin multi plug has to be ordered separately.

Pin	Function	Wire colour	Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white	23	valve 12 / solenoid 23 (top)	white/ red
2	valve 1 / solenoid 2 (bottom)	brown	24	valve 12 / solenoid 24 (bottom)	brown/ red
3	valve 2 / solenoid 3 (top)	green	25	valve 13 / solenoid 25 (top)	white/ black
4	valve 2 / solenoid 4 (bottom)	yellow	26	valve 13 / solenoid 26 (bottom)	brown/ black
5	valve 3 / solenoid 5 (top)	grey	27	valve 14 / solenoid 27 (top)	grey/ green
6	valve 3 / solenoid 6 (bottom)	pink	28	valve 14 / solenoid 28 (bottom)	yellow/ grey
7	valve 4 / solenoid 7 (top)	blue	29	valve 15 / solenoid 29 (top)	pink/ green
8	valve 4 / solenoid 8 (bottom)	red	30	valve 15 / solenoid 30 (bottom)	yellow/ pink
9	valve 5 / solenoid 9 (top)	black	31	valve 16 / solenoid 31 (top)	green/ blue
10	valve 5 / solenoid 10 (bottom)	violet	32	valve 16 / solenoid 32 (bottom)	yellow/ blue
11	valve 6 / solenoid 11 (top)	grey/ pink	33	valve 17 / solenoid 33 (top)	green/ red
12	valve 6 / solenoid 12 (bottom)	red/ blue	34	valve 17 / solenoid 34 (bottom)	yellow/ red
13	valve 7 / solenoid 13 (top)	white/ green	35	valve 18 / solenoid 35 (top)	green/ black
14	valve 7 / solenoid 14 (bottom)	brown/ green	36	valve 18 / solenoid 36 (bottom)	yellow/ black
15	valve 8 / solenoid 15 (top)	white/ yellow	37	valve 19 / solenoid 37 (top)	grey/ blue
16	valve 8 / solenoid 16 (bottom)	yellow/ brown	38	valve 19 / solenoid 38 (bottom)	pink/ blue
17	valve 9 / solenoid 17 (top)	white/ grey	39	valve 20 / solenoid 39 (top)	grey/ red
18	valve 9 / solenoid 18 (bottom)	grey/ brown	40	valve 20 / solenoid 40 (bottom)	pink/ red
19	valve 10 / solenoid 19 (top)	white/ pink	41	unused	grey/ black
20	valve 10 / solenoid 20 (bottom)	pink/ brown	42	unused	pink/ black
21	valve 11 / solenoid 21 (top)	white/ blue	43	GND (common ground)*	blue/ black
22	valve 11 / solenoid 22 (bottom)	brown/ blue	44	GND (common ground)*	red/ black



* To increase the cable cross section both GNG pins should be used. The max current could reach 2,4 A.

Series REF-14

Electrical options

IO-Link

IO-Link connector	socket M12, 5-pin, A-code
IO-Link version	V1.1
Baud rate	COM2 (38400 Baud)
Voltage	24 V DC \pm 10%, 2 galvanically isolated power circuits for IO-Link electronic (US) bzw solenoids (UA)
Power consumption	open-circuit: ca. 170 mA full load: max. 2,4 A, depending on number of active valves
Min. cycle time (device)	4ms

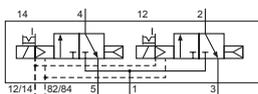


Technical data

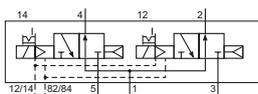
Outlets	according to the pneumatical connections of the terminal
Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel, brass and plastic
Nominal voltage	24 V DC, ± 10%
Power consumption	1.3 W
Protection	IP 65 according to EN 60529



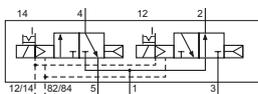
Electrically operated spool valve. The manual override is detent. The manual override is located on top of the solenoid.

2 x 3/2-way valves


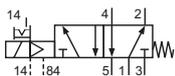
MC-14-310/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NC



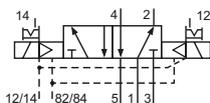
MC-14-312/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NO



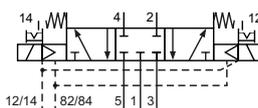
MC-14-314/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

5/2-way valves


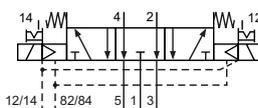
MC-14-511-HNR-442
5/2-way, single solenoid, mechanical spring return



MC-14-520-HNR-442
5/2-way, double solenoid

5/3-way valves


MC-14-530-HNR-442
5/3-way, center position closed



MC-14-533-HNR-442
5/3-way, center position exhausted

Series REF-14

Technical data

Model-no.:	MC-14-310/2-HNx-44x	MC-14-312/2-HNx-44x	MC-14-314/2-HNx-44x
Internal pilot pressure			
Operating pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
External pilot pressure			
Operating pressure (bar)	2 ... 8	2 ... 8	2 ... 8
Pilot pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
Nominal size (mm)	5	5	5
Flow rate (NI/min)	560	480	480
Response time (ms) at 6 bar	on: 30 off: 30	on: 30 off: 30	on: 30 off: 30

Model-no.:	MC-14-511-HNx-44x	MC-14-520-HNx-44x	MC-14-530-HNx-44x	MC-14-533-HNx-44x
Internal pilot pressure				
Operating pressure (bar)	3 ... 8	2 ... 8	3 ... 8	3 ... 8
External pilot pressure				
Operating pressure (bar)	0 ... 8	0 ... 8	0 ... 8	0 ... 8
Pilot pressure (bar)	3 ... 8	2 ... 8	3 ... 8	3 ... 8
Nominal size (mm)	5	5	5	5
Flow rate (NI/min)	530	580		
Response time (ms) at 6 bar	on: 15 off: 30	on: 15 off: 15	on: 15 off: 40	on: 15 off: 40

Accessories

Model-no.:	REF-10-VP-01	Model-no.:	28-ST-46-M1-yy-xxx
	Blind plate for valve and coil station		25- or 44-pin multi plug, straight yy = 25 25-pin yy = 44 44-pin xxx = 105 5 m cable xxx = 110 10 m cable
Model-no.:	REF-14-AP-01	Model-no.:	28-ST-146-M1-yy-xxx
	Blind plate for valve and coil station with 3 ports G1/8 for additional air supply (inlet and exhaust)		25- or 44-pin multi plug, 90° yy = 25 25-pin yy = 44 44-pin xxx = 105 5 m cable xxx = 110 10 m cable
Model-no.:	REF-DT-01		
	Pressure dividing plug suitable in channel 1,3 and 5		