Table of contents

5

Table of contents

Series PI-01, PI-02, PI-03
ISO 5599/1, Size 1 to 3

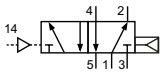
Technical details

Connection	ISO 5599/1
Nominal size	Size 1: 9 mm Size 2: 13 mm Size 3: 14 mm
Temperature range	-10°C ... +70°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. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass
⟨Ex⟩	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

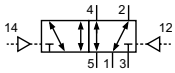
Pneumatically operated spool valve. The valve switches upon pressurization of the pilot port.

5

5/2-way valves

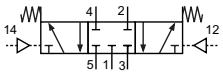


PI-01-511
PI-02-511
PI-03-511
5/2-way, single pilot, mechanical spring return

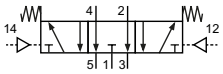


PI-01-520
PI-02-520
PI-03-520
5/2-way, double pilot

5/3-way valves



PI-02-530
PI-03-530
5/3-way, center position closed



PI-02-533
5/3-way, center position exhausted

Technical data

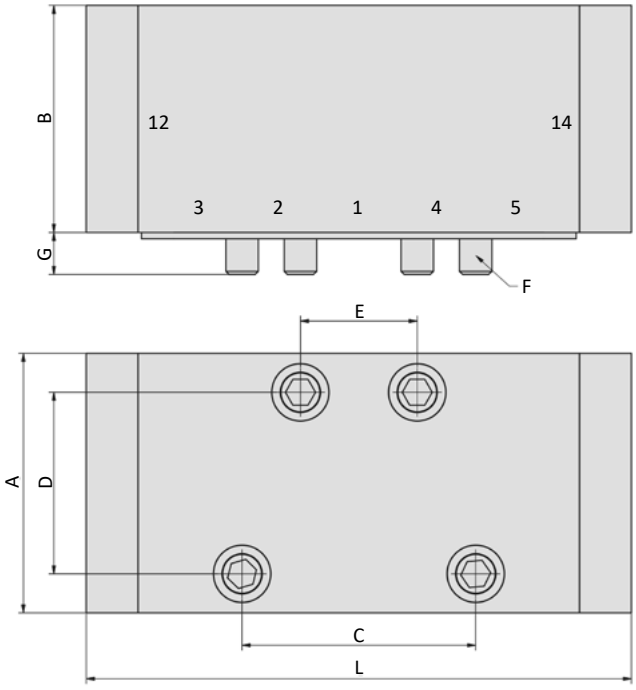
Model-no.:	PI-01-511	PI-01-520
Operating pressure (bar)	0...10 bar	0...10 bar
Pilot pressure (bar)	2.5 ... 10 bar	2 ... 10 bar
Flow rate (Nl/min)	1700	1700
Weight (kg)	0.32	0.32

Model-no.:	PI-02-511	PI-02-520	PI-02-530	PI-02-533
Operating pressure (bar)	0...10 bar	0...10 bar	0...10 bar	0...10 bar
Pilot pressure (bar)	2 ... 10 bar	2 ... 10 bar	3 ... 10 bar	3 ... 10 bar
Flow rate (Nl/min)	2020	2020	2020	2020
Weight (kg)	0.54	0.56	0.54	0.54

Model-no.:	PI-03-511	PI-03-520	PI-03-530
Operating pressure (bar)	0...10 bar	0...10 bar	0...10 bar
Pilot pressure (bar)	2 ... 10 bar	2 ... 10 bar	3 ... 10 bar
Flow rate (Nl/min)	4150	4150	4150
Weight (kg)	0.96	1.00	0.96

Series PI-01, PI-02, PI-03
ISO 5599/1, Size 1 to 3

Dimensions



1 = pressure inlet
2,4 = outlets
3,5 = outlets
12,14 = pilot ports

Model-no.:	A	B	C	D	E	F	G
PI-01-5xx	40	35	36	28	18	M5	8
PI-02-5xx	50	40	48	38	24	M6	8
PI-03-5xx	65	45	64	48	32	M8	13

Accessories

Manifolds and accessories: page 5-11

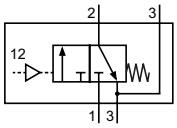
Series PN-05
NAMUR

Technical details

Connection	G1/4, Namur
Nominal size	6 mm
Temperature range	-10°C ... +70°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. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), zinc coated steel, plastic, seals: NBR, inner parts: Al, steel and plastic
Ex	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

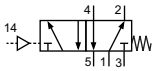
Pneumatically operated spool valve. The valve switches upon pressurization of the pilot port. The location pin, screws and seals are included.

3/2-way valve

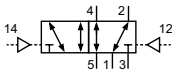


PN-05-311
3/2-way, single pilot, mechanical spring return

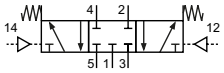
5/2- and 5/3-way valves



PN-05-511
5/2-way, single pilot, mechanical spring return



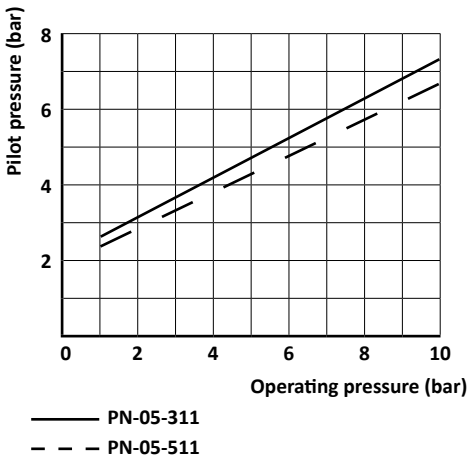
PN-05-520
5/2-way, double pilot



PN-05-530
5/3-way, center position closed

Technical data

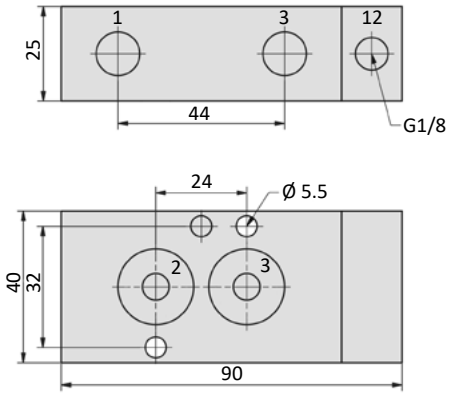
Model-no.:	PN-05-311	PN-05-511	PN-05-520	PN-05-530
Operating pressure (bar)	0...10 bar	0...10 bar	0...10 bar	0...10 bar
Pilot pressure (bar)	see diagram	see diagram	2...10 bar	3...10 bar
Flow rate (Nl/min)	800	800	900	680
Weight (kg)	0.22	0.22	0.26	0.28



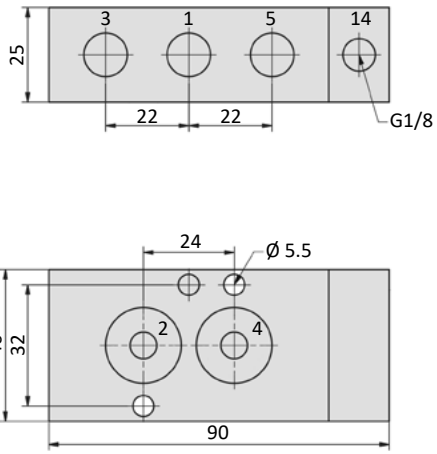
Series PN-05
NAMUR

Dimensions

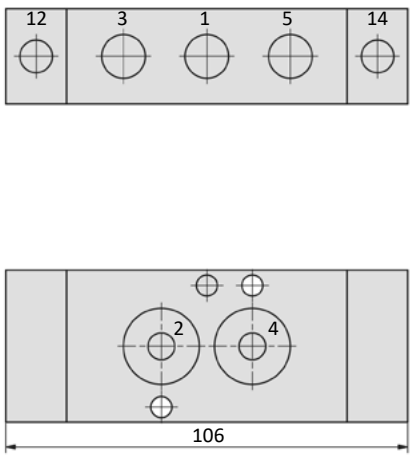
PN-05-311



PN-05-511



PN-05-520, P-05-530



1 = pressure inlet
2,4 = outlets
3,5 = exhausts
12,14 = pilot ports
Pilot ports can be repositioned by 180°.

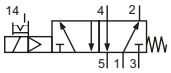
Series MI-01, MI-02, MI-03
ISO 5599/1, Size 1 to 3

Technical details

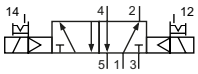
Connection	ISO 5599/1
Nominal size	Size 1: 9 mm Size 2: 13 mm Size 3: 14 mm
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR and POM, inner parts: Al, stainless steel and brass
Protection	IP 65 according to EN 60529
⟨Ex⟩	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

Electrically operated spool valve. The manual override is detent and is operated by screwdriver.

5/2-way valves

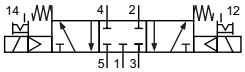


MI-01-511-HN-xxx
MI-02-511-HN-xxx
MI-03-511-HN-xxx
5/2-way, single solenoid, mechanical spring return

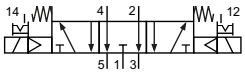


MI-01-520-HN-xxx
MI-02-520-HN-xxx
MI-03-520-HN-xxx
5/2-way, double solenoid

5/3-way valves



MI-01-530-HN-xxx
MI-02-530-HN-xxx
MI-03-530-HN-xxx
5/3-way, center position closed



MI-01-533-HN-xxx
MI-02-533-HN-xxx
MI-03-533-HN-xxx
5/3-way, center position exhausted

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-411
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-431
24 V DC	4.2 W		Form B industrial norm	-412
24 V DC	4.2 W		M 12	-O12
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-432
24 V DC	2.5 W	max. 8 bar	M 12	-O32
24 V AC	7/4 VA		Form B industrial norm	-422
115 V AC	7/4 VA		Form B industrial norm	-426
230 V AC	7/4 VA		Form B industrial norm	-427

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

Series MI-01, MI-02, MI-03
ISO 5599/1, Size 1 to 3

Technical data

Model-no.:	MI-01-511	MI-01-520	MI-01-530	MI-01-533
Operating pressure* (bar)	2.5...10	2...10	3...10	3...10
Pilot pressure* (bar)	2.5...10	2...10	3...10	3...10
Flow rate (Nl/min)	1700	1700	1610	1610
Response time (ms) at 6 bar	on: 15 off: 27	on: 13 off: 13	on: 17 off: 19	on: 17 off: 19
Weight (kg)	0.480	0.645	0.620	0.620

Model-no.:	MI-02-511	MI-02-520	MI-02-530	MI-02-533
Operating pressure* (bar)	2...10	2...10	3...10	3...10
Pilot pressure* (bar)	2...10	2...10	3...10	3...10
Flow rate (Nl/min)	2020	2020	2020	2020
Response time (ms) at 6 bar	on: 29 off: 57	on: 17 off: 17	on: 20 off: 27	on: 20 off: 27
Weight (kg)	0.708	0.850	0.847	0.847

Model-no.:	MI-03-511	MI-03-520	MI-03-530	MI-03-533
Operating pressure* (bar)	2...10	2...10	3...10	3...10
Pilot pressure* (bar)	2...10	2...10	3...10	3...10
Flow rate (Nl/min)	4150	4150	4150	4150
Response time (ms) at 6 bar	on: 32 off: 57	on: 20 off: 20	on: 22 off: 55	on: 22 off: 55
Weight (kg)	1.115	1.287	1.277	1.277

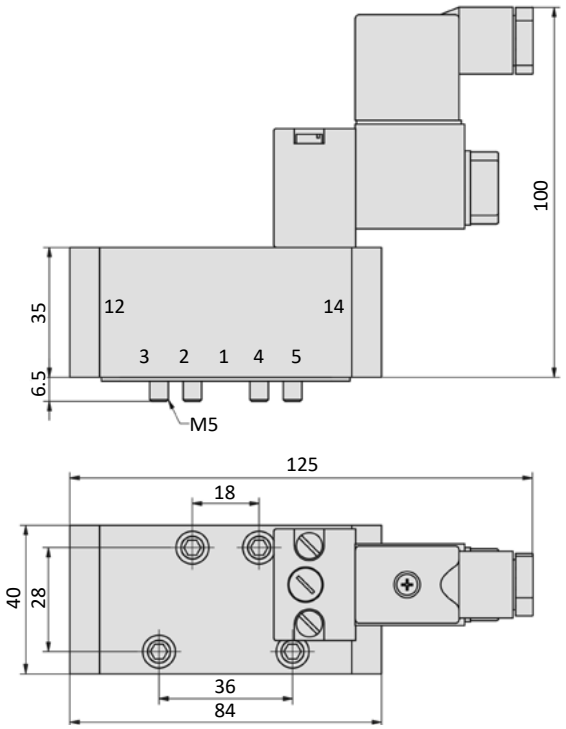
* max. 8 bar at 2.2 W and 2.5 W

Accessories

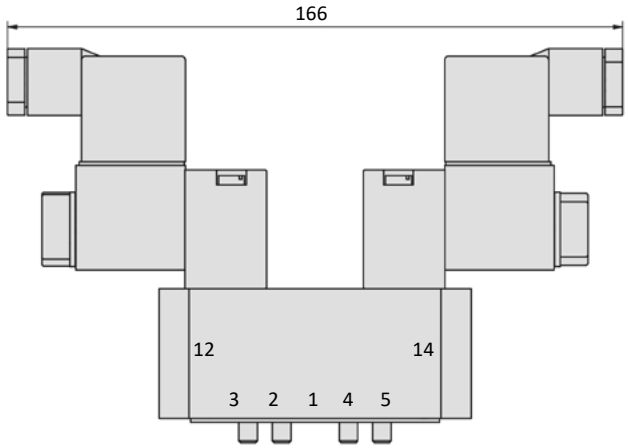
Plug sockets: page 4-99

Dimensions

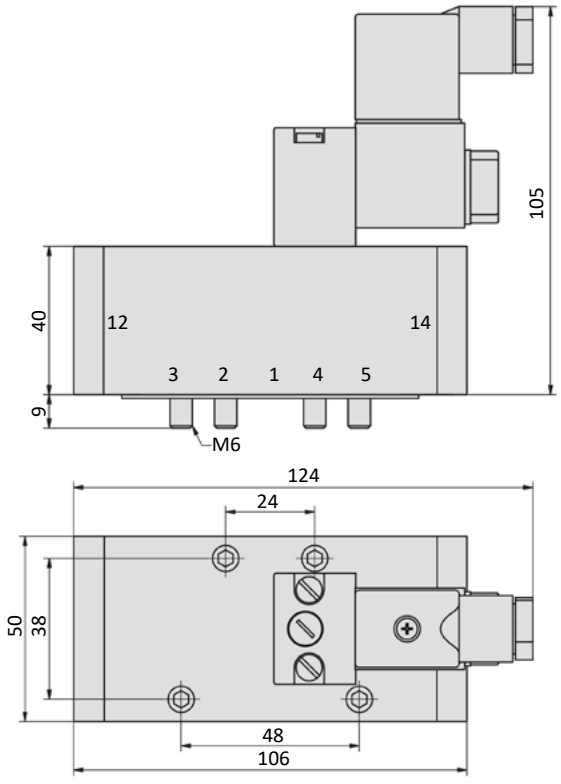
MI-01-511-HN



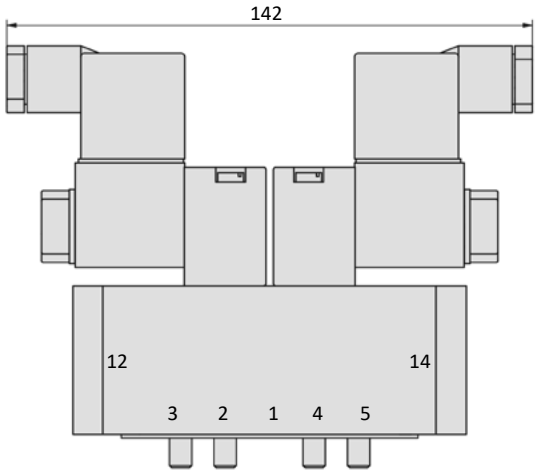
MI-01-520-HN, MI-01-53x-HN



MI-02-511-HN



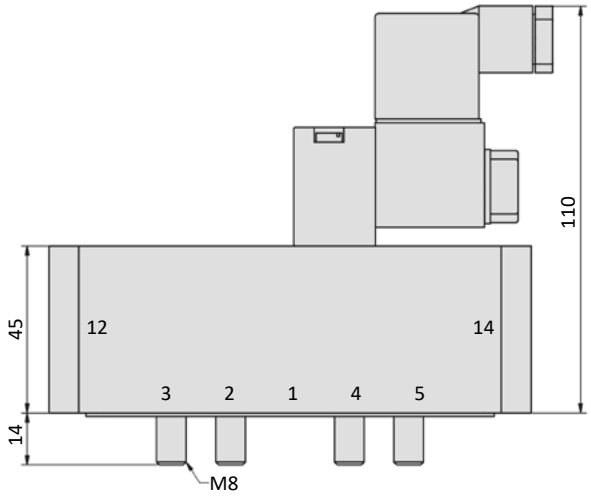
MI-02-520-HN, MI-02-53x-HN

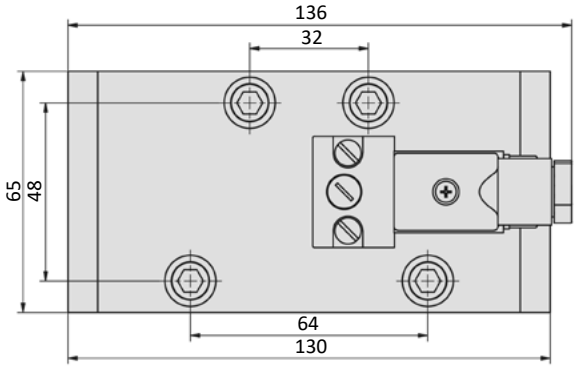


Series MI-01, MI-02, MI-03
ISO 5599/1, Size 1 to 3

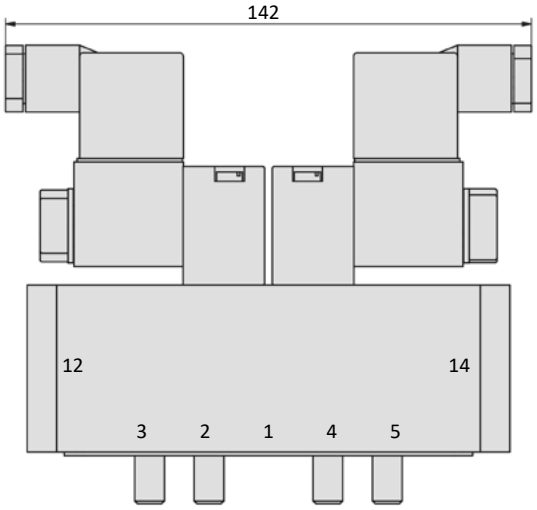
Dimensions

MI-03-511-HN





MI-03-520-HN, MI-03-53x-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

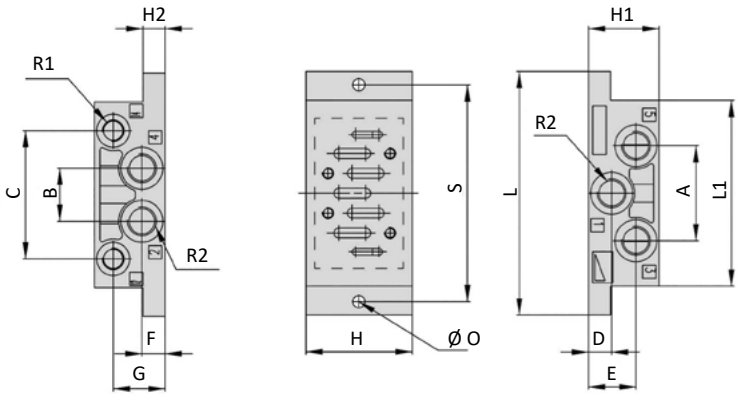
Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned by 2 x 90°.

Manifolds
ISO 5599/1, Size 1 to 3

Single sub-base, side ports, Form A

For the PI and MI valve series are single sub-bases available.
All mounting screws and the flat gasket are part of delivery of the valves.

Dimensions

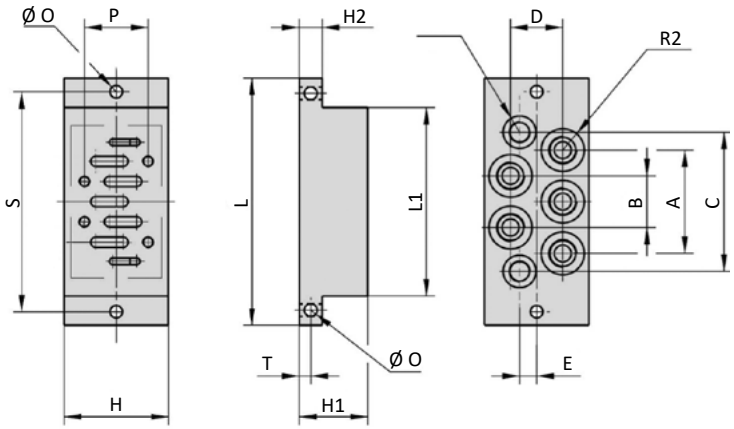


Model-no.:	Size	A	B	C	D	E	F	G	H	H1	H2	L	L1	O	R1	R2	S
MI-011	ISO 1	43	24	58	10.5	21.5	10.5	23.5	48	32	10	110	84	5.5	G1/8	G1/4	98
MI-021	ISO 2	56	30	74	14	26	14	30	57	40	13	124	95	6.5	G1/8	G3/8	112
MI-031	ISO 3	68	32	90	17	17	17	22	71	32	18	149	119	6.5	G1/8	G1/2	136

Single sub-base, bottom ports, Form B

For the PI and MI valve series are single sub-bases available.
All mounting screws and the flat gasket are part of delivery of the valves.

Dimensions

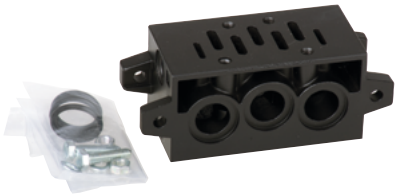


Model-no.:	Size	A	B	C	D	E	H	H1	H2	L	L1	O	P	R1	R2	S	T
MI-012	ISO 1	46	23	61	23	7.5	46	30	10	110	84	5.5	28	G1/8	G1/4	98	5
MI-022	ISO 2	56	28	72	28	8	56	35	13	124	95	6.5	38	G1/8	G3/8	112	6.5
MI-032	ISO 3	68	34	90	34	10	71	32	18	149	119	6.5	48	G1/8	G1/2	136	9

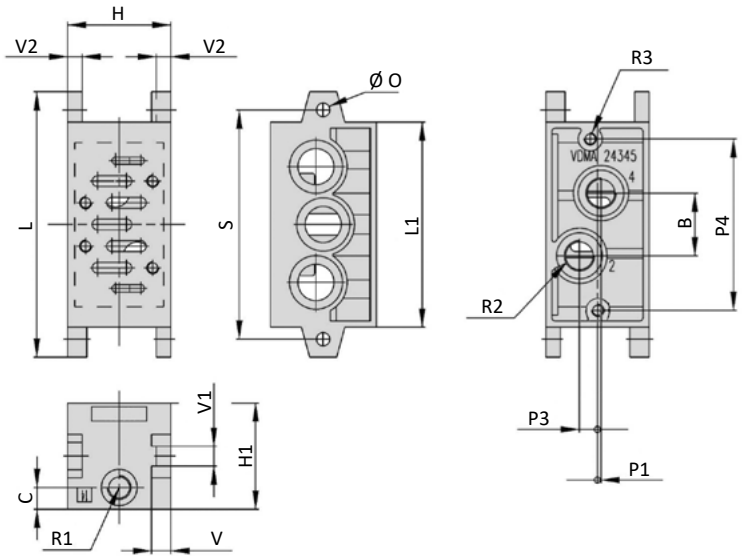
Manifolds
ISO 5599/1, Size 1 to 3

Modular sub-base , one station, bottom ports, Form C

Scope of delivery:
1 x sub-base
2 x mounting screw + nut
3 x O-Ring
All mounting screws and the flat gasket are part of delivery of the valves.



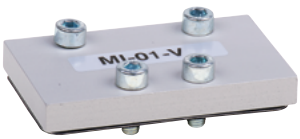
Dimensions



Model-no.:	Size	B	C	H	H1	L	L1	O	P1	P2	P3	P4	R1	R2	R3	S	V	V1	V2
MI-013	ISO 1	26	8.5	43	44	110	85	5.5	1.5	3	7.5	71	G1/8	G1/4	M5	95	8	8	6
MI-023	ISO 2	30	9	56	45	135	100	6.5	5	3	6	86	G1/8	G3/8	M6	115	11	11	8
MI-035	ISO 3	38	10	71	56	190	140	9	6	3	14	130	G1/8	G1/2	M8	168	13	13	8

Blind plate

Scope of delivery:
1 x blind plate
4 x mounting screw
1 x gasket



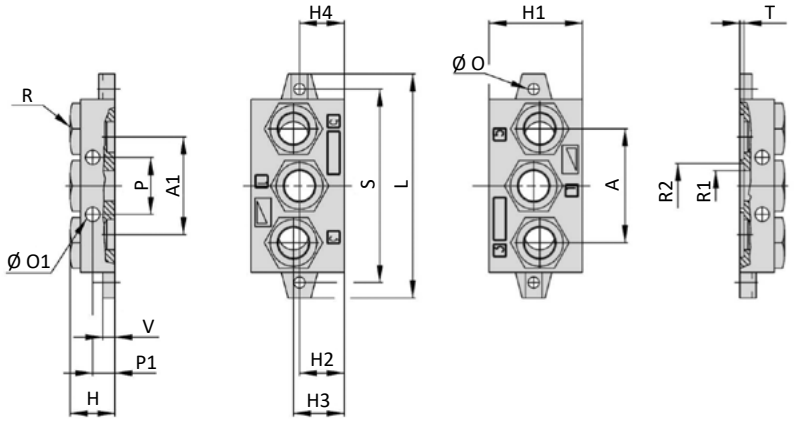
Model-no.:	Size
MI-01-V	ISO 1
MI-02-V	ISO 2
MI-03-V	ISO 3

Manifolds
ISO 5599/1, Size 1 to 3

End plate, Form E (for modular sub-base, Form C)

Scope of delivery:
2 x end plate
2 x mounting screw + nut
3 x O-Ring

Dimensions

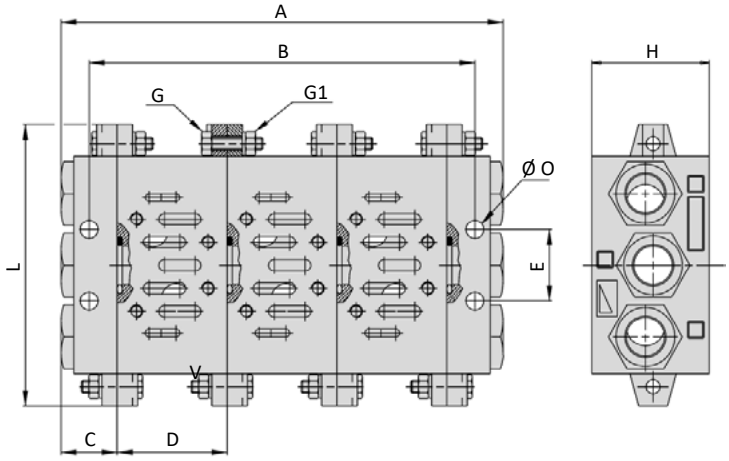


Model-no.:	Size	A	A1	H	H1	H2	H3	H4	L	O	O1	P	P1	R	Ø R1	Ø R2	S	T	V
MI-01/E	ISO 1	56	48	22	46	22	25	22	110	5.5	7	28	11	G3/8	15	22.1	95	2	6
MI-02/E	ISO 2	68	63	26	47	23	25	24	135	6.5	9	35	13	G1/2	18.5	28.7	115	2	8
MI-03/E	ISO 3	104	94	30	56	22	25	25	190	9	12	52	15	G1	28	38	168	2.7	8

Sub-base, bottom ports (modular sub-bases , Form C mounted with end plates, Form E)

All mounting screws and the flat gasket are part of delivery of the valves.

Dimensions



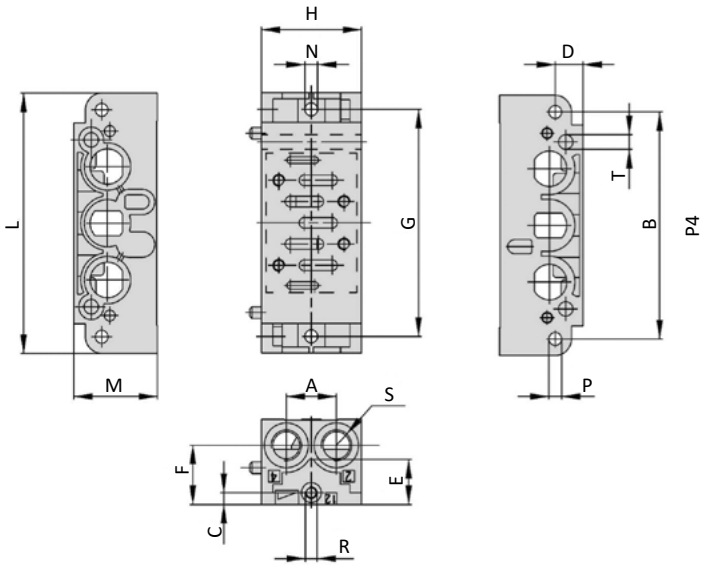
Model-no.:	Size	A	B	C	D	E	G	G1	H	L	O
MI-013/n	ISO 1	n*D + 2C	n*D + C	22	43	28	M5 x 20	M5	46	110	7
MI-023/n	ISO 2	n*D + 2C	n*D + C	26	56	35	M6 x 25	M6	47	135	9
MI-033/n	ISO 3	n*D + 2C	n*D + C	30	71	52	M8 x 25	M8	56	190	12

Manifolds
ISO 5599/1, Size 1

Modular sub-base , one station, front side ports

Scope of delivery:
1 x sub-base
2 x mounting screw + nut
1 x gasket
All mounting screws and the flat gasket are part of delivery of the valves.

Dimensions



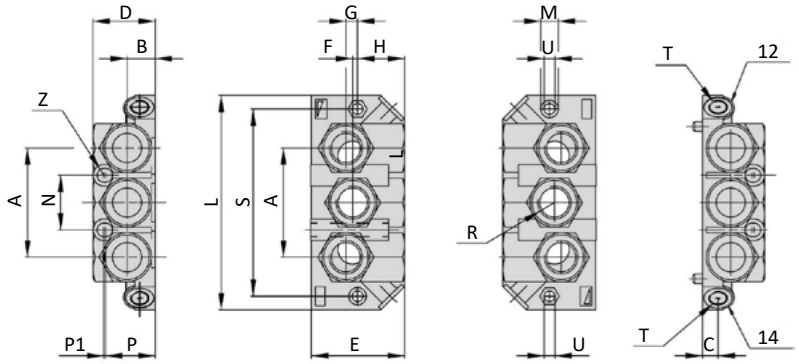
Model-no.:	Size	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
MI-014	ISO 1	21.5	96	5	12	19	25	96	43	110	36	5.5	5.5	M5	G1/4	6.2

Manifolds
ISO 5599/1, Size 1

End plate Form E (for modular sub-base , front side ports)

Scope of delivery:
2 x end plate
2 x mounting screw + nut
1 x gasket

Dimensions

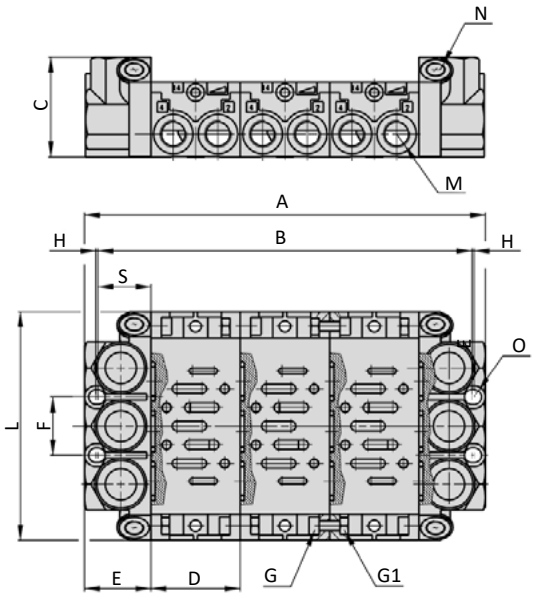


Model-no.:	Size	A	B	C	D	E	F	G	H	L	M	N	P	P1	R	S	T	U	Z
MI-015	ISO 1	56	14.5	8	32	48	2.5	6	24	110	9	28	25.5	1	G3/8	96	G1/8	5.5	3.5

Sub-base, side ports (modular sub-bases MI-014 mounted with end plates MI-015)

All mounting screws and the flat gasket are part of delivery of the valves.

Dimensions



Model-no.:	Size	A	B	C	D	E	F	G	G1	H	L	M	N	O	S
MI-014/n	ISO 1	n∗D + 2E	n∗D + 25	48	43	32	28	M5 x 14	M5	1	110	G1/4	G1/8	3.5	25.5

Manifolds
ISO 5599/1, Size 1

MI-01-D1 Pressure separation gasket, P closed

Scope of delivery:
1 x gasket

MI-01-D2 Pressure separation gasket, P-R-S closed

Scope of delivery:
1 x gasket

Device marking

Electrically operated valves are marked as followes:

Marking according to DIN EN ISO 80079-36/ -37.

II 2G Ex h IIC T5 Gb
II 2D Ex h IIIC T100°C Db
-10°C T_{amb} +50°C

Electrically operated valves conform to equipment category 2 can be used in Zone 1 respectively in Zone 21. For the use in hazardous areas the categry group of the used coil has to be taken into account. The specification of the whole equipment corresponds always to the lowest category of the single components.

5

The valves are equipped with special electrical equipment. As a result, the dimensions of these components may change. In addition to the valve dimensions, please note the dimensions of the solenoid coils on the following pages.

Please observe the respective operating instructions and declarations of conformity.
These are enclosed with the products and are available at www.airtec.de.

Series MI-01, MI-02, MI-03
ISO 5599/1, Size 1 to 3

Electrical options

ATEX-category	Voltage	Power consumption	Ignition protection	Solenoid coil #	-xxx
3GD	24 V DC	2.7 W	Non-sparking device	23-SP-043-A12	-B12
3GD	230 V AC	4 VA	Non-sparking device	23-SP-043-A27	-B27
2GD	24 V DC	3 W	encapsulated with casting compound and flameproof enclosure	23-SP-045-V12	-V12
2GD	230 V AC	3.8 VA	encapsulated with casting compound and flameproof enclosure	23-SP-045-V27	-V27
2GD	12 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-011-xx*	-011-xx*
2GD	24 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-012-xx*	-012-xx*
2GD	110...120 V AC	3 VA	Encapsulated with casting compoand	23-SP-037-025-xx*	-025-xx*
2GD	230 V AC	3.1 VA	Encapsulated with casting compoand	23-SP-037-027-xx*	-027-xx*
2GD	U ≤ 28 V DC / U ≤ 32 V DC	I ≤ 115 mA / I ≤ 195 mA	Intrinsically safe	23-SP-038-01-912	-912

For details on the ATEX solenoid coils, see chapter 12.
* xx = length of connecting cable: 03 = 3 m. 05 = 5 m. 10 = 10 m (available length see chapter 12)

Voltage code
Series MI-01, MI-02, MI-03

- HN * - * * *

Manual override		Coil and plug options		Coil type	Voltage type Position of the HN Position of the plug lugs		Voltage	
HN	detend	0	ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0	without indication HN opposite 1/2/3/4/5	0	without
		1	with coil and plug	according to valve	1	DC voltage HN opposite 1/2/3/4/5 Plug lugs opposite 1/2/3/4/5	1	12 V
		3	with coil, power level deviating from the standard, without plug	design according to valve	2	AC voltage HN opposite 1/2/3/4/5 Plug lugs opposite 1/2/3/4/5	2	24 V
		4	with coil, without plug	according to valve	3	DC voltage, low power consumption HN opposite 1/2/3/4/5 Plug lugs opposite 1/2/3/4/5	3	42 V
		5	without coil	no			4	48 V
		7	with coil, with enhanced humidity resistance, without plug	according to valve			5	110 V
		8	with coil, with enhanced humidity resistance, with plug	according to valve			6	115 V
		9	ATEX 2GD, intrinsically safe, with enclosed plug socket, width 30 mm	23-SP-038			7	230 V
		A	ATEX 3GD, coil with enclosed plug socket, width 30 mm	23-SP-043			8	240 V
		B	ATEX 3GD, valve with mounted coil and enclosed plug socket, width 30 mm	23-SP-043			9	20 V
		C	ATEX 3GD, without plug, width 22 mm	23-SP-041			A	4 V
		H	with coil design B, with plug	23-SP-011-G			B	6 V
		I	with coil design B, without plug	23-SP-011-G			C	8 V
		J	with coil design A, without plug	23-SP-016			D	61 V
		K	with coil design A, with plug	23-SP-016			E	36 V
		L	with coil, with plug with LED and protective circuit	according to valve			F	9 V
		M	with coil, with plug with LED, without protective circuit	according to valve				
		N	with coil with M12 connetion	according to valve				
		O	with coil with M12 connetion with LED and protective circuit	according to valve				
		Q	with coil, with cable	according to valve				
		R	with cable up to 1 m length	according to valve				
		U	ATEX 2GD, without coil (for coil 23-SP-036)	no				
		V	ATEX 2GD, Flame proof enclosure and encapsulated with casting compound	23-SP-045				
		W	ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no				
		X	ATEX 3GD, without coil (for coil 23-SP-043 in 230V AC and 115V AC)	no				
		Y	ATEX 2GD, without coil (for coil 23-SP-038)	no				
		Z	ATEX 2GD / 3GD, without coil (for coil 23-SP-043 in 24V DC and 23-SP-037)	no				

Not all options are suitable for all valve series

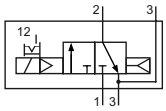
Series KN-05, KN-55
NAMUR

Technical details

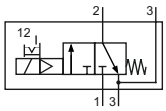
Connection	G1/4, Namur
Nominal size	6 mm
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic
Protection	IP 65 according to EN 60529
⟨Ex⟩	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

Electrically operated spool valve. The manual override is detent and is operated by screwdriver.
The model KN-55 has a coil with enhanced humitidy resistance and an additional gasket at the coil. The location pin, screws and seals are included.

3/2-way valves



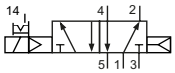
KN-05-310-HN-xxx
KN-55-310-HN-xxx
3/2-way, single solenoid, air spring return, NC



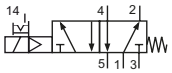
KN-05-311-HN-xxx
KN-55-311-HN-xxx
3/2-way, single solenoid, mechanical spring return, NC

Please complete: xxx = electrical option

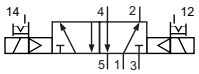
5/2- and 5/3-way valves



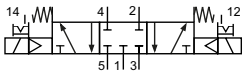
KN-05-510-HN-xxx
KN-55-510-HN-xxx
5/2-way, single solenoid, air spring return



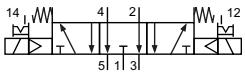
KN-05-511-HN-xxx
KN-55-511-HN-xxx
5/2-way, single solenoid, mechanical spring return



KN-05-520-HN-xxx
KN-55-520-HN-xxx
5/2-way, double solenoid



KN-05-530-HN-xxx
KN-55-530-HN-xxx
5/3-way, center position closed



KN-05-533-HN-xxx
KN-55-533-HN-xxx
5/3-way, center position exhausted

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx KN-05	-xxx KN-55
12 V DC	4.2 W		Form B industrial norm	-441	-741
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-461	-761
24 V DC	4.2 W		Form B industrial norm	-442	-742
24 V DC	4.2 W		M 12	-O42	-
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-462	-762
24 V DC	2.5 W	max. 8 bar	M 12	-O62	-
24 V AC	7/4 VA		Form B industrial norm	-452	-752
115 V AC	7/4 VA		Form B industrial norm	-456	-756
230 V AC	7/4 VA		Form B industrial norm	-457	-757

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

Series KN-05, KN-55
NAMUR

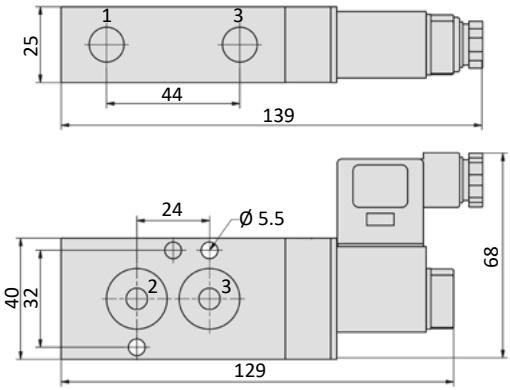
Technical data

Model-no.:	KN-05-310 KN-55-310	KN-05-311 KN-55-311	KN-05-510 KN-55-510	KN-05-511 KN-55-511	KN-05-520 KN-55-520	KN-05-530 KN-55-530	KN-05-533 KN-55-533
Operating pressure* (bar)	3...10	3...10	3...10	3...10	2...10	3...10	3...10
Pilot pressure* (bar)	3...10	3...10	3...10	3...10	2...10	3...10	3...10
Flow rate (Nl/min)	780	780	900	800	900	680	680
Response time (ms) at 6 bar	on: 16 off: 18	on: 13 off: 16	on: 16 off: 17	on: 16 off: 18	on: 14 off: 14	on: 14 off: 16	on: 14 off: 16
Weight (kg)	0.320	0.320	0.320	0.320	0.440	0.440	0.440

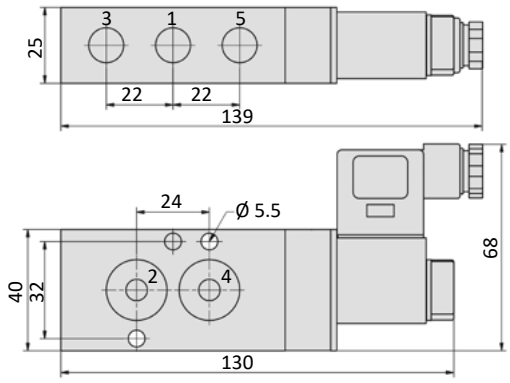
* max. 8 bar at 2.2 W and 2.5 W

Dimensions

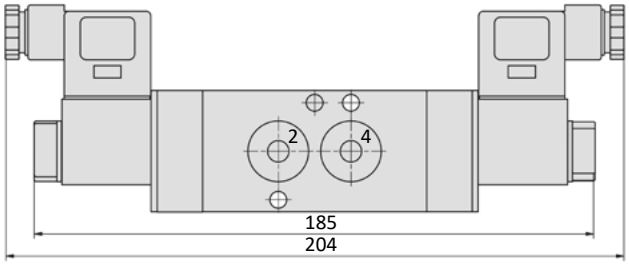
KN-05-31x-HN, KN-55-31x-HN



KN-05-51x-HN, KN-55-51x-HN



KN-05-520-HN, KN-55-520-HN, KN-05-53x-HN, KN-55-53x-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-99

Series KN-05
NAMUR

Device marking

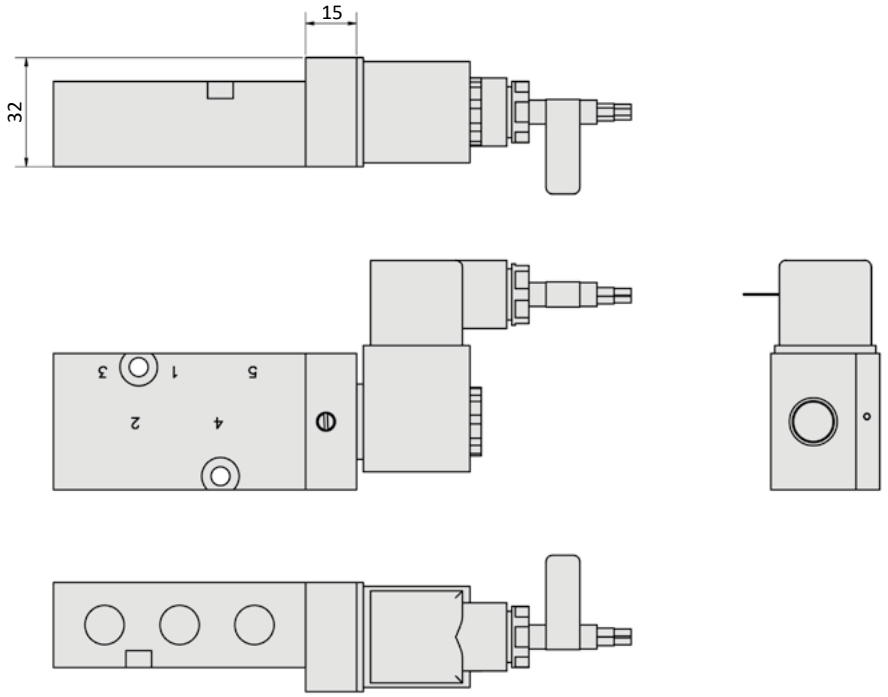
Electrically operated valves are marked as followes:

II 2G Ex h IIC T5 Gb
II 2D Ex h IIIC T100°C Db
-10°C T_{amb} +50°C

Marking according to DIN EN ISO 80079-36/ -37.

Electrically operated valves conform to equipment category 2 can be used in Zone 1 respectively in Zone 21. For the use in hazardous areas the categry group of the used coil has to be taken into account. The specification of the whole equipment corresponds always to the lowest category of the single components.

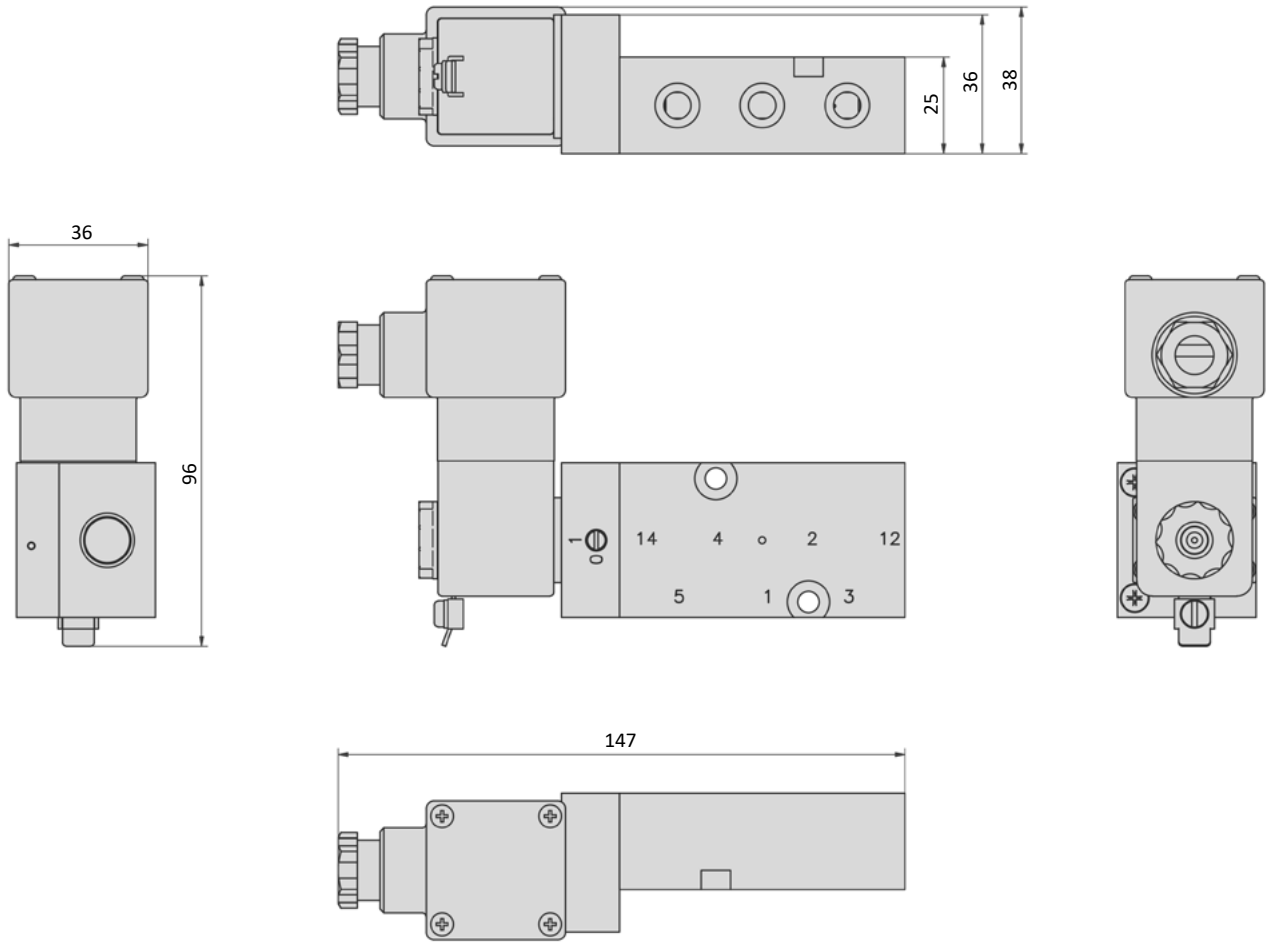
Divergent dimensions for versions -0xx, -Bxx and -912



The valves are equipped with special electrical equipment. As a result, the dimensions of these components may change. In addition to the valve dimensions, please note the dimensions of the solenoid coils on the following pages.

Please observe the respective operating instructions and declarations of conformity.
These are enclosed with the products and are available at www.airtec.de.

Divergent dimensions for version -Vxx



The valves are equipped with special electrical equipment. As a result, the dimensions of these components may change. In addition to the valve dimensions, please note the dimensions of the solenoid coils on the following pages.

Please observe the respective operating instructions and declarations of conformity.
These are enclosed with the products and are available at www.airtec.de.

Electrical options

ATEX-category	Voltage	Power consumption	Ignition protection	Solenoid coil #	-xxx
3GD	24 V DC	2.7 W	Non-sparking device	23-SP-043-A12	-B12
3GD	230 V AC	4 VA	Non-sparking device	23-SP-043-A27	-B27
2GD	24 V DC	3 W	encapsulated with casting compound and flameproof enclosure	23-SP-045-V12	-V12
2GD	230 V AC	3.8 VA	encapsulated with casting compound and flameproof enclosure	23-SP-045-V27	-V27
2GD	12 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-011-xx*	-011-xx*
2GD	24 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-012-xx*	-012-xx*
2GD	110...120 V AC	3 VA	Encapsulated with casting compoand	23-SP-037-025-xx*	-025-xx*
2GD	230 V AC	3.1 VA	Encapsulated with casting compoand	23-SP-037-027-xx*	-027-xx*
2GD	U ≤ 28 V DC / U ≤ 32 V DC	I ≤ 115 mA / I ≤ 195 mA	Intrinsically safe	23-SP-038-01-912	-912

For details on the ATEX solenoid coils, see chapter 12.
* xx = length of connecting cable: 03 = 3 m. 05 = 5 m. 10 = 10 m (available length see chapter 12)

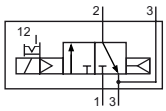
Series MN-06
NAMUR

Technical details

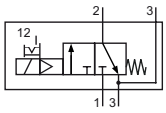
Connection	G1/4, Namur
Nominal size	6 mm
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR and POM, inner parts: Al, stainless steel and brass
Protection	IP 65 according to EN 60529
⟨Ex⟩	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

Electrically operated spool valve. The manual override is detent and is operated by screwdriver.
The location pin, screws and seals are included.

3/2-way valves

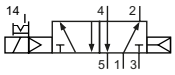


MN-06-310-HN-xxx
3/2-way, single solenoid, air spring return, NC

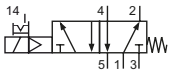


MN-06-311-HN-xxx
3/2-way, single solenoid, mechanical spring return, NC

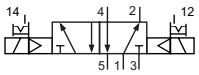
5/2- and 5/3-way valves



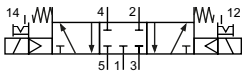
MN-06-510-HN-xxx
5/2-way, single solenoid, air spring return



MN-06-511-HN-xxx
5/2-way, single solenoid, mechanical spring return



MN-06-520-HN-xxx
5/2-way, double solenoid



MN-06-530-HN-xxx
5/3-way, center position closed

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-441
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-461
24 V DC	4.2 W		Form B industrial norm	-442
24 V DC	4.2 W		M 12	-O42
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-462
24 V DC	2.5 W	max. 8 bar	M 12	-O62
24 V AC	7/4 VA		Form B industrial norm	-452
115 V AC	7/4 VA		Form B industrial norm	-456
230 V AC	7/4 VA		Form B industrial norm	-457

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

Series MN-06
NAMUR

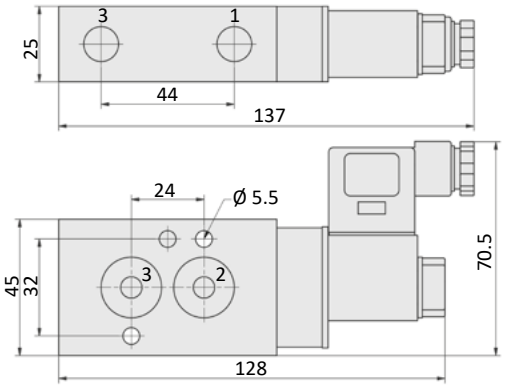
Technical data

Model-no.:	MN-06-310	MN-06-311	MN-06-510	MN-06-511	MN-06-520	MN-06-530
Operating pressure* (bar)	2...10	3...10	2...10	3...10	2...10	3...10
Pilot pressure* (bar)	2...10	3...10	2...10	3...10	2...10	3...10
Flow rate (Nl/min)	750	750	750	750	750	650
Response time (ms) at 6 bar	on: 13 off: 16	on: 13 off: 16	on: 13 off: 16	on: 13 off: 16	on: 12 off: 12	on: 13 off: 15
Weight (kg)	0.320	0.320	0.320	0.320	0.460	0.460

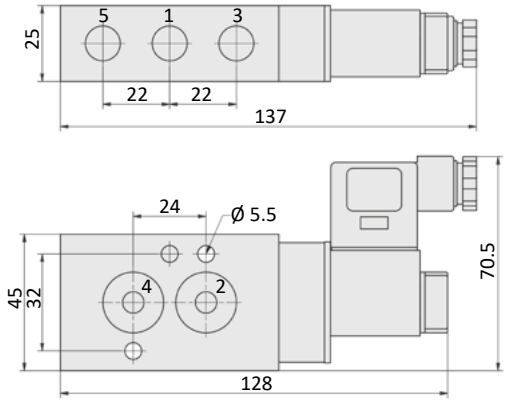
* max. 8 bar at 2.2 W and 2.5 W

Dimensions

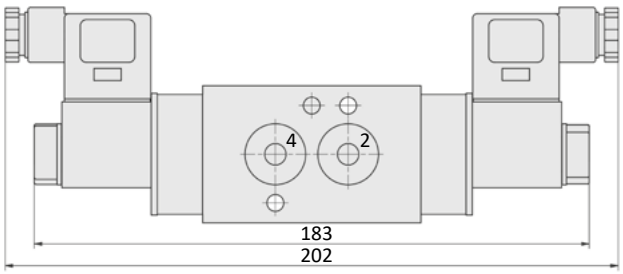
MN-06-31x-HN



MN-06-51x-HN



MN-06-520-HN, MN-06-530-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-99

Series MN-06
NAMUR

Device marking

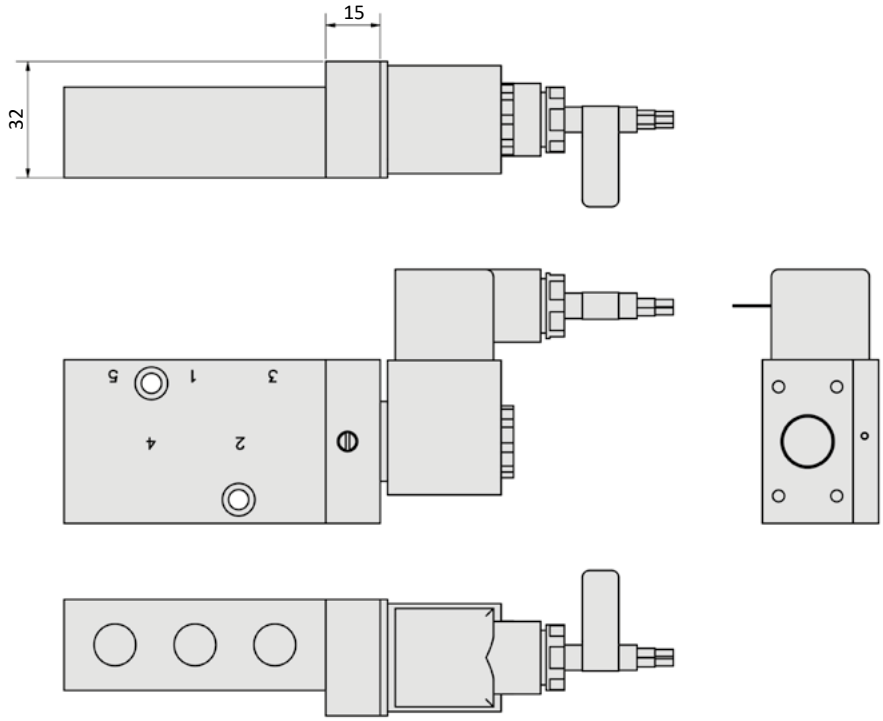
Electrically operated valves are marked as followes:

Marking according to DIN EN ISO 80079-36/ -37.

II 2G Ex h IIC T5 Gb
II 2D Ex h IIIC T100°C Db
-10°C T_{amb} +50°C

Electrically operated valves conform to equipment category 2 can be used in Zone 1 respectively in Zone 21. For the use in hazardous areas the categry group of the used coil has to be taken into account. The specification of the whole equipment corresponds always to the lowest category of the single components.

Divergent dimensions



The valves are equipped with special electrical equipment. As a result, the dimensions of these components may change. In addition to the valve dimensions, please note the dimensions of the solenoid coils on the following pages.

Please observe the respective operating instructions and declarations of conformity.
These are enclosed with the products and are available at www.airtec.de.

Electrical options

ATEX-category	Voltage	Power consumption	Ignition protection	Solenoid coil #	-xxx
3GD	24 V DC	2.7 W	Non-sparking device	23-SP-043-A12	-B12
3GD	230 V AC	4 VA	Non-sparking device	23-SP-043-A27	-B27
2GD	12 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-011-xx*	-011-xx*
2GD	24 V DC	3.3 W	Encapsulated with casting compoand	23-SP-037-012-xx*	-012-xx*
2GD	110...120 V AC	3 VA	Encapsulated with casting compoand	23-SP-037-025-xx*	-025-xx*
2GD	230 V AC	3.1 VA	Encapsulated with casting compoand	23-SP-037-027-xx*	-027-xx*
2GD	U ≤ 28 V DC / U ≤ 32 V DC	I ≤ 115 mA / I ≤ 195 mA	Intrinsically safe	23-SP-038-01-912	-912

For details on the ATEX solenoid coils, see chapter 12.
* xx = length of connecting cable: 03 = 3 m. 05 = 5 m. 10 = 10 m (available length see chapter 12)

Voltage code
Series KN-05 and MN-06

- HN * - * * *

Manual override	
-	without
HN	detend
HNT	non-detend

Coil and plug options		Coil type
0	ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037
1	with coil and plug	according to valve
3	with coil, power level deviating from the standard, without plug	design according to valve
4	with coil, without plug	according to valve
5	without coil	no
7	with coil, with enhanced humidity resistance, without plug	according to valve
8	with coil, with enhanced humidity resistance, with plug	according to valve
9	ATEX 2GD, intrinsically safe, with enclosed plug socket, width 30 mm	23-SP-038
A	ATEX 3GD, coil with enclosed plug socket, width 30 mm	23-SP-043
B	ATEX 3GD, valve with mounted coil and enclosed plug socket, width 30 mm	23-SP-043
C	ATEX 3GD, without plug, width 22 mm	23-SP-041
H	with coil design B, with plug	23-SP-011-G
I	with coil design B, without plug	23-SP-011-G
J	with coil design A, without plug	23-SP-016
K	with coil design A, with plug	23-SP-016
L	with coil, with plug with LED and protective circuit	according to valve
M	with coil, with plug with LED, without protective circuit	according to valve
N	with coil with M12 connetion	according to valve
O	with coil with M12 connetion with LED and protective circuit	according to valve
Q	with coil, with cable	according to valve
U	ATEX 2GD, without coil (for coil 23-SP-036)	no
V	ATEX 2GD, Flame proof enclosure and encapsulated with casting compound	23-SP-045
W	ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no
X	ATEX 3GD, without coil (for coil 23-SP-043 in 230V AC and 115V AC)	no
Y	ATEX 2GD, without coil (for coil 23-SP-038)	no
Z	ATEX 2GD / 3GD, without coil (for coil 23-SP-043 in 24V DC and 23-SP-037)	no

Voltage type Position of the HN Position of the plug lugs	
0	without indication HN at 1/3/(5) or top
1	DC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top
2	AC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top
3	DC voltage, low power consumption HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top
4	DC voltage HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)
5	AC voltage HN opposite 1/3/(5)Plug lugs opposite 1/3/(5)
6	DC voltage, low power consumption HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)
7	without indication HN opposite 1/3/(5))

Voltage	
0	without
1	12 V
2	24 V
3	42 V
4	48 V
5	110 V
6	115 V
7	230 V
8	240 V
9	20 V
A	4 V
B	6 V
C	8 V
D	61 V
E	36 V
F	9 V

Not all options are suitable for all valve series

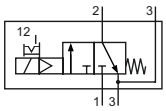
Series MN-22
NAMUR

Technical details

Connection	G1/2, Namur
Nominal size	14 mm
Temperature range	-10°C ... +70°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. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR and POM, inner parts: Al, stainless steel and brass
Protection	IP 65 according to EN 60529

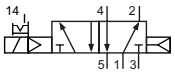
Electrically operated spool valve. The manual override is detent and is operated by screwdriver.
The location pin, screws and seals are included.

3/2- way valves

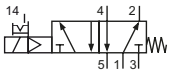


MN-22-311-HN-xxx
3/2-way, single solenoid, mechanical spring return, NC

5/2- way valves



MN-22-510-HN-xxx
5/2-way, single solenoid, air spring return



MN-22-511-HN-xxx
5/2-way, single solenoid, mechanical spring return

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-411
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-431
24 V DC	4.2 W		Form B industrial norm	-412
24 V DC	4.2 W		M 12	-O12
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-432
24 V DC	2.5 W	max. 8 bar	M 12	-O32
24 V AC	7/4 VA		Form B industrial norm	-422
115 V AC	7/4 VA		Form B industrial norm	-426
230 V AC	7/4 VA		Form B industrial norm	-427

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

Series MN-22
NAMUR

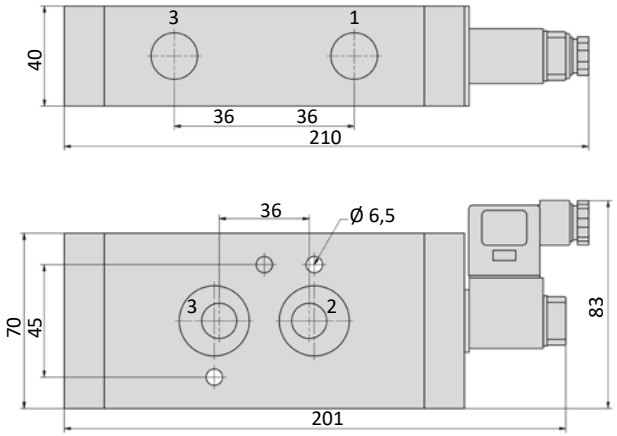
Technical data

Model-no.:	MN-22-311	MN-22-510	MN-22-511
Operating pressure* (bar)	3...10	1...10	3...10
Pilot pressure* (bar)	3...10	1...10	3...10
Flow rate (Nl/min)	3300	3300	3300
Response time (ms) at 6 bar	on: 20 off: 80	on: 30 off: 59	on: 20 off: 80
Weight (kg)	1.10	1.10	1.10

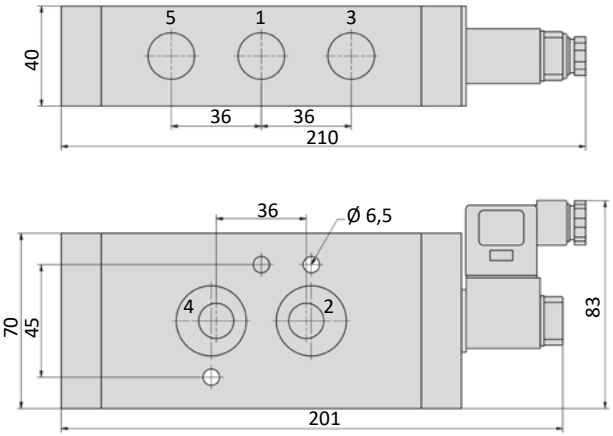
* max. 8 bar at 2.2 W and 2.5 W

Dimensions

MN-22-311-HN



MN-22-51x-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-99

Voltage code
Series MN-22

- HN * - * * *

Manual override		Coil and plug options		Coil type	Voltage type Position of the HN Position of the plug lugs		Voltage	
-	without	0	ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0	without indication lateral	0	without
HN	detend	1	with coil and plug	according to valve	1	DC voltage HN lateral Plug lugs at 2/(4)	1	12 V
HNT	non-detend	3	with coil, power level deviating from the standard, without plug	design according to valve	2	AC voltage HN lateral Plug lugs at 2/(4)	2	24 V
		4	with coil, without plug	according to valve	3	DC voltage, low power consumption HN lateral Plug lugs at 2/(4)	3	42 V
		5	without coil	no			4	48 V
		7	with coil, with enhanced humidity resistance, without plug	according to valve			5	110 V
		8	with coil, with enhanced humidity resistance, with plug	according to valve			6	115 V
		9	ATEX 2GD, intrinsically safe, with enclosed plug socket, width 30 mm	23-SP-038			7	230 V
		A	ATEX 3GD, coil with enclosed plug socket, width 30 mm	23-SP-043			8	240 V
		B	ATEX 3GD, valve with mounted coil and enclosed plug socket, width 30 mm	23-SP-043			9	20 V
		C	ATEX 3GD, without plug, width 22 mm	23-SP-041			A	4 V
		H	with coil design B, with plug	23-SP-011-G			B	6 V
		I	with coil design B, without plug	23-SP-011-G			C	8 V
		J	with coil design A, without plug	23-SP-016			D	61 V
		K	with coil design A, with plug	23-SP-016			E	36 V
		L	with coil, with plug with LED and protective circuit	according to valve			F	9 V
		M	with coil, with plug with LED, without protective circuit	according to valve				
		N	with coil with M12 connetion	according to valve				
		O	with coil with M12 connetion with LED and protective circuit	according to valve				
		Q	with coil, with cable	according to valve				
		R	with cable up to 1 m length	according to valve				
		U	ATEX 2GD, without coil (for coil 23-SP-036)	no				
		V	ATEX 2GD, Flame proof enclosure and encapsulated with casting compound	23-SP-045				
		W	ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no				
		X	ATEX 3GD, without coil (for coil 23-SP-043 in 230V AC and 115V AC)	no				
		Y	ATEX 2GD, without coil (for coil 23-SP-038)	no				
		Z	ATEX 2GD / 3GD, without coil (for coil 23-SP-043 in 24V DC and 23-SP-037)	no				

Not all options are suitable for all valve series

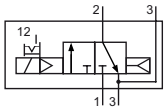
Series ICKN-55
NAMUR

Technical details

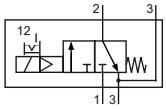
Connection	G1/4, Namur
Nominal size	6 mm
Temperature range	-30°C ... +80°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: FKM , inner parts: Al, stainless steel and brass
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent and is operated by screwdriver.
The location pin, screws and seals are included.

3/2-way valves



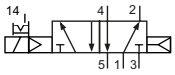
ICKN-55-310-HN-xxx
3/2-way, single solenoid, air spring return, NC



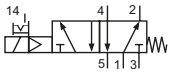
ICKN-55-311-HN-xxx
3/2-way, single solenoid, mechanical spring return, NC

Please complete: xxx = electrical option

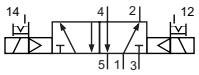
5/2- and 5/3-way valves



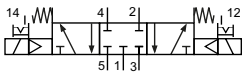
ICKN-55-510-HN-xxx
5/2-way, single solenoid, air spring return



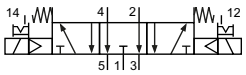
ICKN-55-511-HN-xxx
5/2-way, single solenoid, mechanical spring return



ICKN-55-520-HN-xxx
5/2-way, double solenoid



ICKN-55-530-HN-xxx
5/3-way, center position closed



ICKN-55-533-HN-xxx
5/3-way, center position exhausted

Electrical options

Nominal Ivotage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-F41
24 V DC	4.2 W		Form B industrial norm	-F42

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

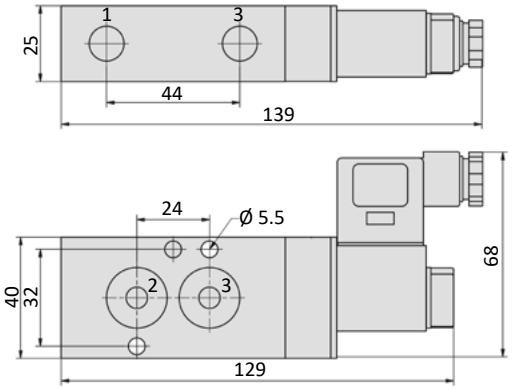
Series ICKN-55
NAMUR

Technical data

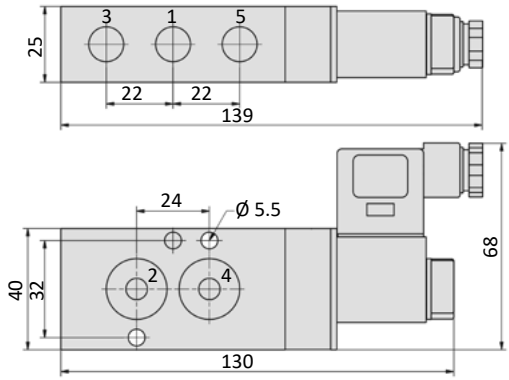
Model-no.:	ICKN-55-310	ICKN-55-311	ICKN-55-510	ICKN-55-511	ICKN-55-520	ICKN-55-530	ICKN-55-533
Operating pressure (bar)	3 ... 8	3 ... 8	3 ... 8	3 ... 8	2 ... 8	3 ... 8	3 ... 8
Pilot pressure (bar)	3 ... 8	3 ... 8	3 ... 8	3 ... 8	2 ... 8	3 ... 8	3 ... 8
Flow rate (Nl/min)	780	780	900	800	900	680	680
Response time (ms) at 6 bar	on: 16 off: 18	on: 13 off: 16	on: 16 off: 17	on: 16 off: 18	on: 14 off: 14	on: 14 off: 16	on: 14 off: 16
Weight (kg)	0.320	0.320	0.320	0.320	0.440	0.440	0.440

Dimensions

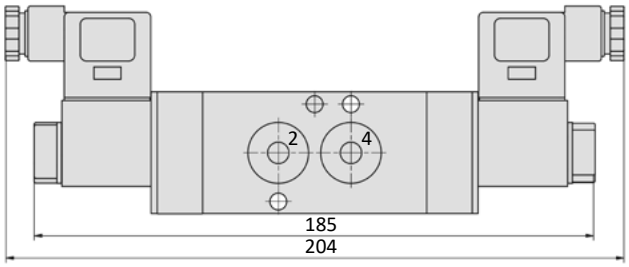
ICKN-55-31x-HN



ICKN-55-51x-HN



ICKN-55-520-HN, ICKN-55-53x-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned.

Accessories

Plug sockets: page 4-99

Voltage code
Series ICKN-55

- HN * - * * *

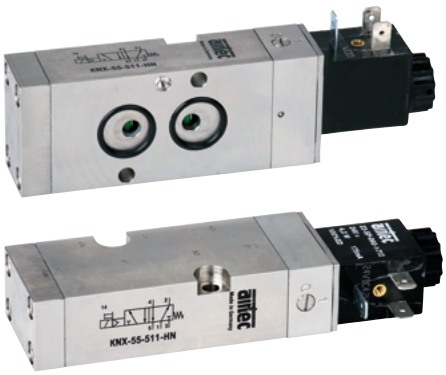
Manual override		Coil and plug options		Coil type	Voltage type Position of the HN Position of the plug lugs		Voltage	
-	without	F	with coil, with enhanced humidity resistance, without plug, low temperature version	23-SP-011-1-711 23-SP-011-1-712	0	without indication HN at 1/3/(5) or top	0	without
HN	detend				1	DC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top	1	12 V
					2	AC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top	2	24 V
					3	DC voltage, low power consumption HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top		
					4	DC voltage HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)		
					5	AC voltage HN opposite 1/3/(5)Plug lugs opposite 1/3/(5)		
					6	DC voltage, low power consumption HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)		
					7	without indication HN opposite 1/3/(5))		

Not all options are suitable for all valve series

Series KNX-55
NAMUR

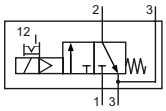
Technical details

Connection	G1/4, Namur
Nominal size	6 mm
Temperature range	-30°C ... +80°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. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: stainless steel 1.4571, seals: PU, NBR, inner parts: stainless steel 1.4305
Protection	IP 65 according to EN 60529
Ex	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)



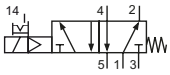
Electrically operated spool valve. The manual override is detent and is operated by screwdriver.
The location pin, screws and seals are included.

3/2-way valve

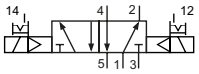


KNX-55-311-HN-xxx
3/2-way, single solenoid, mechanical spring return, NC

5/2- and 5/3-way valves



KNX-55-511-HN-xxx
5/2-way, single solenoid, mechanical spring return



KNX-55-520-HN-xxx
5/2-way, double solenoid

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-F41
24 V DC	4.2 W		Form B industrial norm	-F42

*1 *Plug socket not included, suitable plug sockets see page 4-99.*

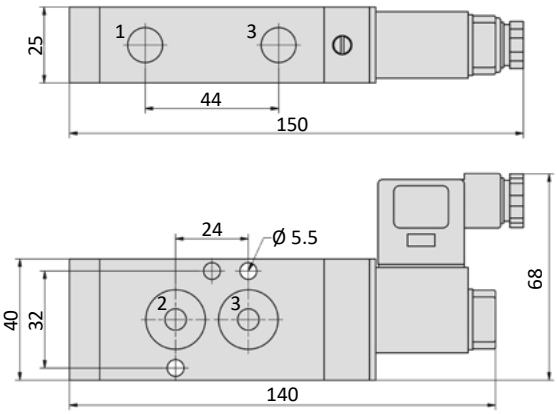
Technical data

Model-no.:	KNX-55-311	KNX-55-511	KNX-55-520
Operating pressure (bar)	3 ... 8	3 ... 8	3 ... 8
Pilot pressure (bar)	3 ... 8	3 ... 8	3 ... 8
Flow rate (Nl/min)	1280	1060	1050
Response time (ms) at 6 bar	on: 13 off: 47	on: 12 off: 74	on: 14 off: 14
Weight (kg)	0.670	0.660	0.720

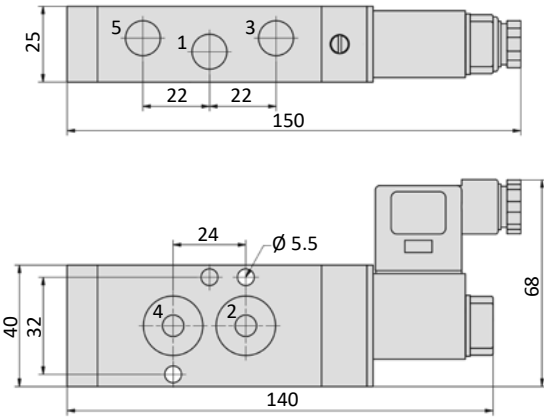
Series KNX-55
NAMUR

Dimensions

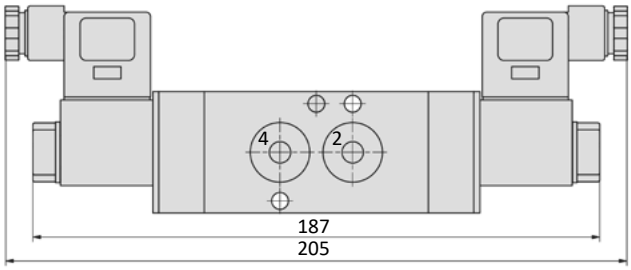
KNX-55-311-HN



KNX-55-511-HN



KNX-55-520-HN



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.
Solenoid coil can be repositioned.

Accessories

Plug sockets: page 4-99

Voltage code
Series KNX-55

- HN * - * * *

Manual override		Coil and plug options		Coil type	Voltage type Position of the HN Position of the plug lugs		Voltage	
-	without	0	ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0	without indication HN at 1/3/(5) or top	0	without
HN	detend	9	ATEX 2GD, intrinsically safe, with enclosed plug socket, width 30 mm	23-SP-038	1	DC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top	1	12 V
		A	ATEX 3GD, coil with enclosed plug socket, width 30 mm	23-SP-043	2	AC voltage HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top	2	24 V
		B	ATEX 3GD, valve with mounted coil and enclosed plug socket, width 30 mm	23-SP-043	3	DC voltage, low power consumption HN at 1/3/(5) or top Plug lugs opposite 1/3/(5) or top	3	42 V
		C	ATEX 3GD, without plug, width 22 mm	23-SP-041	4	DC voltage HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)	4	48 V
		F	with coil, with enhanced humidity resistance, without plug, TieftemperaturCoil and plug options	23-SP-011-1-711 23-SP-011-1-712	5	AC voltage HN opposite 1/3/(5)Plug lugs opposite 1/3/(5)	5	110 V
		U	ATEX 2GD, without coil (for coil 23-SP-036)	no	6	DC voltage, low power consumption HN opposite 1/3/(5) Plug lugs opposite 1/3/(5)	6	115 V
		V	ATEX 2GD, Flame proof enclosure and encapsulated with casting compound	23-SP-045	7	without indication HN opposite 1/3/(5))	7	230 V
		W	ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no				
		X	ATEX 3GD, without coil (for coil 23-SP-043 in 230V AC and 115V AC)	no				
		Y	ATEX 2GD, without coil (for coil 23-SP-038)	no				
		Z	ATEX 2GD / 3GD, without coil (for coil 23-SP-043 in 24V DC and 23-SP-037)	no				

Not all options are suitable for all valve series

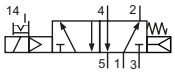
Series 86-MN-4-18

Technical details

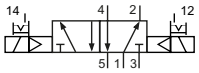
Connection	G1/8, flange
Temperature range	+5°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent/ non-detent. It is operated manually or by screwdriver.

5/2-way valves



86-MN-4-18-510-xxx
5/2-way, single solenoid, mechanical spring return and air spring return



86-MN-4-18-520-xxx
5/2-way, double solenoid

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	**-xxx** Manual override on same side of ports **2 and 4**
24 V DC	3 W		Form B industrial norm	-M42
220 V AC	3.5 VA		Form B industrial norm	-M57

***1** *Plug socket with integrated LED are part of delivery*

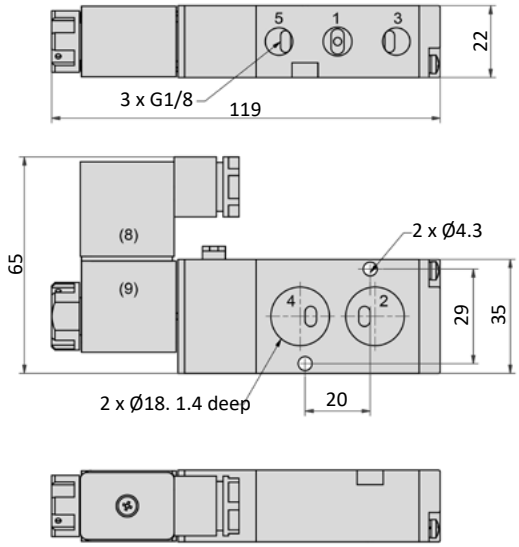
Technical data

Model-no.:	86-MN-4-18-510	86-MN-4-18-520
Operating pressure (bar)	1.5...8	1.5...8
Nominal size (mm)	4	4
Flow rate (Nl/min)	750	750
Response time (ms) at 6 bar	20	20
Weight (kg)	0.220	0.334

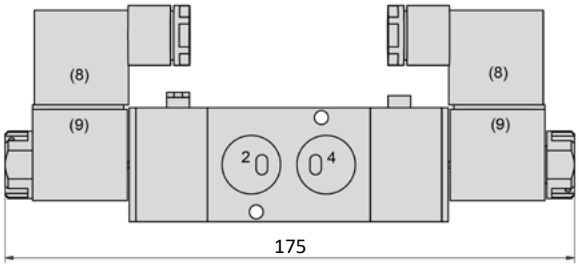
Series 86-MN-4-18

Dimensions

86-MN-4-18-510



86-MN-4-18-520



1 = pressure inlet
2.4 = outlets
3.5 = exhausts

Plug socket can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-104

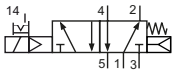
Series 86-MN-4-14
NAMUR

Technical details

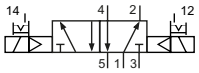
Connection	G1/4, Namur
Temperature range	+5°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent/ non-detent. It is operated manually or by screwdriver.

5/2-way valves



86-MN-4-14-510-xxx
5/2-way, single solenoid, mechanical spring return and air spring return



86-MN-4-14-520-xxx
5/2-way, double solenoid

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	**-xxx** Manual override on same side of ports **2 and 4**
24 V DC	3 W		Form B industrial norm	-M42
220 V AC	3.5 VA		Form B industrial norm	-M57

*1 *Plug socket with integrated LED are part of delivery*

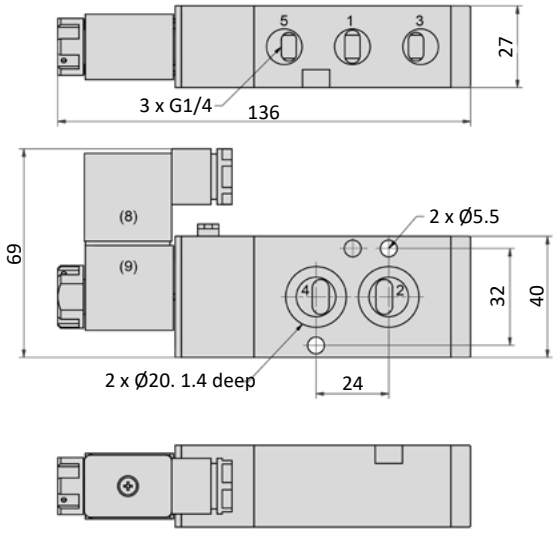
Technical data

Model-no.:	86-MN-4-14-510	86-MN-4-14-520
Operating pressure (bar)	1.5...8	1.5...8
Nominal size (mm)	6	6
Flow rate (Nl/min)	1300	1300
Response time (ms) at 6 bar	20	20
Weight (kg)	0.306	0.430

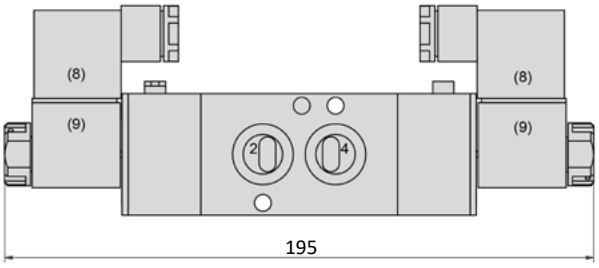
Series 86-MN-4-14
NAMUR

Dimensions

86-MN-4-14-510



86-MN-4-14-520



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-104

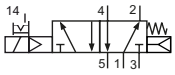
Series 86-MN-4-12

Technical details

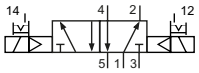
Connection	G1/2, flange
Temperature range	+5°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel and plastic
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent/ non-detent. It is operated manually or by screwdriver.

5/2-way valves



86-MN-4-12-510-xxx
5/2-way, single solenoid, mechanical spring return and air spring return



86-MN-4-12-520-xxx
5/2-way, double solenoid

Please complete: xxx = electrical option

Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx Manual override on same side of ports 2 and 4
24 V DC	3 W		Form B industrial norm	-M42
220 V AC	3.5 VA		Form B industrial norm	-M57

*1 *Plug socket with integrated LED are part of delivery*

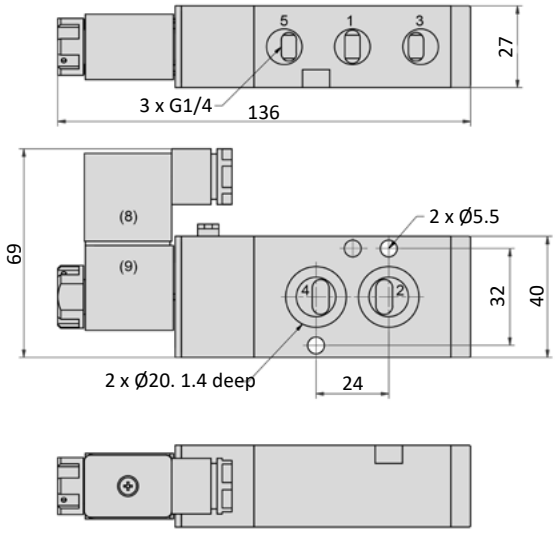
Technical data

Model-no.:	86-MN-4-12-510	86-MN-4-12-520
Operating pressure (bar)	1.5...8	1.5...8
Nominal size (mm)	8	8
Flow rate (Nl/min)	2500	2500
Response time (ms) at 6 bar	20	20
Weight (kg)	0.537	0.658

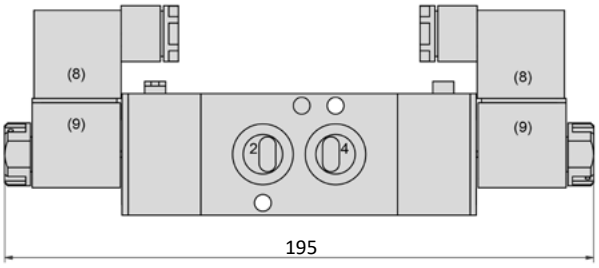
Series 86-MN-4-12

Dimensions

86-MN-4-14-510



86-MN-4-14-520



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Plug socket can be repositioned by 180°.
Solenoid coil can be repositioned by 4 x 90°.

Accessories

Plug sockets: page 4-104

Voltage code
Series 86-MN-4

- HN * - * * *

Manual override		Coil and plug options		Coil type	Voltage type Position of the HN Position of the plug lugs		Voltage	
HN	non-detend and detend	1	with coil and plug	according to valve	1	DC voltage HN opposite 1/3/5 Plug lugs at 1/3/5	0	without
		4	with coil, without plug	according to valve	2	AC voltage HN at 1/3/5 Plug lugs at 1/3/5	1	12 V
		5	without coil	no	4	DC voltage HN opposite 1/3/5 Plug lugs opposite 1/3/5	2	24 V
		7	with coil, with enhanced humidity resistance, without plug	according to valve	5	AC voltage HN opposite 1/3/5 Plug lugs opposite 1/3/5	3	42 V
		8	with coil, with enhanced humidity resistance, with plug	according to valve	7	without indication HN opposite 1/3/5	4	48 V
		H	with coil design B, with plug	23-SP-011-G			5	110 V
		I	with coil design B, without plug	23-SP-011-G			6	115 V
		J	with coil design A, without plug	23-SP-016			7	230 V
		K	with coil design A, with plug	23-SP-016				
		L	with coil, with plug with LED and protective circuit	according to valve				
		M	with coil, with plug with LED, without protective circuit	according to valve				
		N	with coil with M12 connetion	according to valve				
		O	with coil with M12 connetion with LED and protective circuit	according to valve				
		Q	with coil, with cable	according to valve				
		R	with cable up to 1 m length	according to valve				

Not all options are suitable for all valve series

Flow control valves
NAMUR

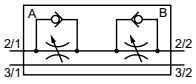
Technical details

Connection	Namur
Nominal size	5 mm
Flow rate	KN-063: 210 Nl/min, KN-065: 290 Nl/min
Weight	0.170 kg
Temperature range	-25°C ... +70°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. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized) seals: NBR inner parts: brass
Ex	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 12)

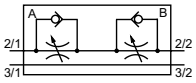
Flow control valves for speed regulation of pneumatically operated actuators. Mounting between NAMUR valve and actuator. Adjustable with screwdriver or manually. The location pin, screws and seals are included.

5

3/2-way

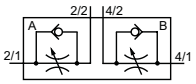


KN-063-DRS
for 3/2-way valves,
adjustable with screwdriver

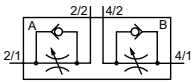


KN-063-DRH
for 3/2-way valves,
manually adjustable

5/2- and 5/3-way



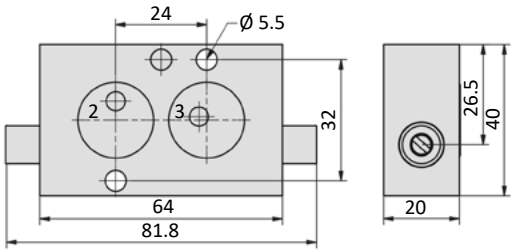
KN-065-DRS
for 5/2-way- and 5/3-way valves,
adjustable with screwdriver



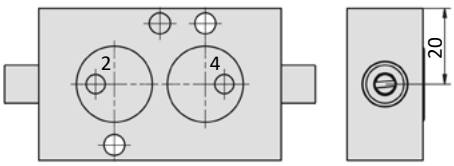
KN-065-DRH
for 5/2-way- and 5/3-way valves,
manually adjustable

Dimensions

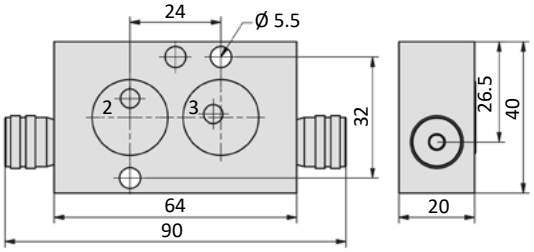
KN-063-DRS



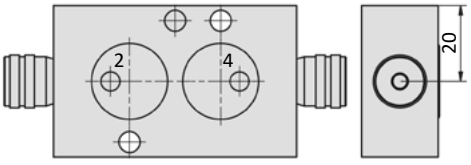
KN-065-DRS



KN-063-DRH



KN-065-DRH



Flow control valves
NAMUR

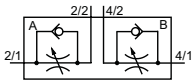
86-4-DR-NAMUR, Speed regulation plate

Technical details

Connection	Namur
Nominal size	4 mm
Pressure range (bar)	1.5...8
Temperature range	+5°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 and plastic
Weight	0.103 kg

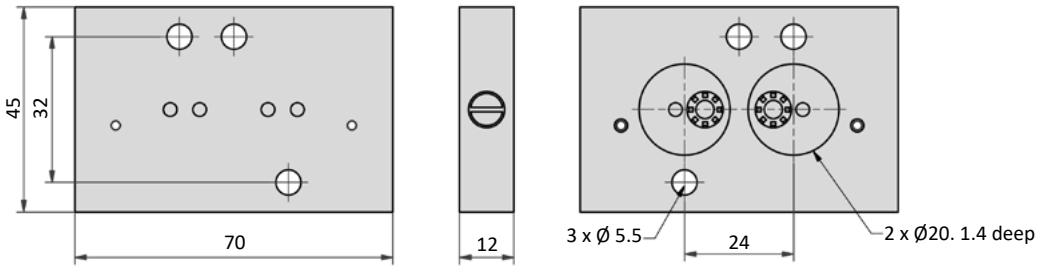
Speed regulation plate for double acting actuators. The speed regulation plate can also be used for single acting actuators by using the converting plate 86-4-AP-NAMUR. Adjustable by screw driver.

5/2- und 5/3-Wege



86-4-DR-NAMUR
for 5/2-way- and 5/3-way valves,
adjustable by screw driver

Dimensions



Converting plate
NAMUR

86-4-AP-NAMUR, Converting plate

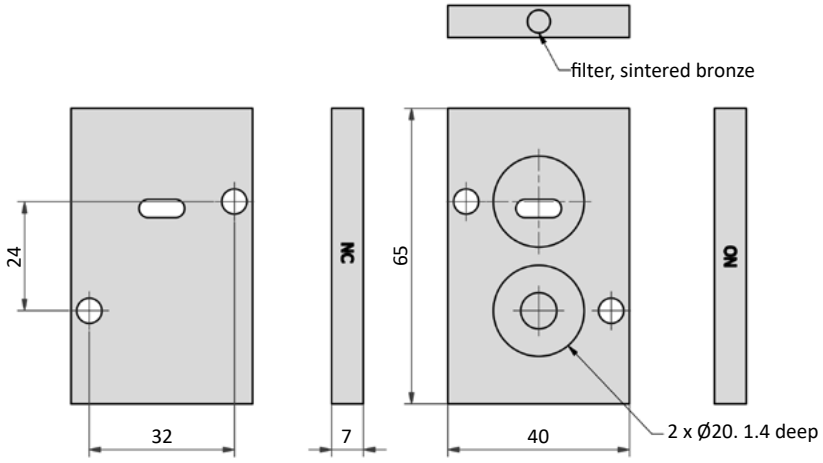
Technical details

Connection	Namur
Nominal size	4 mm
Pressure range (bar)	0...8
Temperature range	+5°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), seals: NBR
Weight	0,043 kg

Converting plate suitable to obtain a 3/2-way function at a 5/2-way NAMUR valve.
Additional feature: Turning the plate by 180° you can change a NC to a NO function or vice versa.

5

Dimensions



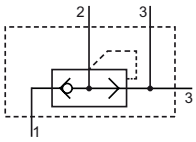
Quick exhaust valves
NAMUR

Technical details

Connection	Namur
Temperature range	-10°C ... +70°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) seals: NBR

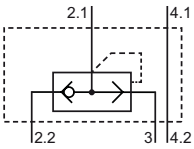
Quick exhaust valve for mounting on components according to NAMUR specification.
The air flowing from the control valve to 1 has an unobstructed flow rate to 2 (e.g. cylinder connection). When the control valve switches to venting, 1 is depressurised. The quick exhaust valve switches to flow rate from 2 to 3, i.e. the air from the cylinder flows directly to the outside at 3.
A silencer can be used at 3 to minimise noise. To avoid back pressure, the silencer should be sufficiently large.
The location pin, screws and seals are included.

3/2-way



SEN-14-3
for 3/2-way valves

5/2- and 5/3-way



SEN-14-5
for 5/2-way- and 5/3-way valves

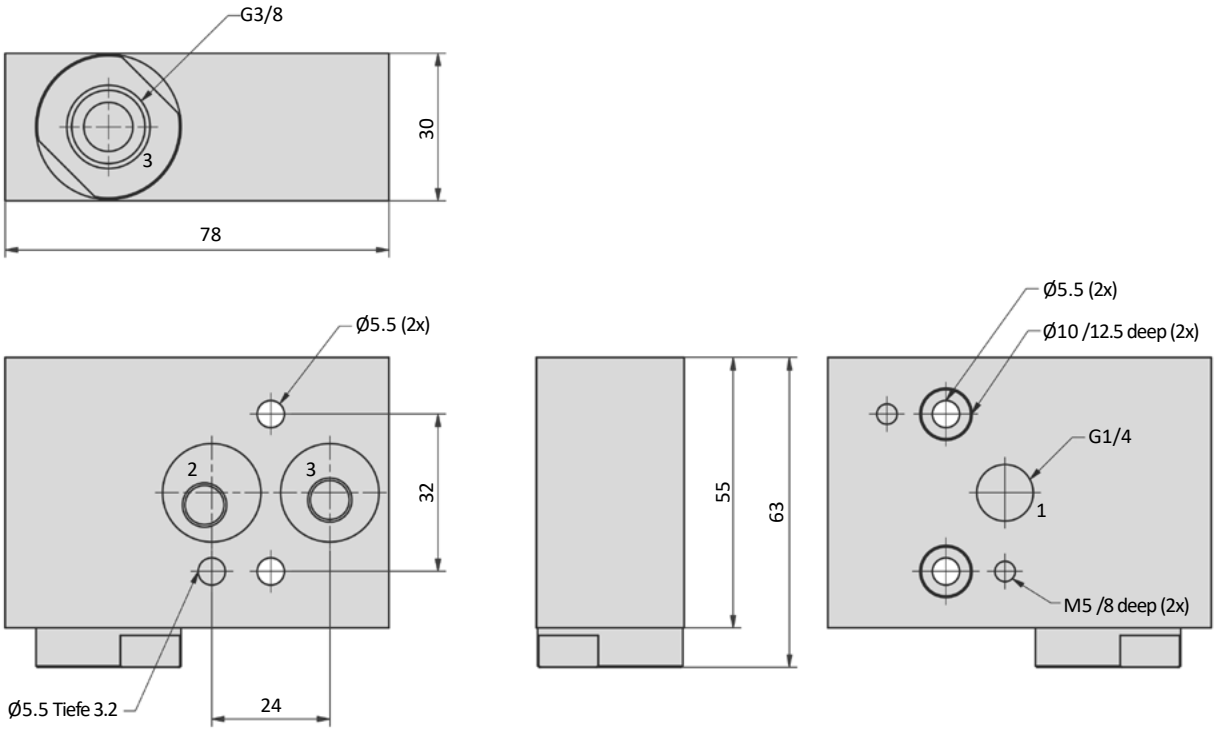
Technical data

Model-no.:	SEN-14-3
Flow rate 1-2 (Nl/min)	670
Flow rate 2-3 NAMUR (Nl/min)	750
Flow rate 2-3 G3/8 (Nl/min)	1120
Operating pressure (bar)	0.5...10
Weight (kg)	0.125

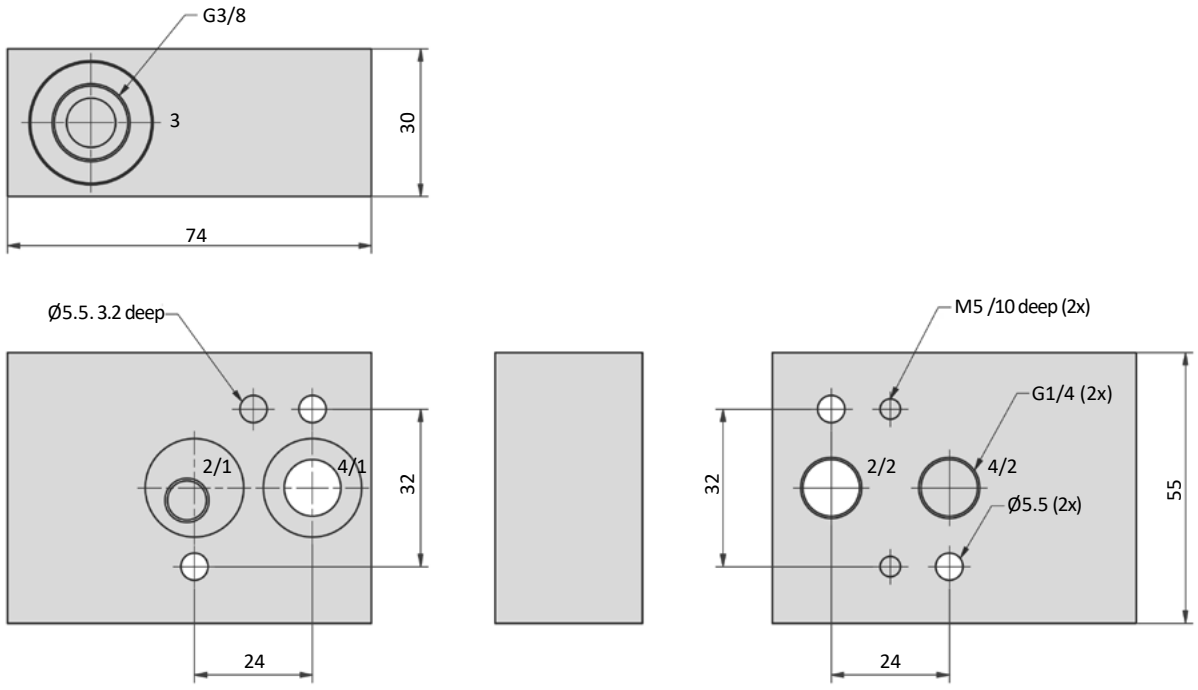
Model-no.:	SEN-14-5
Flow rate 2.2-2.1 (Nl/min)	680
Flow rate 2.1-3 (Nl/min)	1100
Flow rate 4.2-4.1 (Nl/min)	2300
Operating pressure (bar)	0.5...10
Weight (kg)	0.115

Dimensions

SEN-14-3



SEN-14-5



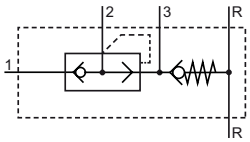
Recirculation block
NAMUR

Technical details

Connection	Namur
Temperature range	-10°C ... +70°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) seals: NBR

Recirculation block to NAMUR, for spring chamber ventilation of single-acting rotary actuators.
The location pin, screws and seals are included.

3/2-way



UBN-14
for 3/2-way valves

Technical data

Model-no.:	UBN-14
Nominal size (mm)	7
Flow rate 1-2 (Nl/min)	1240
Flow rate 2-R (Nl/min)	280
Flow rate 3-R (Nl/min)	280
Operating pressure (bar)	1...10
Weight (kg)	0.232

Recirculation block
NAMUR

Dimensions

UBN-14