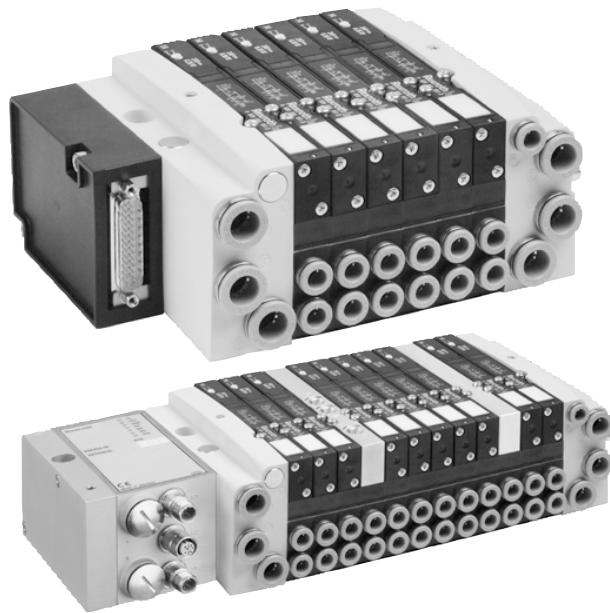


Valve systems ▶ Valve systems

Series HF03-LG







Brochure









Valve systems ▶ Valve systems

Series HF03-LG

Valve system, configurable with push-in fitting Ø8 mm or 1/4" (inch) or thread connection G1/8 or 1/8 NPTF

	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side	5
	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Direct field bus connection (BDC) ▶ B-design	9
	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Field bus connection with I/O functionality (CMS) ▶ B-design	12
	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Connection with diagnosis (DDL) ▶ B-design	15
	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design	18
	Valve system, Series HF03-LG ▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design	21

Valves

	2x3/2-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ Pilot: external, internal	26
	2x3/2-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ Pilot: external, internal	28
	5/2-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal	30
	5/2-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal	32
	5/3-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection ▶ Manual override: with detent ▶ Pilot: external, internal	34
	5/3-directional valve, Series HF03-LG ▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection ▶ Manual override: without detent ▶ Pilot: external, internal	36



Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

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Valve systems ▶ Valve systems
Series HF03-LG

Accessories


Field Bus Modules

	Direct field bus connection (BDC) ▶ Bus coupler with driver ▶ direct field bus connection ▶ Field bus protocol: EtherCAT / PROFIBUS DP / CANopen / CANopen sb / DeviceNet / sercos III	38
	Optional field bus connection with I/O function (CMS), B-design ▶ Bus coupler with driver ▶ Field bus protocol: PROFIBUS DP / DeviceNet / CANopen / EtherNET/IP / PROFINET IO	39
	Link structure DDL, B-design ▶ B-design ▶ Driver	43
	Link structure DDL, B-design ▶ Driver	45
	Fieldbus connection, Series AS-i ▶ B-design ▶ Bus coupler with driver ▶ Field bus protocol: AS-i	47
	Fieldbus connection, Series AS-i ▶ B-design ▶ Bus coupler with driver ▶ Field bus protocol: AS i with inputs	49
	Adapter module ▶ for series AES on B-design ▶ for Series HF02-LG, HF03-LG, HF04, CD10, CD20, CD01-PI	51

ECV series for HF03

	compact ejector, Series ECV ▶ For HF03 valve system	52
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Other accessories

	Pressure regulator subplate ▶ Base plate connection, Base plate connection ▶ Poppet valve	58
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Valve systems ▶ Valve systems

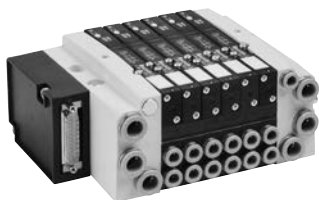
Series HF03-LG

	<p>Pressure gauge ▶ Front port ▶ Background color: Black ▶ Scale color: White ▶ Viewing window: Polystyrene ▶ Units: MPa</p>	59
	<p>Exhaust module, for port channels 2, 4</p>	61
	<p>Multipole plug D-Sub (25-pin) ▶ Socket, D-Sub, 25-pin</p>	62
	<p>Multipole plug (44-pin) ▶ high density ▶ Socket, D-Sub, 44-pin</p>	64
	<p>Multipole plug (44-pin) ▶ Socket, D-Sub, 44-pin</p>	66
	<p>CKD kit, Series HF03-LG ▶ Metric version ▶ Compressed air connection output: Ø 8 - G 1/8 ▶ Can be assembled into blocks ▶ Single base plate principle ▶ With collective pilot air exhaust</p>	68
	<p>CKD kit, Series HF03-LG ▶ Inch version ▶ Compressed air connection output: 1/8-27 NPTF - Ø 8 ▶ Can be assembled into blocks ▶ Single base plate principle ▶ With collective pilot air exhaust</p>	69
	<p>Series QR1-S standard ▶ Blanking plug ▶ pin bushing ▶ Ø 8 - Ø 12 ▶ QR1-S-RBS</p>	71
	<p>Blanking plate ▶ for HF03-LG, CL03</p>	72
	<p>Accessories, Series HF03-LG</p>	73

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side



00125254

Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Protection class with connection	IP65
Number of valve positionsmax.	24 / 32
Number of solenoid coilsmax.	24 / 32
DC operating voltage	24 V
Voltage tolerance DC	-15% / +20%

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

Configurable product

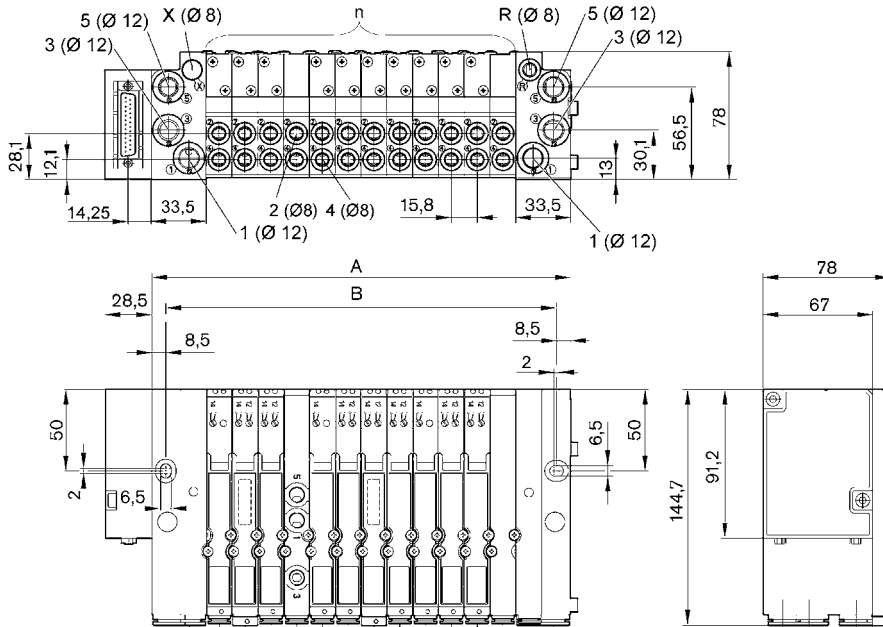


This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side

Dimensions in mm



1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4	209.2	225	240.8	256.6	272.4	288.2
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4	192.2	208	223.8	239.6	255.4	271.2

n	15	16	17	18	19	20	21	22	23	24				
A	304	319.8	335.6	351.4	367.2	383	398.8	414.6	430.4	446.2				
B	287	302.8	318.6	334.4	350.2	366	381.8	397.6	413.4	429.2				

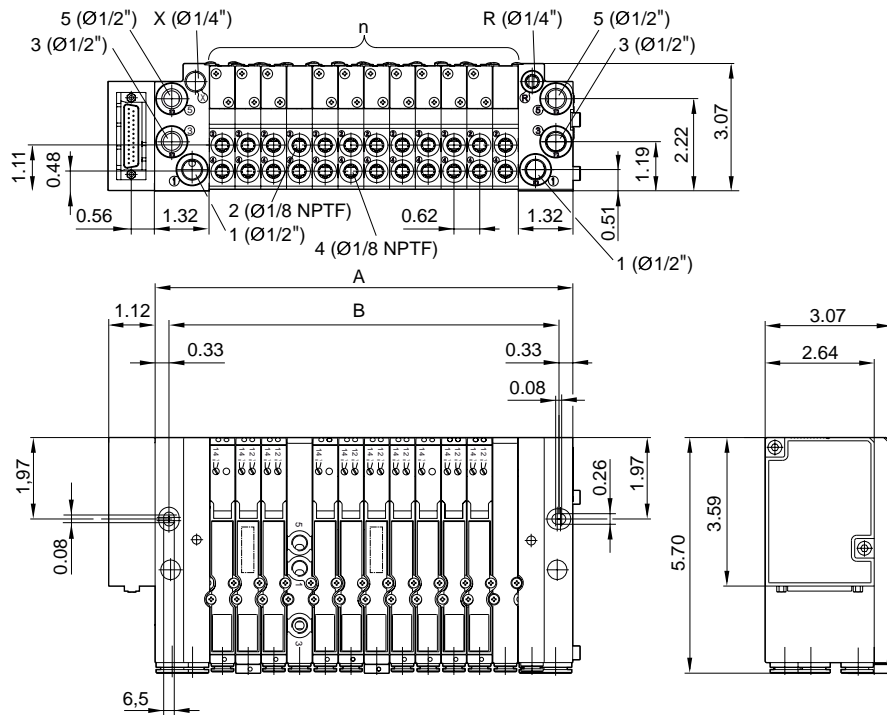
n = number of subbases

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side

Dimensions in inches



00124858_a

- 1 = plug-in connection Ø 12 mm or 1/2"
 - 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 - 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 - R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 - X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
- An example configuration is illustrated. The delivered product may thus deviate from the illustration.

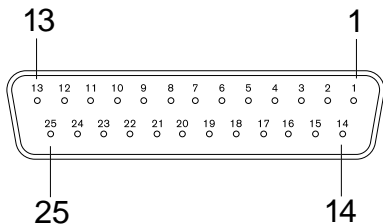
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61	8.24	8.86	9.48	10.1	10.72	11.35
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94	7.57	8.19	8.81	9.43	10.06	10.68
n	15	16	17	18	19	20	21	22	23	24				
A	11.97	12.59	13.21	13.83	14.46	15.08	15.7	16.32	16.94	17.57				
B	11.3	11.92	12.54	13.17	13.79	14.41	15.03	15.65	16.28	16.9				

n = number of subbases

Valve system, Series HF03-LG

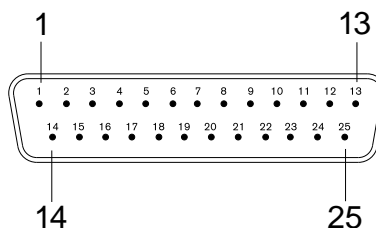
▶ Qn Max. = 700 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side

Multipole plug (25-pin), cable identification as per DIN 47100



00136701

Socket (female)



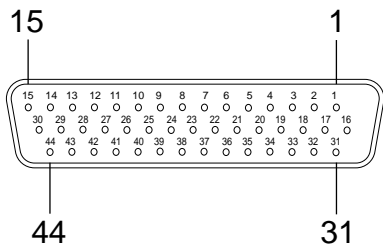
00137724

Plug (male)

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet	gray/pink	red/blue	white/green

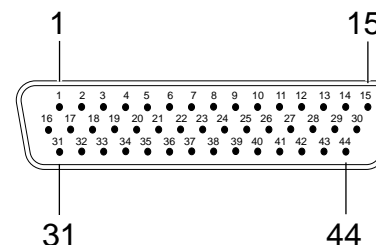
Pin	14	15	16	17	18	19	20	21	22	23	24	25
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

Multipole plug (44-pin), cable identification as per DIN 47100



00137727

Socket (female)



00137727_a

Plug (male)

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet	gray/pink	red/blue	white/green

Pin	14	15	16	17	18	19	20	21	22	23	24	25
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

Pin	26	27	28	29	30	31	32	33	34	35	36	37
Color	brown/black	gray/green	yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red	yellow/red	green/black	yellow/black	gray/blue

Pin	38	39	40	41	42	43	44
Color	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black

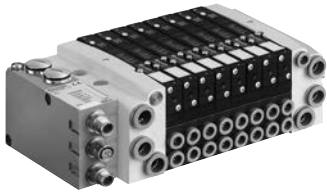
Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

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Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Direct field bus connection (BDC) ▶ B-design



00130745

Version	Field bus
Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Protection class, with plug	IP65
Number of valve positions	32
Number of solenoid coils	32
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Lubricant	ISO 21469 (NSF-H1)

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The technical data for the electronics (link structures) can be found in the section “Fieldbus Connections”.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

Configurable product

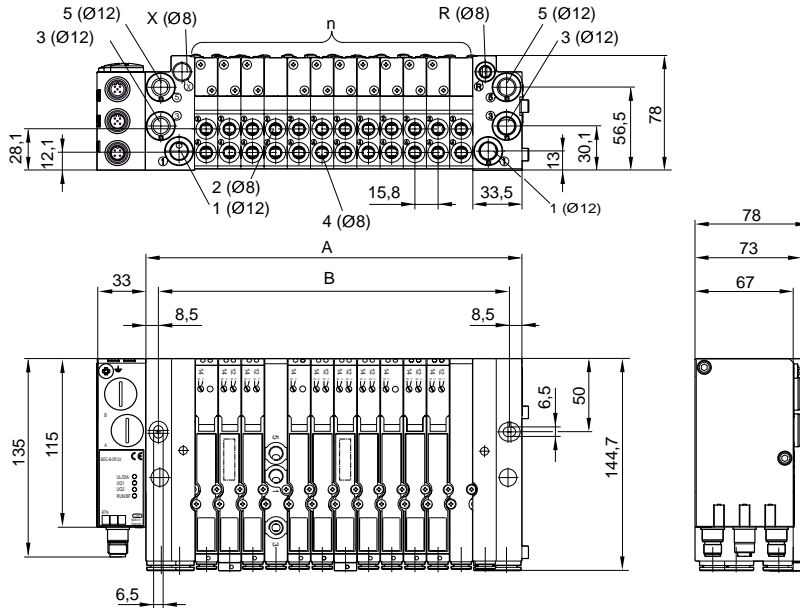


This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Direct field bus connection (BDC) ▶ B-design

Dimensions in mm



1 = plug-in connection Ø 12 mm or plug-in connection 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or plug-in connection 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or plug-in connection 1/4"

X = external pilot control, plug-in connection Ø 8 mm or plug-in connection 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

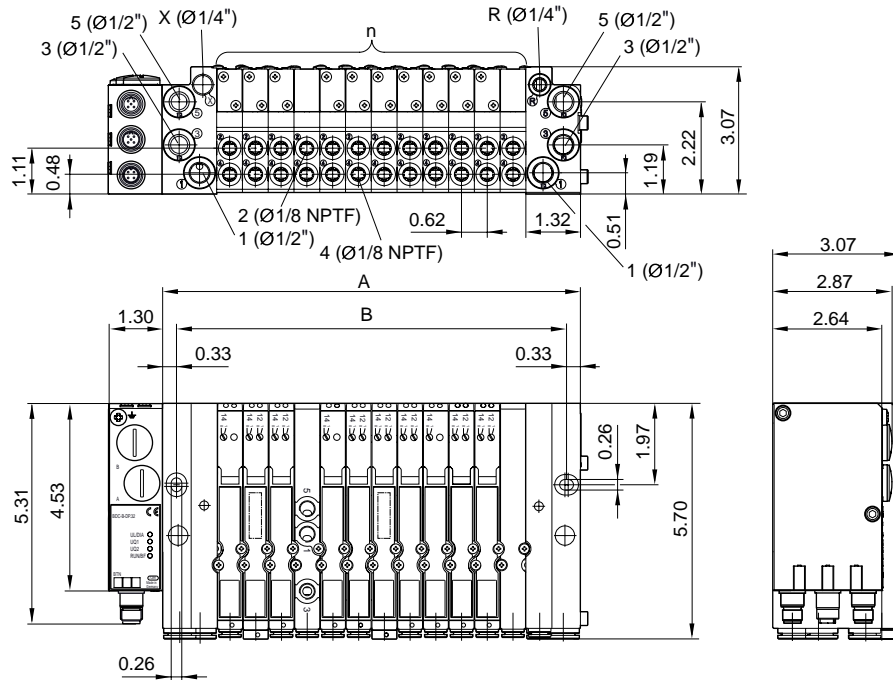
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4	209.2	225	240.8	256.6	272.4	288.2
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4	192.2	208	223.8	239.6	255.4	271.2
n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	304	319.8	335.6	351.4	367.2	383	398.8	414.6	430.4	446.2	462	477.8	493.6	509.4
B	287	302.8	318.6	334.4	350.2	366	381.8	397.6	413.4	429.2	445	460.8	476.6	492.4
n	29	30	31	32										
A	525.2	541	556.8	572.6										
B	508.2	524	539.8	555.6										

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Direct field bus connection (BDC) ▶ B-design

Dimensions in inches



00128617_a

1 = plug-in connection Ø 12 mm or plug-in connection 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or plug-in connection 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or plug-in connection 1/4"

X = external pilot control, plug-in connection Ø 8 mm or plug-in connection 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61	8.24	8.86	9.48	10.1	10.72	11.35
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94	7.57	8.19	8.81	9.43	10.06	10.68

n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	11.97	12.59	13.21	13.83	14.46	15.08	15.7	16.32	16.94	17.57	18.19	18.81	19.43	20.06
B	11.3	11.92	12.54	13.17	13.79	14.41	15.03	15.65	16.28	16.9	17.52	18.14	18.76	19.39

n	29	30	31	32										
A	20.68	21.3	21.92	22.54										
B	20.01	20.63	21.25	21.87										

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with I/O functionality (CMS) ▶ B-design



00125893

Version	field bus CMS
Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Protection class, with plug	IP65
Number of valve positions	32
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Lubricant	ISO 21469 (NSF-H1)

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The technical data for the electronics (link structures) can be found in the section “Fieldbus Connections”.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

Configurable product



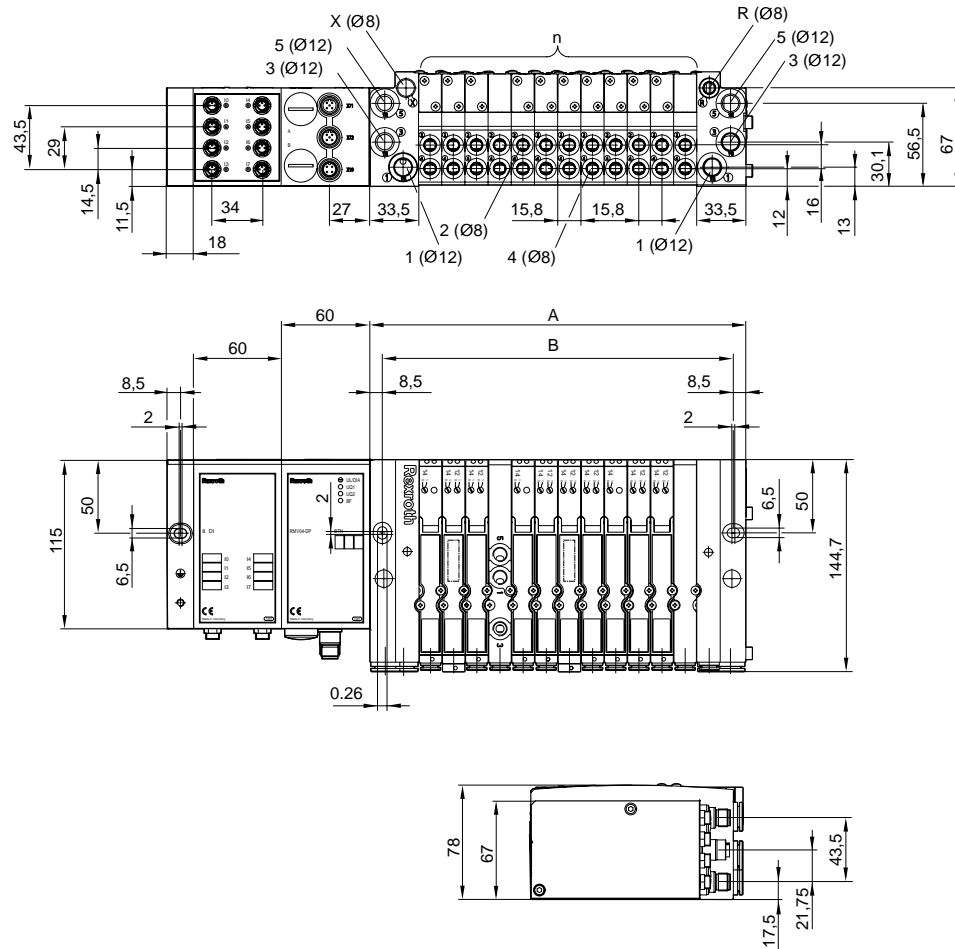
This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with I/O functionality (CMS) ▶ B-design

Dimensions in mm



00124629

1 = plug-in connection Ø 12 mm or 1/2"
 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

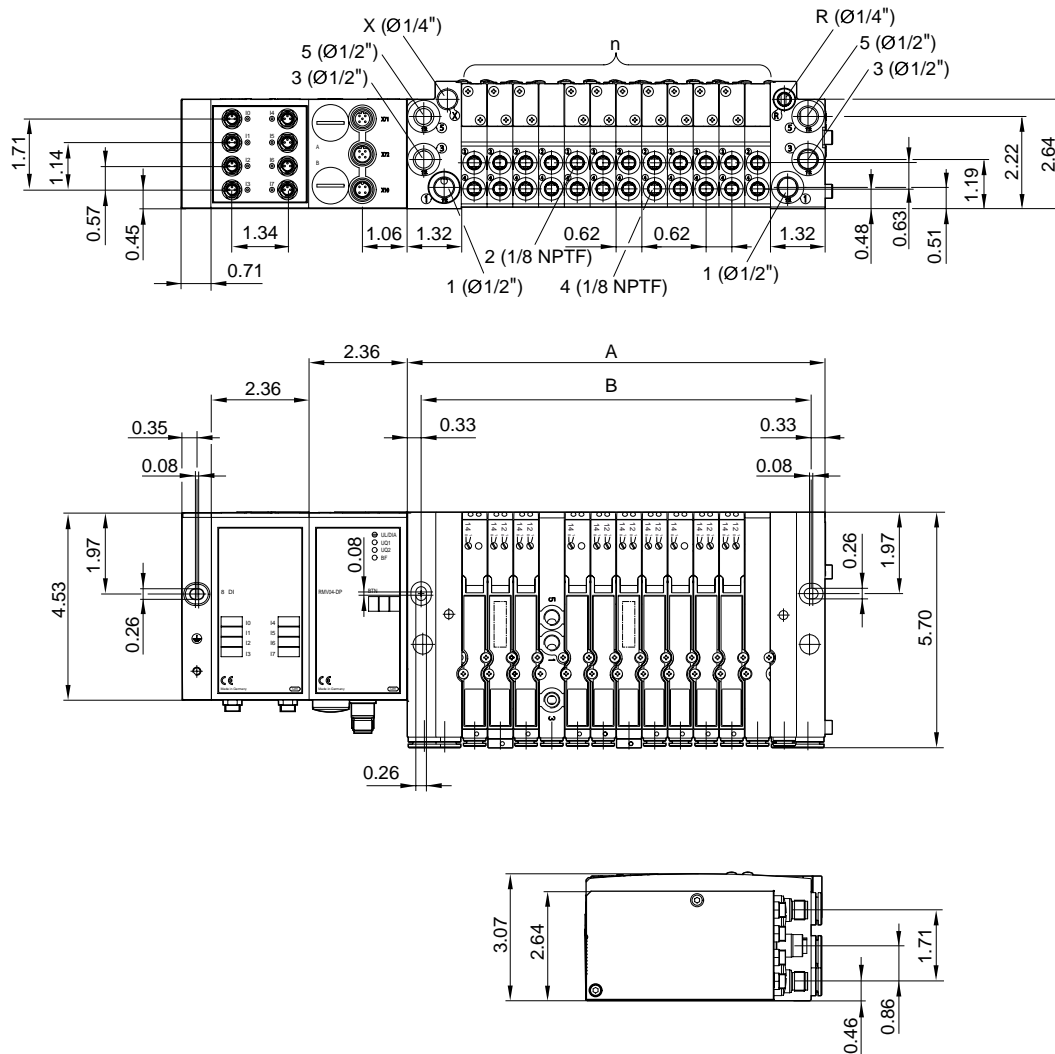
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4	209.2	225	240.8	256.6	272.4	288.2
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4	192.2	208	223.8	239.6	255.4	271.2
n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	304	319.8	335.6	351.4	367.2	383	398.8	414.6	430.4	446.2	462	477.8	493.6	509.4
B	287	302.8	318.6	334.4	350.2	366	381.8	397.6	413.4	429.2	445	460.8	476.6	492.4
n	29	30	31	32										
A	525.2	541	556.8	572.6										
B	508.2	524	539.8	555.6										

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with I/O functionality (CMS) ▶ B-design

Dimensions in inches



1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00124629_a

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61	8.24	8.86	9.48	10.1	10.72	11.35
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94	7.57	8.19	8.81	9.43	10.06	10.68
n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	11.97	12.59	13.21	13.83	14.46	15.08	15.7	16.32	16.94	17.57	18.19	18.81	19.43	20.06
B	11.3	11.92	12.54	13.17	13.79	14.41	15.03	15.65	16.28	16.9	17.52	18.14	18.76	19.39
n	29	30	31	32										
A	20.68	21.3	21.92	22.54										
B	20.01	20.63	21.25	21.87										
n = number of subbases														

Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

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Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis (DDL) ▶ B-design



00130745

Version	Link structure DDL
Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Protection class, with plug	IP65
Number of valve positions	32
Number of solenoid coils	32
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Lubricant	ISO 21469 (NSF-H1)

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The technical data for the electronics (link structures) can be found in the section “Fieldbus Connections”.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

Configurable product

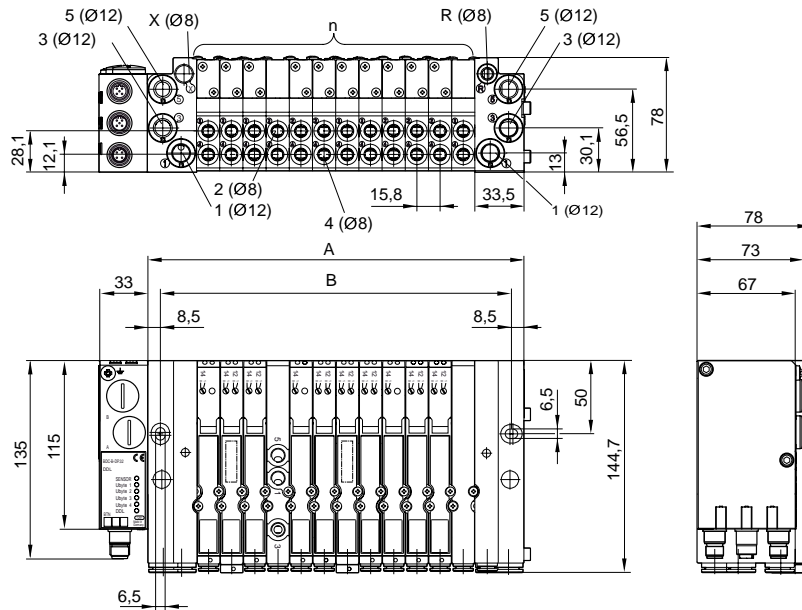


This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis (DDL) ▶ B-design

Dimensions in mm



00128618

1 = plug-in connection Ø 12 mm or plug-in connection 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or plug-in connection 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or plug-in connection 1/4"

X = external pilot control, plug-in connection Ø 8 mm or plug-in connection 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

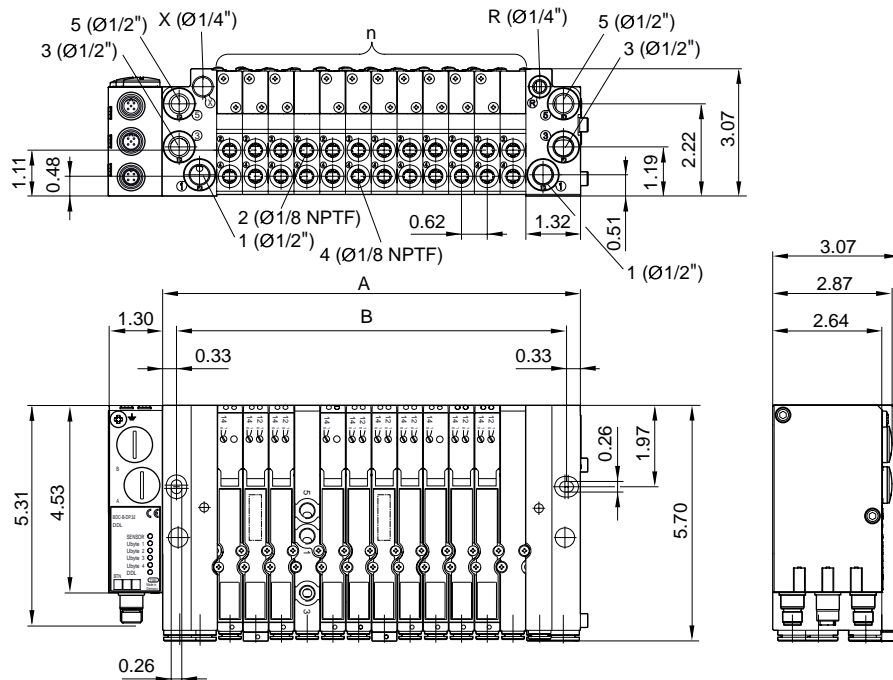
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4	209.2	225	240.8	256.6	272.4	288.2
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4	192.2	208	223.8	239.6	255.4	271.2
n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	304	319.8	335.6	351.4	367.2	383	398.8	414.6	430.4	446.2	462	477.8	493.6	509.4
B	287	302.8	318.6	334.4	350.2	366	381.8	397.6	413.4	429.2	445	460.8	476.6	492.4
n	29	30	31	32										
A	525.2	541	556.8	572.6										
B	508.2	524	539.8	555.6										

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis (DDL) ▶ B-design

Dimensions in inches



00128618_a

1 = plug-in connection Ø 12 mm or plug-in connection 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or plug-in connection 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or plug-in connection 1/4"

X = external pilot control, plug-in connection Ø 8 mm or plug-in connection 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61	8.24	8.86	9.48	10.1	10.72	11.35
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94	7.57	8.19	8.81	9.43	10.06	10.68
n	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	11.97	12.59	13.21	13.83	14.46	15.08	15.7	16.32	16.94	17.57	18.19	18.81	19.43	20.06
B	11.3	11.92	12.54	13.17	13.79	14.41	15.03	15.65	16.28	16.9	17.52	18.14	18.76	19.39
n	29	30	31	32										
A	20.68	21.3	21.92	22.54										
B	20.01	20.63	21.25	21.87										
n = number of subbases														

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design



00125893

Version	Link structure DDL
Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Protection class, with plug	IP65
Number of valve positions	24
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Lubricant	ISO 21469 (NSF-H1)

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The technical data for the electronics (link structures) can be found in the section “Fieldbus Connections”.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

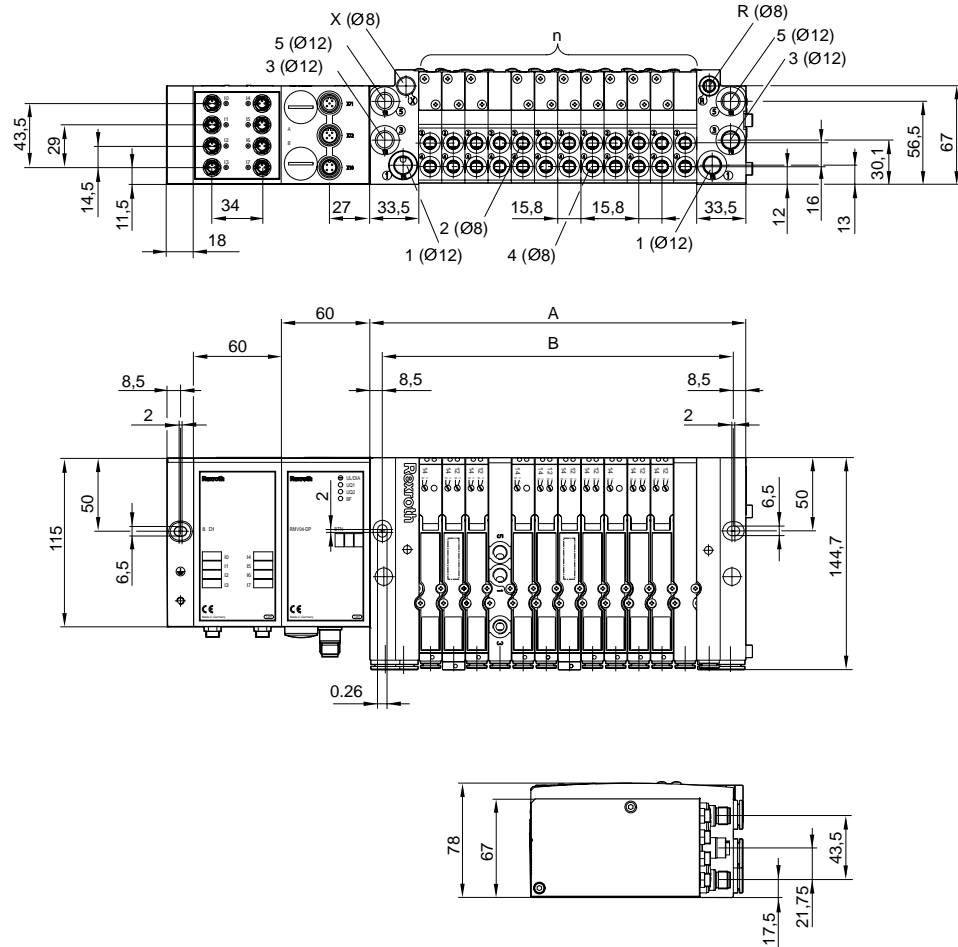
Configurable product

 This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design

Dimensions in mm


00124629

1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

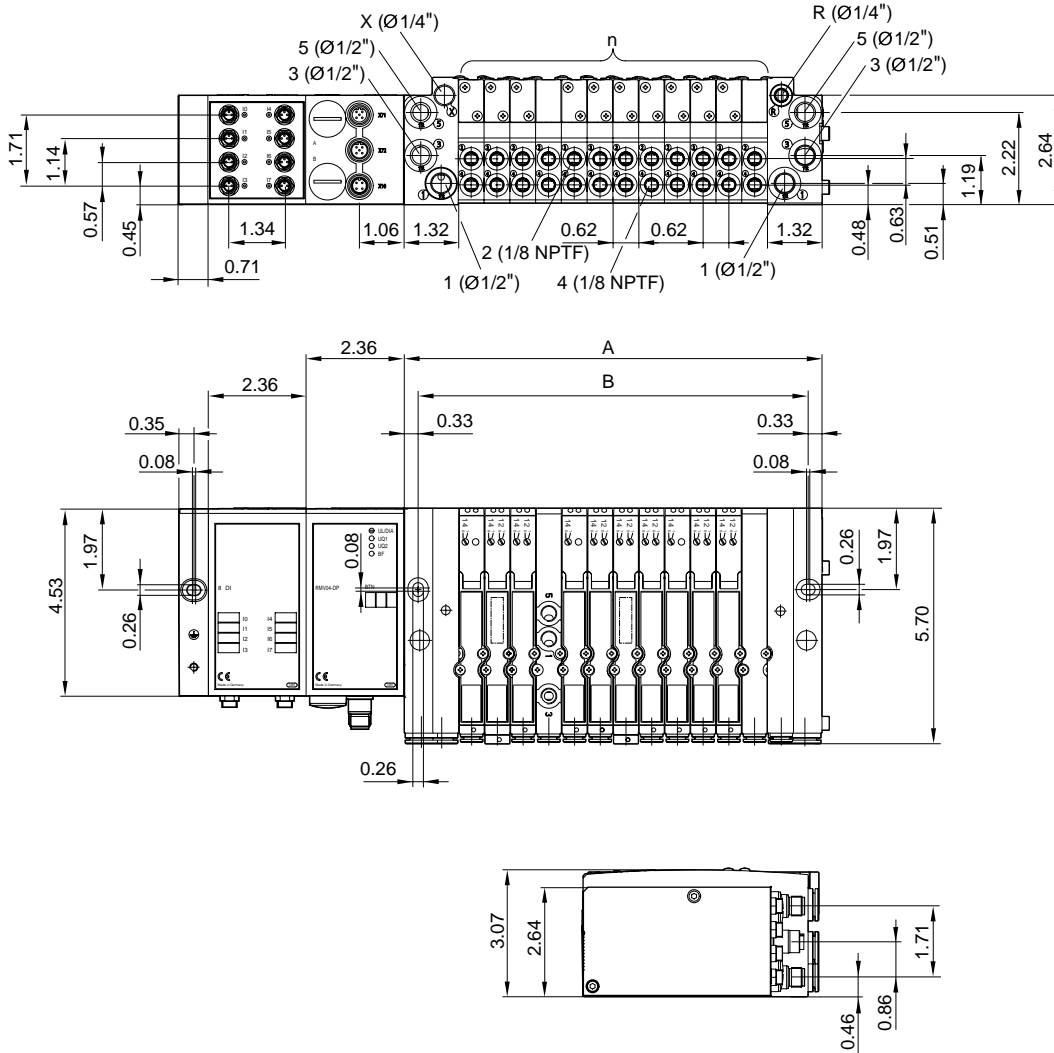
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4	209.2	225	240.8	256.6	272.4	288.2
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4	192.2	208	223.8	239.6	255.4	271.2
n	15	16	17	18	19	20	21	22	23	24				
A	304	319.8	335.6	351.4	367.2	383	398.8	414.6	430.4	446.2				
B	287	302.8	318.6	334.4	350.2	366	381.8	397.6	413.4	429.2				

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design

Dimensions in inches



00124629_a

1 = plug-in connection Ø 12 mm or 1/2"
 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61	8.24	8.86	9.48	10.1	10.72	11.35
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94	7.57	8.19	8.81	9.43	10.06	10.68

n	15	16	17	18	19	20	21	22	23	24				
A	11.97	12.59	13.21	13.83	14.46	15.08	15.7	16.32	16.94	17.57				
B	11.3	11.92	12.54	13.17	13.79	14.41	15.03	15.65	16.28	16.9				

n = number of subbases

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design



00125158

Version	Field bus
Blocking principle	Single base plate principle
Working pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Protection class, with plug	IP65
Number of valve positions	8
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Power supply connection	Black AS-i flat cable
Communication port	Yellow AS-i flat cable
Lubricant	ISO 21469 (NSF-H1)

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- See the following pages on the series for technical data on individual components.
- The technical data for the electronics (link structures) can be found in the section “Fieldbus Connections”.
- The flow of the individual valves depends on the base plate, so here the flow is 700 l/min.
- For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
- It is necessary to maintain the electrical current in the coil of double solenoid valves to avoid unexpected auto-switching.

Configurable product

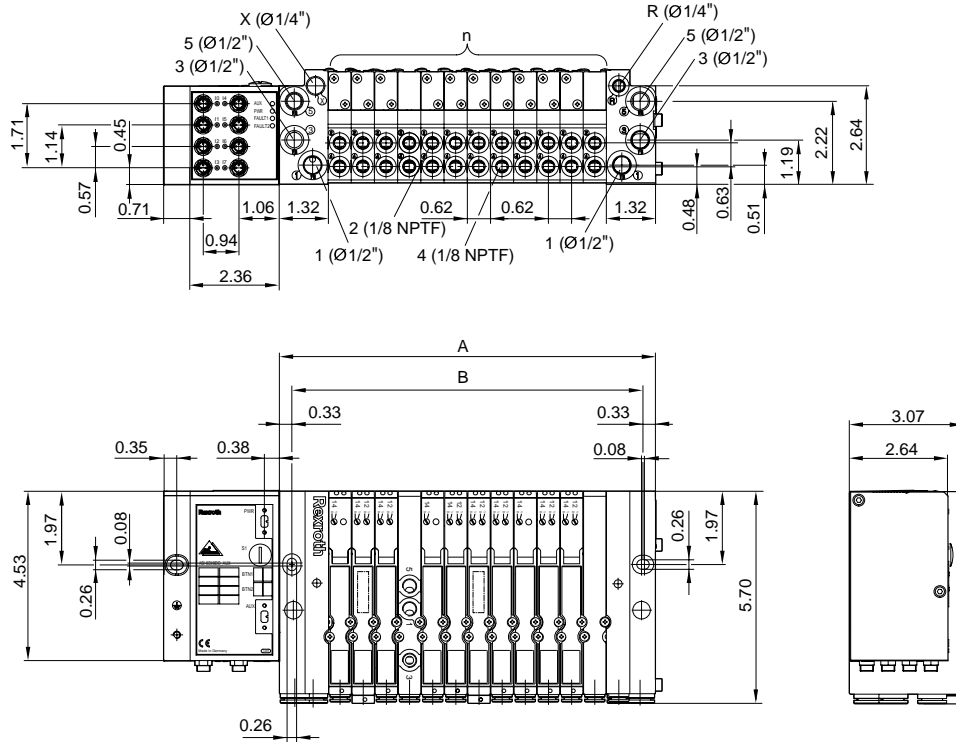


This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions in mm, 8DI/8DO-AUX, 4DI/4DO-AUX



00124630

- 1 = plug-in connection Ø 12 mm or 1/2"
 - 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 - 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 - R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 - X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
- An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8						
A	82.8	98.6	114.4	130.2	146	161.8	177.6	193.4						
B	65.8	81.6	97.4	113.2	129	144.8	160.6	176.4						

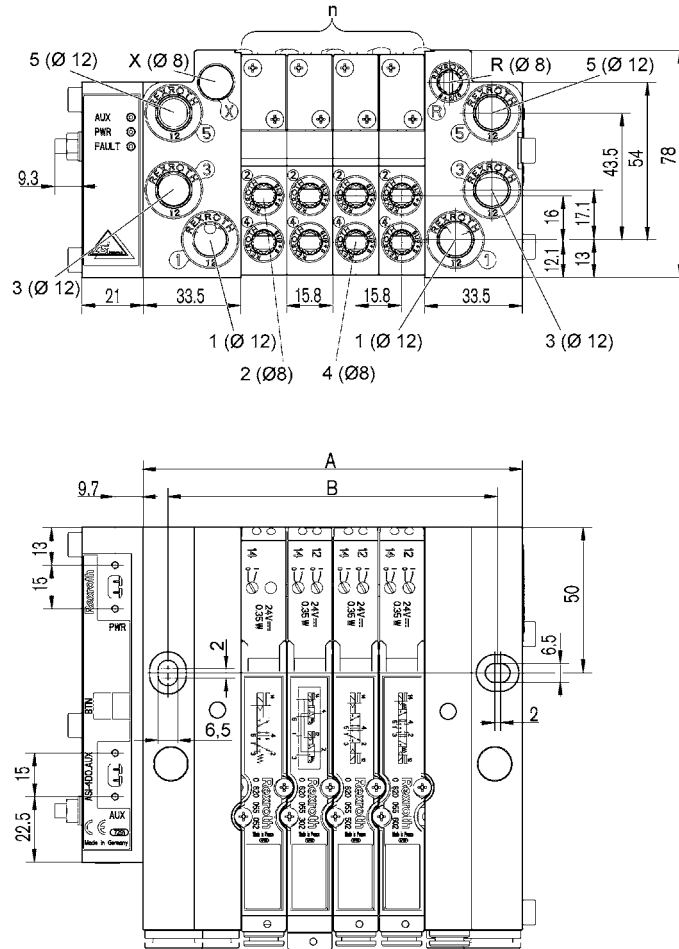
n = number of subbases

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions in mm, 8DO-AUX, 4DO-AUX



00124631

- 1 = plug-in connection Ø 12 mm or 1/2"
 - 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 - 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 - R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 - X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
- An example configuration is illustrated. The delivered product may thus deviate from the illustration.

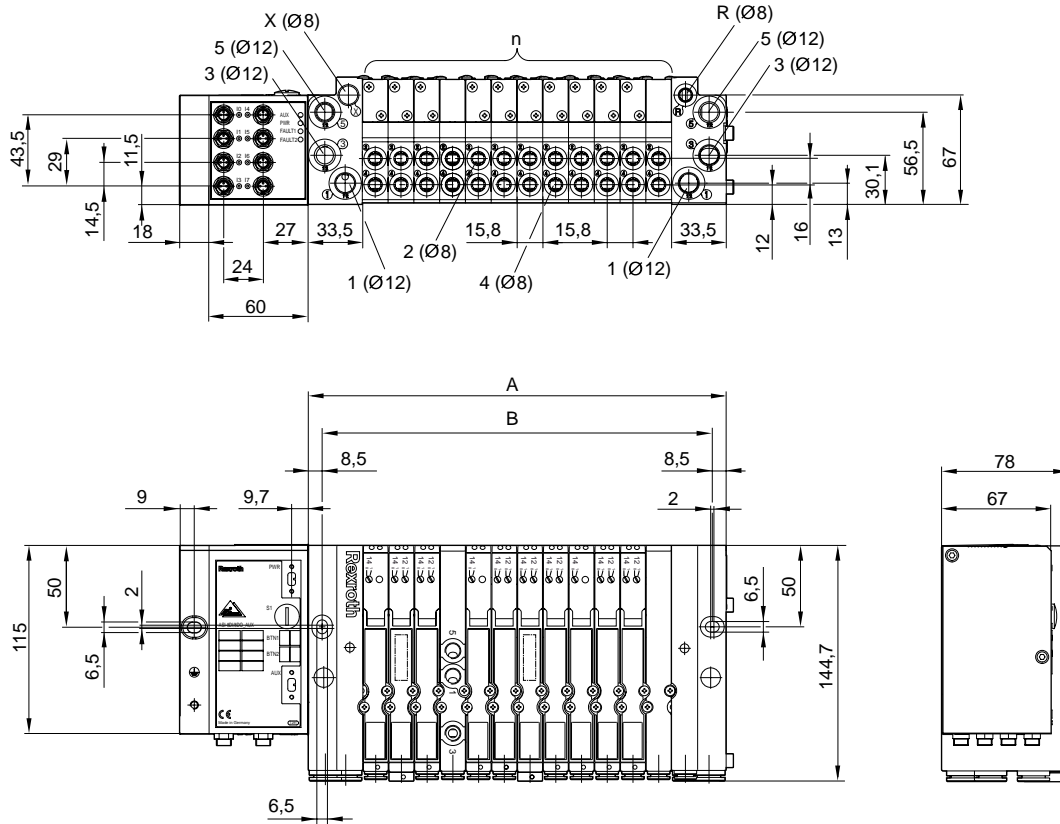
n	1	2	3	4									
A	82.8	98.6	114.4	130.2									
B	65.8	81.6	97.4	113.2									

n = number of subbases

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions in inches, 8DI/8DO-AUX, 4DI/4DO-AUX



00124630_a

1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4	5	6	7	8						
A	3.26	3.88	4.5	5.13	5.75	6.37	6.99	7.61						
B	2.59	3.21	3.83	4.46	5.08	5.7	6.32	6.94						

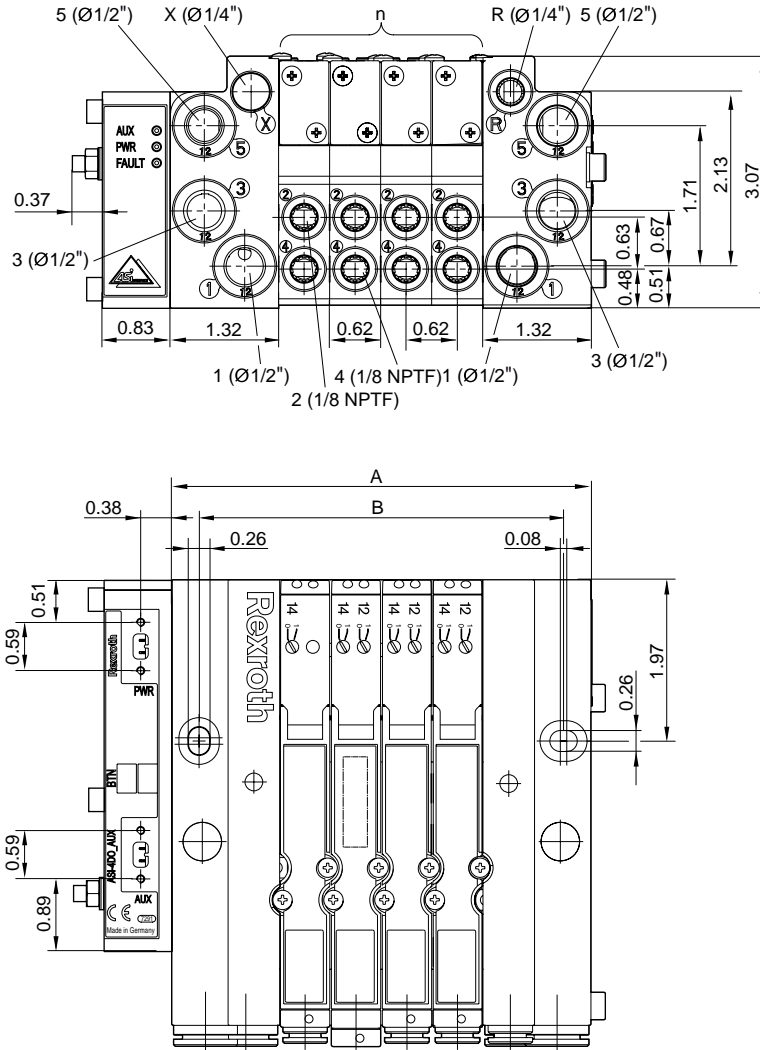
n = number of subbases

Valve systems ▶ Valve systems

Valve system, Series HF03-LG

▶ Qn Max. = 700 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions in inches, 8DO-AUX, 4DO-AUX



00124631_a

- 1 = plug-in connection Ø 12 mm or 1/2"
 - 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 - 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 - R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 - X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control
- An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2	3	4										
A	3.26	3.88	4.5	5.13										
B	2.59	3.21	3.83	4.46										

n = number of subbases

2x3/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ Pilot: external, internal



00106356

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Nominal flow Qn	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	25 ms
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
		DC
		W
24 V	-15% / +20%	0.35

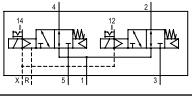

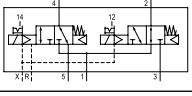

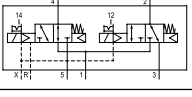

	MO	Operating voltage	Power consumption	Flow conductance		Part No.
				DC	DC	
			[W]		[l/(s*bar)]	
	NC/NC	24 V	0.35	0.22	2.97	0820055101

MO = Manual override
With collective pilot air exhaust
Nominal flow Qn at 6 bar and Δp = 1 bar

Valve systems ▶ Valve systems

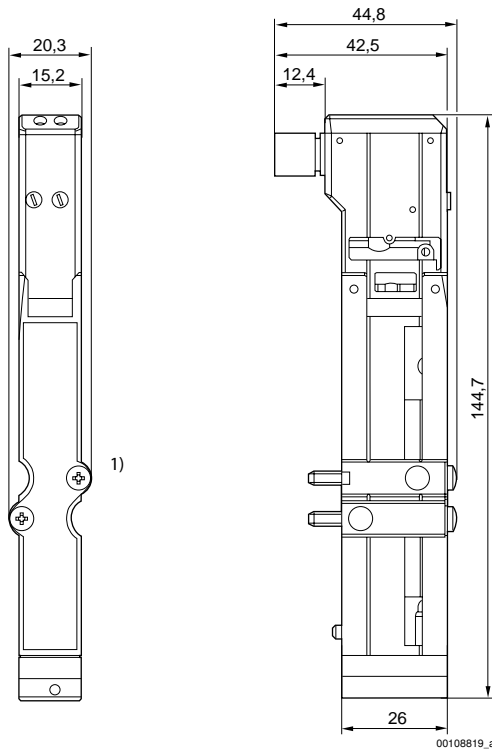
2x3/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ Pilot: external, internal

		MO	Operating voltage	Power consumption	Flow conductance		Part No.
			DC	DC	b	C	
				[W]	[l/(s*bar)]		
	NO/NO		24 V	0.35	0.22	2.97	0820055201
	NC/NO		24 V	0.35	0.22	2.97	0820055301
	NO/NC		24 V	0.35	0.22	2.97	0820055311

MO = Manual override
 With collective pilot air exhaust
 Nominal flow Qn at 6 bar and Δp = 1 bar

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
 tightening torque for mounting screw [Nm]: 1.3

2x3/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ Pilot: external, internal



00106356

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Nominal flow Qn	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	25 ms
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

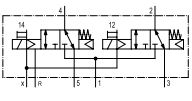

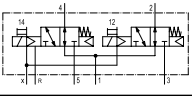

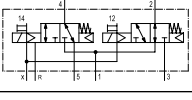

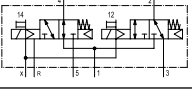

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-15% / +20%	0.35

Valve systems ▶ Valve systems

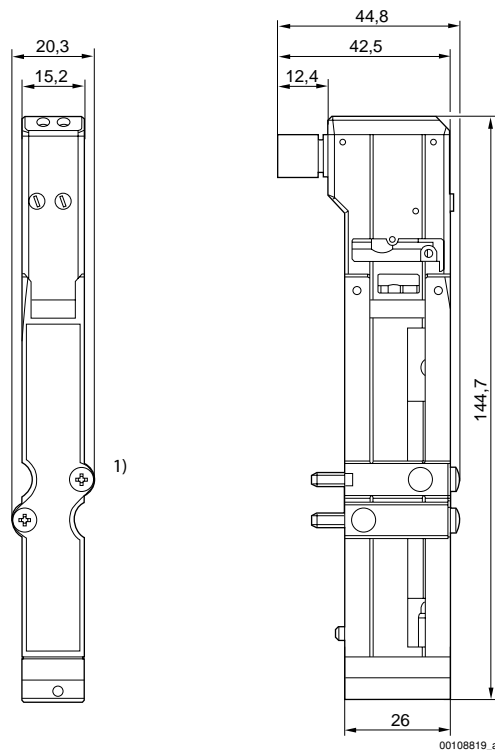
2x3/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ $Q_n = 850$ l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ Pilot: external, internal

		MO	Operating voltage	Power consumption	Flow conductance		Part No.
					DC	DC	
				[W]	[l/(s*bar)]		
	NC/NC		24 V	0.35	0.22	2.97	0820055102
	NO/NO		24 V	0.35	0.22	2.97	0820055202
	NC/NO		24 V	0.35	0.22	2.97	0820055302
	NO/NC		24 V	0.35	0.22	2.97	0820055312

MO = Manual override
 With collective pilot air exhaust
 Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
 tightening torque for mounting screw [Nm]: 1.3

5/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal



00138485

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Nominal flow Qn	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-15% / +20%	0.35

	MO	Operating voltage	Power consumption	Flow conductance		Switch-on time	Switch-off time	Part No.
				b	C			
		DC	DC					
			[W]		[l/(s*bar)]	[ms]	[ms]	
		24 V	0.35	0.22	2.98	16	23	0820055051
		24 V	0.35	0.22	2.97	13	15	0820055501

MO = Manual override

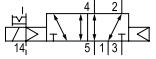

With collective pilot air exhaust

Nominal flow Qn at 6 bar and Δp = 1 bar

Valve systems ▶ Valve systems

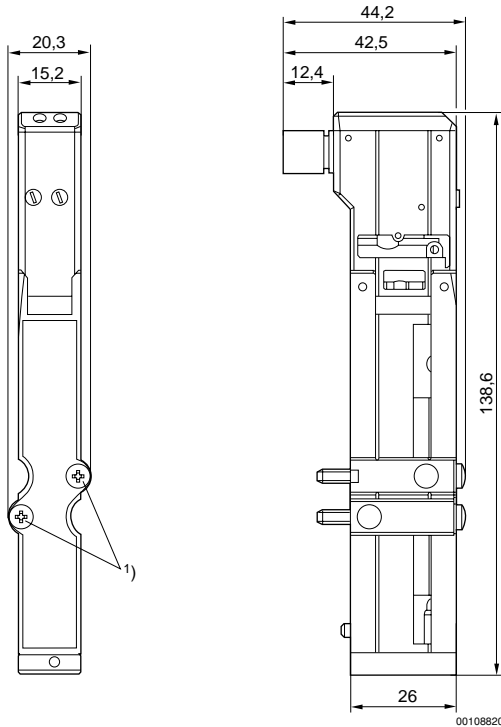
5/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ $Q_n = 850$ l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: with detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal

	MO	Operating voltage	Power consumption	Flow conductance		Switch-on time	Switch-off time	Part No.
		DC	DC	b	C			
			[W]		[l/(s*bar)]	[ms]	[ms]	
		24 V	0.35	0.22	2.98	15	23	0820055001

MO = Manual override
 With collective pilot air exhaust
 Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
 tightening torque for mounting screw [Nm]: 1.3

5/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ $Q_n = 850$ l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal



00138485

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³
Nominal flow Q_n	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-15% / +20%	0.35

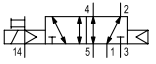

	MO	Operating voltage	Power consumption	Flow conductance		Switch-on time	Switch-off time	Part No.
				b	C			
		DC	DC			[ms]	[ms]	
			[W]		[l/(s*bar)]			
		24 V	0.35	0.22	2.98	16	23	0820055052
		24 V	0.35	0.22	2.97	13	15	0820055502

MO = Manual override
With collective pilot air exhaust
Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Valve systems ▶ Valve systems

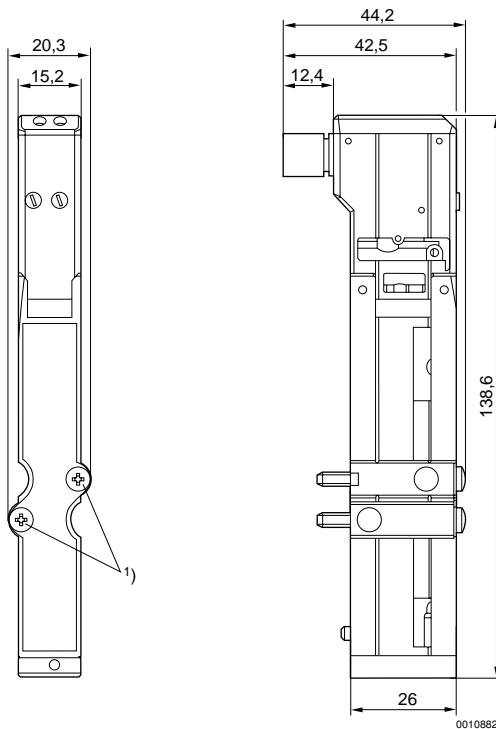
5/2-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ plate connection ▶ Manual override: without detent ▶ single solenoid, double solenoid ▶ Pilot: external, internal

	MO	Operating voltage	Power consumption	Flow conductance		Switch-on time	Switch-off time	Part No.
		DC	DC	b	C			
			[W]		[l/(s*bar)]	[ms]	[ms]	
		24 V	0.35	0.22	2.98	15	23	0820055002

MO = Manual override
 With collective pilot air exhaust
 Nominal flow Qn at 6 bar and Δp = 1 bar

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
 tightening torque for mounting screw [Nm]: 1.3

5/3-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection
 ▶ Manual override: with detent ▶ Pilot: external, internal



00138485

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Nominal flow Qn	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Typ. switch-on time	14 ms
Typ. switch-off time	15 ms
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-15% / +20%	0.35

	MO	Operating voltage	Power consumption	Flow conductance		Part No.
				b	c	
		DC	DC			
			[W]		[l/(s*bar)]	
		24 V	0.35	0.23	2.79	0820055601

MO = Manual override

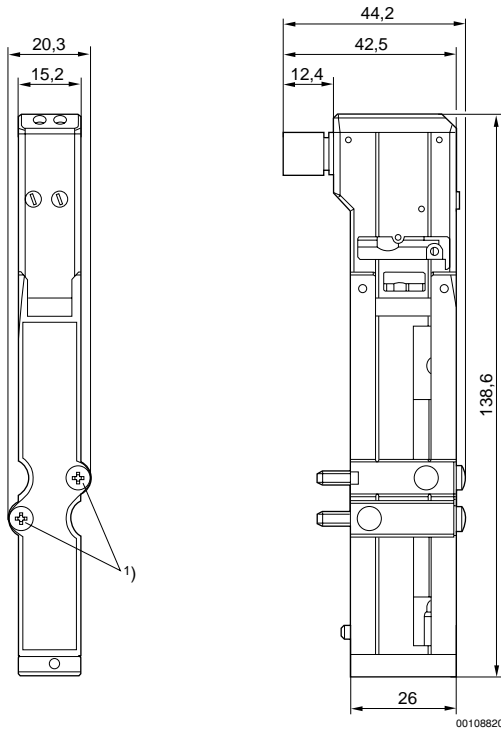
With collective pilot air exhaust

Nominal flow Qn at 6 bar and Δp = 1 bar

5/3-directional valve, Series HF03-LG

- ▶ for Series HF03-LG, CL03 ▶ $Q_n = 850$ l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection
- ▶ Manual override: with detent ▶ Pilot: external, internal

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
tightening torque for mounting screw [Nm]: 1.3

5/3-directional valve, Series HF03-LG

▶ for Series HF03-LG, CL03 ▶ Qn = 850 l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection
 ▶ Manual override: without detent ▶ Pilot: external, internal



00138485

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Nominal flow Qn	850 l/min
Protection class with connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Typ. switch-on time	14 ms
Typ. switch-off time	15 ms
Generic emission standard in accordance with	EN 50081-1
Generic immunity standard in accordance with	EN 50082-2
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Mounting screw tightening torque	1.3 Nm
Weight	0.082 kg
Materials:	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.
- The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.
- The pilot valve is UL (Underwriters Laboratories) certified.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-15% / +20%	0.35

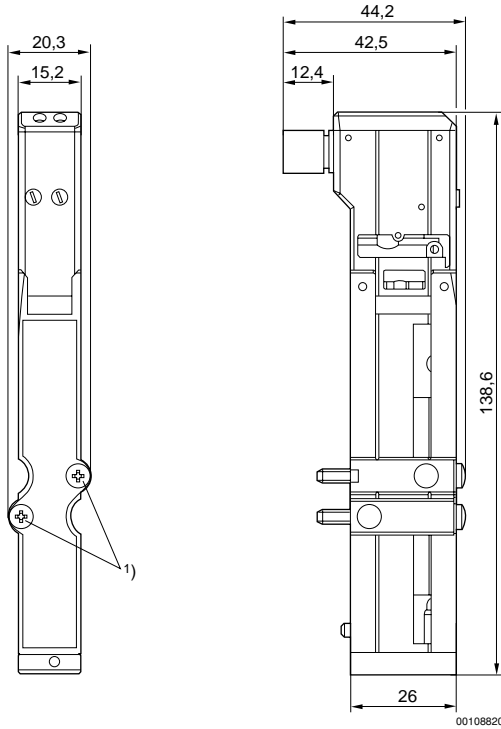
MO	Operating voltage	Power consumption	Flow conductance		Part No.
			DC		
			DC		
		[W]	b	C	
				[l/(s*bar)]	
	24 V	0.35	0.23	2.79	0820055602

MO = Manual override
 With collective pilot air exhaust
 Nominal flow Qn at 6 bar and Δp = 1 bar

5/3-directional valve, Series HF03-LG

- ▶ for Series HF03-LG, CL03 ▶ $Q_n = 850$ l/min ▶ Pilot valve width: 16 mm ▶ closed center ▶ plate connection
- ▶ Manual override: without detent ▶ Pilot: external, internal

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z1
tightening torque for mounting screw [Nm]: 1.3

Series HF03-LG

Accessories

Direct field bus connection (BDC)

▶ Bus coupler with driver ▶ direct field bus connection ▶ Field bus protocol: EtherCAT / PROFIBUS DP / CANopen / CANopen sb / DeviceNet / sercos III



00130356

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Power consumption electronics	0.05 A
Operating voltage, actuators	24 V DC
Total current for actuators	3 A
Number of solenoid coils max.	32
Max. power consumption per coil	0.1 mA
Port/Valve system	Socket 2.0 mm strip 3x13-pin
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	IEC 61000-6-2
Materials:	
Housing	Die-cast aluminum

Technical Remarks

- Max. number of valves: 16 double solenoid or 32 single solenoid
- You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Field bus protocol	Port 1	Port 2	power supply	Weight	Part No.
				[kg]	
EtherCAT	Socket (female), M12x1, 5-pin, D-coded	Socket (female), M12x1, 5-pin, D-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412009573
PROFIBUS DP	Plug (male), M12x1, 5-pin, B-coded	Socket (female), M12x1, 5-pin, B-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412008537
CANopen	Plug (male), M12x1, 5-pin, A-coded	Socket (female), M12x1, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412008538
CANopen sb	Plug (male), M12x1, 5-pin, A-coded	Socket (female), M12x1, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412008990
DeviceNet	Plug (male), M12x1, 5-pin, A-coded	Socket (female), M12x1, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412008539
sercos III	Socket (female), M12x1, 5-pin, D-coded	Socket (female), M12x1, 5-pin, D-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412009516

Scope of delivery incl. 2 screws and seal

The following operating instructions can be found in the Media Center for:

PROFIBUS DP: R412009414

CANopen /-sb: R412009415

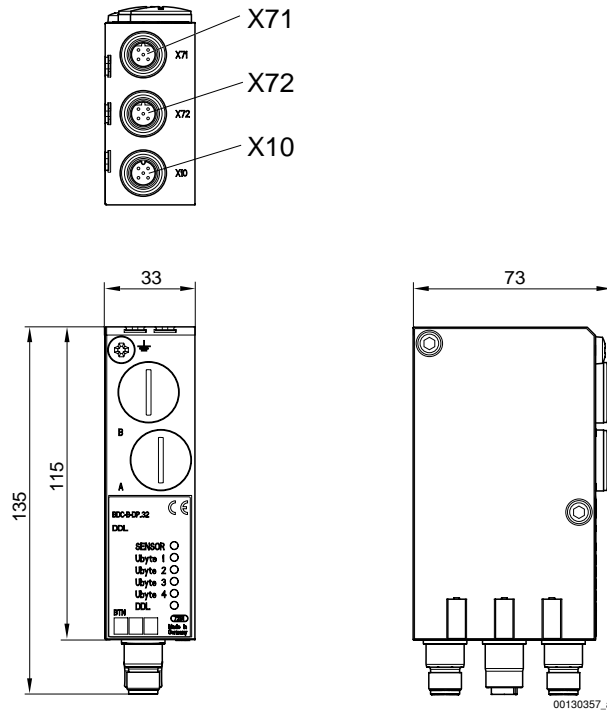
DeviceNet: R412009416

EtherCAT: R412012792

sercos III: R412012610

Series HF03-LG
Accessories

Dimensions



X71 = Bus IN
X72 = Bus OUT
X10 = power supply

Optional field bus connection with I/O function (CMS), B-design

▶ Bus coupler with driver ▶ Field bus protocol: PROFIBUS DP / DeviceNet / CANopen / EtherNET/IP / PROFINET IO



00119265

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-15% / +20%
Operating voltage, actuators	24 V DC
Max. power consumption per coil	0.063 mA
I/O module extension max.	6
Generic emission standard in accordance with norm	EN 61000-6-4

Materials:
Housing Die-cast aluminum

The delivered product may vary from that in the illustration.

Technical Remarks

■ You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Series HF03-LG
Accessories

Field bus protocol	Port 1	Port 2	power supply	VS Anschluss	Number of outputs for valve coils	Part No.
PROFIBUS DP	Plug (male), M12, 5-pin, B-coded	Socket (female), M12, 5-pin, B-coded	Plug (male), M12, 4-pin, A-coded	Socket 2.0 mm strip 2x13-pin	24	R412003484
				Socket 2.0 mm strip 3x13-pin	32	R412008516
DeviceNet	Plug (male), M12, 5-pin, A-coded	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	Socket 2.0 mm strip 2x13-pin	24	R412004346
				Socket 2.0 mm strip 3x13-pin	32	R412008517
CANopen	Plug (male), M12, 5-pin, A-coded	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	Socket 2.0 mm strip 2x13-pin	24	R412005747
				Socket 2.0 mm strip 3x13-pin	32	R412008518
EtherNET/IP	-	Socket (female), M12, 5-pin, D-coded	Plug (male), M12, 4-pin, A-coded	Socket 2.0 mm strip 3x13-pin	32	R412012755
PROFINET IO	Socket (female), M12x1, 4-pin, D-coded	Socket (female), M12x1, 4-pin, D-coded	Plug (male), M12x1, 4-pin, A-coded	-	32	R412014581
			Plug (male), 7/8", 5-pin			R412014583

Part No.	Power consumption electronics	Weight	Fig.	Note
	[A]	[kg]		
R412003484 R412008516	0.12	0.84	Fig. 1	2)
R412004346 R412008517	0.12	1	Fig. 1	2)
R412005747 R412008518	0.12	1	Fig. 1	2)
R412012755	0.12	1	Fig. 2	1); 2)
R412014581 R412014583	0.1	0.91	Fig. 1 Fig. 3	2)

1) Only star topology

2) Connection with two valve voltage circuits.

Scope of delivery incl. 2 tie rod extensions and seal

The following operating instructions can be found in the Media Center for:

PROFIBUS DP: R499050016

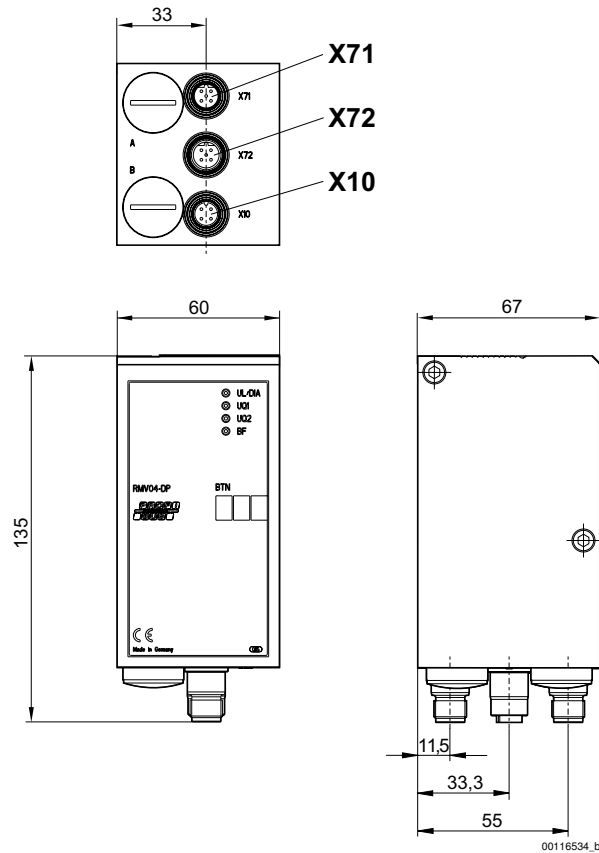
CANopen: R412005742

DeviceNet: R499050019

EtherNET/IP: R412012728

Series HF03-LG Accessories

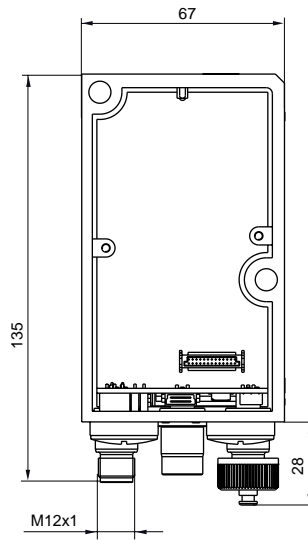
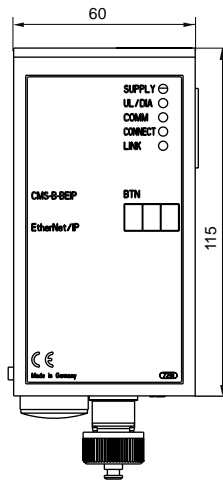
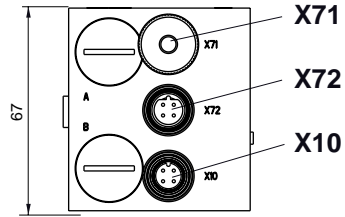
Fig. 1



X71, (Bus IN), M12x1
 X72, (Bus OUT), M12x1
 X10, (Power), M12x1

Series HF03-LG
Accessories

Fig. 2

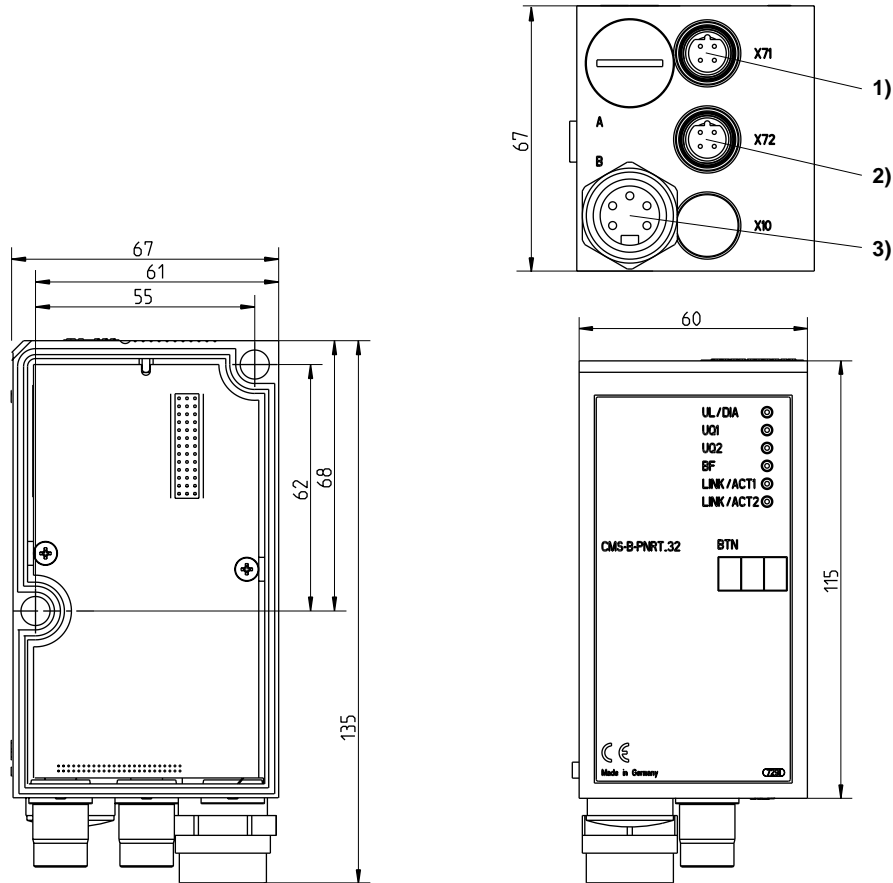


00135275

X71 = optional interface
 X72 = Bus
 X10 = Power

Series HF03-LG
Accessories

Fig. 3



1) Bus IN 2) Bus OUT 3) Power supply

17180

Link structure DDL, B-design

▶ B-design ▶ Driver



00130356

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	24 V DC
Power consumption electronics	0.05 A
Operating voltage, actuators	24 V DC
Actuator voltage tolerance	-10% / +10%
Total current for actuators	3 A
Number of solenoid coils max.	32
Max. power consumption per coil	0.1 mA
Max. cable length	40 m
Max. number of DDL participants	14
PortValve system	Socket (female) 2.0 mm strip 2x13-pin

Materials:

Housing

Die-cast aluminum

Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

Pneumatics catalog, online PDF, as of 2017-02-21, ©AVENTICS S.à r.l., subject to change

Series HF03-LG Accessories

Technical Remarks

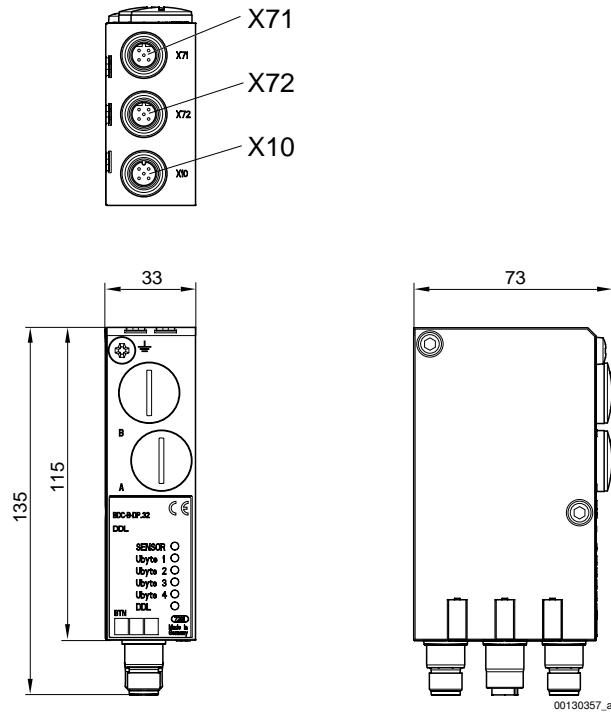
- Max. current in 0 V line: 4 A
- You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Port 1	Port 2	power supply	Weight	Part No.
			[kg]	
Plug (male), M12, 5-pin, A-coded	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	0.29	R412008541

Scope of delivery incl. 2 tie rod extensions and seal

The following operating instructions can be found in the Media Center: R412009417 + R499050020

Dimensions



00130357_a

Series HF03-LG
Accessories

Link structure DDL, B-design

▶ Driver



00119265

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	24 V DC
Power consumption electronics	0.2 A
Operating voltage, actuators	24 V DC
Actuator voltage tolerance	-10% / +10%
Total current for actuators	3 A
Number of solenoid coils max.	24
Max. power consumption per coil	0.1 mA
Max. cable length	40 m
Max. number of DDL participants	14
PortValve system	Socket (female) 2.0 mm strip 3x13-pin
I/O module extension max.	6
I/O module extension Input Max.	3
I/O module extension Output Max.	3

Materials:

Housing	Die-cast aluminum
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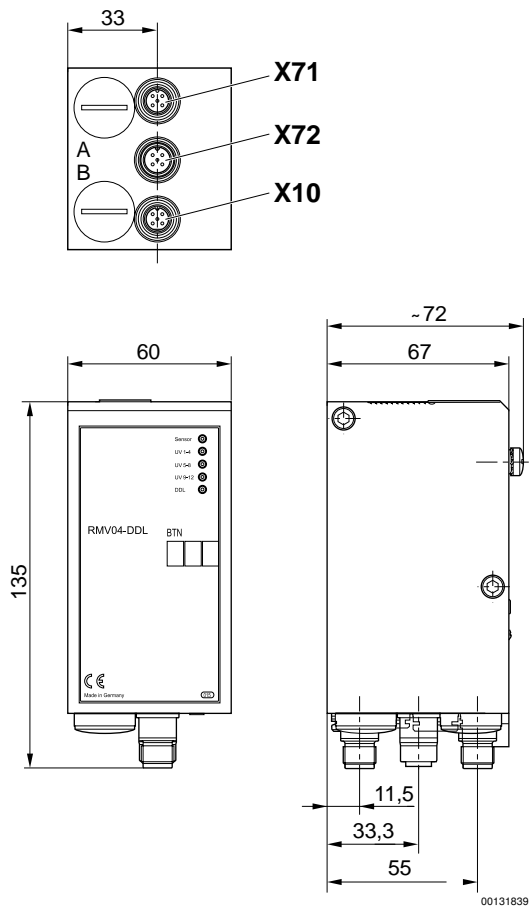
Technical Remarks

- Max. current in 0 V line: 4 A
- You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Port 1	Port 2	power supply	Weight	Part No.
			[kg]	
Plug (male), M12, 5-pin, A-coded	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded	1.04	R412006880

Scope of delivery incl. 2 tie rod extensions and seal

The following operating instructions can be found in the Media Center: R412009417 + R499050020

Series HF03-LG
Accessories
Dimensions


Series HF03-LG
Accessories

Fieldbus connection, Series AS-i

▶ B-design ▶ Bus coupler with driver ▶ Field bus protocol: AS-i



00117212

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	AS-i compatible
Operating voltage, actuators	24 V DC
Max. power consumption per coil	0.03 mA
Port/Valve system	Socket 2.0 mm strip 2x13-pin
ID Code / ID2 Code	F / E
I/O Code	8
Generic emission standard in accordance with norm	EN 50295
Generic immunity standard in accordance with norm	EN 50295
Materials:	
Housing	Aluminum, Die-cast aluminum

The delivered product may vary from that in the illustration.

Technical Remarks

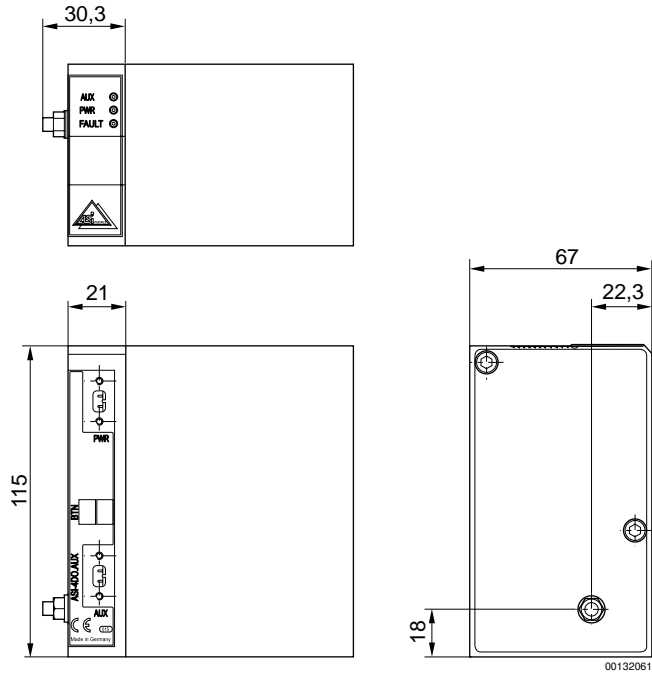
- You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Field bus protocol	Port 1	power supply	Number of outputs for valve coils	Power consumption electronics	Weight	Fig.	Part No.
				[A]	[kg]		
AS-i	Yellow AS-i flat cable	Black AS-i flat cable	4	0.05	0.14	Fig. 1	R412003488
			8	0.08		Fig. 2	R412006761

Scope of delivery incl. seal and mounting screws
The following operating instructions can be found in the Media Center for:
AS-i: R499050017

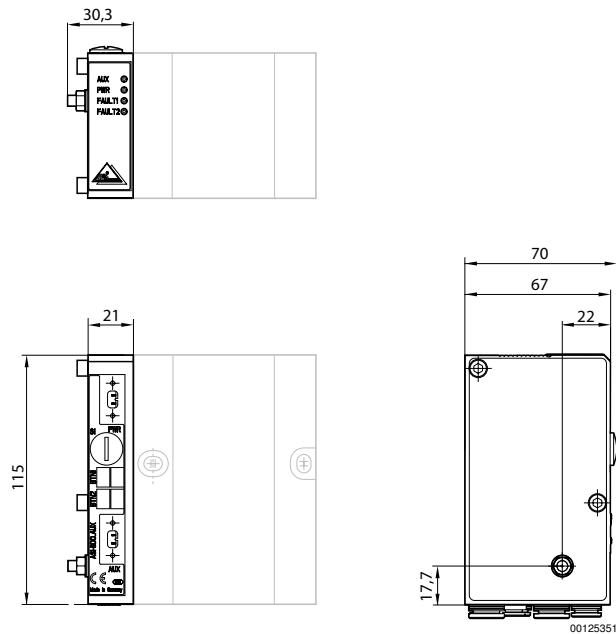
Series HF03-LG Accessories

Fig. 1



AS-i, 4DO-AUX

Fig. 2



AS-i, 8DO-AUX

Series HF03-LG
Accessories

Fieldbus connection, Series AS-i

▶ B-design ▶ Bus coupler with driver ▶ Field bus protocol: AS i with inputs



00132216

Ambient temperature min./max.	+0 °C / +50 °C
Protection class	IP65
Operational voltage electronics	AS-i compatible
Operating voltage, actuators	24 V DC
Max. power consumption per coil	0.03 mA
Port/Valve system	Socket 2.0 mm strip 2x13-pin
ID Code / ID2 Code	F / E
I/O Code	7
Generic emission standard in accordance with norm	EN 50295
Generic immunity standard in accordance with norm	EN 50295
Materials:	
Housing	Aluminum

The delivered product may vary from that in the illustration.

Technical Remarks

- You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

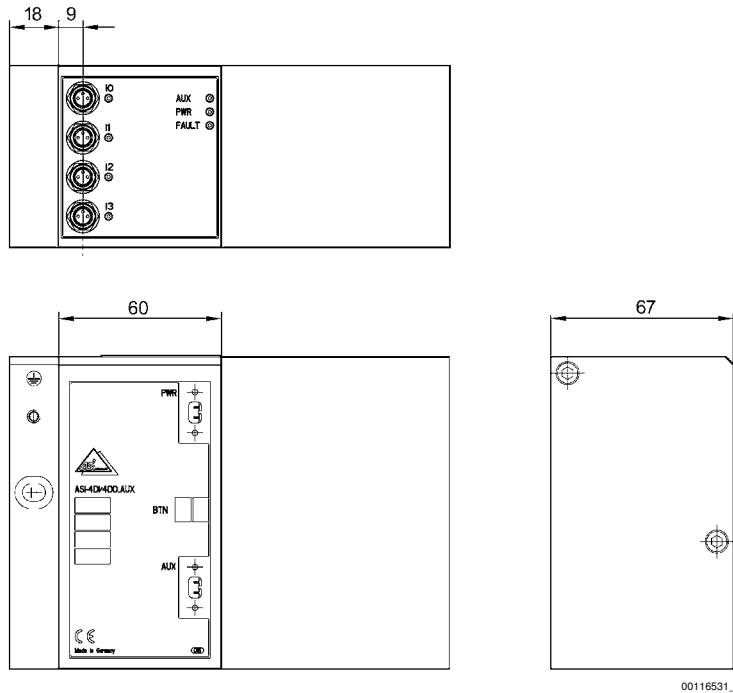
Field bus protocol	Port 1	power supply	Number of inputs	Number of outputs for valve coils	I/O connection	Part No.
AS i with inputs	Yellow AS-i flat cable	Black AS-i flat cable	8	8	input or output, Socket, M8, 8x	R412003486
			4	4	input or output, Socket, M8, 4x	R412003487

Part No.	Power consumption electronics		Fig.
	[A]		
R412003486	0.1		Fig. 2
R412003487	0.05		Fig. 1

Scope of delivery incl. 2 tie rod extensions and seal
The following operating instructions can be found in the Media Center for:
AS-i: R499050017

Series HF03-LG Accessories

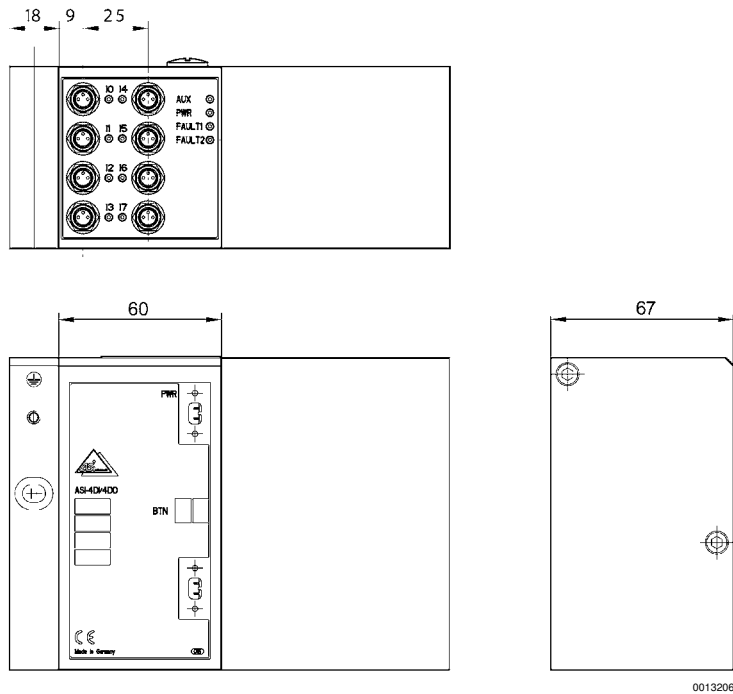
Fig. 1



4DI/4DO-AUX

00116531_a

Fig. 2



8DI/8DO-AUX

00132064

Series HF03-LG
Accessories

Adapter module

▶ for series AES on B-design ▶ for Series HF02-LG, HF03-LG, HF04, CD10, CD20, CD01-PI

Ambient temperature min./max.

-10°C / +60°C



IM0041634

Materials:

Housing

Aluminum

Seals

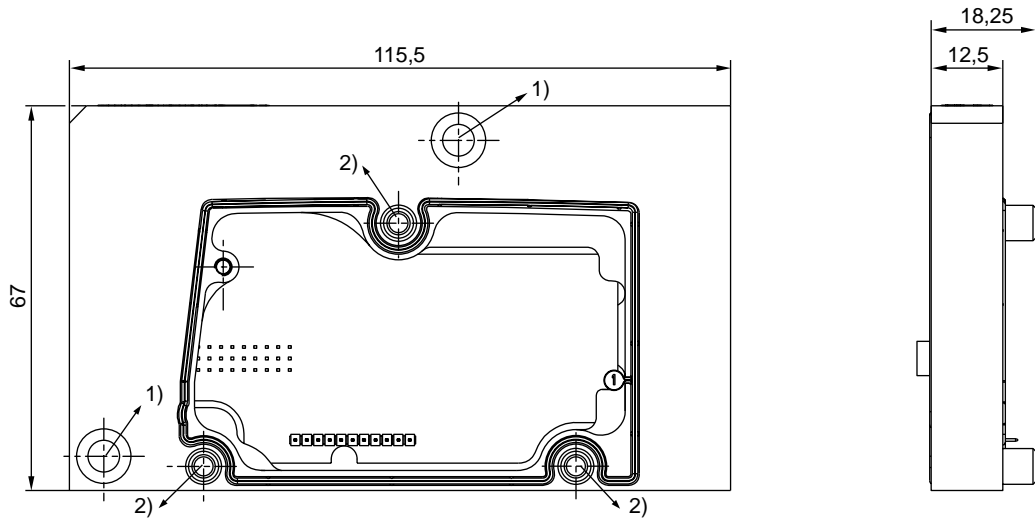
Nitrile rubber

Technical Remarks

- The adapter module is mounted on valve systems with a B-design interface for use with AES fieldbus couplers and AES I/O modules. See the operating instructions for further information (R412018150).

Version	Weight [kg]	Order quantity [piece]	Part No.
32 outputs	0.16	1	R412023458

Dimensions



IM0043723

Includes screws and seals.

1) Torque: 3 Nm +0.5 Nm

2) Torque: 1.6 Nm +0.4 Nm

compact ejector, Series ECV

▶ For HF03 valve system



00115581

Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Working pressure min./max.	3 bar / 6 bar
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 1 mg/m ³

Nozzle Ø	1.5 mm
Max. vacuum level at p.opt	76 %
Max. suction capacity	63 l/min
Air consumption at p.opt.	116 l/min

Materials:	
Housing	Polyamide, fiber-glass reinforced
Seal	Acrylonitrile butadiene rubber
Nozzle	Brass
Silencers	Polyethylene

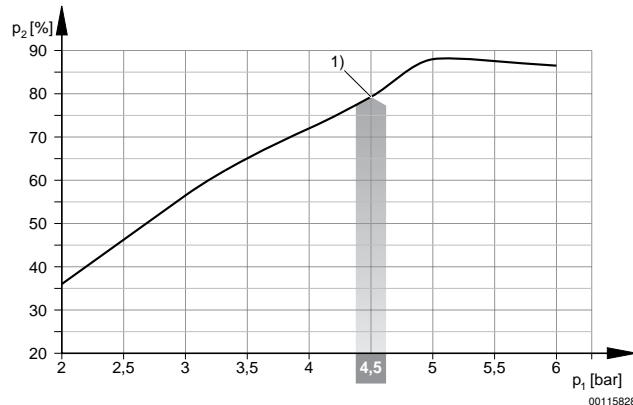
Technical Remarks

- Note: All data refers to an ambient pressure of 1,013 bar and an ambient temperature of 20 °C.
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- p.opt. = optimum working pressure

	Type	Compressed air connection	Vacuum connection+	Port exhaust	Sound pressure level intake effect	Sound pressure level intake effect	[kg]	Note	Part No.
					[dB]	[dB]			
	ECV-PC-15-NN	Ø 8	Ø 8	Ø 8	-	-	0.11	2)	0821305160
		Ø 8	Ø 8	-	67	73		1)	0821305161
		G 1/8	G 1/8	G 1/8	-	-		2)	0821305164
		G 1/8	G 1/8	-	67	73		1)	0821305165

1) with silencer
2) With ventilation port

Vacuum p₂ depending on working pressure p₁



1) optimum working pressure

Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

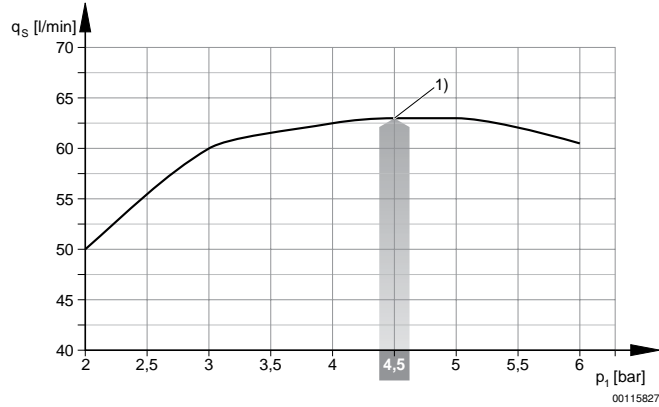
Pneumatics catalog, online PDF, as of 2017-02-21, ©AVENTICS S.à r.l., subject to change

Valve systems ▶ Valve systems

compact ejector, Series ECV

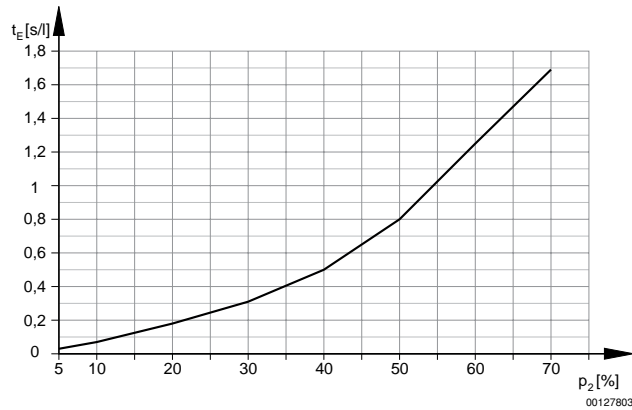
▶ For HF03 valve system

Suction capacity q_s depending on working pressure p_1

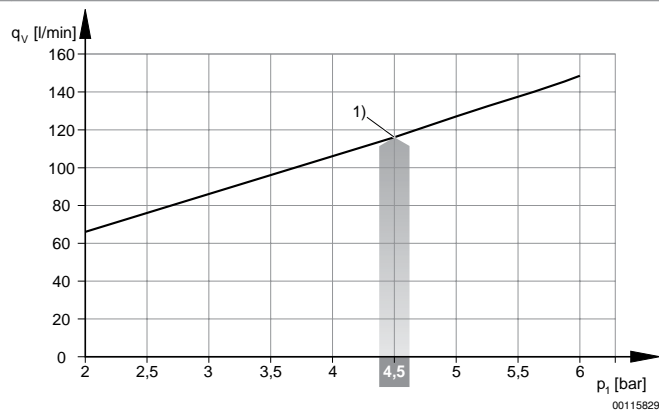


1) optimum working pressure

Evacuation time t_E depending on vacuum p_2 for 1 l volume (with optimal operating pressure p_1 opt)



Air consumption q_v depending on working pressure p_1

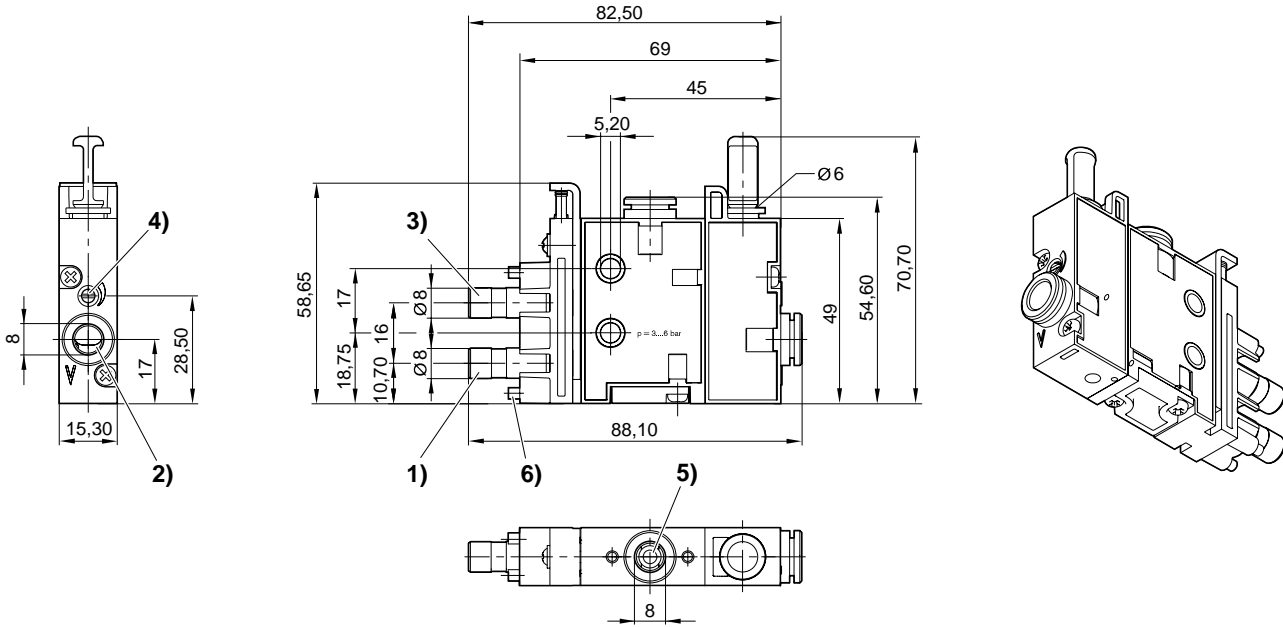


1) optimum working pressure

compact ejector, Series ECV

▶ For HF03 valve system

ECV-PC-15-A, With ventilation port

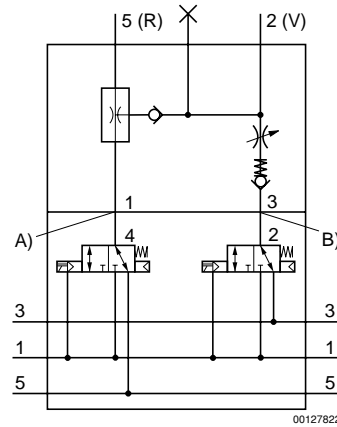
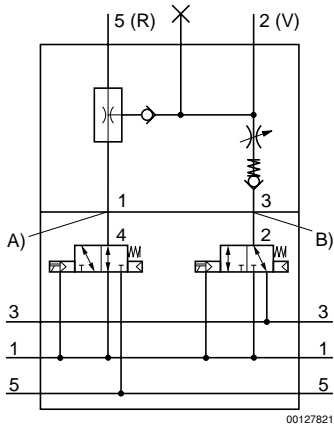


00115835

- 1) air connection (suction)
- 2) vacuum connection
- 3) release pulse connection
- 4) throttle for release pulse
- 5) ventilation port
- 6) Spacer

ECV-HF03-...with NO activation

ECV-HF03-...with NC activation



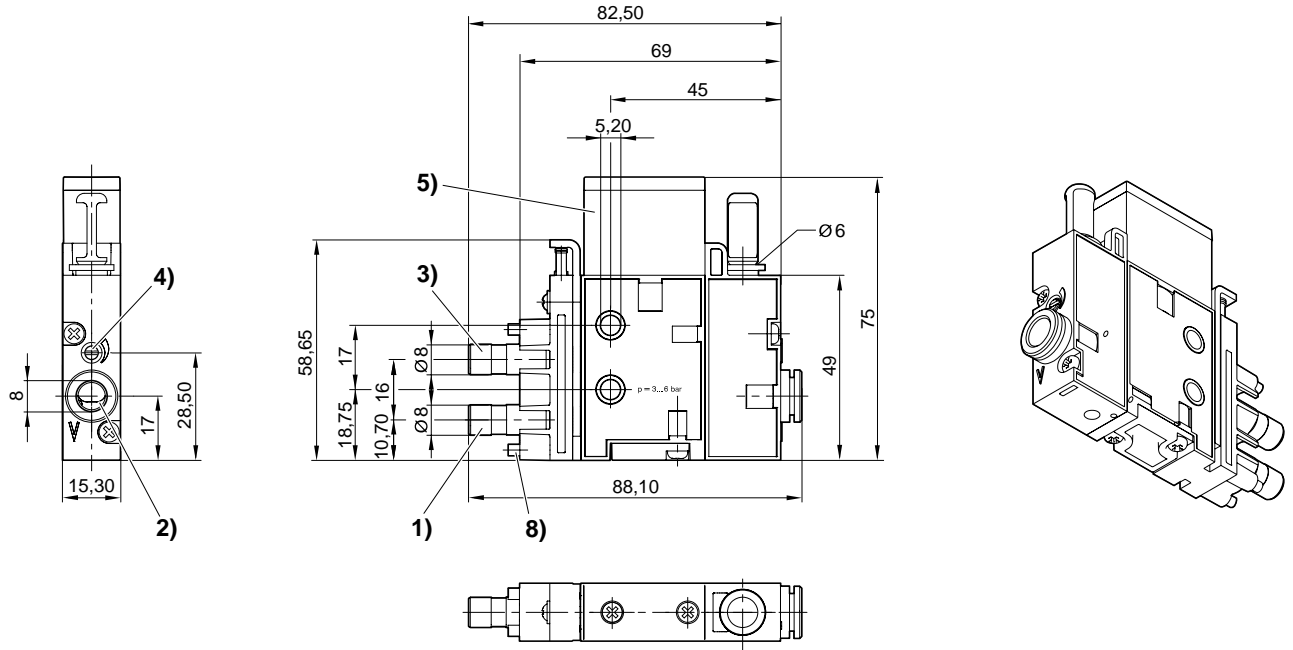
- A) Air connection suction
- B) release pulse air connection

Valve systems ▶ Valve systems

compact ejector, Series ECV

▶ For HF03 valve system

ECV-PC-15-A, with silencer

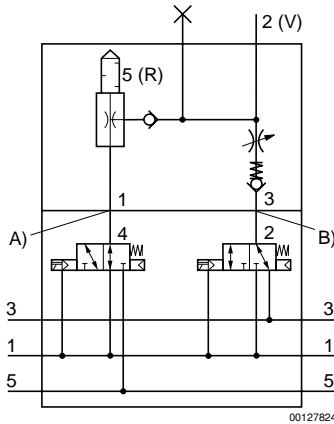


- 1) air connection (suction)
- 2) vacuum connection
- 3) release pulse connection
- 4) throttle for release pulse
- 5) silencer
- 6) Spacer

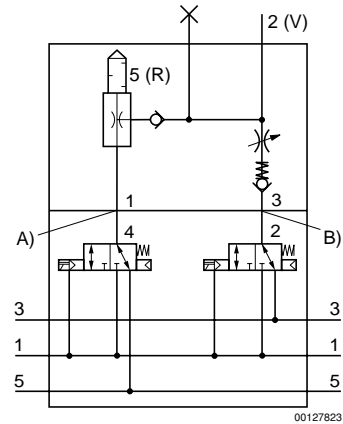
00115836

ECV-HF03-...with NO activation

ECV-HF03-...with NC activation



00127824



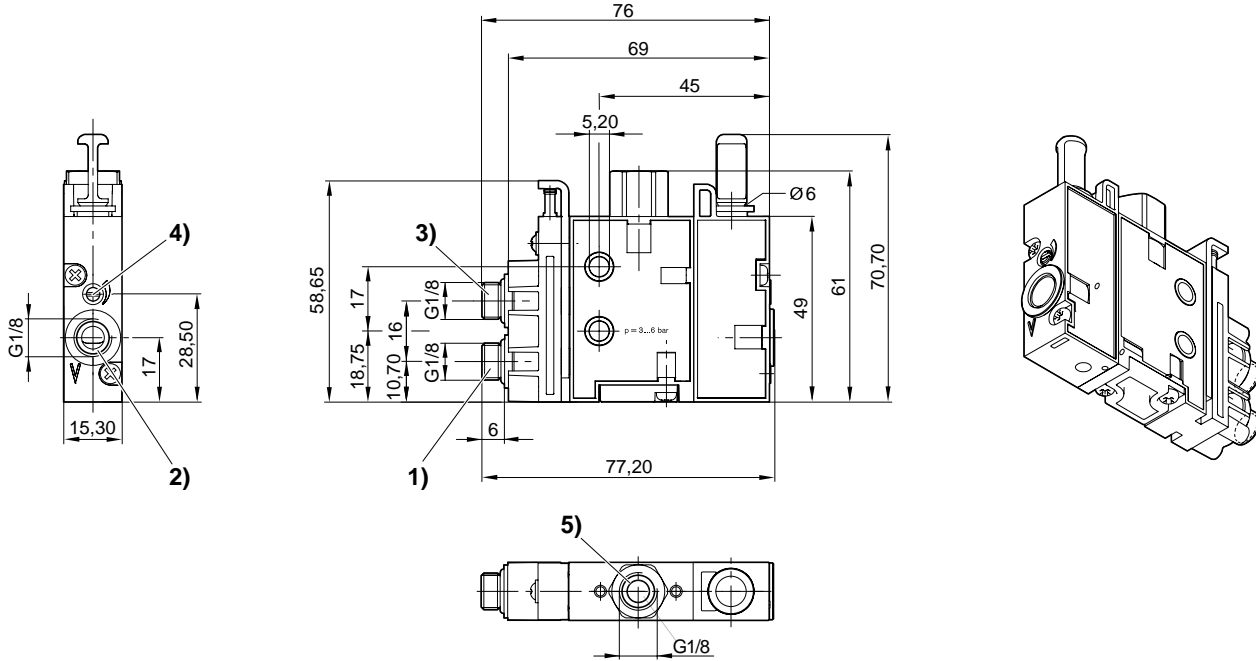
00127823

- A) Air connection suction
- B) release pulse air connection

compact ejector, Series ECV

▶ For HF03 valve system

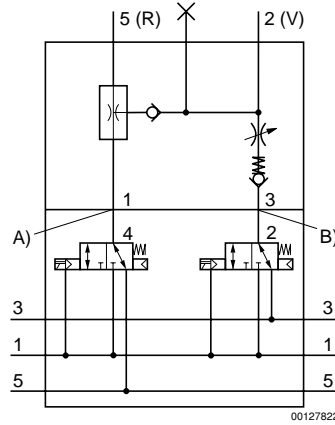
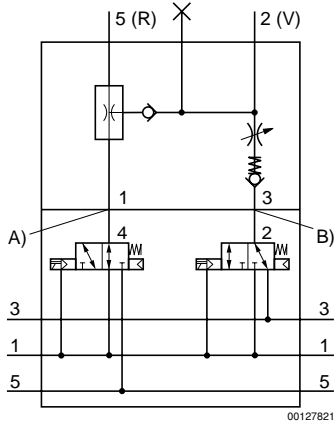
ECV-PC-15-A, With ventilation port



00115839

- 1) air connection (suction)
- 2) vacuum connection
- 3) release pulse connection
- 4) throttle for release pulse
- 5) ventilation port

ECV-HF03-...with NO activation | **ECV-HF03-...with NC activation**



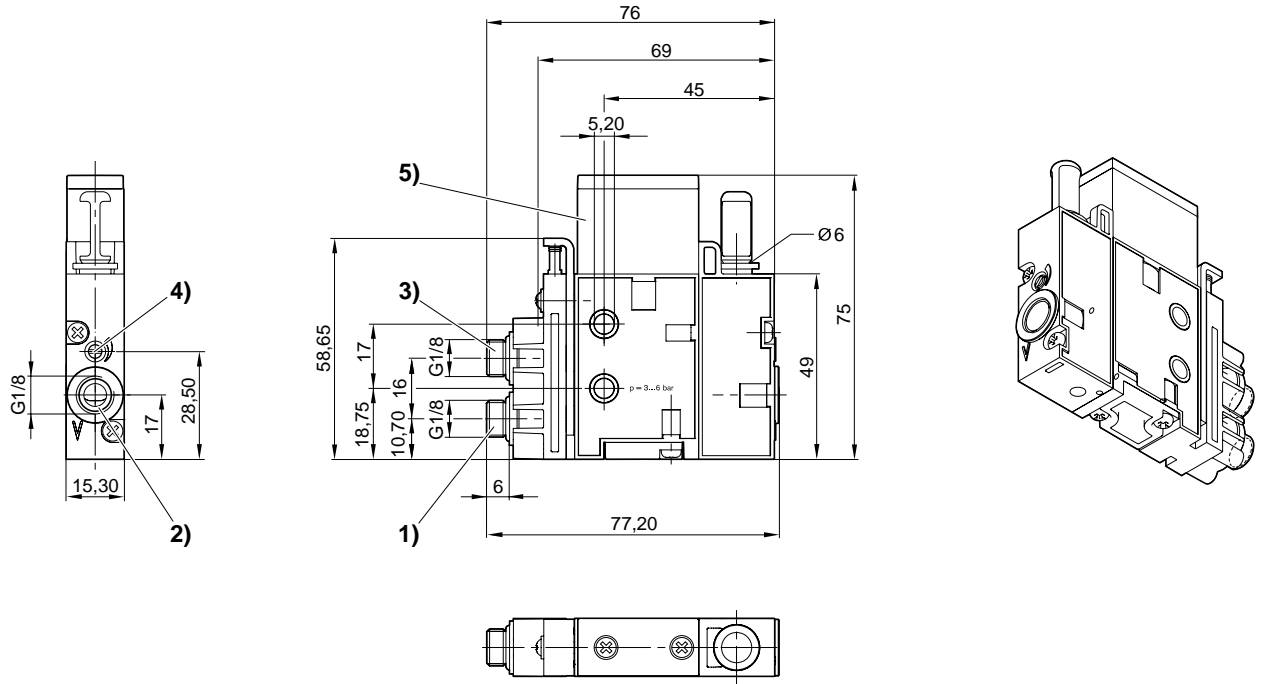
- A) Air connection suction
- B) release pulse air connection

Valve systems ▶ Valve systems

compact ejector, Series ECV

▶ For HF03 valve system

ECV-PC-15-A, with silencer

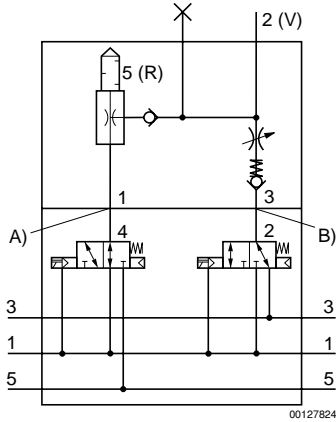


- 1) air connection (suction)
- 2) vacuum connection
- 3) release pulse connection
- 4) throttle for release pulse
- 5) silencer

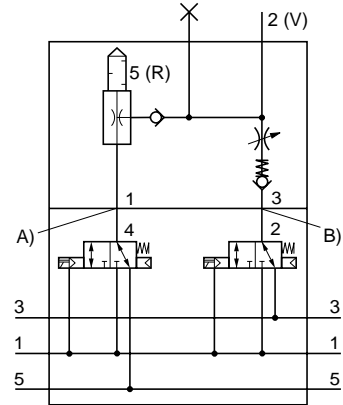
00115840

ECV-HF03-...with NO activation

ECV-HF03-...with NC activation



00127824



00127823

- A) Air connection suction
- B) release pulse air connection

Series HF03-LG Accessories

Pressure regulator subplate

▶ Base plate connection, Base plate connection ▶ Poppet valve



00120216

Working pressure min./max.	0.5 bar / 10 bar
Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m ³ - 5 mg/m ³

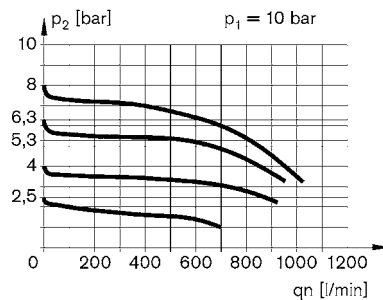
Materials:	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber

Technical Remarks

- Protection class when mounted: IP65

	Compressed air connection		Adjustment range min./max. [bar]	Weight [kg]	Part No.
	Input	Output			
	Special base plate	Special base plate	0.5 / 10	0.085	0821302200

Flow diagram

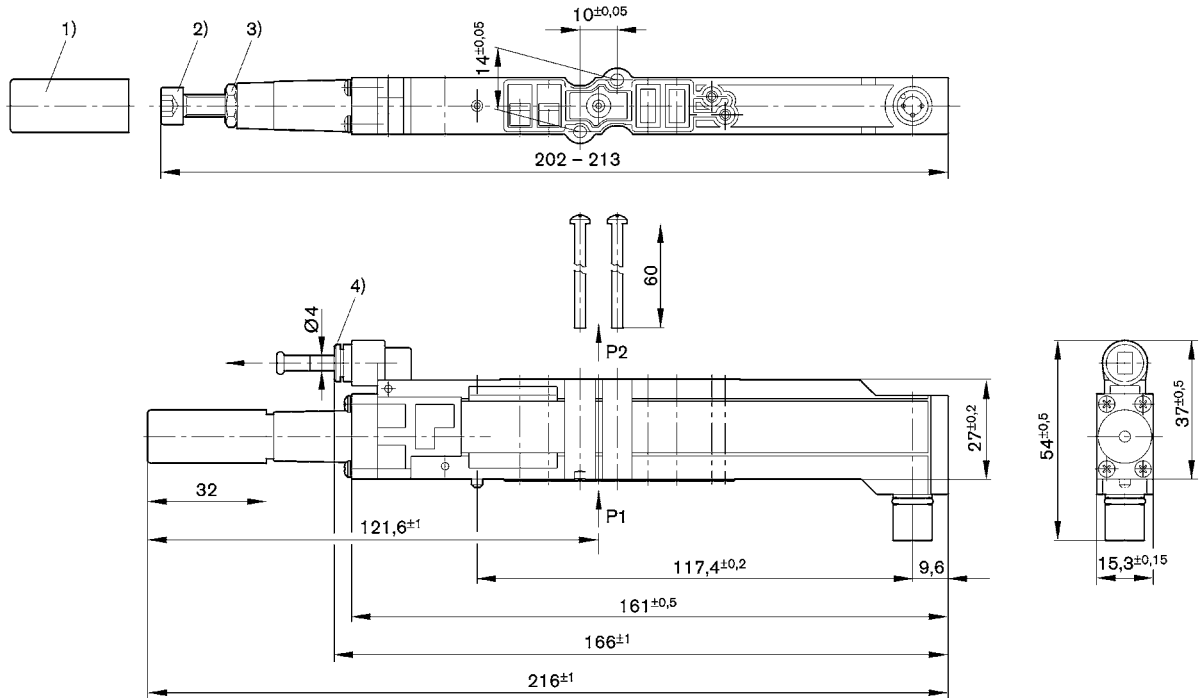


00120730

p_1 = Working pressure
 p_2 = Secondary pressure
 q_n = Nominal flow

Series HF03-LG
Accessories

Dimensions



- 1) Locking cap 2) Regulating screw 3) Lock nut 4) Push-in fitting
- p1 = working pressure p2 = secondary pressure
- 5) Valve position is controlled by the pressure regulator subplate
- 6) Valve position is directly supplied via channel 1 of the valve system

00120732

Pressure gauge

▶ Front port ▶ Background color: Black ▶ Scale color: White ▶ Viewing window: Polystyrene ▶ Units: MPa


Version
Main scale unit (outside)
Ambient temperature min./max.
Medium
Oil content of compressed air
Pointer color
Main scale color (outside)

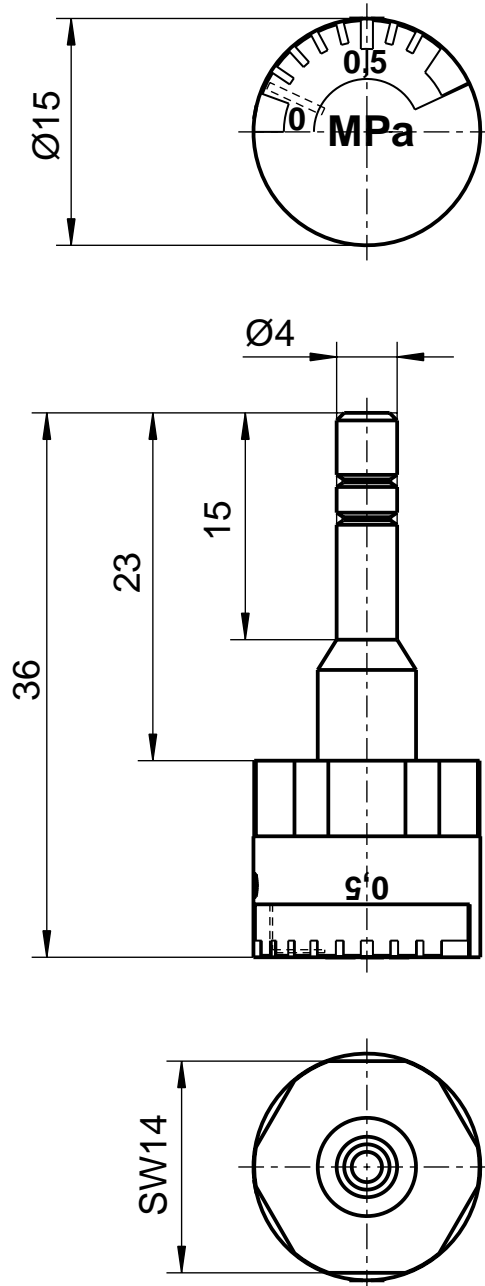
Bourdon tube pressure gauge
MPa
+0 °C / +60 °C
Compressed air
0 mg/m³ - 1 mg/m³
Red
White



23190

Series HF03-LG
Accessories

	Compressed air connection	Nominal diameter	Range of application	Display range	Housing	Window	Weight	Part No.
		[mm]	[bar]	[bar]			[kg]	
	Ø 4	15	0 - 10	0 - 10	Acrylonitrile butadiene styrene	Polystyrene	0.01	R412009413

Dimensions


23119

Series HF03-LG Accessories

Exhaust module, for port channels 2, 4



24505

Working pressure min./max.	0 bar / 10 bar
Ambient temperature min./max.	-10°C / +60°C
Medium	Compressed air
Materials:	
Housing	Aluminum
Seals	Nitrile rubber

Technical Remarks

- When using polyurethane tubing, we recommend using additional stiffener sleeves.
- Particularly suitable for 5/3 CC valves, since the remaining pressure in the actuator can be exhausted when the control pressure is applied.
- The exhaust module and the air circuit should be tested monthly to ensure they function correctly.
- Applications with vertical actuators with exhaust or pressure throttles and a maximum load of 15 kg as well as up to a speed of $V_{max} < 33$ mm/s.

	Port 2, 4	Weight [kg]	Part No.
	Ø 8	0.08	R422003118
	Ø 6		R422003186
	Ø 4		R422003188

Minimum control pressure (depending on operating pressure)



p1 = pressure on connections 2 and 4; p2 = switching pressure

Series HF03-LG
Accessories

Cable exit	Cable sheath	Cable-Ø	Cable length L		Fig.	Part No.
		[mm]	[m]			
straight 180°	Polyvinyl chloride	8.5	3	-	Fig. 1	R419500454
	Polyvinyl chloride	8.5	5	-		R419500455
	Polyvinyl chloride	8.5	10	-		R419500456
	Polyurethane	10.5	3	suitable for dynamic laying		R419500457
	Polyurethane	10.5	5	suitable for dynamic laying		R419500458
	Polyurethane	10.5	10	suitable for dynamic laying		R419500459
angled 90°	Polyvinyl chloride	8.5	3	-	Fig. 2	R419500460
	Polyvinyl chloride	8.5	5	-		R419500461
	Polyvinyl chloride	8.5	10	-		R419500462
	Polyurethane	10.5	3	suitable for dynamic laying		R419500463
	Polyurethane	10.5	5	suitable for dynamic laying		R419500464
	Polyurethane	10.5	10	suitable for dynamic laying		R419500465

Fig. 1

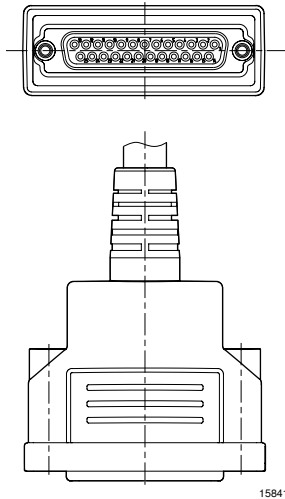
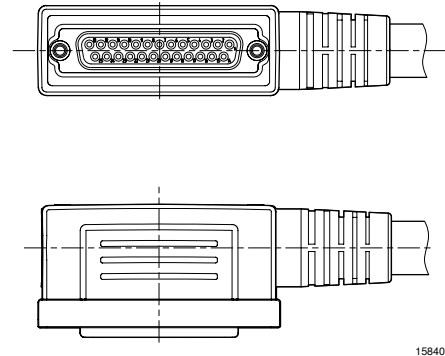
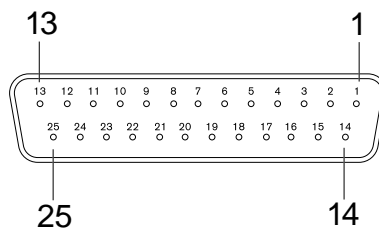


Fig. 2



PIN assignment and cable colors, cable identification as per DIN 47100



00136701

Socket (female)

Series HF03-LG

Accessories

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet	gray/pink	red/blue	white/green

Pin	14	15	16	17	18	19	20	21	22	23	24	25
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

Multipole plug (44-pin)

▶ high density ▶ Socket, D-Sub, 44-pin



00137718

Ambient temperature min./max.	-5°C / +50°C
Protection class	IP65
Operating voltage DC, max.	24 V DC

Materials:	Polyamide
Housing	

Technical Remarks

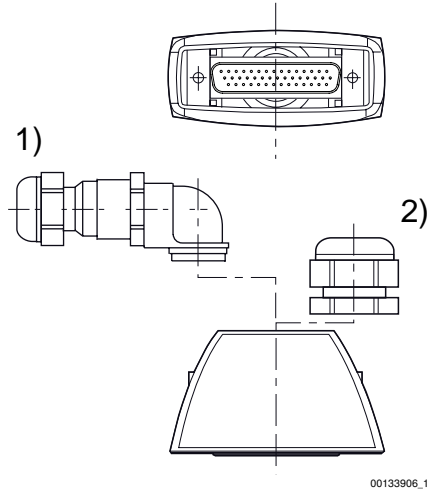
- The specified protection class is only valid in assembled and tested state.
- Note for use with VS LP04: The plug can only be used in the LP04 versions with a side electrical connection.

Cable exit	Housing color	Weight [kg]	Part No.
straight 180° angled 90°	Black	0.042	R412011259

Scope of delivery: multipole plug including 1 tube nut and 1 elbow fitting

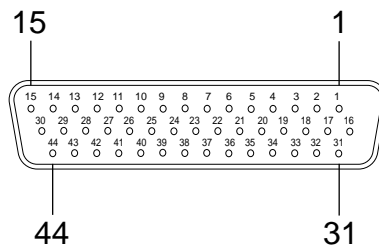
Series HF03-LG Accessories

Fig. 1



- 1) Elbow fitting
- 2) tube nut

Pin assignments



00137727

Socket (female)

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet	gray/pink	red/blue	white/green
Pin	14	15	16	17	18	19	20	21	22	23	24	25	
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black	
Pin	26	27	28	29	30	31	32	33	34	35	36	37	
Color	brown/black	gray/green	yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red	yellow/red	green/black	yellow/black	gray/blue	
Pin	38	39	40	41	42	43	44						
Color	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black						

Series HF03-LG
 Accessories

Multipole plug (44-pin)

▶ Socket, D-Sub, 44-pin



15845

Ambient temperature min./max.	-20 °C / +80 °C
Protection class	IP65
Operating voltage DC, max.	24 V DC
Wire cross-section	0.22 mm ²

Materials:	
Housing	Thermoplastic elastomer
Housing color	Black
Cable color	Black

Technical Remarks

- The specified protection class is only valid in assembled and tested state.

Cable exit	Cable sheath	Cable-Ø	Cable length L		Fig.	Part No.
		[mm]	[m]			
straight 180°	Polyvinyl chloride	10.7	3	-	Fig. 1	R419500466
	Polyvinyl chloride	10.7	5	-		R419500467
	Polyvinyl chloride	10.7	10	-		R419500468
	Polyurethane	13	3	suitable for dynamic laying		R419500469
	Polyurethane	13	5	suitable for dynamic laying		R419500470
	Polyurethane	13	10	suitable for dynamic laying		R419500471
angled 90°	Polyvinyl chloride	10.7	3	-	Fig. 2	R419500472
	Polyvinyl chloride	10.7	5	-		R419500473
	Polyvinyl chloride	10.7	10	-		R419500474
	Polyurethane	13	3	suitable for dynamic laying		R419500475
	Polyurethane	13	5	suitable for dynamic laying		R419500476
	Polyurethane	13	10	suitable for dynamic laying		R419500477

Series HF03-LG Accessories

Fig. 1

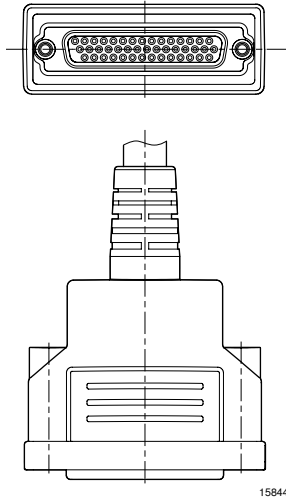
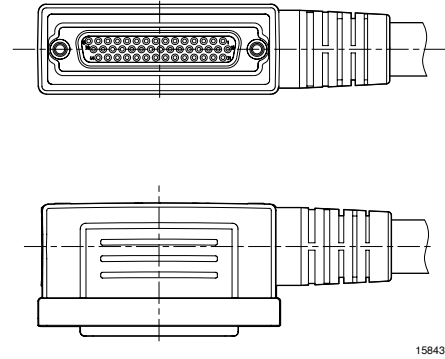
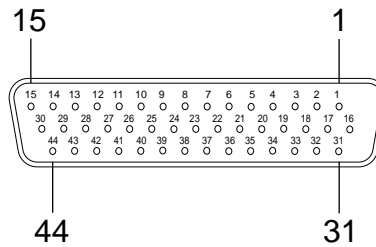


Fig. 2



Multipole plug (44-pin), PIN assignment and cable colors, cable identification as per DIN 47100



00137727

Socket (female)

Pin	1	2	3	4	5	6	7	8	9	10	11	12	13
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet	gray/pink	red/blue	white/green

Pin	14	15	16	17	18	19	20	21	22	23	24	25
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

Pin	26	27	28	29	30	31	32	33	34	35	36	37
Color	brown/black	gray/green	yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red	yellow/red	green/black	yellow/black	gray/blue

Pin	38	39	40	41	42	43	44
Color	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black

Series HF03-LG

Accessories

CKD kit, Series HF03-LG

▶ Metric version ▶ Compressed air connection output: Ø 8 - G 1/8 ▶ Can be assembled into blocks ▶ Single base plate principle ▶ With collective pilot air exhaust



00128754

Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Working pressure min./max.	See table below
Number of valve positions	1
Grid dimension	15.8 mm
Tightening torque for mounting screws	1.1 Nm
Exhaust (3,5)	With directional exhaust (3/5) Ports separated

Materials:

Base plate	Polyamide
push-in fitting	Brass, nickel-plated
Seals	Nitrile rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.

Type	Compressed air connection					Qn	Part No.
	Input	Output	Exhaust	Pilot control exhaust	Pilot connection		
	[1]	[2 / 4]	[3 / 5]	[12]	[14]		
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, Ø8, internal pilot control	Ø 12	Ø 8	Ø 12	Ø 8	without	700	R412005795
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, Ø8, external pilot control	Ø 12	Ø 8	Ø 12	Ø 8	Ø 8	700	R412005803
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, G1/8, internal pilot control	Ø 12	G 1/8	Ø 12	Ø 8	without	700	R412005839

Valve systems ▶ Valve systems

Series HF03-LG
 Accessories

Type	Compressed air connection					Qn	Part No.
	Input	Output	Exhaust	Pilot control exhaust	Pilot connection		
	[1]	[2 / 4]	[3 / 5]	[12]	[14]	[l/min]	
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, G1/8, external pilot control	Ø 12	G 1/8	Ø 12	Ø 8	Ø 8	700	R412005945

Part No.	Working pressure min./max.	Pilot
R412005795	3 / 10	internal
R412005803	-1 / 10	external
R412005839	3 / 10	internal
R412005945	-1 / 10	external

1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

CKD kit, Series HF03-LG

▶ Inch version ▶ Compressed air connection output: 1/8-27 NPTF - Ø 8 ▶ Can be assembled into blocks ▶ Single base plate principle ▶ With collective pilot air exhaust



00128754

Ambient temperature min./max.	+0 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Working pressure min./max.	See table below
Number of valve positions	1
Grid dimension	15.8 mm
Tightening torque for mounting screws	1.1 Nm
Exhaust (3,5)	With directional exhaust (3/5) Ports separated

Materials:

Base plate	Polyamide
push-in fitting	Brass, nickel-plated
Seals	Nitrile rubber

Technical Remarks

- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.
- Use only the approved oils from AVENTICS, see chapter „Technical information“.

Series HF03-LG
Accessories

Type	Compressed air connection					Qn	Part No.
	Input	Output	Exhaust	Pilot control exhaust	Pilot connection		
	[1]	[2 / 4]	[3 / 5]	[12]	[14]	[l/min]	
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, NPTF1/8, internal pilot control	1/2"	1/8-27 NPTF	1/2"	1/4"	without	700	R412005961
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, NPTF1/8, external pilot control	1/2"	1/8-27 NPTF	1/2"	1/4"	1/4"	700	R412005976
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, G1/8, internal pilot control	1/2"	G 1/8	1/2"	1/4"	without	700	R412005950
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, G1/8, external pilot control	1/2"	G 1/8	1/2"	1/4"	1/4"	700	R412005952
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, Ø8, internal pilot control	1/2"	Ø 8	1/2"	1/4"	without	700	R412006547
2x end plates with push-in fittings 1, 3, 5, R, X and 1x subbase with push-in fittings 2, 4, Ø8, external pilot control	1/2"	Ø 8	1/2"	1/4"	1/4"	700	R412006626

Part No.	Working pressure min./max.	Pilot
R412005961	3 / 10	internal
R412005976	-1 / 10	external
R412005950	3 / 10	internal
R412005952	-1 / 10	external
R412006547	3 / 10	internal

1 = plug-in connection Ø 12 mm or 1/2"

2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF

3 and 5 = plug-in connection Ø 12 mm or 1/2"

R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"

X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

Valve systems ▶ Valve systems

Series HF03-LG

Accessories

Part No.	Working pressure min./max.	Pilot
R412006626	-1 / 10	external

1 = plug-in connection Ø 12 mm or 1/2"
 2 and 4 = plug-in connection Ø 8 mm or threaded connection G1/8 or 1/8 NPTF
 3 and 5 = plug-in connection Ø 12 mm or 1/2"
 R = collected pilot exhaust, plug-in connection Ø 8 mm or 1/4"
 X = external pilot control, plug-in connection Ø 8 mm or 1/4", connection X plugged with internal pilot control

Series QR1-S standard

▶ Blanking plug ▶ pin bushing ▶ Ø 8 - Ø 12 ▶ QR1-S-RBS



00136364

Ambient temperature min./max.

+0°C / +60°C

Working pressure min./max.

-0.95 bar / 10 bar

Materials:

Screw

nickel-plated

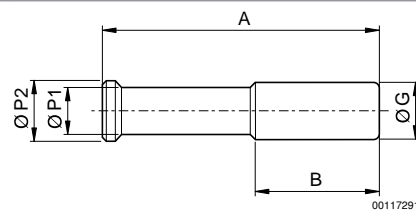
Housing

Polybutyleneterephthalate

Technical Remarks

- The series QR1 (plastic) and QR2 (metal) can not be combined
- For further information about assembling and tolerances of adaptable tubing, see the section "Technical information".

Dimensions



Part No.	Port G	A	B	Ø P1	Ø P2	Delivery quantity [Piece]	Weight [kg]				
2123208000	Ø 8	39	18.5	5	8	20	0.0014				
2123210000	Ø 10	42	21	8	10	20	0.002				
2123212000	Ø 12	44	22.5	8	12	20	0.0036				

Series HF03-LG
Accessories

Accessories, Series HF03-LG



Part No.	Type	Weight [kg]	Order quantity [Piece]						
1827030206	Plug box, 25-pin, complete	0.12	1						
R412013379	HD multipole plug box, 44-pin, complete	0.12	1						
1827010606	Intermediate plate for 1 valve, push-in fitting Ø8 mm, for double solenoid valves, 2 tie rod extensions and 1 sealing kit	0.104	1						
1827010642	Intermediate plate for 3 valves, push-in fitting Ø8 mm, for double solenoid valves, 2 tie rod extensions and 1 sealing kit	0.284	3						
1827010643	Intermediate plate for 5 valves, push-in fitting Ø8 mm, for double solenoid valves, 2 tie rod extensions and 1 sealing kit	0.467	5						
1827010639	intermediate plate for 1 valve, thread connection G1/8, for double solenoid valves, 2 tie rod extensions and 1 sealing kit	0.108	1						
R412005959	Intermediate plate Ø8, for single solenoid valves, comprised of: 1x subbase, 2x tie rod extension, 1x sealing kit	0.108	1						
R412005958	Intermediate plate G1/8, for single solenoid valves, comprised of: 1x subbase, 2x tie rod extension, 1x sealing kit	0.108	1						
R412005783	Intermediate plate G1/8 NPTF, for double solenoid valves, comprised of: 1x subbase, 2x tie rod extension, 1x sealing kit	0.108	1						
1827010709	Mounting kit for hat rail DIN EN 60715, 35x15	0.052	-						
1827010707	Base plate for supply plate without valve control	0.108	1						
1821A39033	Supply plate, incl. sealing kit, 2x mounting screws	0.147	1						
1827A20285	Separator	0.001	1						

Further accessories:
 For electrical connectors, contact bridges, plugs and cables, etc., see the Chapter "Electrical connection technologies".
 For connectors, plastic tubing, etc., see the Chapter "Pneumatic connection technologies".
 Field bus connections can be found in the correspondent chapter.

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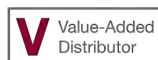
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Evolution in Controls

A circular graphic element consisting of several curved lines that form a stylized 'G' or a swirl.

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. © AVENTICS S.à r.l.

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