

Valve systems ▶ Valve systems

Series HF04-XF

Brochure







Rexroth
Pneumatics









Valve systems ▶ Valve systems

Series HF04-XF

Valve systems



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Valve systems ▶ Valve systems

Series HF04-XF


CKD kit, Series HF04-XF

- ▶ compressed air connection output: Ø 6 ▶ Can be assembled into blocks ▶ Double base plate principle ▶ Reversed pressure supply permissible ▶ Bus module extension possible
- ▶ I/O extension possible ▶ With collective pilot air exhaust

56

Blanking plate, Series HF04

57



Accessories, Series HF04-XF

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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side



00135367

Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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	IP65
With connection	
Number of valve positions	24 / 32
Max.	
Number of solenoid coils	24 / 32
max.	
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Materials:	
End plate	Aluminum
Plug box	Polyamide
Base plate	Polyamide

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.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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

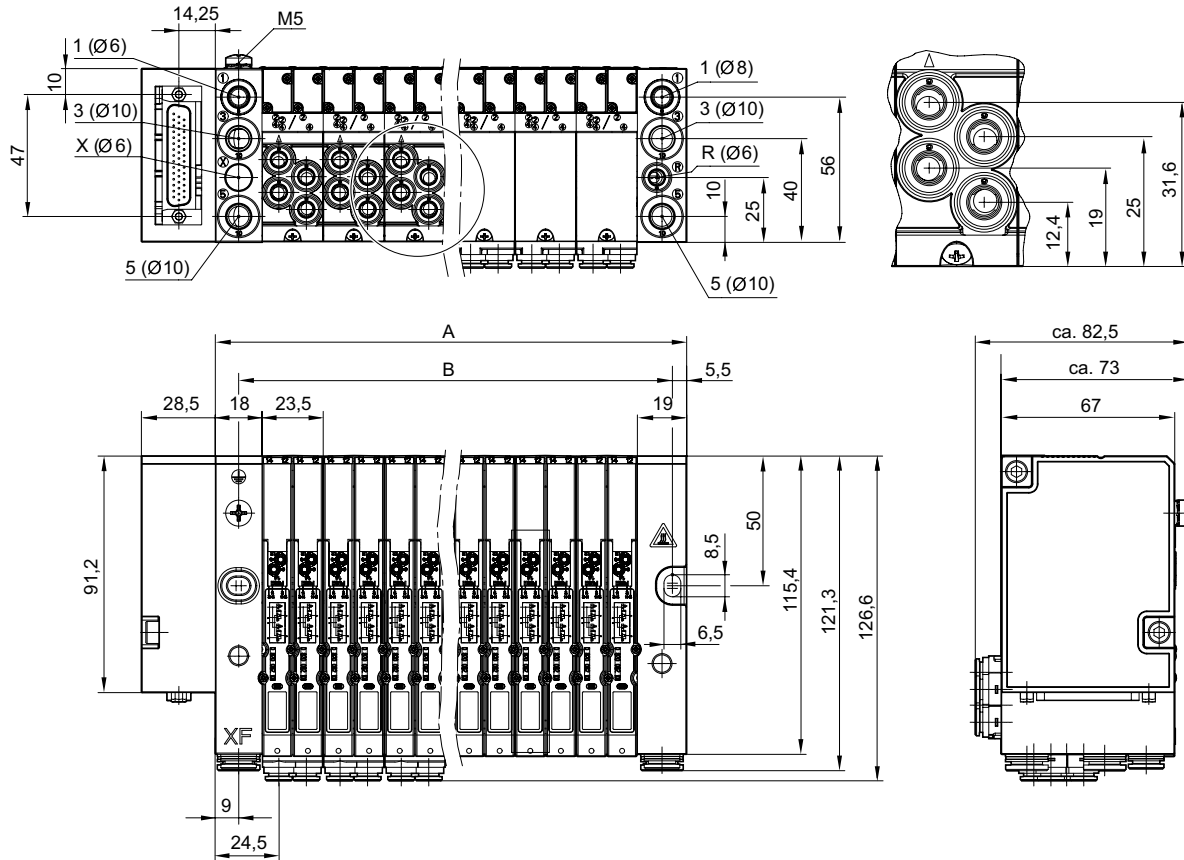


This product is configurable. Please use our Internet configurator at <http://www.aventics.com> or contact the nearest AVENTICS sales office.

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side

Dimensions



00133892

1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)

2 and 4 = plug-in connections Ø 6 mm or thread connections M7 (inch)

3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)

R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)

X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), 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	60.6	84.2	107.8	131.4	155	178.6	202.2	225.8	249.4	273	296.6	320.2	343.8	367.4
B	46.1	69.7	93.3	116.9	140.5	164.1	187.7	211.3	234.9	258.5	282.1	305.7	329.3	352.9

n	15	16												
A	391	414.6												
B	376.5	400.1												

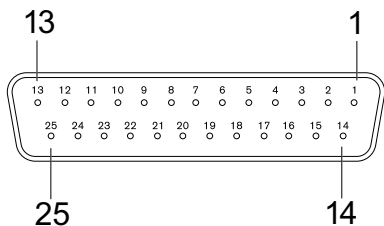
n = number of function base plates

Valve systems ▶ Valve systems

Valve system, Series HF04-XF

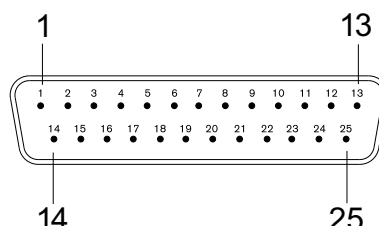
▶ Qn Max. = 400 l/min ▶ Multipole ▶ Electr. connection: D-Sub plug, 25-pin, on the side / D-Sub plug, 44-pin, on the side

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



00136701

Socket (female)



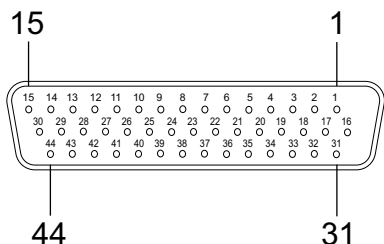
00137724

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

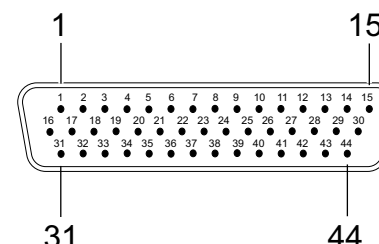
Pin	14	15	16	17	18	19	20	21	22	23	24	25
Color	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

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

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Direct field bus connection (BDC) ▶ B-design



00136290

Version	Field bus
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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	-10% / +10%
Materials:	
End plate	Aluminum
Base plate	Polyamide

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.
- For technical data for electronics (link structures), see the Chapter “Field bus connections”.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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



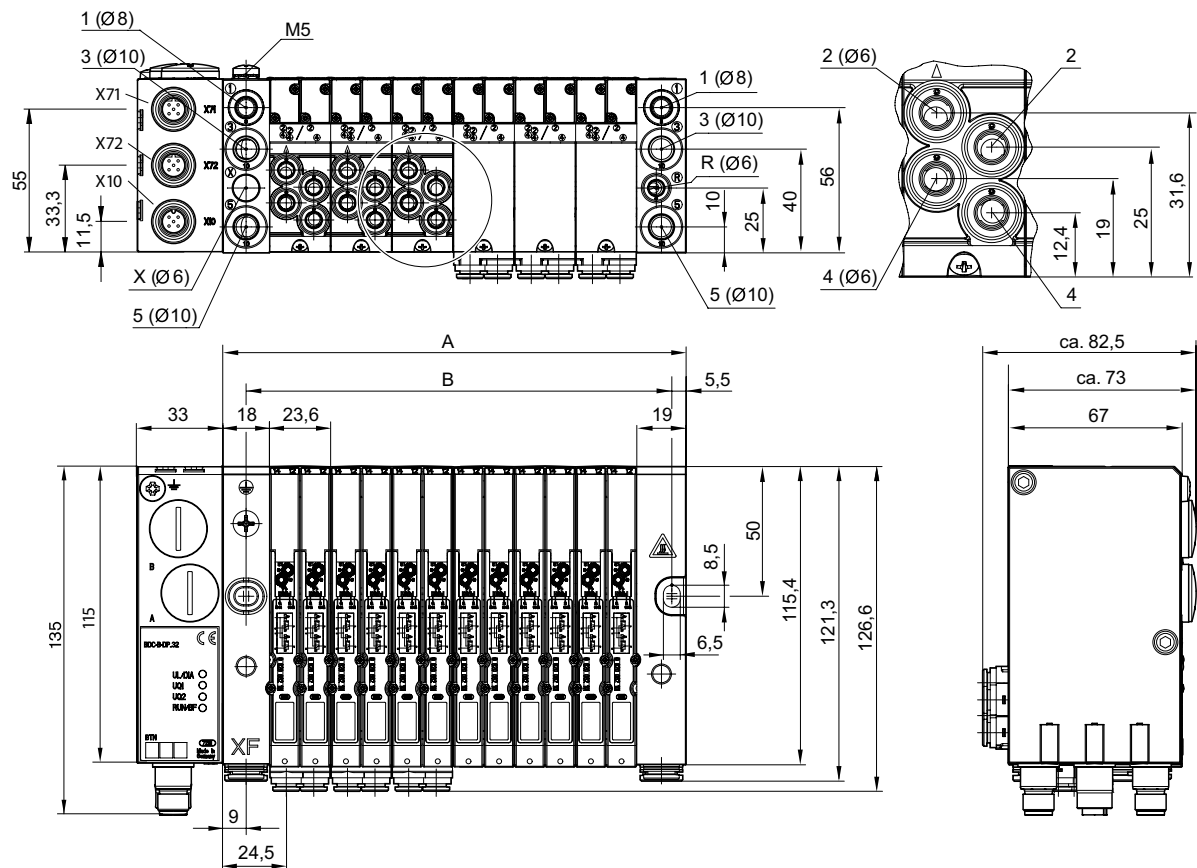
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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Direct field bus connection (BDC) ▶ B-design

Dimensions



1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)

2 and 4 = plug-in connections Ø 6 mm or thread connections M7 (inch)

3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)

R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)

X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control

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

00133912

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	60.6	84.2	107.8	131.4	155	178.6	202.2	225.8	249.4	273	296.6	320.2	343.8	367.4
B	46.1	69.7	93.3	116.9	140.5	164.1	187.7	211.3	234.9	258.5	282.1	305.7	329.3	352.9
n	15	16												
A	391	414.6												
B	376.5	400.1												

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Optional field bus connection with I/O function (CMS) ▶ B-design



00136291

Version	Field bus
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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 / 32
Number of solenoid coils	24 / 32
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-10% / +10%
Materials:	
End plate	Aluminum
Base plate	Polyamide

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.
- For technical data for electronics (link structures), see the Chapter “Field bus connections”.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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



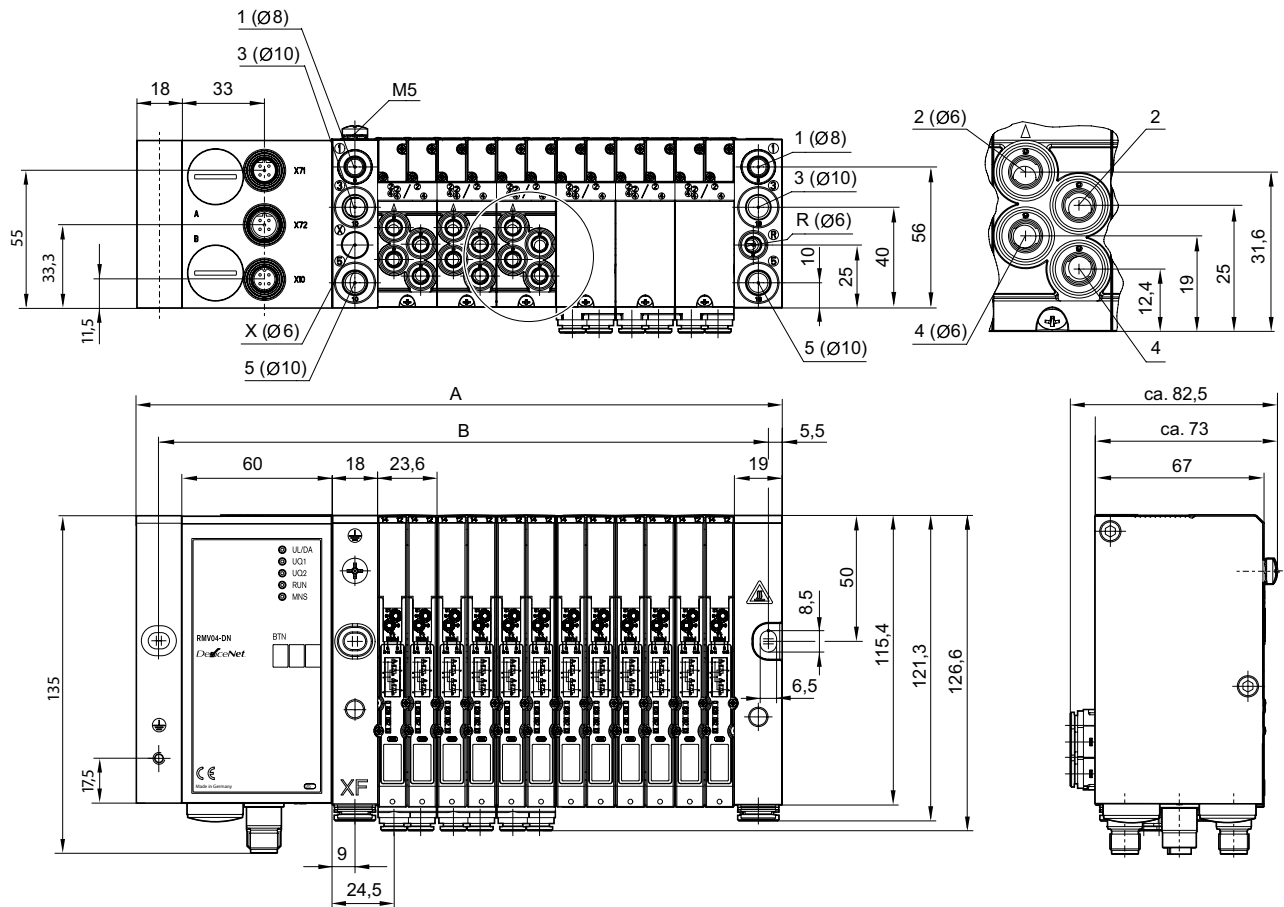
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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Optional field bus connection with I/O function (CMS) ▶ B-design

Dimensions



1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)
 2 and 4 = plug-in connections Ø 6 mm or thread connections M7(inch)
 3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)
 R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)
 X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00133915

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	138.6	162.2	185.8	209.4	233	256.6	280.2	303.8	327.4	351	374.6	398.2	421.8	445.4
B	124.1	147.7	171.3	194.9	218.5	242.1	265.7	289.3	312.9	336.5	360.1	383.7	407.3	430.9

n	15	16												
A	469	492.6												
B	454.5	478.1												

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Connection with diagnosis (DDL) ▶ B-design



00136290

Version	Link structure DDL
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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	-10% / +10%
Materials:	
End plate	Aluminum
Base plate	Polyamide

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.
- For technical data for electronics (link structures), see the Chapter “Field bus connections”.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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



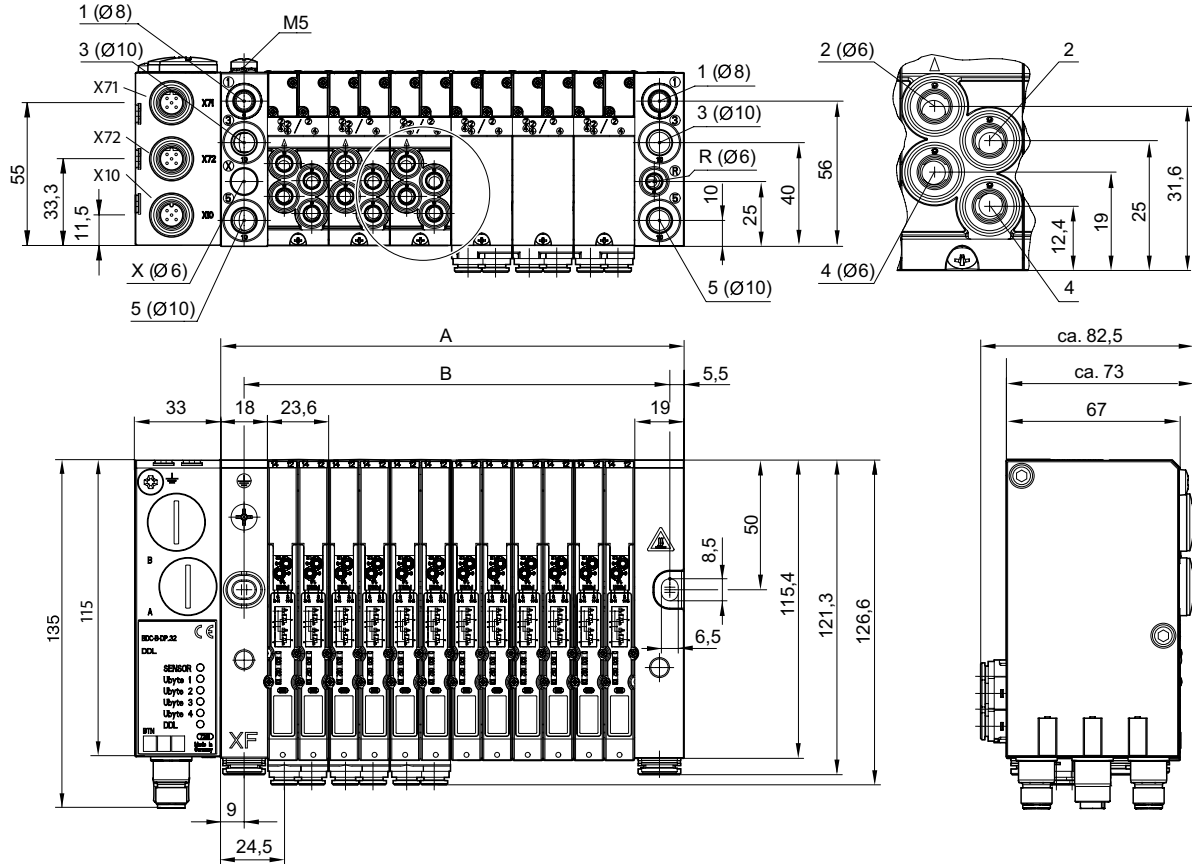
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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Connection with diagnosis (DDL) ▶ B-design

Dimensions



1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)
 2 and 4 = plug-in connections Ø 6 mm or thread connections M7(inch)
 3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)
 R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)
 X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00133913

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	60.6	84.2	107.8	131.4	155	178.6	202.2	225.8	249.4	273	296.6	320.2	343.8	367.4
B	46.1	69.7	93.3	116.9	140.5	164.1	187.7	211.3	234.9	258.5	282.1	305.7	329.3	352.9

n	15	16												
A	391	414.6												
B	376.5	400.1												

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design



00136292

Version	Link structure DDL
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Number of solenoid coils	24
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-10% / +10%
Materials:	
End plate	Aluminum
Base plate	Polyamide

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.
- For technical data for electronics (link structures), see the Chapter “Field bus connections”.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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



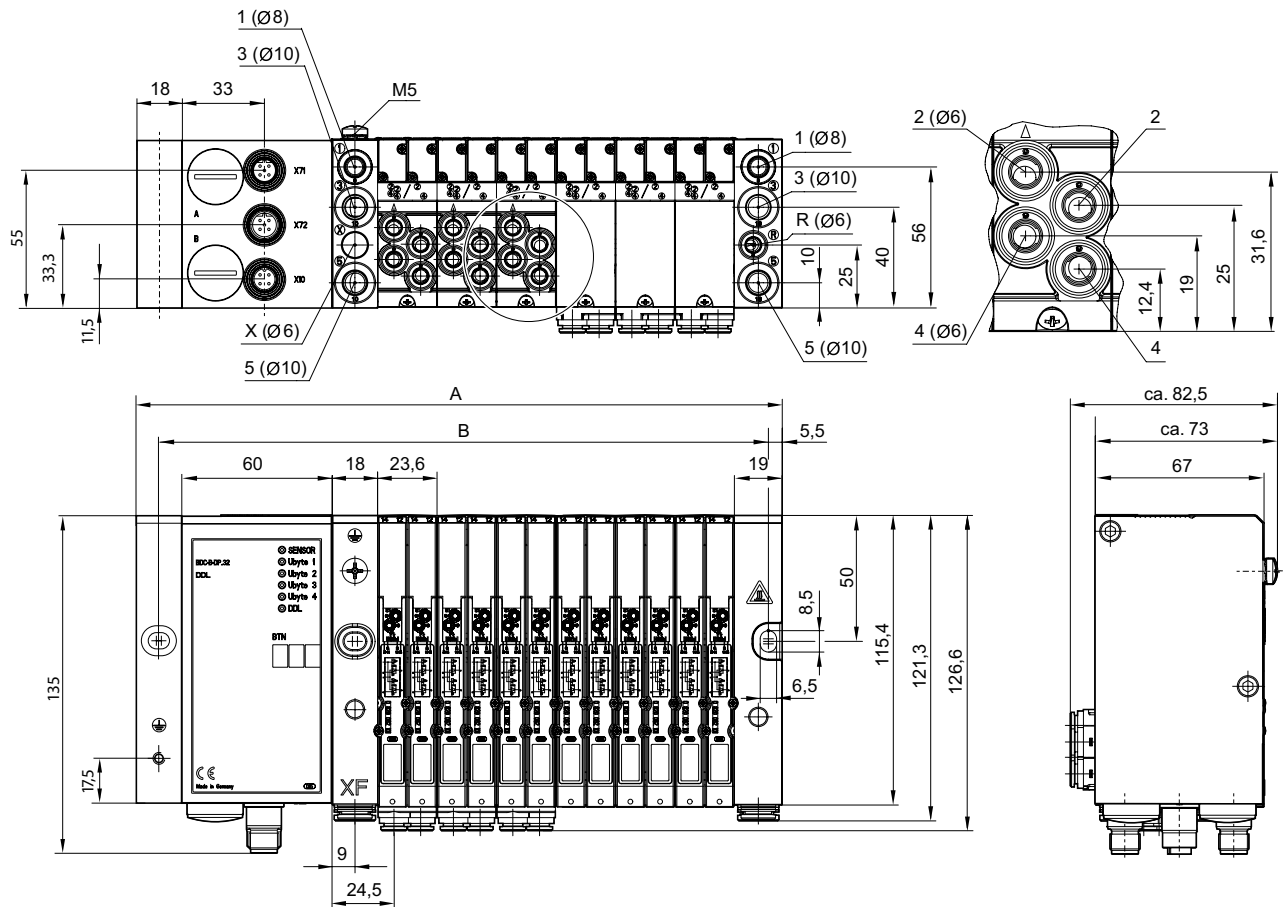
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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Connection with diagnosis, optionally with I/O function (DDL) ▶ B-design

Dimensions



1 = plug-in connection \varnothing 8 mm or plug-in connection 3/8" (inch)
 2 and 4 = plug-in connections \varnothing 6 mm or thread connections M7(inch)
 3 and 5 = plug-in connections \varnothing 10 mm or plug-in connections 3/8" (inch)
 R = collected pilot exhaust, plug-in connection \varnothing 6 mm or plug-in connection 1/4" (inch)
 X = external pilot, plug-in connection \varnothing 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00133914

n	1	2	3	4	5	6	7	8	9	10	11	12		
A	138.6	162.2	185.8	209.4	233	256.6	280.2	303.8	327.4	351	374.6	398.2		
B	124.1	147.7	171.3	194.9	218.5	242.1	265.7	289.3	312.9	336.5	360.1	383.7		

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Field bus connection with AS i ▶ B-design



00136293

Version	field bus AS-i
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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	4 / 8
Number of solenoid coils	4 / 8
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-10% / +10%
Power supply connection	Black AS-i flat cable
Communication port	Yellow AS-i flat cable
Materials:	
End plate	Aluminum
Base plate	Polyamide

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.
- For technical data for electronics (link structures), see the Chapter “Field bus connections”.
- Ports 2 and 4 can be ordered mounted only horizontally or mounted only vertically. Combinations can be made individually after delivery.
- 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



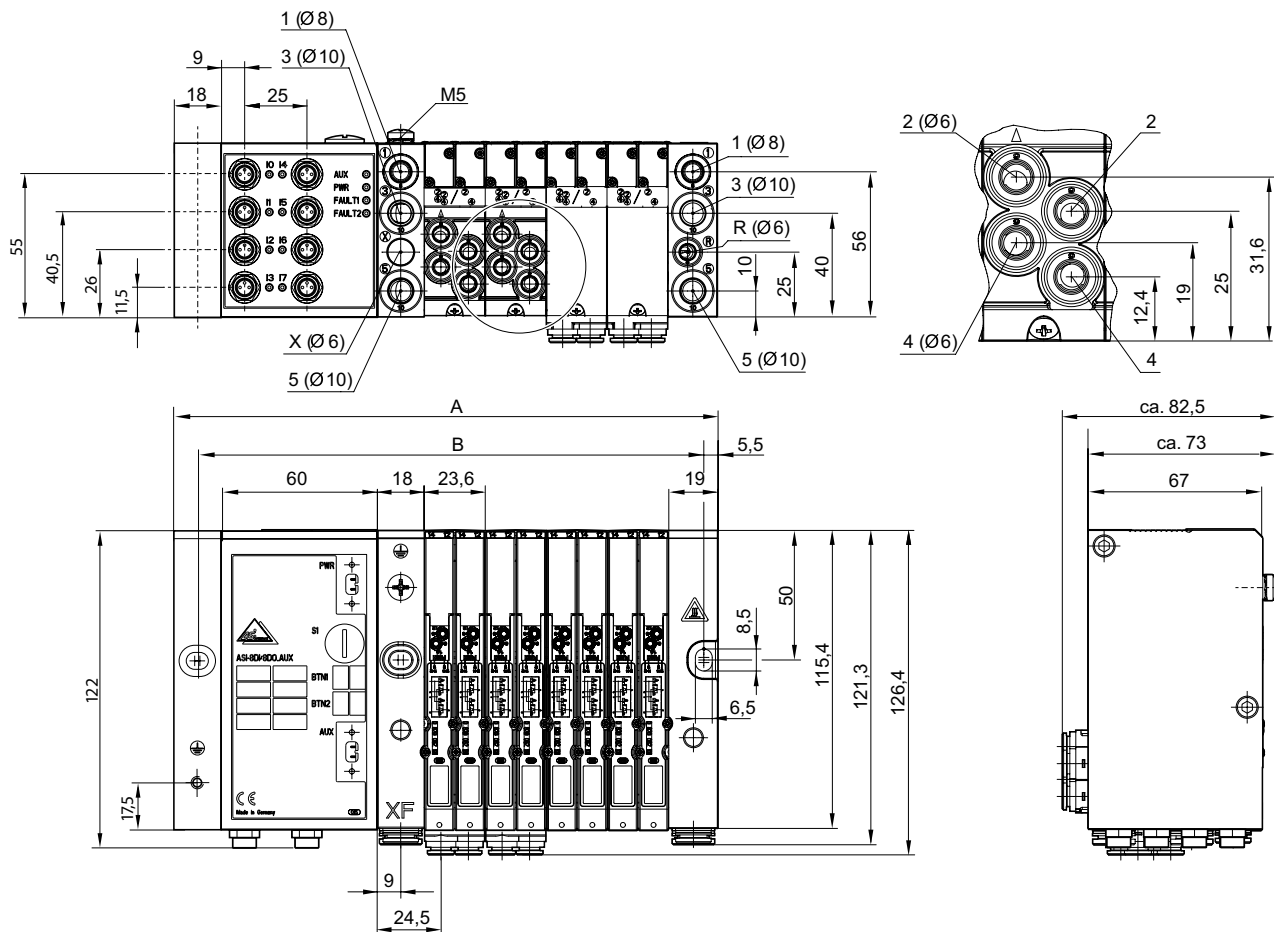
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Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions, 8DI/8DO-AUX



- 1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)
 - 2 and 4 = plug-in connections Ø 6 mm or thread connections M7(inch)
 - 3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)
 - R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)
 - X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
- Max. 4 function base plates possible, max. 8 valves, single solenoid
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00133916

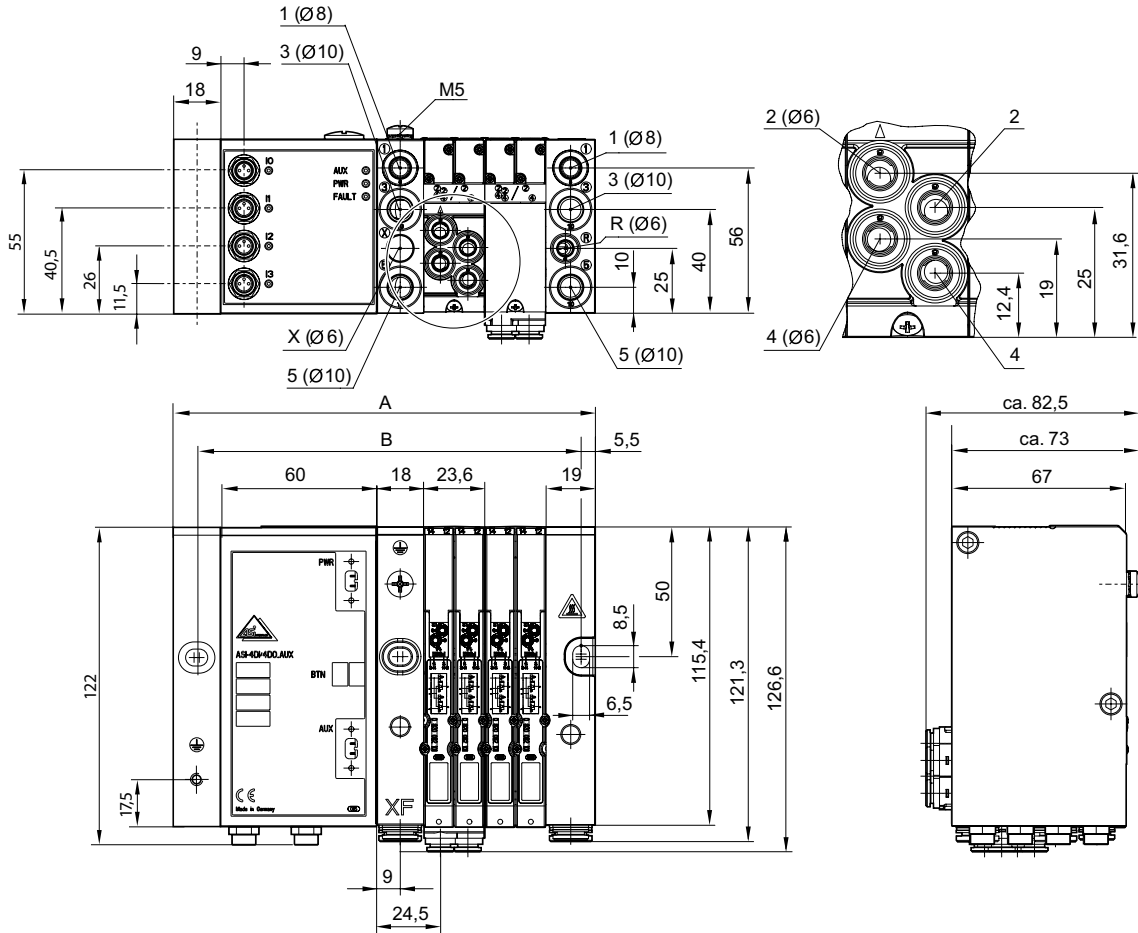
n	1	2	3	4										
A	138.6	162.2	185.8	209.4										
B	124.1	147.7	171.3	194.9										

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions, 4DI/4DO-AUX



00136245

1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)
 2 and 4 = plug-in connections Ø 6 mm or thread connections M7(inch)
 3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)
 R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)
 X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
 Max. 2 function base plates possible, max. 4 valves, single solenoid
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

n	1	2										
A	138.6	162.2										
B	124.1	147.7										

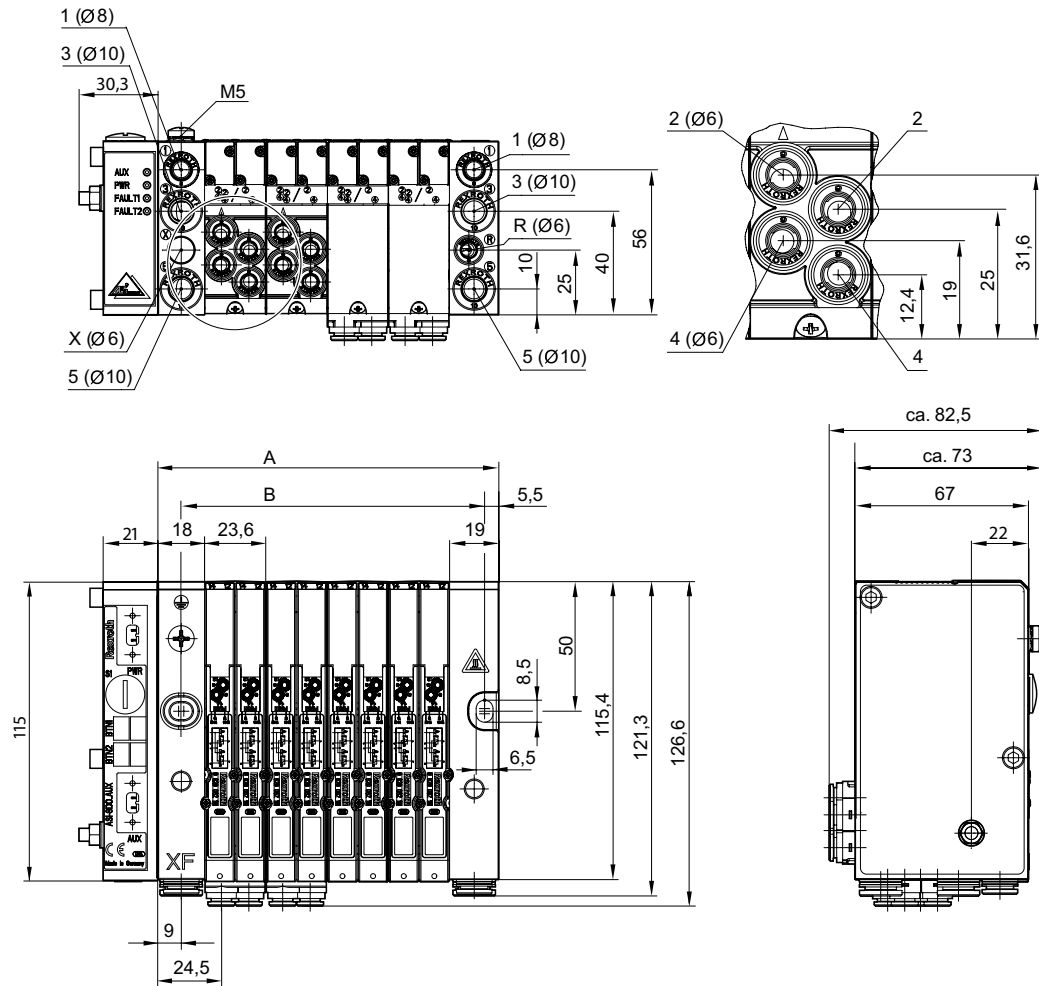
n = number of function base plates

Valve systems ▶ Valve systems

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Field bus connection with AS i ▶ B-design

Dimensions, AS-i, 8DO-AUX



1 = plug-in connection \varnothing 8 mm or plug-in connection 3/8" (inch)
 2 and 4 = plug-in connections \varnothing 6 mm or thread connections M7 (inch)
 3 and 5 = plug-in connections \varnothing 10 mm or plug-in connections 3/8" (inch)
 R = collected pilot exhaust, plug-in connection \varnothing 6 mm or plug-in connection 1/4" (inch)
 X = external pilot, plug-in connection \varnothing 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control
 Max. 4 function base plates possible, max. 8 valves, single solenoid
 An example configuration is illustrated. The delivered product may thus deviate from the illustration.

00136246

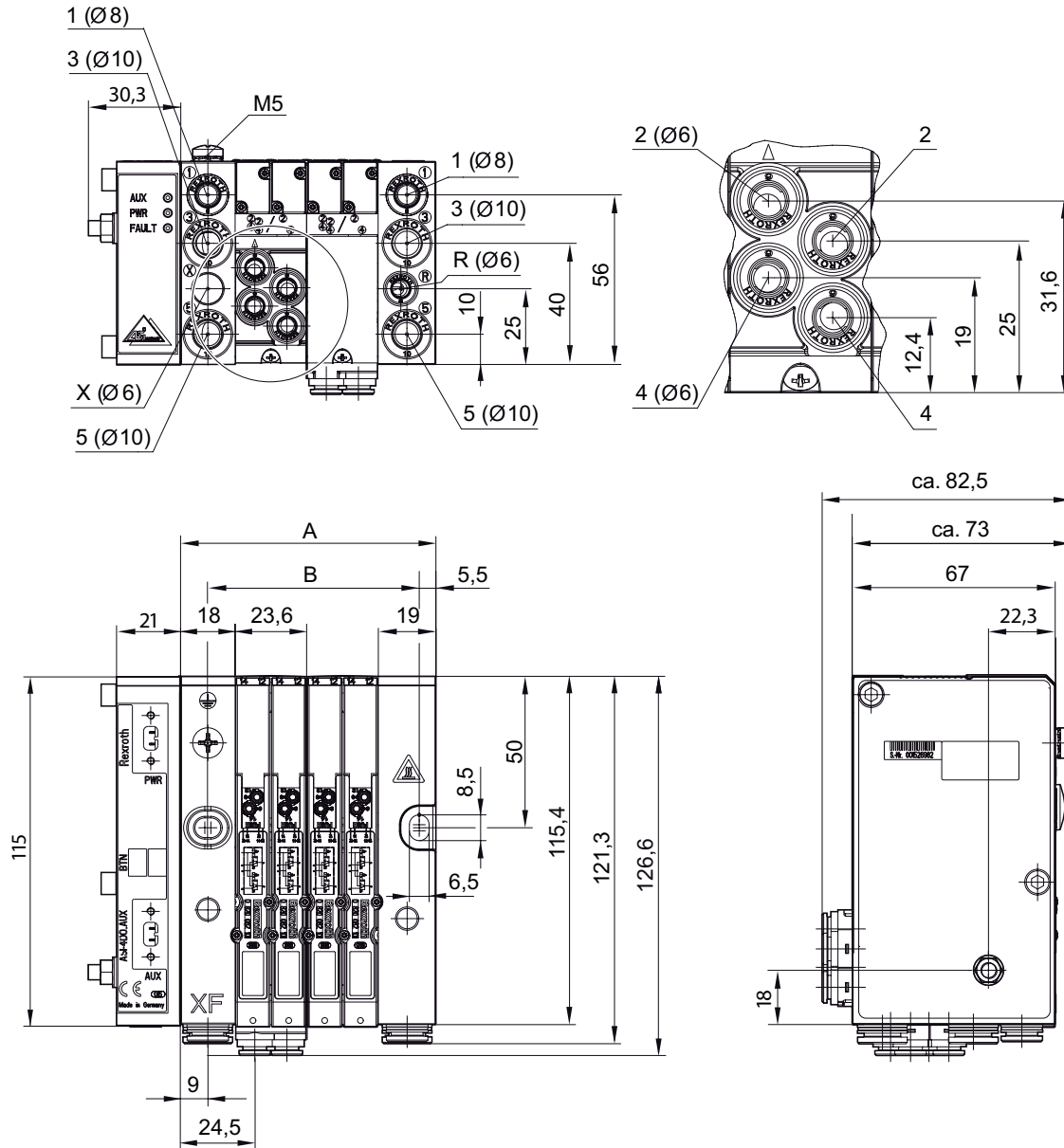
n	1	2	3	4									
A	60.6	84.2	107.8	131.4									
B	46.1	69.7	93.3	116.9									

n = number of function base plates

Valve system, Series HF04-XF

▶ Qn Max. = 400 l/min ▶ Field bus connection with AS i ▶ B-design

4DO-AUX



00136247

1 = plug-in connection Ø 8 mm or plug-in connection 3/8" (inch)

2 and 4 = plug-in connections Ø 6 mm or thread connections M7 (inch)

3 and 5 = plug-in connections Ø 10 mm or plug-in connections 3/8" (inch)

R = collected pilot exhaust, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch)

X = external pilot, plug-in connection Ø 6 mm or plug-in connection 1/4" (inch), connection X plugged with internal pilot control

Max. 2 function base plates possible, max. 4 valves, single solenoid

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

n	1	2										
A	60.6	84.2										
B	46.1	69.7										

n = number of function base plates

Valve systems ▶ Valve systems

2x3/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: with detent ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection With connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Switch-on time	13 ms
Switch-off time	20 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

	MO	Operational voltage	Power consumption	Flow rate value	Part No.
		DC	24 V DC	Qn	
			[W]	[l/min]	
	NC/NC	24 V	0.55	400	0820062101

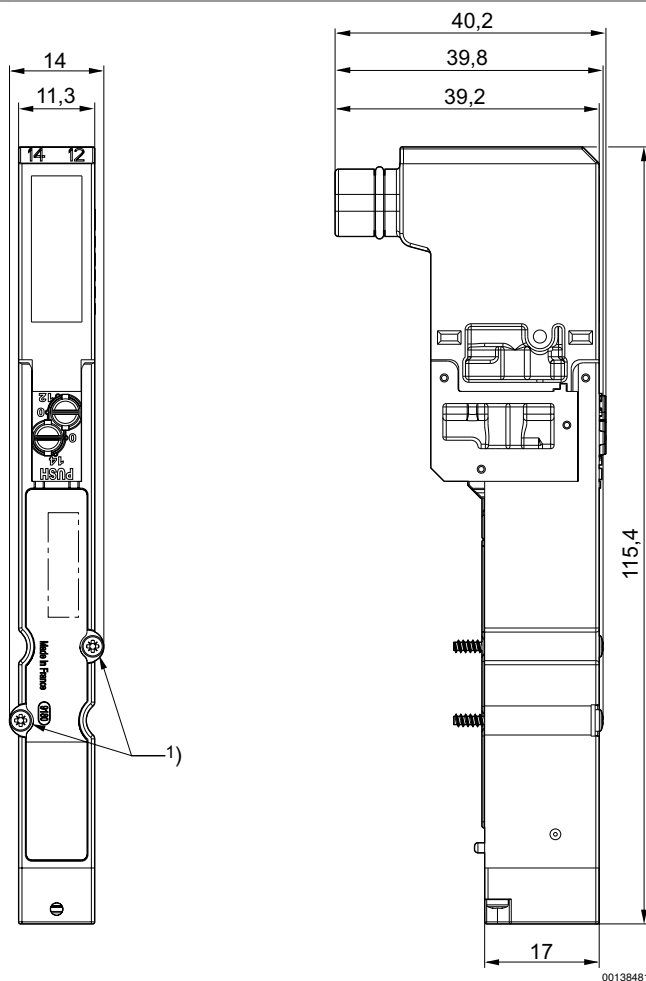
MO = Manual override
With collective pilot air exhaust
Nominal flow Qn at 6 bar and Δp = 1 bar

2x3/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: with detent ▶ Pilot: External, internal

		MO	Operational voltage	Power consumption	Flow rate value	Part No.
			DC	24 V DC	Q_n	
				[W]	[l/min]	
	NO/NO		24 V	0.55	400	0820062201
	NC/NO		24 V	0.55	400	0820062301

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-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

2x3/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: without detent ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection With connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Switch-on time	13 ms
Switch-off time	20 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

	MO	Operational voltage	Power consumption	Flow rate value	Part No.
		DC	24 V DC	Qn	
			[W]	[l/min]	
	NC/NC	24 V	0.55	400	0820062102

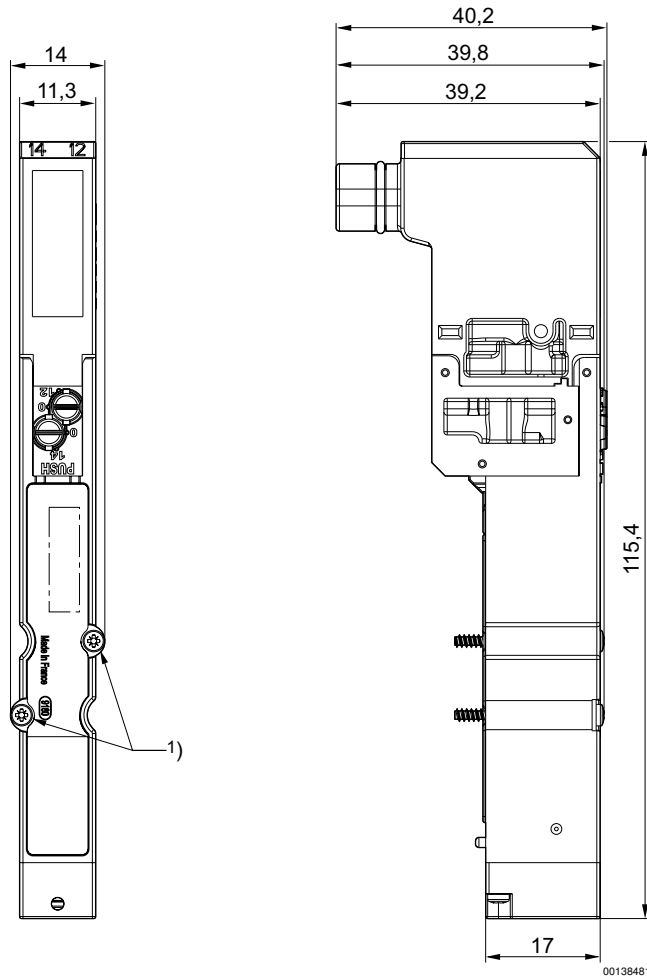
MO = Manual override
Nominal flow Qn at 6 bar and Δp = 1 bar

2x3/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: without detent ▶ Pilot: External, internal

		MO	Operational voltage	Power consumption	Flow rate value	Part No.
			DC	24 V DC	Q_n	
				[W]	[l/min]	
	NO/NO		24 V	0.55	400	0820062202
	NC/NO		24 V	0.55	400	0820062302

MO = Manual override
Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Dimensions


1) Mounting screw: X-slot DIN EN ISO 4757-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

5/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: with detent ▶ single solenoid, double solenoid ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

	MO	Operational voltage	Power consumption	Flow rate value	Switch-on time	Switch-off time	Part No.
		DC	24 V DC	Qn	tF	tE	
			[W]	[l/min]	[ms]	[ms]	
		24 V	0.55	400	9	28	0820062051
		24 V	0.55	400	16	18	0820062001

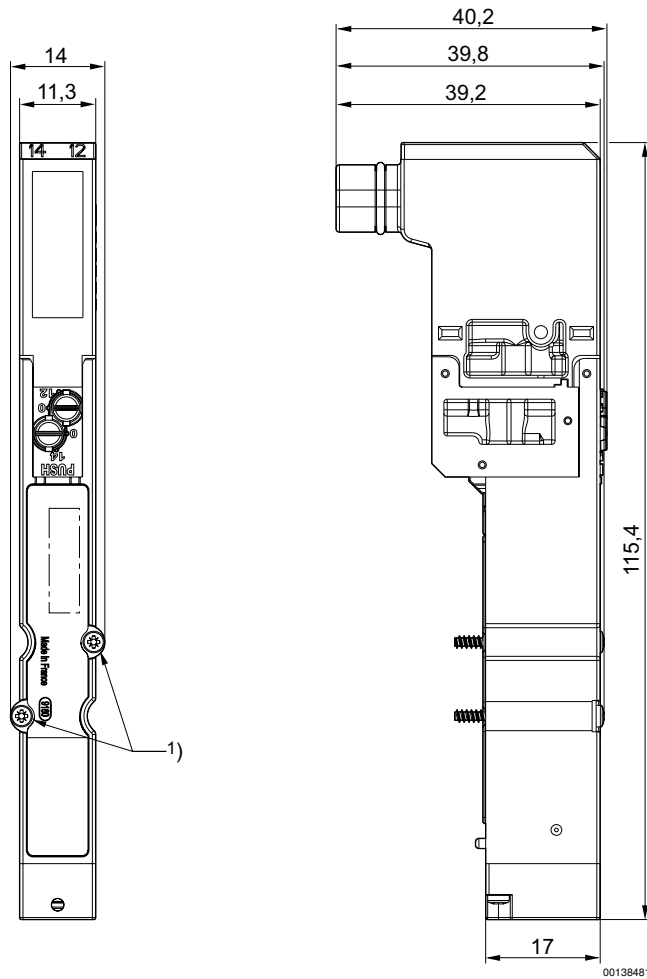
MO = Manual override
Nominal flow Qn at 6 bar and Δp = 1 bar

5/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: with detent ▶ single solenoid, double solenoid ▶ Pilot: External, internal

	MO	Operational voltage	Power consumption	Flow rate value	Switch-on time	Switch-off time	Part No.
		DC	24 V DC	Q_n	tF	tE	
			[W]	[l/min]	[ms]	[ms]	
		24 V	0.55	400	7	8	0820062501
MO = Manual override Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar							

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

5/2-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: without detent ▶ single solenoid, double solenoid ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

	MO	Operational voltage	Power consumption	Flow rate value	Switch-on time	Switch-off time	Part No.
		DC	24 V DC	Qn	tF	tE	
			[W]	[l/min]	[ms]	[ms]	
		24 V	0.55	400	9	28	0820062052
		24 V	0.55	400	16	18	0820062002

MO = Manual override
Nominal flow Qn at 6 bar and Δp = 1 bar

5/2-directional valve, Series HF04

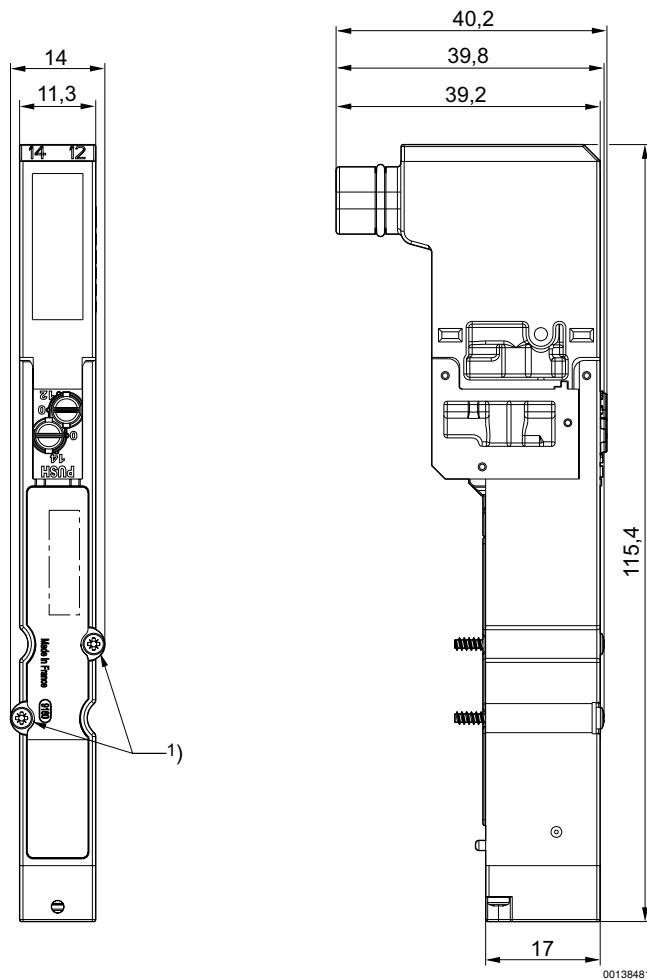
▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ plate connection ▶ Manual override: without detent ▶ single solenoid, double solenoid ▶ Pilot: External, internal

	MO	Operational voltage	Power consumption	Flow rate value	Switch-on time	Switch-off time	Part No.
		DC	24 V DC	Q_n	tF	tE	
			[W]	[l/min]	[ms]	[ms]	
		24 V	0.55	400	7	8	0820062502

MO = Manual override

Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar

Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

5/3-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ closed center ▶ plate connection ▶ Manual override: with detent ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection With connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Switch-on time	8 ms
Switch-off time	10 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

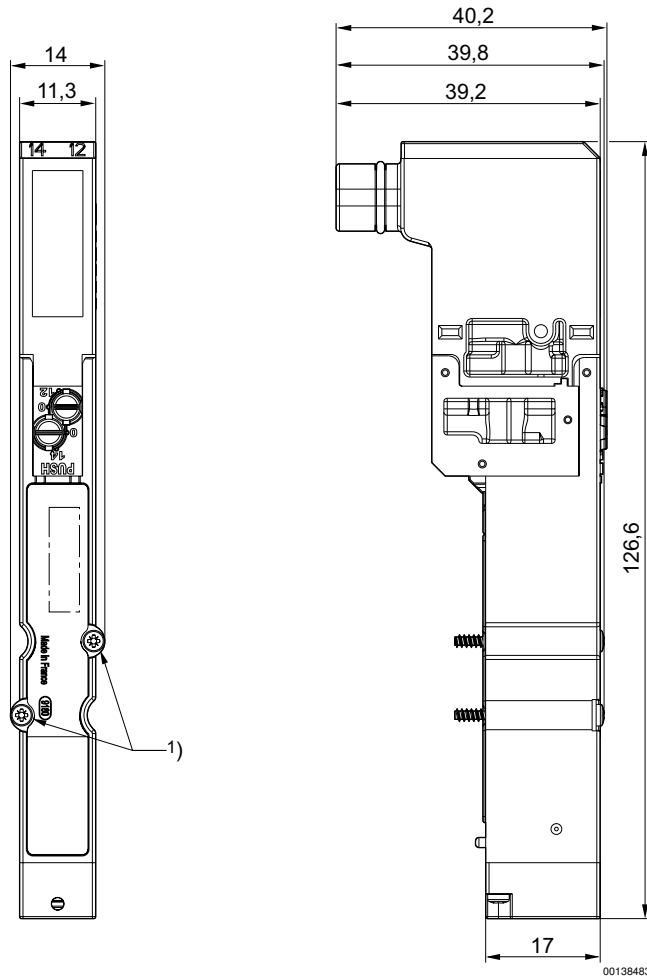
Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

	MO	Operational voltage	Power consumption	Flow rate value	Part No.
		DC	24 V DC	Qn	
			[W]	[l/min]	
		24 V	0.55	400	0820062601

MO = Manual override
Nominal flow Qn at 6 bar and Δp = 1 bar

5/3-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ closed center ▶ plate connection ▶ Manual override: with detent ▶ Pilot: External, internal

Dimensions


1) Mounting screw: X-slot DIN EN ISO 4757-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

5/3-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ Qn = 400 l/min ▶ Pilot valve width: 10 mm ▶ closed center ▶ plate connection ▶ Manual override: without detent ▶ Pilot: External, internal



00116345

Version	Spool valve, zero overlap
Sealing principle	Soft sealing
Blocking principle	Double base plate principle
Working pressure min./max.	-0.9 bar / 10 bar
Control pressure min./max.	3 bar / 8 bar
Ambient temperature min./max.	-5 °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
Degree of protection With connection	IP65
Protective circuit	Z-diode Protected against polarity reversal
Status display LED	Yellow
Duty cycle	100 %
Switch-on time	8 ms
Switch-off time	10 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-Z0
mounting screw tightening torque	0.25 Nm
Weight	0.048 kg
Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber; Polyurethane

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.

Operational voltage	Voltage tolerance	Power consumption
DC	DC	DC
		W
24 V	-10% / +10%	0.55

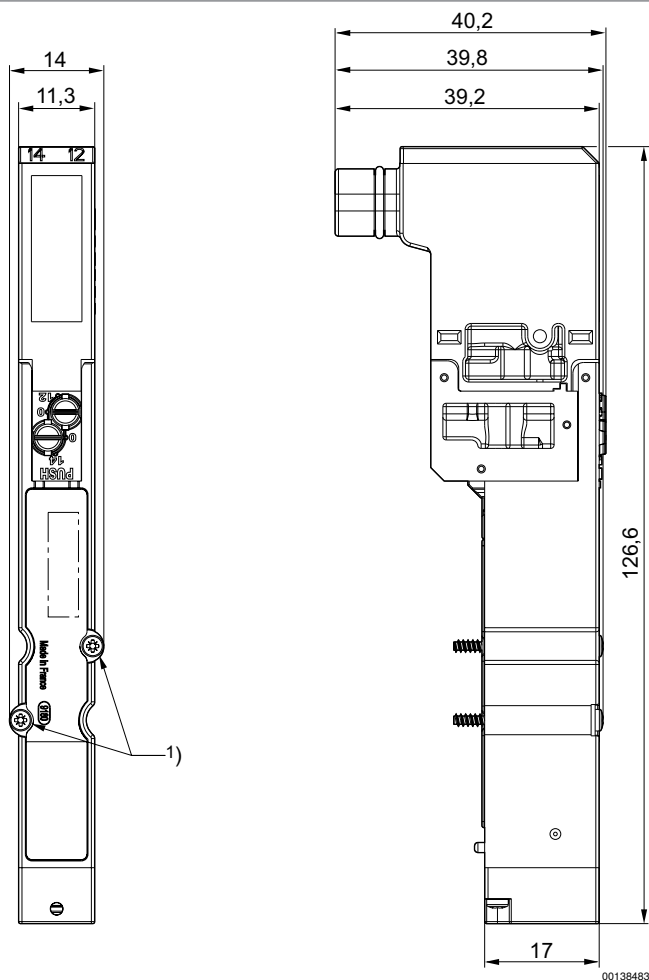
	MO	Operational voltage	Power consumption	Flow rate value	Part No.
		DC	24 V DC	Qn	
			[W]	[l/min]	
		24 V	0.55	400	0820062602

MO = Manual override

Nominal flow Qn at 6 bar and Δp = 1 bar

5/3-directional valve, Series HF04

▶ for Series HF04, LP04, HF04-XF ▶ $Q_n = 400$ l/min ▶ Pilot valve width: 10 mm ▶ closed center ▶ plate connection ▶ Manual override: without detent ▶ Pilot: External, internal

Dimensions


1) Mounting screw: X-slot DIN EN ISO 4757-Z0
tightening torque for mounting screw [Nm]: 0.25

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

Direct field bus connection (BDC)

▶ Bus coupler with driver ▶ direct field bus connection ▶ Field bus protocol: 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 A
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

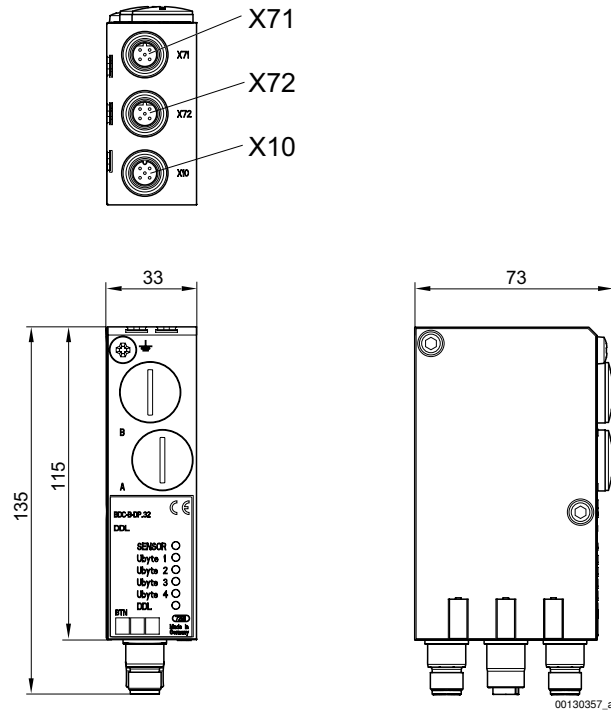
Technical Remarks

- 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 Bus IN	Port Bus OUT X72	power supply	Operating Instructions	Weight [kg]	Part No.
PROFIBUS DP	Plug (male), M12x1, 5-pin, B-coded	Socket (female), M12x1, 5-pin, B-coded	Plug (male), M12, 4-pin, A-coded	R412009414	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	R412009415	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	R412009415	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	R412009416	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	R412012610	0.29	R412009516

Scope of delivery incl. 2 screws and seal

Series HF04-XF
 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
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.

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

Field bus protocol	Port Bus IN	Port Bus OUT X72	power supply	VS connection	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	Max. power consumption per coil	Operating Instructions	Weight	Fig.	Note
	[A]	[A]		[kg]		
R412003484 R412008516	0.12	0.063	R499050016	0.84	Fig. 1	2)
R412004346 R412008517	0.12	0.063	R499050019	1	Fig. 1	2)
R412005747 R412008518	0.12	0.063	R412005742	1	Fig. 1	2)
R412012755	0.12	0.063	R412012728	1	Fig. 2	1); 2)
R412014581 R412014583	0.1	0.1	-	0.91	Fig. 1 Fig. 3	2)

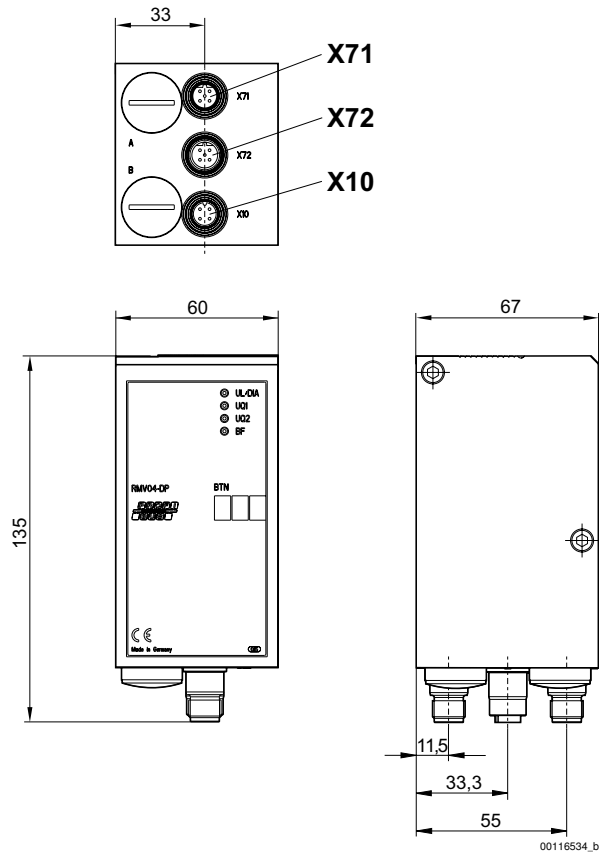
1) Only star topology

2) Connection with two valve voltage circuits.

Scope of delivery incl. 2 tie rod extensions and seal

Series HF04-XF
 Accessories

Fig. 1

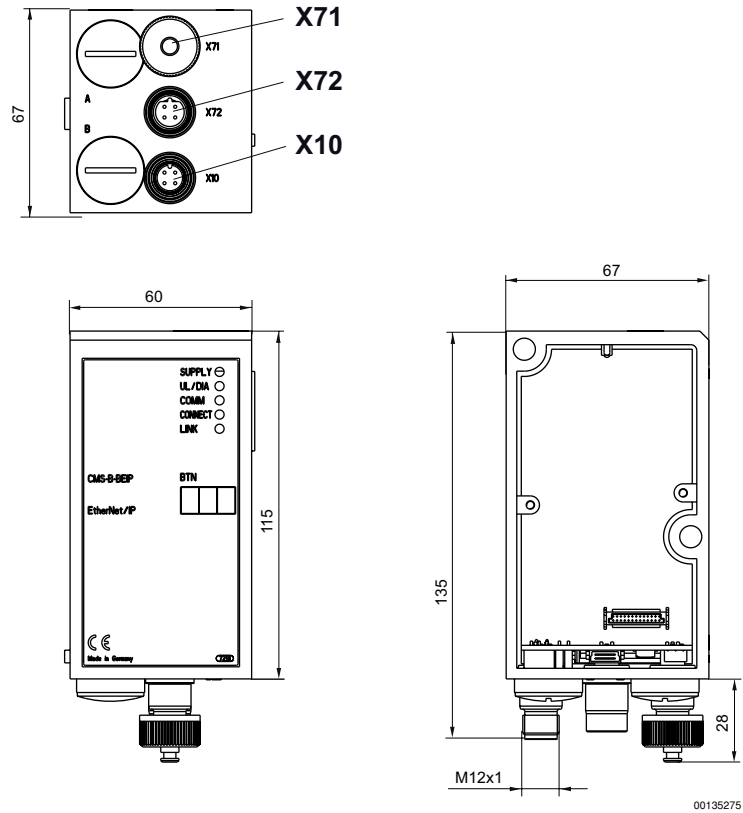


X71, (Bus IN), M12x1
 X72, (Bus OUT), M12x1
 X10, (Power), M12x1

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

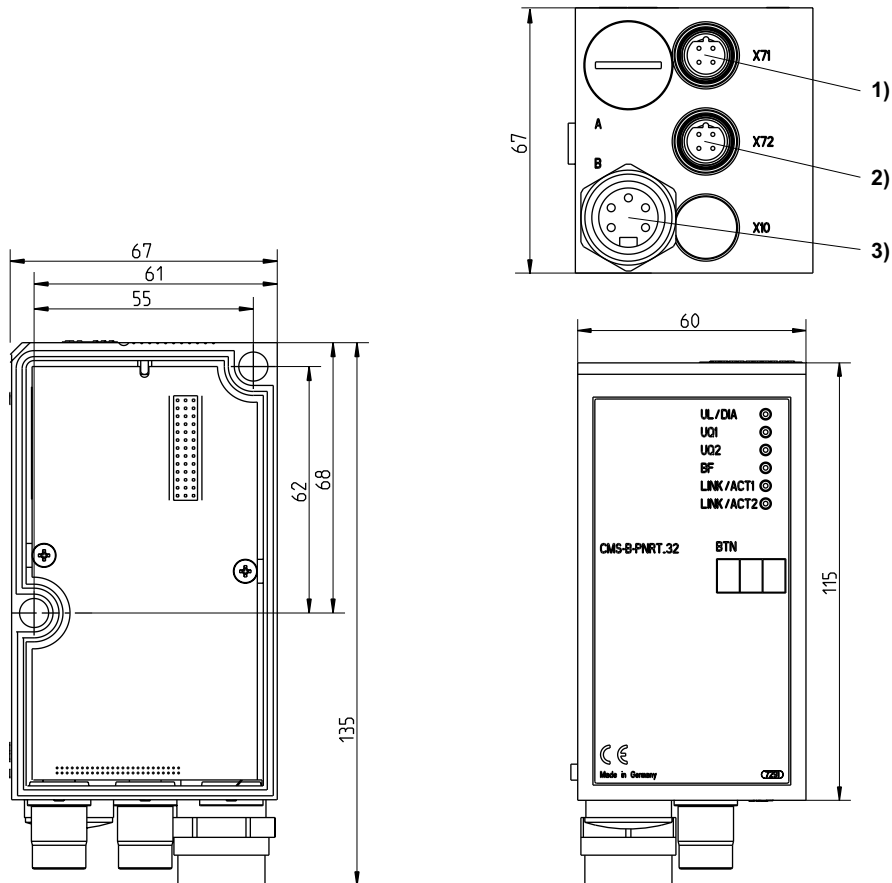
Fig. 2



X71 = optional interface
 X72 = Bus
 X10 = Power

Series HF04-XF
 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
Total current for actuators	3 A
Number of solenoid coils max.	32
Max. power consumption per coil	0.1 A
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

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

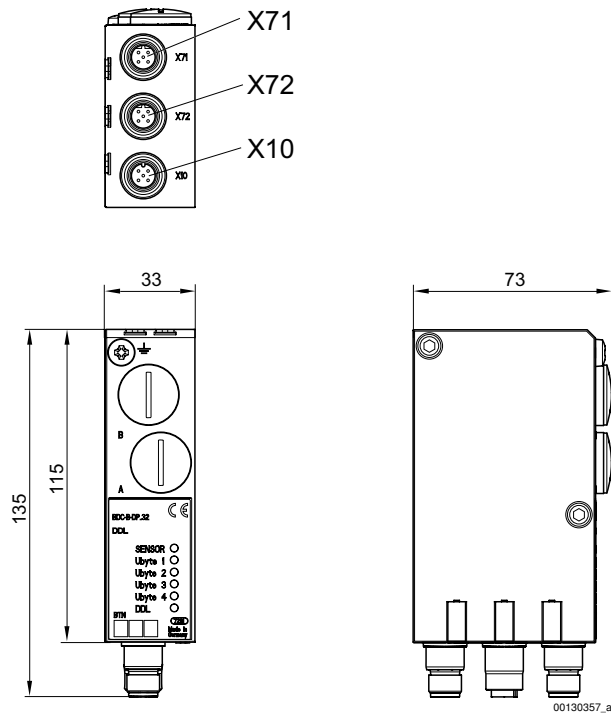
Technical Remarks

- 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 Bus IN	Port Bus OUT X72	power supply	Operating Instructions	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	R412009417	0.29	R412008541

Scope of delivery incl. 2 tie rod extensions and seal

Dimensions



Series HF04-XF
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
Total current for actuators	3 A
Number of solenoid coils max.	24
Max. power consumption per coil	0.1 A
Max. cable length	40 m
Max. number of DDL participants	14
Port/Valve 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

Technical Remarks

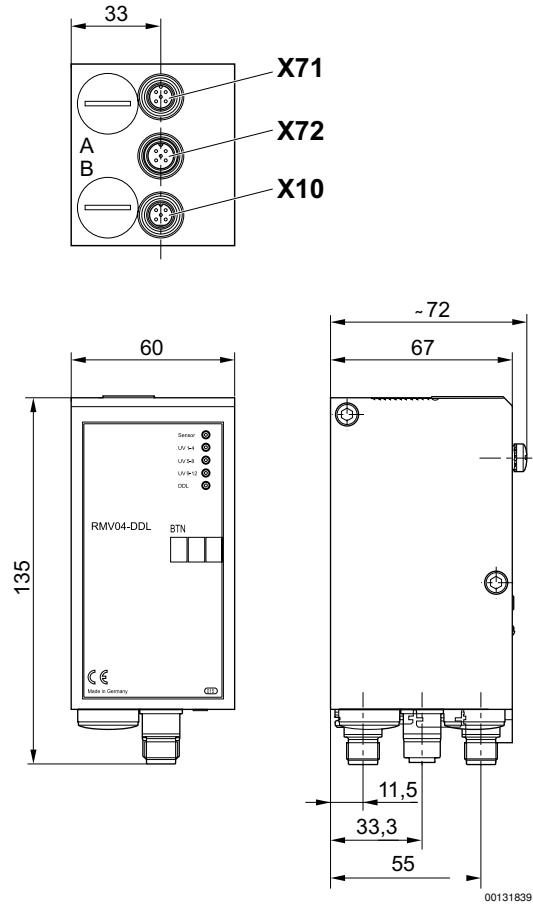
- Max. current in 0 V line: 4 A
- You will find assignment schemes for the product in the operating instructions, or contact the nearest Aventics sales office.

Port Bus IN	Port Bus OUT X72	power supply	Operating Instructions	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	R499050020	1.041	R412006880

Scope of delivery incl. 2 tie rod extensions and seal

Series HF04-XF
Accessories

Dimensions



Series HF04-XF

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 A
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.

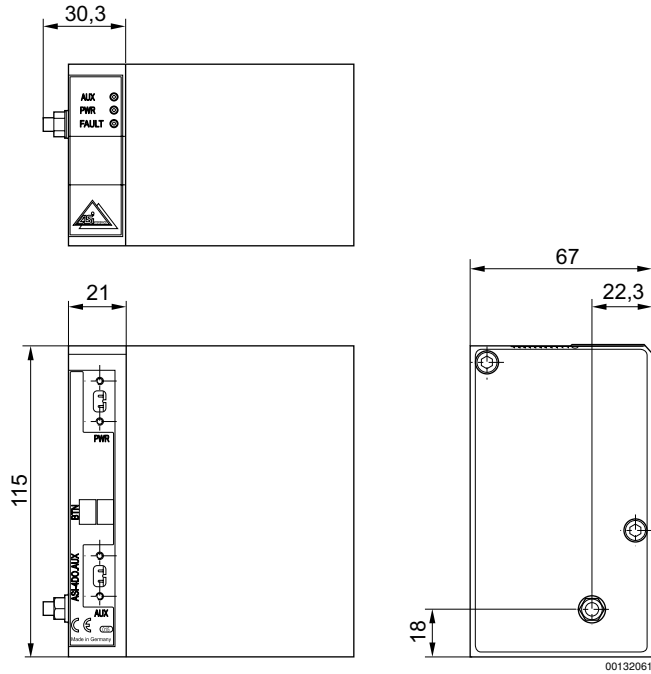
Field bus protocol	Port Bus	power supply	Number of outputs for valve coils	Power consumption electronics	Operating Instructions		Part No.
				[A]		[kg]	
AS-i	Yellow AS-i flat cable	Black AS-i flat cable	4 8	0.05 0.08	R499050017	0.14	R412003488 R412006761

Part No.	Fig.
R412003488	Fig. 1
R412006761	Fig. 2

Scope of delivery incl. seal and mounting screws

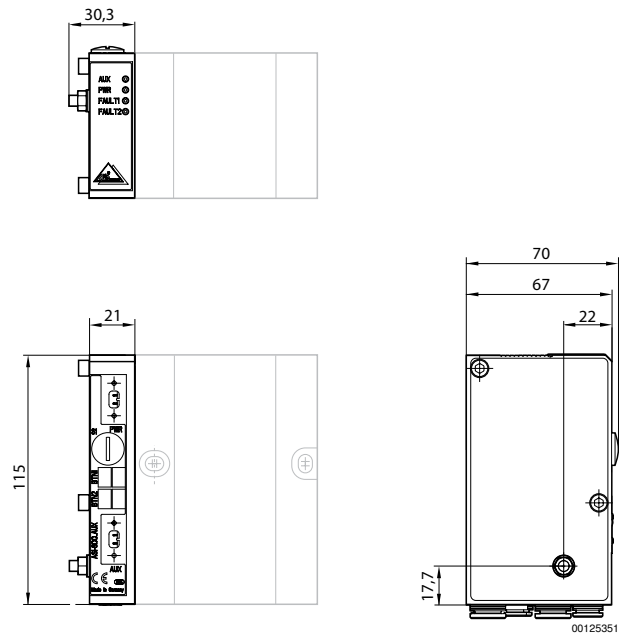
Series HF04-XF
Accessories

Fig. 1



AS-i, 4DO-AUX

Fig. 2



AS-i, 8DO-AUX

Series HF04-XF
 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 A
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 Bus	power supply	Number of inputs	Number of out-puts 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

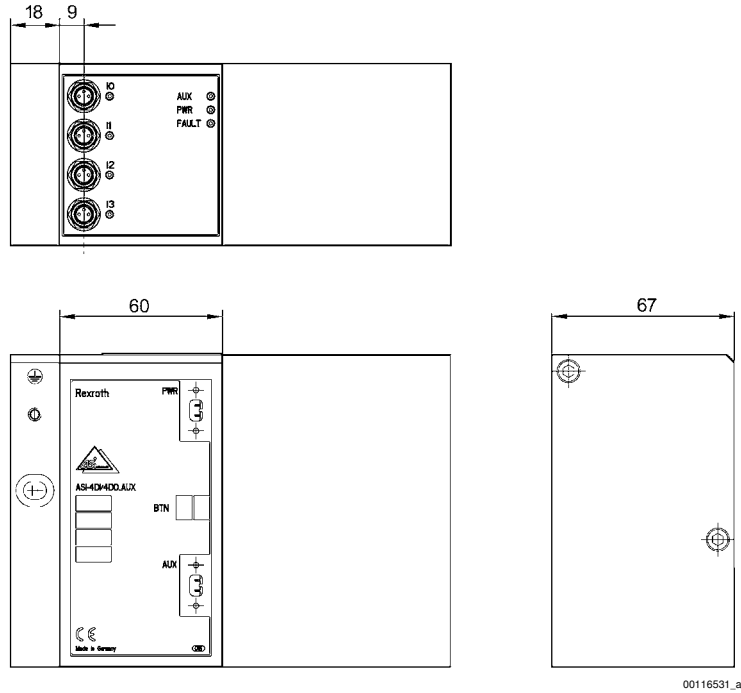
Part No.	Power consumption electronics	Operating Instructions		Fig.
	[A]			
R412003486	0.1	R499050017		Fig. 2
R412003487	0.05			Fig. 1

Scope of delivery incl. 2 tie rod extensions and seal

Valve systems ▶ Valve systems

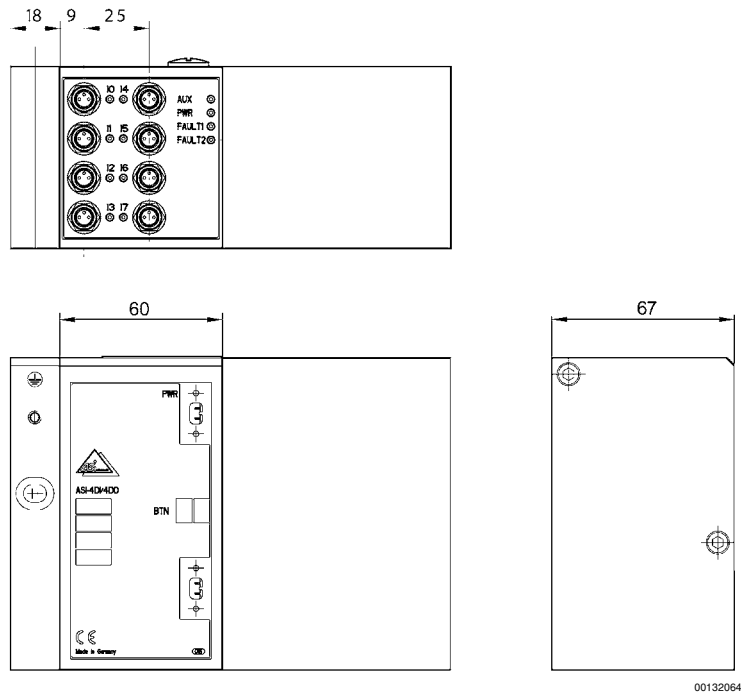
Series HF04-XF
Accessories

Fig. 1



4DI/4DO-AUX

Fig. 2



8DI/8DO-AUX

Series HF04-XF
Accessories

Pressure regulator subplate, Series HF04
▶ for series HF04, HF04-XF, LP04 ▶ Poppet valve

Working pressure min./max.	0.5 bar / 10 bar
Ambient temperature min./max.	-5 °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

Materials:	
Housing	Polyamide
Seals	Acrylonitrile Butadiene Rubber



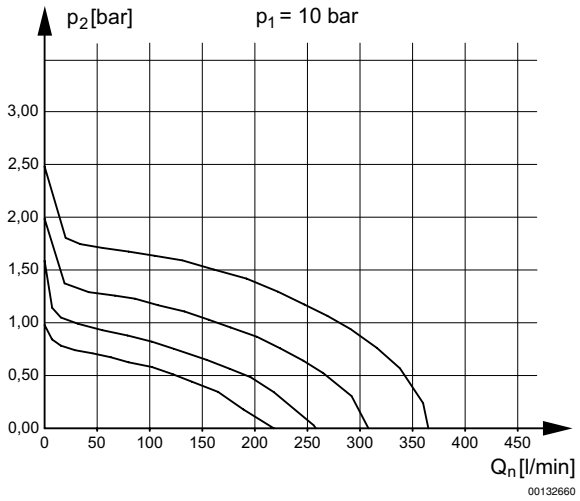
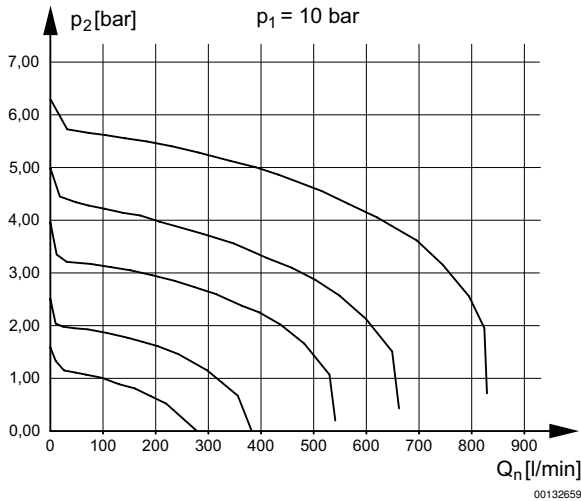
00133691

Technical Remarks	
■	Protection class when mounted: IP65
■	Please note that HF04 and LP03 series valve systems can only be retrofitted without conversion from 05/2008 onwards. Older valve systems do not have the required mounting holes in the subbases.

	Adjustment range	Weight	Fig.	Part No.
	min./max. [bar]	[kg]		
	0.5 / 8	0.1	Fig. 1	R412000999
	0.5 / 4		Fig. 2	R412008584

1) Pressure gauge, 0-1 MPa, with 4 mm push-in fitting.

Fig. 1 | **Fig. 2**



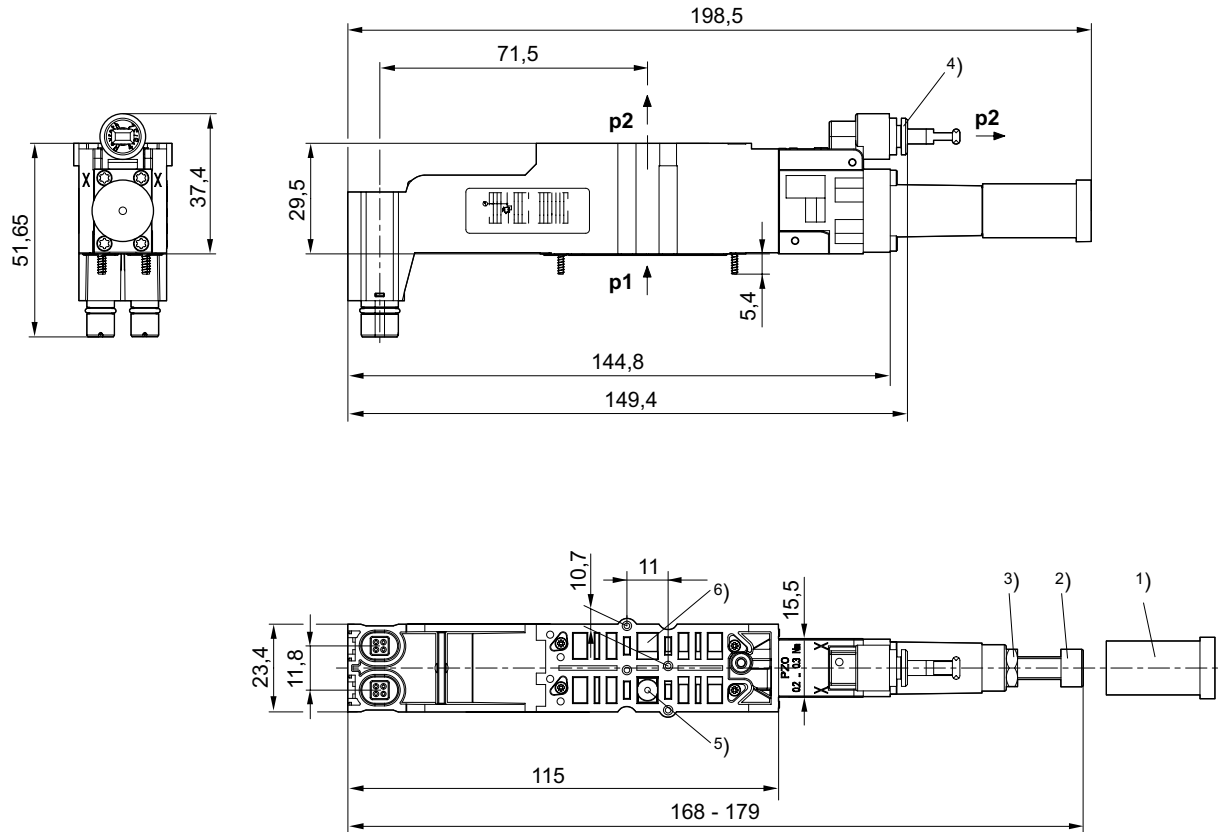
p1 = Working pressure
p2 = Secondary pressure
qn = Nominal flow

p1 = Working pressure
p2 = Secondary pressure
qn = Nominal flow

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

Dimensions



00132658

- 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

Pressure gauge

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



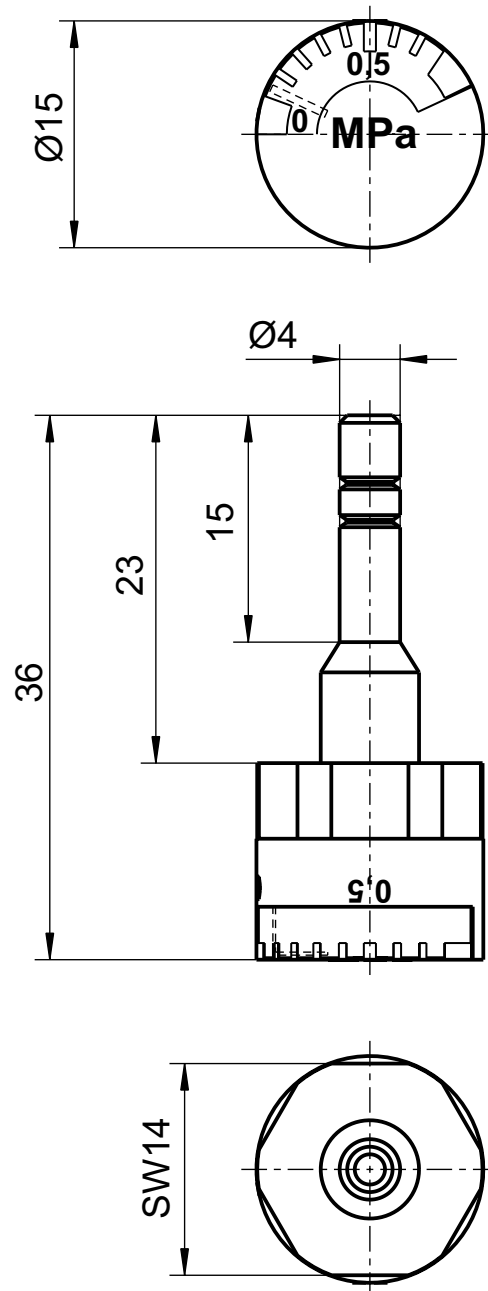
23190

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

Series HF04-XF
Accessories

	Compressed air connection	Nominal diameter	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

Valve systems ▶ Valve systems

Series HF04-XF
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	Part No.
		[kg]	
	Ø 8	0.08	R422003118
	Ø 6		R422003186
	Ø 4		R422003188

Minimum control pressure (depending on operating pressure)



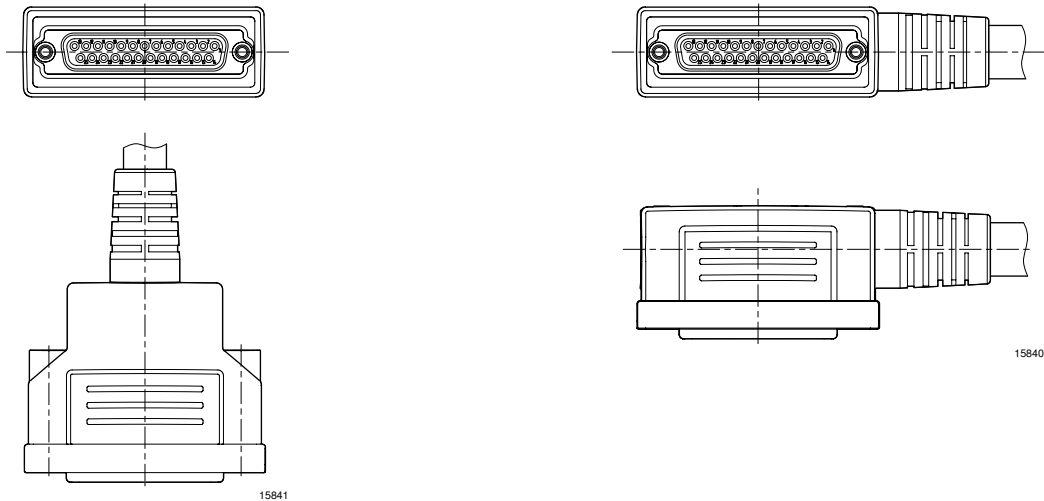
p1 = pressure on connections 2 and 4; p2 = switching pressure

Valve systems ▶ Valve systems

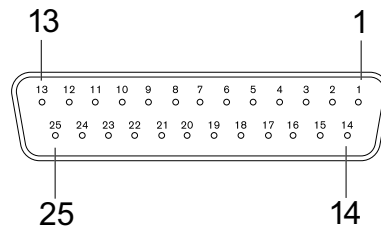
Series HF04-XF
Accessories

Cable exit	Cable sheath	Cable-Ø [mm]	Cable length L [m]		Fig.	Part No.
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 HF04-XF

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
Operational voltage DC, max.	24 V

Materials:	
Housing	Polyamide

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.

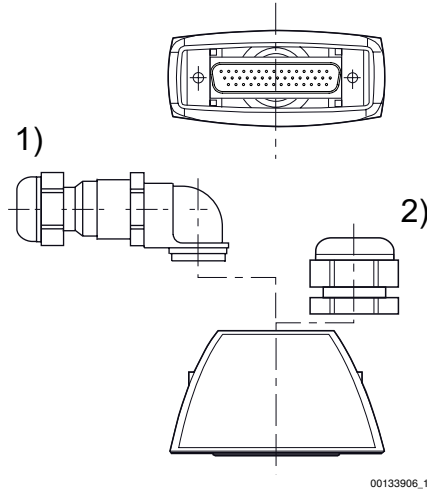
Cable exit	Housing color	Weight	Part No.
		[kg]	
straight 180° angled 90°	Black	0.042	R412011259

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

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

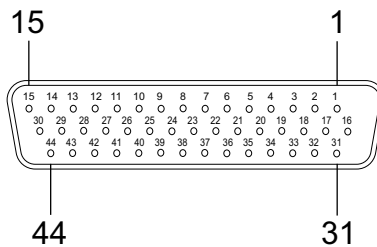
Fig. 1



- 1) Elbow fitting
- 2) tube nut

00133906_1

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 HF04-XF
 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
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

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

Fig. 1

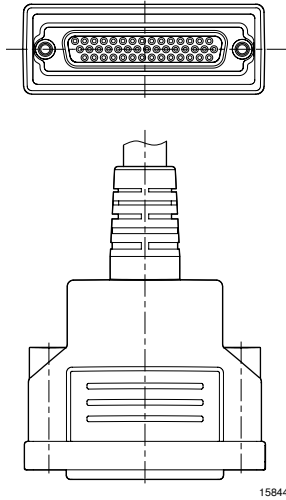
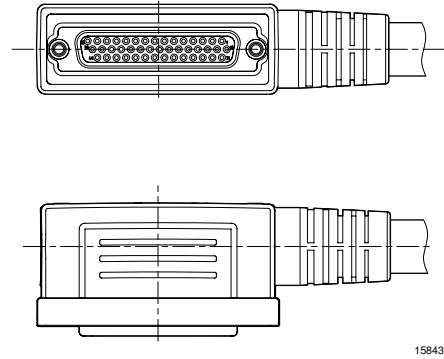
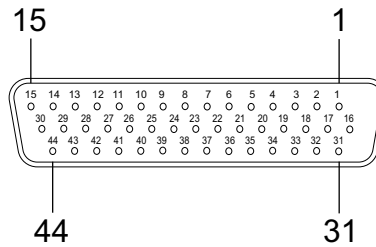


Fig. 2



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

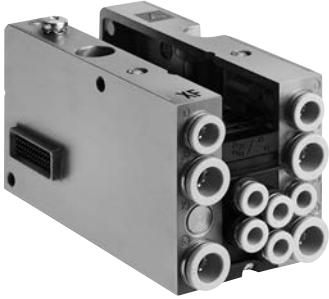
Pin	38	39	40	41	42	43	44
Color	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black

Series HF04-XF

Accessories

CKD kit, Series HF04-XF

- ▶ compressed air connection output: Ø 6 ▶ Can be assembled into blocks ▶ Double base plate principle
- ▶ Reversed pressure supply permissible ▶ Bus module extension possible ▶ I/O extension possible ▶ With collective pilot air exhaust



00135551

Function	VS
Version	Multipole
Ambient temperature min./max.	-5 °C / +50 °C
Medium temperature min./max.	+0 °C / +50 °C
Medium	Compressed air
Working pressure min./max.	See table below
Power supply connection	Plug, D-Sub, 44-pin
Number of valve positions	2
Grid dimension	11.8 mm
Rail mounting DIN EN 60715	TH35 x 15
Mounting screw	cross recessed DIN EN ISO 4757-Z0
Tightening torque for mounting screws	0.2 Nm+0,05
Exhaust (3,5)	With directional exhaust (3/5) Ports separated
Materials:	
Base plate	Polyamide
push-in fitting	Brass, nickel-plated
Seals	Acrylonitrile Butadiene Rubber
Screws	Steel
Tie-rods	Aluminum

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“.

Compressed air connection					Working pressure min./max.	Pilot	Part No.
Input	Output	Exhaust	Pilot control exhaust	Pilot connection			
[1]	[2 / 4]	[3 / 5]	[12]	[14]			
Ø 8	Ø 6	Ø 10	Ø 6	- Ø 6	3 / 8 -0.9 / 10	internal External	R412012796 R412012797

Part No.	DC operating voltage	Voltage tolerance DC
	[V]	
R412012796 R412012797	24 V	-10% / +10%

1 = plug-in connection Ø 8 mm
 2 and 4 = plug-in connection Ø 6 mm or thread connections M7
 3 and 5 = plug-in connection Ø 10 mm
 R = collected pilot exhaust, plug-in connection Ø 6 mm
 X = external pilot, plug-in connection Ø 6 mm, connection X plugged with internal pilot control

Valve systems ▶ Valve systems

Series HF04-XF
Accessories

Blanking plate, Series HF04



1695

Ambient temperature min./max.	-5 °C / +50 °C
Medium	Compressed air
Working pressure min./max.	-0.9 bar / 10 bar
Mounting screw	cross recessed DIN EN ISO 4757-Z0
Tightening torque for mounting screws	0.2 Nm±0,1

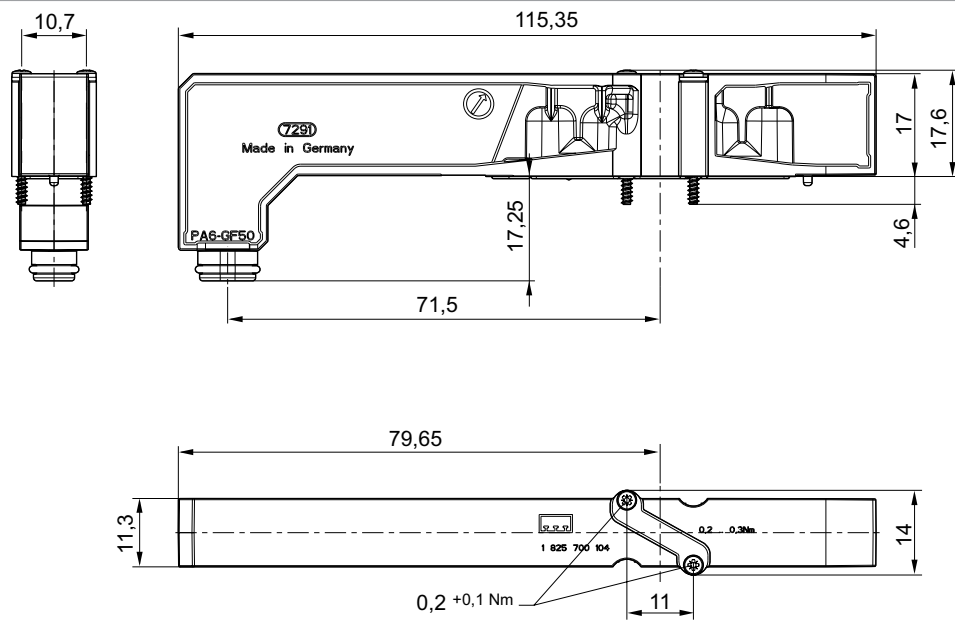
Materials:	
Base plate	Polyamide
Seals	Nitrile rubber

Technical Remarks

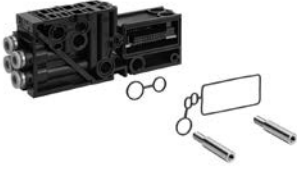
- The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of compressed air must remain constant during the life cycle.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

Type	Delivery quantity	Weight [kg]	Part No.
Blanking plate, incl. sealing kit, 2x mounting screws	1	0.082	1825700104

Dimensions



20459

Series HF04-XF
Accessories
Accessories, Series HF04-XF


00137270

Part No.	Type	Weight [kg]	Delivery quantity [Piece]						
1827030206	Plug box, 25-pin, complete	0.12	1						
R412013379	HD multipole plug box, 44-pin, complete	0.12	1						
R412012625	Function base plate for 2 single solenoid valves, push-in fitting Ø6 mm, 2 tie rod extensions, and 1 sealing kit	0.12	1						
R412012627	Function base plate for 2 double solenoid valves, push-in fitting Ø6 mm, 2 tie rod extensions, and 1 sealing kit	0.13	1						
R412012628	Function base plate for 2 double solenoid valves, M7 thread connection, 2 tie rod extensions, and 1 sealing kit	0.132	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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клапанных систем AVENTICS серии ES05**

Используйте представленную продукцию AVENTICS только в промышленном секторе. Перед началом использования изделия внимательно и полностью прочитайте документацию по изделию. Соблюдайте действующие инструкции и законы соответствующей страны. Для гарантии безопасного использования изделий при их интеграции в установки учитывайте данные изготовителя системы. Приведенные данные служат исключительно для описания изделия. Наши данные не могут быть использованы для заключения относительно определенного свойства или пригодности для определенной области применения. Данная информация не освобождает пользователя от собственных оценок и самостоятельных проверок. Необходимо учитывать, что изделия подвергаются естественному процессу износа и старения.

29-06-2016

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