

Valve system, Series CL03

- Configurable valve systems, suitable for use in food processing



Blocking principle	Single base plate principle
Working pressure min./max.	-13 145 psi
Control pressure min./max.	44 145 psi
Ambient temperature min./max.	32 122 °F
Medium temperature min./max.	32 122 °F
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 5 mg/m³
Nominal flow Qn	1.12 Cv
Operational voltage electronics	24 V DC
Number of valve positions,max.	18
Protection class, with connection	IP65, IP67, IP69K
DC operating voltage	24 V

Overview of variants

Version	You have the following options:
Multipole	Electrical connection Multipole suitable for use in food processing
Direct field bus connection	Supported fieldbus protocols: PROFIBUS DP CANopen DeviceNet PROFINET IO EtherNET/IP

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

See the following pages on the series for technical data on individual components.

Material	
End plate	Polyamide, fiber-glass reinforced
Seal	Hydrogenated acrylonitrile butadiene rubber
Base plate	Polyamide, fiber-glass reinforced



Dimensions in mm Multipole plug



A = port 1: G 1/2

B = for 2-ported and 4-ported subbases: all ports G 1/4 or push-in 8 mm. For 5-ported subbases: all ports G 1/4 or push-in 10 mm C = ports 3 and 5: G 3/8

D = external supply and exhaust for pilot valves and ventilation port: G 1/8

E = mounting thread M6, max. thread depth 15 mm

F = 57.25 + (number of 2-ported and 4-ported subbases) * 30 + (number of 5-ported subbases) * 36

G = mounting on 4-ported subbase 15.25 + (number of 2-ported and 4-ported subbases) * 30 + (number of 5-ported subbases) * 36

G = mounting on 5-ported subbase 12.25 + (number of 2-ported and 4-ported subbases) * 30 + (number of 5-ported subbases) * 36

L = 87.5 + (number of 2-ported and 4-ported subbases) * 30 + (number of 5-ported subbases) * 36

H = 89.15 (IP69K version)

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



Dimensions in mm Direct field bus connection (BDC)



G = mounting on 4-ported subbase 0.60" + (number of 2-ported and 4-ported subbases) * 1.18" + (number of 5-ported subbases) * 1.42"

G = mounting on 5-ported subbase 0.48" + (number of 2-ported and 4-ported subbases) * 1.18" + (number of 5-ported subbases) * 1.42"

L = 5.01" + (number of 2-ported and 4-ported subbases) * 1.18" + (number of 5-ported subbases) * 1.42"

H = 3.51" (IP69K version)

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



2x3/2-directional valve, Series CL03-EV

- 2x3/2
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- NO/NC
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle -13 ... 145 psi 44 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 16 ms 25 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO		Compressed air connection	Compressed air connection
			Input	Output
R412017959		NO/NC	Ø 8	Ø 8
R412017960		NO/NC	Ø 8	Ø 8
R412017961		NO/NC	G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412017959	Ø 8	Ø 4
R412017960	Ø 8	Ø 4
R412017961	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412017959	Ø 4	24 V	-15% / +20%
R412017960	Ø 4	24 V	-15% / +20%
R412017961	M5	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	push-in fitting
	DC	b	C-value	
R412017959	0.35 W	0.22	2.9 l/(s*bar)	Brass, nickel-plated
R412017960	0.35 W	0.22	2.9 l/(s*bar)	Stainless steel
R412017961	0.35 W	0.22	2.9 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



2x3/2-directional valve, Series CL03-EV

- 2x3/2
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- NO/NO
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 16 ms 25 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO		Compressed air connection	Compressed air connection
			Input	Output
R412017956		NO/NO	Ø 8	Ø 8
R412017957		NO/NO	Ø 8	Ø 8
R412017958		NO/NO	G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412017956	Ø 8	Ø 4
R412017957	Ø 8	Ø 4
R412017958	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412017956	Ø 4	24 V	-15% / +20%
R412017957	Ø 4	24 V	-15% / +20%
R412017958	M5	24 V	-15% / +20%

Part No.	Power consumption DC	Flow conductance b	Flow conductance C-value	push-in fitting
R412017956	0.35 W	0.22	2.9 l/(s*bar)	Brass, nickel-plated
R412017957	0.35 W	0.22	2.9 l/(s*bar)	Stainless steel
R412017958	0.35 W	0.22	2.9 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



2x3/2-directional valve, Series CL03-EV

- 2x3/2
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- NC/NC
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 16 ms 25 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO		Compressed air connection	Compressed air connection
			Input	Output
R412021814		NC/NC	Ø 8	Ø 8
R412021815		NC/NC	Ø 8	Ø 8
R412021816		NC/NC	G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412021814	Ø 8	Ø 4
R412021815	Ø 8	Ø 4
R412021816	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412021814	Ø 4	24 V	-15% / +20%
R412021815	Ø 4	24 V	-15% / +20%
R412021816	M5	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	push-in fitting
	DC	b	C-value	
R412021814	0.35 W	0.22	2.9 l/(s*bar)	Brass, nickel-plated
R412021815	0.35 W	0.22	2.9 l/(s*bar)	Stainless steel
R412021816	0.35 W	0.22	2.9 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



5/2-directional valve, Series CL03-EV

- 5/2
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- single solenoid
- with spring/air spring return
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 44 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 16 ms 23 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO	Compressed air connection	Compressed air connection
		Input	Output
R412017962		Ø 8	Ø 8
R412017963		Ø 8	Ø 8
R412017964		G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412017962	Ø 8	Ø 4
R412017963	Ø 8	Ø 4
R412017964	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412017962	Ø 4	24 V	-15% / +20%
R412017963	Ø 4	24 V	-15% / +20%
R412017964	M5	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	push-in fitting
	DC	b	C-value	
R412017962	0.35 W	0.22	2.9 l/(s*bar)	Brass, nickel-plated
R412017963	0.35 W	0.22	2.9 l/(s*bar)	Stainless steel
R412017964	0.35 W	0.22	2.9 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



5/2-directional valve, Series CL03-EV

- 5/2
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- Double solenoid
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 44 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 13 ms 15 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO	Compressed air connection	Compressed air connection
		Input	Output
R412017950		Ø 8	Ø 8
R412017951		Ø 8	Ø 8
R412017952		G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412017950	Ø 8	Ø 4
R412017951	Ø 8	Ø 4
R412017952	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412017950	Ø 4	24 V	-15% / +20%
R412017951	Ø 4	24 V	-15% / +20%
R412017952	M5	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	push-in fitting
	DC	b	C-value	
R412017950	0.35 W	0.22	2.9 l/(s*bar)	Brass, nickel-plated
R412017951	0.35 W	0.22	2.9 l/(s*bar)	Stainless steel
R412017952	0.35 W	0.22	2.9 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



5/3-directional valve, Series CL03-EV

- 5/3
- Qn = 0.711 Cv
- Pilot valve width : 16 mm
- closed center
- Plate connection
- Compressed air connection output : Ø 8, G 1/8
- Manual override : with detent
- Pilot : External
- suitable for use in food processing





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Tightening torque tolerance Weight

Spool valve, positive overlapping Electrically External Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 44 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.711 Cv With collective pilot air exhaust IP65, IP67, IP69K Z-diode Protected against polarity reversal Yellow 100 % 14 ms 15 ms M5 1.48 ft./lbs. ±0,2 mT 0.364 lbs



Technical data

Part No.	MO	Compressed air connection	Compressed air connection
		Input	Output
R412017953		Ø 8	Ø 8
R412017954		Ø 8	Ø 8
R412017955		G 1/8	G 1/8

Part No.	Compressed air connection	Compressed air connection
	Exhaust	Pilot Input
R412017953	Ø 8	Ø 4
R412017954	Ø 8	Ø 4
R412017955	G 1/8	M5

Part No.	Compressed air connection	Operational	Voltage tolerance
		voltage	
	Pilot Exhaust	DC	DC
R412017953	Ø 4	24 V	-15% / +20%
R412017954	Ø 4	24 V	-15% / +20%
R412017955	M5	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	push-in fitting
	DC	b	C-value	
R412017953	0.35 W	0.39	2.5 l/(s*bar)	Brass, nickel-plated
R412017954	0.35 W	0.39	2.5 l/(s*bar)	Stainless steel
R412017955	0.35 W	0.39	2.5 l/(s*bar)	-

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot valve is UL (Underwriters Laboratories) certified.

For series QR2 fittings, see "Pneumatic connection technologies".

The inner valve can be replaced by all series CL03 valves described under "Valve systems".

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber
Threaded bushing	Brass, nickel-plated, Stainless steel



Dimensions



Electrical connection:

- 1) Not connected
- 2) Solenoid 12
- 3) Ground
- 4) Solenoid 14



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

- For series : HF03-LG, CL03
- 2x3/2
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : with detent
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 16 ms 25 ms cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.		MO		Operational voltage	Voltage tolerance
				DC	DC
0820055101	áci is áci is		NC/NC	24 V	-15% / +20%
0820055201	81226 81226		NO/NO	24 V	-15% / +20%
0820055301	della della		NC/NO	24 V	-15% / +20%
0820055311	destas destas		NO/NC	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
0820055101	0.35 W	0.22	2.97 l/(s*bar)
0820055201	0.35 W	0.22	2.97 l/(s*bar)
0820055301	0.35 W	0.22	2.97 l/(s*bar)
0820055311	0.35 W	0.22	2.97 l/(s*bar)

Page 23 | AVENTICS



Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



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
- 2x3/2
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : without detent
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 16 ms 25 ms cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.		МО		Operational voltage	Voltage tolerance
				DC	DC
0820055102	and the state of		NC/NC	24 V	-15% / +20%
0820055202			NO/NO	24 V	-15% / +20%
0820055302			NC/NO	24 V	-15% / +20%
0820055312			NO/NC	24 V	-15% / +20%
			•	·	

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
0820055102	0.35 W	0.22	2.97 l/(s*bar)
0820055202	0.35 W	0.22	2.97 l/(s*bar)
0820055302	0.35 W	0.22	2.97 l/(s*bar)
0820055312	0.35 W	0.22	2.97 l/(s*bar)

Page 26 | AVENTICS



Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



Dimensions



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



2x3/2-directional valve, Series HF02-LG

- For series : HF02-LG, CL03
- 2x3/2
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : with detent
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 20 ms 33 ms cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

Part No.		МО		Operational voltage	Voltage tolerance
				DC	DC
R424B10512	ànna ànna		NC/NC	24 V	-15% / +20%
R424B10510	actos actos		NO/NO	24 V	-15% / +20%
R424B10514	àstine àstine		NC/NO	24 V	-15% / +20%
11727010014			110/110	と ゴ V	10 /0 / 120 /0

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
R424B10512	0.35 W	0.4	5.87 l/(s*bar)
R424B10510	0.35 W	0.4	5.87 l/(s*bar)
R424B10514	0.35 W	0.4	5.87 l/(s*bar)

Page 29 | AVENTICS



Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



2x3/2-directional valve, Series HF02-LG

- For series : HF02-LG, CL03
- 2x3/2
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : without detent
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 20 ms 33 ms cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

Part No.		МО		Operational voltage	Voltage tolerance
				DC	DC
R424B10511	and the addition		NC/NC	24 V	-15% / +20%
R424B10339	8.120k 8.120k		NO/NO	24 V	-15% / +20%
R424B10513			NC/NO	24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
R424B10511	0.35 W	0.4	5.87 l/(s*bar)
R424B10339	0.35 W	0.4	5.87 l/(s*bar)
R424B10513	0.35 W	0.4	5.87 l/(s*bar)

Page 32 | AVENTICS



Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



5/2-directional valve, Series HF03-LG

- For series : HF03-LG, CL03

- 5/2
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : with detent
- single solenoid, Double solenoid
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.		МО		Ope vc	rational ltage		Voltage tolerance
					DC		DC
0820055051				2	24 V		-15% / +20%
0820055501				2	24 V		-15% / +20%
0820055001				2	24 V		-15% / +20%
Part No.	Power consu	umption	Flow	conductance	Flow conductan	ce	Typ. switch-on time

				21
	DC	b	C-value	
0820055051	0.35 W	0.22	2.98 l/(s*bar)	16 ms
0820055501	0.35 W	0.22	2.97 l/(s*bar)	13 ms
0820055001	0.35 W	0.22	2.98 l/(s*bar)	15 ms



Part No.	Typ. switch-off time
0820055051	23 ms
0820055501	15 ms
0820055001	23 ms

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



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
- 5/2
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : without detent
- single solenoid, Double solenoid
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.	МО	Operational voltage	Voltage tolerance
		DC	DC
0820055052		24 V	-15% / +20%
0820055502		24 V	-15% / +20%
0820055002		24 V	-15% / +20%

Part No.	Power consumption	Flow conductance	Flow conductance	Typ. switch-on time
	DC	b	C-value	
0820055052	0.35 W	0.22	2.98 l/(s*bar)	16 ms
0820055502	0.35 W	0.22	2.97 l/(s*bar)	13 ms
0820055002	0.35 W	0.22	2.98 l/(s*bar)	15 ms



Part No.	Typ. switch-off time
0820055052	23 ms
0820055502	15 ms
0820055002	23 ms

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



Dimensions



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



5/2-directional valve, Series HF02-LG

- For series : HF02-LG, CL03

- 5/2
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- Plate connection
- Can be assembled into blocks
- Manual override : with detent
- single solenoid
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

Part No.		MO		Оре	rational		Voltage tolerance
				VC	ltage		
					DC		DC
0820056051	$\begin{array}{c c} \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array} \end{array} = \begin{array}{c c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array} \end{array} = \begin{array}{c c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $			2	24 V		-15% / +20%
0820056501				2	24 V		-15% / +20%
0820056001				2	24 V		-15% / +20%
Part No.	Power consu	Imption	Flow	conductance	Flow conductar	ice	Typ. switch-on time
	DC			b	C-value		

	DC	b	C-value	
0820056051	0.35 W	0.38	6.13 l/(s*bar)	13 ms
0820056501	0.35 W	0.38	6.13 l/(s*bar)	13 ms
0820056001	0.35 W	0.38	6.13 l/(s*bar)	19 ms



Part No.	Typ. switch-off time
0820056051	40 ms
0820056501	15 ms
0820056001	30 ms

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



5/2-directional valve, Series HF02-LG

- For series : HF02-LG, CL03
- 5/2
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- Plate connection
- Manual override : without detent
- single solenoid, Double solenoid
- Pilot : External, Internal



Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

0820056002

Part No.		MC		Ope	erational bltage		Voltage tolerance
					DC		DC
0820056052			_		24 V		-15% / +20%
0820056502				4	24 V		-15% / +20%
0820056002			_		24 V		-15% / +20%
Part No.	Power consur	nption	Flow	conductance	Flow conductant	ce	Typ. switch-on time
	DC			b	C-value		
0820056052	0.35 W			0.38	6.13 l/(s*bar)		13 ms
0820056502	0.35 W			0.38	6.13 l/(s*bar)		13 ms

0.38

6.13 l/(s*bar)

19 ms

0.35 W



Part No.	Typ. switch-off time
0820056052	40 ms
0820056502	15 ms
0820056002	30 ms

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



5/3-directional valve, Series HF03-LG

- For series : HF03-LG, CL03
- 5/3
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- closed center
- Plate connection
- Manual override : with detent
- Pilot : External, Internal





Version
Activation
Pilot
Sealing principle
Blocking principle
Working pressure min./max.
Control pressure min./max.
Ambient temperature min./max.
Medium temperature min./max.
Medium
Max. particle size
Oil content of compressed air
Nominal flow Qn
Pilot control exhaust
Protection class,with connection
Protective circuit
Reverse polarity protection
LED status display
Duty cycle
Typ. switch-on time
Typ. switch-off time
mounting screws
Mounting screw tightening torque
Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 14 ms 15 ms cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.	MO	Operational voltage	Voltage tolerance		Power consumption
		DC	D	С	DC
0820055601		24 V	-15% / +20%		0.35 W
Part No.		Flow conductance		Flow conductance	
		b		C-value	
0820055601		0.23		2.79 l/(s*bar)	

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override



Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



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
- 5/3
- Qn = 0.864 Cv
- Pilot valve width : 16 mm
- closed center
- Plate connection
- Manual override : without detent
- Pilot : External, Internal





Version
Activation
Pilot
Sealing principle
Blocking principle
Working pressure min./max.
Control pressure min./max.
Ambient temperature min./max.
Medium temperature min./max.
Medium
Max. particle size
Oil content of compressed air
Nominal flow Qn
Pilot control exhaust
Protection class,with connection
Protective circuit
Reverse polarity protection
LED status display
Duty cycle
Typ. switch-on time
Typ. switch-off time
mounting screws
Mounting screw tightening torque
Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 0.864 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 14 ms 15 ms cross recessed DIN EN ISO 4757-Z1 0.96 ft./lbs. 0.181 lbs

Technical data

Part No.	МО	Operational voltage	Voltage tolerance		Power consumption	
		DC	D		DC	
0820055602		24 V	-15% / +20%		0.35 W	
Part No.		Flow conductance		Flow conductance		
		b			C-value	
0820055602		0.23		2.79 l/(s*bar)		

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override



Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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.

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber



Dimensions



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



5/3-directional valve, Series HF02-LG

- For series : HF02-LG, CL03

- 5/3
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- closed center
- Plate connection
- Manual override : with detent
- Pilot : External, Internal





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 14 ms 15 ms cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

Part No.	МО	Operational voltage	Voltage tolerance		Power consumption
		DC	D	С	DC
0820056601		24 V	-15% / +20%		0.35 W
Part No.		Flow conductance		Flow conductance	
		b		C-value	
0820056601		0.4		5.87 l/(s*bar)	

Nominal flow Qn at 87 psi and $\Delta p = 14.5$ psi



Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



5/3-directional valve, Series HF02-LG

- For series : HF02-LG, CL03
- 5/3
- Qn = 1.42 Cv
- Pilot valve width : 16 mm
- closed center
- Plate connection
- Manual override : without detent
- Pilot : External, Internal





Version Activation Pilot Sealing principle Blocking principle Certificates Working pressure min./max. Control pressure min./max. Ambient temperature min./max. Medium temperature min./max. Medium Max. particle size Oil content of compressed air Nominal flow Qn Pilot control exhaust Protection class, with connection Protective circuit Reverse polarity protection LED status display Duty cycle Typ. switch-on time Typ. switch-off time mounting screws Mounting screw tightening torque Weight

Spool valve, positive overlapping Electrically External, Internal Soft sealing Single base plate principle UR (Underwriters Laboratories) -13 ... 145 psi 37 ... 145 psi 32 ... 122 °F 32 ... 122 °F Compressed air 5 µm 0 ... 5 mg/m³ 1.42 Cv With collective pilot air exhaust IP65 Z-diode Protected against polarity reversal Yellow 100 % 14 ms 15 ms cross recessed DIN EN ISO 4757-Z2 0.96 ft./lbs. 0.317 lbs

Technical data

Part No.	МО	Operational voltage	Voltage tolerance		Power consumption	
		DC	D	C	DC	
0820056602		24 V	-15% / +20%		0.35 W	
Part No.		Flow conductance			Flow conductance	
		b		C-value		
0820056602		0.4			5.87 l/(s*bar)	

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override



Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F. The oil content of compressed air must remain constant during the life cycle. Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system. The UL certification refers to the pilot valve.

Material	
Housing	Polyamide
Seals	Acrylonitrile butadiene rubber, Hydrogenated acrylonitrile butadiene rubber



Dimensions



1) Mounting screw: X-slot DIN EN ISO 4757-Z2 tightening torque for mounting screw [Nm]: 1.3



Blanking plate

- for HF02-LG



Working pressure min./max.	-13 145 p
Ambient temperature min./max.	23 122 °F
Medium	Compresse
Mounting screw	cross reces
Tightening torque for mounting screws	0.81 ft./lbs.
Weight	0.205 lbs

-13 ... 145 psi 23 ... 122 °F Compressed air cross recessed DIN EN ISO 4757-Z2 0.81 ft./lbs. 0.205 lbs

Technical data

Part No.	Туре	Delivery unit
1825A00087	Blanking plate, incl. sealing kit, 1x mounting screws	1 piece

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Material	
Base plate	Polyamide
Seal	Nitrile rubber



Dimensions





Blanking plate

- for HF03-LG



Working pressure min./max.	-13 145 psi
Ambient temperature min./max.	23 122 °F
Medium	Compressed air
Mounting screw	cross recessed DIN EN ISO 4757-Z1
Tightening torque for mounting screws	0.81 ft./lbs.
Weight	0.205 lbs

Technical data

Part No.	Туре
1825A00085	Blanking plate, incl. sealing kit, 1x mounting screws

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).



Dimensions





Base plate

- IP69K

- Compressed air connection output G 1/4, Ø 8, Ø 10
- Can be assembled into blocks
- for CL03, HF03-LG, HF02-LG



Medium Protection class Weight Compressed air IP69K See table below

Technical data

Part No.	Туре	Compressed air connection Input [1]
2631301000	2 ports	-
2631301070	2 push-in fittings	-
2631301060	2 push-in fittings, stainless steel	-
2631401000	4 ports	-
2631401020	4 push-in fittings	-
2631401010	4 push-in fittings, stainless steel	-
R414006056	5 push-in fittings	Ø 10
R414006057	5 push-in fittings	Ø 10
R414006058	5 push-in fittings	G 1/4
R414006059	5 push-in fittings	G 1/4

Part No.	Compressed air connection	Compressed air connection	Weight	Fig.
	Output	Exhaust		
	[2 / 4]	[3 / 5]		
2631301000	G 1/4	-	-	Fig. 1
2631301070	Ø 8	-	-	Fig. 1
2631301060	Ø 8	-	-	Fig. 1
2631401000	G 1/4	G 1/4	-	Fig. 1
2631401020	Ø 8	Ø 8	-	Fig. 1
2631401010	Ø 8	Ø 8	-	Fig. 1
R414006056	Ø 10	Ø 10	0.452 lbs	Fig. 2
R414006057	Ø 10	Ø 10	0.452 lbs	Fig. 2
R414006058	G 1/4	G 1/4	0.386 lbs	Fig. 2
R414006059	G 1/4	G 1/4	0.386 lbs	Fig. 2



Part No.	
2631301000	-
2631301070	-
2631301060	-
2631401000	-
2631401020	-
2631401010	1)
R414006056	1)
R414006057	2)
R414006058	1)
R414006059	2)

1) Subbase for individual control

2) Subbase for parallel control of next subbase (dual signal)

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Material	
Base plate	Polyamide, fiber-glass reinforced
Seal	Hydrogenated acrylonitrile butadiene rubber

Fig. 1 CL03 HF03-LG



1) Subbase 2) plug 3) circuit board holder 4) seal 5) circuit board



Fig. 2 CL03 HF02-LG



1) Subbase 2) Circuit board holder 3) Seal 4) Circuit board



base plates -Inch

- Compressed air connection output 3/8", 5/16" (Ø 8)
- Can be assembled into blocks



Medium Protection class Weight Compressed air IP69K See table below

Technical data

Part No.	Туре	Compressed air connection Output [2 / 4]
R402003312	2 push-in fittings, stainless steel	3/8″
2631401070	4 push-in fittings	5/16″ (Ø 8)
2631401060	4 push-in fittings, stainless steel	5/16″ (Ø 8)
R402003313	4 push-in fittings, stainless steel	3/8″

Part No.	Compressed air connection Exhaust [3 / 5]	Weight
R402003312	-	0.377 lbs
2631401070	5/16″ (Ø 8)	0.47 lbs
2631401060	5/16″ (Ø 8)	0.463 lbs
R402003313	3/8″	0.406 lbs

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Material	
Base plate	Polyamide, fiber-glass reinforced
Seal	Hydrogenated acrylonitrile butadiene rubber

Fig. 1 CL03 HF03-LG



1) Subbase 2) plug 3) circuit board holder 4) seal 5) circuit board

Page 68 | AVENTICS



Series CL03

- Can be assembled into blocks



Medium Weight Compressed air See table below End plate kit: external pilot

Technical data

Part No.	Туре	Compressed air connection Input [1]	Compressed air connection Exhaust [3 / 5]	Weight
2631380000	metric	G 1/2	-	-
2631380060	inch	1/2-14 NPTF	-	-
R414006061	metric	G 1/2	G 1/2	0.465 lbs
R414006064	inch	1/2-14 NPTF	1/2-14 NPTF	0.712 lbs

Part No.	Fig.
2631380000	Fig. 1
2631380060	Fig. 1
R414006061	Fig. 2
R414006064	Fig. 2

Only external pilot possible, additional ports 3 and 5

Technical information

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 27 $^\circ\text{F}$ under ambient and medium temperature and may not exceed 5.4 $^\circ\text{F}$.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Material	
Base plate	Polyamide, fiber-glass reinforced
Seal	Hydrogenated acrylonitrile butadiene rubber
Screws	Stainless steel



Fig. 1



1) End plate X, R 2) Seal 3) Blanking plate 4) Cover 5) Screw M4x20 6) Screw M5x40 Additionally for inch versions:

7) Adapter G 1/8 - NPTF 1/8 8) Adapter G 1/2 - NPTF 1/2 9) Seal for adapter 10) Seal for adapter





1) End plate X, R 2) O-ring 3) Screws M5x40 Additionally for inch versions:

4) Seal for adapter NPTF 1/2 5) Adapter G 1/2 - NPTF 1/2 6) Adapter G 1/8 - NPTF 1/8 7) Seal for adapter NPTF 1/8



Left end plate

- Can be assembled into blocks



Medium Protection class Weight Compressed air IP69K See table below

Technical data

Part No.	Туре	Compressed air connection	Compressed air connection	Weight
		Input	Exhaust	
		[1]	[3 / 5]	
2631481100	metric	G 1/2	G 3/8	0.551 lbs
2631481160	inch	1/2-14 NPTF	3/8-18 NPTF	0.922 lbs

Multiple plug (48-pin)

Technical information

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Material	
Base plate	Polyamide, fiber-glass reinforced
Seal	Hydrogenated acrylonitrile butadiene rubber
Screws	Stainless steel

Overview drawing



EMERSON

1) Connection piece 2) Seal 3) Circuit board connection piece 4) Screws 5) Screw M5x30 For additional inch-versions: 6) Adapter G 1/8 - NPTF 1/8 7) Adapter G 3/8 8) Seal for connecting fittings 9) Seal


Round plug connector, Series CON-RD

- Socket, M12x1, 4-pin, A-coded, straight, 180°
- Plug, straight, 180°
- with cable
- unshielded



Ambient temperature min./max. Protection class Weight -13 ... 158 °F IP69K See table below

1)	—— BN
2 >	—— WH
3	BU
4 >	
4)	DK

Technical data

Part No.	Max. current	Number of wires	Weight
R402003760	4 A	4	0.569 lbs
R402003761	4 A	4	1.07 lbs
R402003762	4 A	4	1.54 lbs

Technical information

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

Material	
Seals	Polyvinyl chloride
Cable sheath	Polyvinyl chloride



Dimensions



L = cable length

Pin assignments

Plug pin assignment



Pin assignment socket



Page 75 | AVENTICS



Round plug connector DUO, Series CON-RD

- Socket, M12x1, 4-pin, A-coded, straight, 180°

- unshielded



Connection type	Screws
Ambient temperature min./max.	32 122 °F
Operational voltage	48 V, AC/DC
Protection class	IP67

Technical data

Part No.	Version	Max. current
R402003790	duo plug	4 A

Technical information

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

Material	
Housing	Stainless steel, Polybutyleneterephthalate
Seals	Fluorocaoutchouc



Dimensions



Pin assignments

Pin assignment socket



(1) BN=brown(2) WH=white(3) BU=blue

(4) BK=black



Round plug connector, Series CON-RD

- Plug, M12x1, 5-pin, A-coded, straight, 180°
- for CANopen, DeviceNet
- shielded



Connection type	Screws
Ambient temperature min./max.	32 122 °F
Operational	48 V, AC/DC
voltage	
Protection class	IP69K

Technical data

Part No.	Version	Max. current
R402003758	Data plug output	4 A

Technical information

Material	
Housing	Stainless steel

Dimensions





Pin assignments

Plug pin assignment





Round plug connector, Series CON-RD

- Plug, M12x1, 5-pin, B-coded, straight, 180°
- for PROFIBUS DP
- shielded



Connection type	Screws
Ambient temperature min./max.	32 122 °F
Operational	48 V, AC/DC
voltage	
Protection class	IP69K

Technical data

Part No.	Version	Max. current
R402003771	Data plug output	4 A

Technical information

Material	
Housing	Stainless steel

Dimensions





Pin assignments

Plug pin assignment





Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, A-coded, straight, 180°
- for CANopen, DeviceNet
- shielded



Connection type	Screws
Ambient temperature min./max.	32 122 °F
Operational	48 V, AC/DC
voltage	
Protection class	IP69K
Weight	0.13 lbs

Technical data

Part No.	Version	Max. current
R402003757	Data plug input	4 A

Technical information

Material	
Housing	Stainless steel

Dimensions





Pin assignments

Pin assignment socket



- (1) BN=brown(2) WH=white(3) BU=blue
- (4) BK=black(5) not assigned

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Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, B-coded, straight, 180°
- for PROFIBUS DP
- shielded



Connection type	Screws
Ambient temperature min./max.	32 122 °F
Operational	48 V, AC/DC
voltage	
Protection class	IP69K

Technical data

Part No.	Version	Max. current
R402003772	Data plug input	4 A

Technical information

Material	
Housing	Stainless steel

Dimensions





Pin assignments

Pin assignment socket





Multipole plug, series CON-MP

- Socket, C/2, 48-pin, angled, 45°
- with cable
- unshielded



Operational						
voltage						
Protection class						
Weight						

24 V, DC

IP69K See table below

Technical data

Part No.	Electrical connection	Max. current	Number of wires	Cable length	Weight	
	2					
0493871009	open cable ends, 24-pin	3 A	25	16.4 ft.	2.2 lbs	1)
0493871203	open cable ends, 24-pin	3 A	25	32.81 ft.	4.4 lbs	1)
0493871408	open cable ends, 24-pin	3 A	25	49.21 ft.	6.26 lbs	1)
0493871106	open cable ends, 48-pin	3 A	40	16.4 ft.	3.27 lbs	2)
0493871300	open cable ends, 48-pin	3 A	40	32.81 ft.	6.5 lbs	2)
0493871505	open cable ends, 48-pin	3 A	40	49.21 ft.	9.43 lbs	2)

1) max. 8 valves

2) max. 16 valves

Material	
Housing	Polyamide
Cable sheath	Polyvinyl chloride



Dimensions



1) housing 2) cable gland 3) connector housing size C/2 4) screw 5) seal 6) cable 7) screw 8) seal 9) seal

Pin assignments

PIN assignment and cable colors

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
			<u> </u>						<u>j-</u>						<u> -</u>			-1	
А																			
В																			
С	L																		

Page 87 | AVENTICS



Pin	A1	A2		A3	A4		A5	A6			
Color	blue	red/blue		white/pink	pink/br	own	white/blue	bro	brown/blue		
A7		A8	B1	B1 B2 B3 B4		4 B5		B6			
white/red	b	orown/red	white	green	gray	/ re	d violet	wh	ite/green		
B7		B8		C1	C2	Ca	3 C4		C5		
white/ye	llow	white/gray	/	brown	yellow	pin	k black		gray/pink		
	C6				C7			C8			
	brown/gree	en		yello	w/brown		gra	gray/brown			
Pin	A2	A	3	A4		A5	A6		A7		
Color	red/blue	white/	/pink	pink/browr	wn white/blu		brown/blue	white/red			
A8		A9	B1	B2	B3	B4	B5		B6		
brown/re	d	blue v	vhite	green	gray	red	violet	whit	white/green		
B7		B8		В9	B10)	B11	B12			
white/yel	low	white/gray		white/pink	white/red		white/black	gr	ay/green		
B13		B14	B1	5	B16	C1	C2	C3	C4		
pink/greer	n g	reen/red	green/	black	gray/red brown		yellow	pink	black		
C5		C6		C7	C	.8	C9		C10		
gray/pink	bi	rown/green	ye	ellow/brown	gray/	brown	pink/brown	k	brown/red		



Valve cover

- for series HF02-LG, HF03-LG



0.115 lbs

Technical data

Part No.	Туре
2631780000	CL03, HF03-LG
R414006060	CL03, HF02-LG

Material	
Housing	Polyamide, fiber-glass reinforced
Seals	Hydrogenated nitrile butadiene rubber



Dimensions CL03 HF03-LG



1) Seal



Dimensions CL03 HF02-LG



1) Seal



Separator

- for CL03



1.61 lbs

Technical data

Part No.	Туре	Delivery unit
0493871904	Separator for connections 1, 3, 5	3 piece





Tie rod extension, 3 pieces

- for CL03, HF03-LG



Technical data

Part No.	Туре	Delivery unit
2631881010	CL03, HF03-LG, Single base plate principle, can be assembled into blocks	3 piece
2631881020	CL03, HF03-LG, Double base plate principle, can be assembled into blocks	3 piece
R414001154	CL03, HF02-LG, Single base plate principle, can be assembled into blocks	3 piece
R414001155	CL03, HF02-LG, Double base plate principle, can be assembled into blocks	3 piece

Part No.	Weight
2631881010	0.055 lbs
2631881020	0.079 lbs
R414001154	0.06 lbs
R414001155	0.086 lbs

Material	
Housing	Stainless steel

Page 93 | AVENTICS



Dimensions



Part No.	L
2631881010	30
2631881020	60
R414001154	35.5
R414001155	71



Mecproof sealing



Technical data

Part No.	Туре
0493872001	Mecproof sealing

Material	
Seal	Chloroprene rubber





 $L = 63,5 + N \times 29,7$ (not for CL03 integrated bus versions) $L = 101,5 + N \times 29,7$ (for CL03 integrated bus versions)

N = number of subbases



Remote control

- CL03



See table below

Technical data

Part No.	Туре	Weight
0493873403	Remote control	0.516 lbs
0493873500	Multipole plug with cable, series CON-MP	2.46 lbs

without cable, Multipole plug with 8 m cable, for connecting the remote control to the CL03/CL03-XL valve system with multipole.

Weight

Technical information

The remote control, RC 01, is an accessory that enables manual override of the valves, even when the protective covers are mounted on the valves. It should be connected to 24 V DC and to the connector on the valve system. That means that the valves are disconnected from the normal electrical system. The remote control has 2x16 non-locking push-buttons.



Bus coupler, Series CL03

- Field bus protocol PROFIBUS DP, PROFINET IO, EtherNET/IP, DeviceNet, CANopen



Ambient temperature min./max.	32 1
Operational voltage electronics	24 V D
Protection class	IP69K
Weight	See tal

32 ... 122 °F 24 V DC IP69K See table below

Technical data

Part No	Type	Field bus protocol	Port	Port
i artito.	1,950		- T OIL	101
			1	2
R402003531	metric	PROFIBUS DP	Plug, M12, 5-pin, B-coded	Socket, M12, 5-pin, B-coded
R402003535	inch	PROFIBUS DP	Plug, M12, 5-pin, B-coded	Socket, M12, 5-pin, B-coded
R412023889	metric	PROFINET IO	Socket, M12, 5-pin, D-coded	Socket, M12, 5-pin, D-coded
R412023890	inch	PROFINET IO	Socket, M12, 5-pin, D-coded	Socket, M12, 5-pin, D-coded
R412023891	metric	EtherNET/IP	Socket, M12, 5-pin, D-coded	Socket, M12, 5-pin, D-coded
R412023892	inch	EtherNET/IP	Socket, M12, 5-pin, D-coded	Socket, M12, 5-pin, D-coded
R402003533	metric	DeviceNet	Plug, M12, 5-pin, A-coded	Socket, M12, 5-pin, A-coded
R402003537	inch	DeviceNet	Plug, M12, 5-pin, A-coded	Socket, M12, 5-pin, A-coded
R402003534	metric	CANopen	Plug, M12, 5-pin, A-coded	Socket, M12, 5-pin, A-coded
R402003538	inch	CANopen	Plug, M12, 5-pin, A-coded	Socket, M12, 5-pin, A-coded

Part No.	power supply	Weight
R402003531	Plug, M12, 4-pin, A-coded	1.2 lbs
R402003535	Plug, M12, 4-pin, A-coded	1.57 lbs
R412023889	Plug, M12, 4-pin, A-coded	1.21 lbs
R412023890	Plug, M12, 4-pin, A-coded	1.54 lbs
R412023891	Plug, M12, 4-pin, A-coded	1.21 lbs
R412023892	Plug, M12, 4-pin, A-coded	1.54 lbs
R402003533	Plug, M12, 4-pin, A-coded	1.17 lbs
R402003537	Plug, M12, 4-pin, A-coded	1.54 lbs
R402003534	Plug, M12, 4-pin, A-coded	1.17 lbs
R402003538	Plug, M12, 4-pin, A-coded	1.54 lbs

Material	
Housing	Polyamide, fiber-glass reinforced, Stainless steel



Dimensions



CL03:A = 30,0 mm B = 78,5 mm CL03-CL:A = 36,0 mm B = 89,15 1) Connection 1 bus IN 2) Connection 2 bus OUT

3) Power supply