Type 8653
AirLINE Field

AirLINE Field - the valve island - optimised for process automation

- Fieldbus interface CANopen, IO-Link or büS (Bürkert System Bus)
- Easy diagnostics by LC display
- Process reliability through pneumatic functions
- Optimised for installation in the field (IP65/67)

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 8652 ▶
AirLINE - the valve island optimised for process automation

Type ME43 ▶
Fieldbus gateway

Type 2012 ▶
Pneumatically operated 2/2 way globe valve CLASSIC

Type 2100 ▶
Pneumatically operated 2/2 way angle seat valve ELEMENT for decentralized automation

Type 8920 ▶
Bürkert Communicator

Type 8697 ▶
Pneumatic control for decentralised automation of ELEMENT process valves

Type description

The valve island Type 8653 AirLINE Field has been especially developed for the requirements of process automation. New diagnostic functions can be visualised at the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during start-up and maintenance. Furthermore the diagnostic message is also available at the control. This enables a fast overview of the plant status. The hardware structure is optimised for installation close to the actuator. An intelligent mounting system offers various installation solutions. Of course, it is also possible to fix the AirLINE Field to the top hat rail. Moreover, key pneumatic functions ensure increased process reliability. For instance, the non-return valves in the exhaust air ducts make sure there is no unplanned actuation due to pressure peaks.
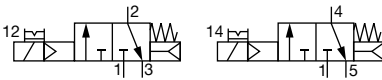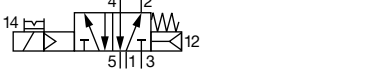
บริษัท ฟลูเทค จำกัด
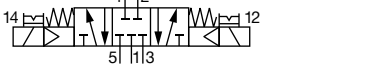FLU-TECH CO.,LTD

845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

Table of contents

1.   General technical data

Product characteristics	
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 5.
Materials	
Body	PPA
Seal	NBR and PUR
Manual override	Available and lockable
Valve positions	4 valve positions (max. 8 valve functions)
Performance data	
Pressure data	Overpressure to atmospheric pressure
Pressure range	Vac. to 8 bar
External air supply	3…8 bar
Flow rate (Q_{Nn} value air)	310 l/min[1] Measurement at +20 °C, 6 bar pressure at the valve inlet and 1 bar pressure difference
Switching times	Measured according to ISO 12238
Circuit functions	Detailed information can be found in chapter "2. Circuit functions" on page 4.
Electrical data	
Nominal power per valve	0.7 W (0.1 W after power reduction)
Nominal current per valve	29 mA (10 mA after power reduction)
Voltage/frequency	24 V DC
Voltage tolerance	±10 %
Media data	
Media	Compressed air oiled, oil-free, dry; neutral gases (5 µm filter recommended)
Produktanschlüsse	
Working port	Plug-in coupling diameter 6 mm, D¼"
Air supply connection	Plug-in coupling diameter 8 mm, 5/16"
Environment and installation	
Ambient temperature	-10 °C…+55 °C
Storage temperature	-10 °C…+60 °C
Protection class	IP65/67
Zubehör	
Bürkert Software	Software Bürkert Communicator Detailed information can be found in chapter "7.1. Software Bürkert Communicator" on page 7.

1.) Maximum flow rate depending on the valve function – Detailed information can be found in chapter "8. Ordering information" on page 7.

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD

845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

2. Circuit functions

Circuit functions	Description
	Type: C, solenoid valve 2 x 3/2 way Servo-controlled, with manual mode Normally closed
	Type: D, solenoid valve 3/2 way Direct-acting, with manual mode Normally opened
	Type: H, solenoid valve 5/2 way Servo-controlled, pilot air and manual mode Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.
	Type: L, solenoid valve 5/3 way With manual mode In middle position all ports locked
	Type: M, solenoid valve 5/3 way With manual mode in middle position ports 2 and 4 ventilated, with manual override
	Type: N, solenoid valve 5/3 way With manual mode In middle position ports 2 and 4 exhausted There is always one of the two outlet ports (2) or (4) pressurized when coil is activated.
	Type: Z, solenoid valve 5/2 way Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp

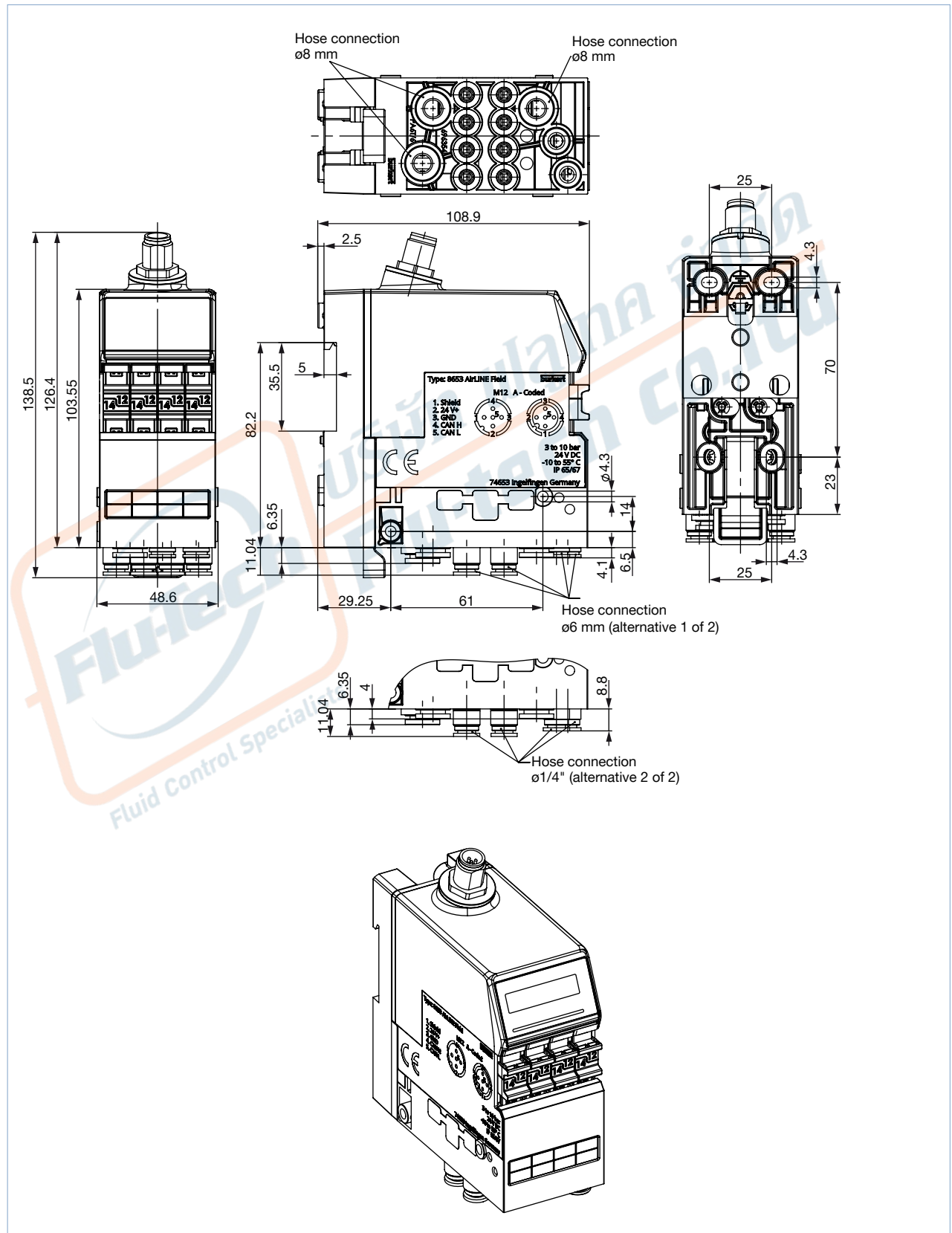**Bürkert resistApp – Chemical Resistance Chart**

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

Start Chemical Resistance Check

บริษัท ฟลูเทค จำกัด   845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
FLU-TECH CO.,LTD   845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

4. Dimensions

Note:
Dimensions in mm

Hose connection ø8 mm

Hose connection ø8 mm

Type: 8653 AirLINE Field

M12 A - Coded

1. Shield
2. 24 V+
3. GND
4. CAN H
5. CAN L

3 to 10 bar
24 V DC
-10 to 55° C
IP 65/67

74653 Ingelfingen Germany

Hose connection ø6 mm (alternative 1 of 2)

Hose connection ø1/4" (alternative 2 of 2)

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD

845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
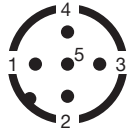Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

5. Device/Process connections

5.1. Assignment of circular plug M12, 5-pole

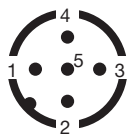**büS/CANopen version**

Assignment of circular plug M12, 5-pole, A-coded, büS/CANopen variant

View of pins	Pin	Assignment
	1	Shielding
	2	Supply voltage 24 V
	3	GND
	4	CAN_H (büS connection)
	5	CAN_L (büS connection)

IO-Link version

Assignment of circular plug M12, 5-pole, A-coded, IO-Link variant, Port Class B

View of pins	Pin	Assignment
	1	L+ (24 V processor)
	2	P24 (24 V valve unit)
	3	L- (0 V GND processor)
	4	C/Q (IO-Link)
	5	N24 (0 V GND valve unit)

6. Product design and assembly

6.1. Example configuration

The following graphic shows a network with the example of Fieldbus Gateway Type ME43 and AirLINE Field Type 8653 (bus version).

Industrial Ethernet

24 V DC, GND, CAN-L, CAN-H
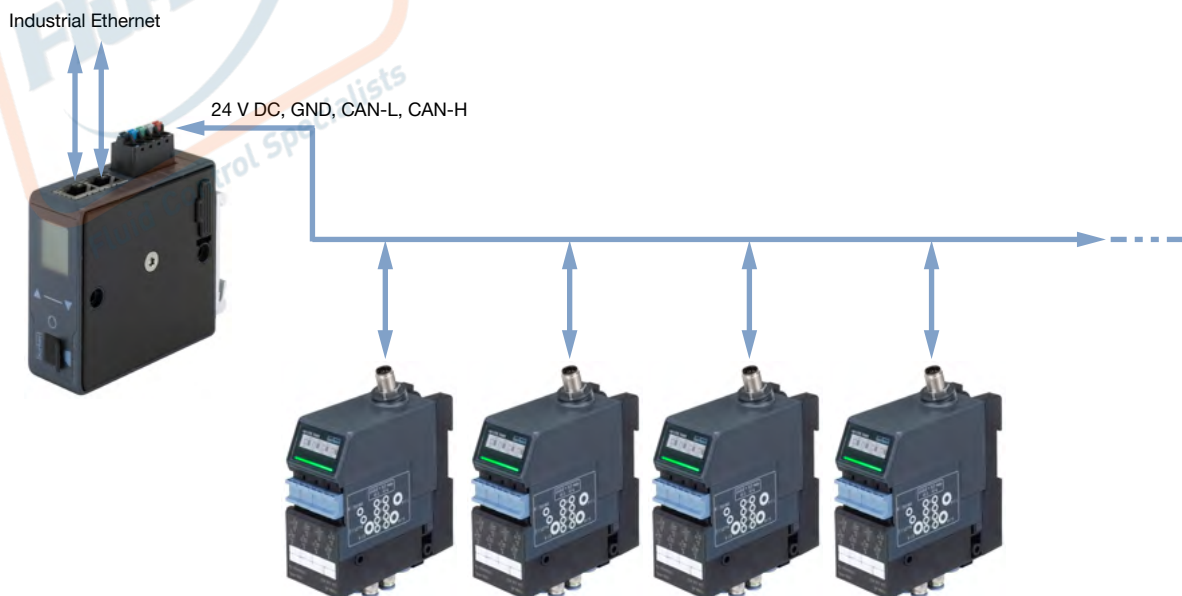
7. Product accessories

7.1. Software Bürkert Communicator

Note:
To install the software, click **here** ▶.

Part of Bürkert's new EDIP program (Efficient Device Integration Platform) is the Bürkert Communicator. This software can be run under MS-Windows and it is available on Bürkert's website for free. The Bürkert Communicator allows convenient system configuration and parametrisation of all connected field devices. An accessory part, the büS stick serves as the interface between computer and process instruments (see "Accessory for Software Bürkert Communicator" on page 12). It transfers "USB data" to "CAN data". The Communicator allows:

- Diagnosis

- Parametrization

- Registration and storage of process data

- To watch graph of process

- To update firmware of the büS device connected

8. Ordering information

8.1. Bürkert eShop – Easy ordering and quick delivery

Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD

845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

8.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.
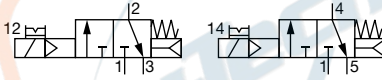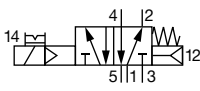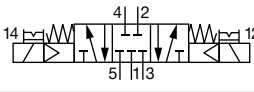
[Try out our product filter]
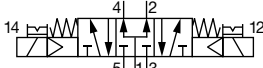
8.3. Ordering chart

büS version

The following ordering chart lists the part numbers for Type 8653, subdivided according to connection type and circuit function. All valve positions are always equipped with the same operating principle.

Note:
All articles in the following table are equipped with integrated check valves.

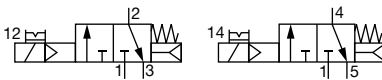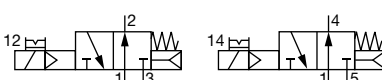| Circuit function	Q$_{Nn}$ value air	Switching times		Article no.	Article no.
		Opening	Closing	with check valves	with check valves
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: C, solenoid valve 2 x 3/2 way Servo-controlled, with manual mode Normally closed	270	15	15	309522 🛒	309537 🛒
Type: D, solenoid valve 3/2 way Direct-acting, with manual mode Normally opened	310	15	15	on request	on request
Type: H, solenoid valve 5/2 way Servo-controlled, pilot air and manual mode Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.	270	20	25	309529 🛒	338890 🛒
Type: L, solenoid valve 5/3 way With manual mode In middle position all ports locked	290	20	25	on request	on request

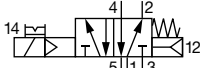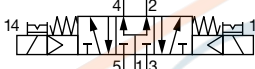| Circuit function	Q_{Nn} value air	Switching times		Article no. with check valves	Article no. with check valves
		Opening	Closing		
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: M, solenoid valve 5/3 way With manual mode in middle position ports 2 and 4 ventilated, with manual override	290	20	25	on request	on request
Type: N, solenoid valve 5/3 way With manual mode In middle position ports 2 and 4 exhausted There is always one of the two outlet ports (2) or (4) pressurized when coil is activated.	290	20	25	on request	on request
Type: Z, solenoid valve 5/2 way Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.	290	20	25	on request	on request

CANopen version

The following ordering chart lists the part numbers for Type 8653, subdivided according to connection type and circuit function. All valve positions are always equipped with the same operating principle.

Note:
All articles in the following table are equipped with integrated check valves.

Circuit function	Q_{Nn} value air	Switching times		Article no. with check valves	Article no. with check valves
		Opening	Closing		
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: C, solenoid valve 2 x 3/2 way Servo-controlled, with manual mode Normally closed	270	15	15	309527 🛒	338914 🛒
Type: D, solenoid valve 3/2 way Direct-acting, with manual mode Normally opened	310	15	15	on request	on request

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD
845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th
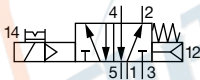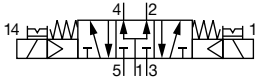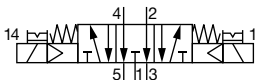
Circuit function	Q_Nn value air	Switching times		Article no.	Article no.
		Opening	Closing	with check valves	with check valves
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: H, solenoid valve 5/2 way Servo-controlled, pilot air and manual mode Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.	270	20	25	309532	338917
Type: L, solenoid valve 5/3 way With manual mode In middle position all ports locked	290	20	25	on request	on request
Type: M, solenoid valve 5/3 way With manual mode in middle position ports 2 and 4 ventilated, with manual override	290	20	25	on request	on request
Type: N, solenoid valve 5/3 way With manual mode In middle position ports 2 and 4 exhausted There is always one of the two outlet ports (2) or (4) pressurized when coil is activated.	290	20	25	on request	on request
Type: Z, solenoid valve 5/2 way Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure	290	20	25	on request	on request

Visit product website ▶

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD
845/3-4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th

IO-Link version

The following ordering chart lists the part numbers for Type 8653, subdivided according to connection type and circuit function. All valve positions are always equipped with the same operating principle.

Note:
All articles in the following table are equipped with integrated check valves.

Circuit function	Q_{Nn} value air	Switching times		Article no. with check valves	Article no. with check valves
		Opening	Closing		
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: C, solenoid valve 2 x 3/2 way Servo-controlled, with manual mode Normally closed	270	15	15	357762 🛒	373702 🛒
Type: D, solenoid valve 3/2 way Direct-acting, with manual mode Normally opened	310	15	15	on request	on request
Type: H, solenoid valve 5/2 way Servo-controlled, pilot air and manual mode Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.	270	20	25	370110 🛒	373703 🛒
Type: L, solenoid valve 5/3 way With manual mode In middle position all ports locked	290	20	25	on request	on request
Type: M, solenoid valve 5/3 way With manual mode in middle position ports 2 and 4 ventilated, with manual override	290	20	25	on request	on request
Type: N, solenoid valve 5/3 way With manual mode In middle position ports 2 and 4 exhausted There is always one of the two outlet ports (2) or (4) pressurized when coil is activated.	290	20	25	on request	on request

Circuit function	Q_Nn value air	Switching times		Article no.	Article no.
		Opening	Closing	with check valves	with check valves
	[l/min]	[ms]	[ms]	D6/D8	D¼"/ 5/16"
Type: Z, solenoid valve 5/2 way Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.	290	20	25	on request	on request
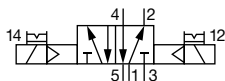
8.4. Ordering chart accessories

Feldbus-Gateway Type ME43

Note:
Please note that the ME43 Gateway modules are not factory configured. However, these must be configured in order to be used in a system. The device description files for the required protocols must be generated with the Communicator software before commissioning a system. For further details, please refer to the operating instructions for ME43.

Description	Article no.
Gateway Industrial Ethernet (PROFINET, EtherNet/IP, Modbus TCP, EtherCAT)	307390 ⛒
Gateway PROFIBUS DPV1	307393 ⛒
Gateway CANopen (büS)	307391 ⛒
Gateway CC-Link	307394 ⛒

Accessory for Software Bürkert Communicator

Description	Article no.
büS cable extension M12, 0.1 m	772492 ⛒
büS cable extension M12, 0.2 m	772402 ⛒
büS cable extension M12, 0.5 m	772403 ⛒
büS cable extension M12, 1 m	772404 ⛒
büS cable extension M12, 3 m	772405 ⛒
Connector M12, female, straight[1]	772416 ⛒
Connector M12, male, straight[1]	772417 ⛒
Connector M12, female, angled[1]	772418 ⛒
Connector M12, male, angled[1]	772419 ⛒
Y connector	772420 ⛒
Y connector for connecting two separately powered segments of a büS network	772421 ⛒
Termination resistor (directly pluggable)	303833 ⛒
Termination resistor 120 Ohm M12 male	772424 ⛒
Termination resistor 120 Ohm M12 female	772425 ⛒
Power supply Type 1573 for rail mounting, 100…240 V AC/24 V DC, 1.25 A, NEC Class 2 (UL 1310)	772438 ⛒
Power supply Type 1573 for rail mounting, 100…240 V AC/24 V DC, 1 A, NEC Class 2 (UL 1310)	772361 ⛒
Power supply Type 1573 for rail mounting, 100…240 V AC/24 V DC, 2 A, NEC Class 2 (UL 1310)	772362 ⛒
Power supply Type 1573 for rail mounting, 100…240 V AC/24 V DC, 3,8 A, NEC Class 2 (UL 1310)	772898 ⛒
Power supply Type 1573 for rail mounting, 100…240 V AC/24 V DC, 10 A	772698 ⛒
Micro SD Card	774087 ⛒
büS-Stick Set 1 (incl. cable (M12)), stick with integrated termination resistor, power supply and software	772426 ⛒
büS-Stick Set 2 (incl. cable (M12)), stick with integrated termination resistor	772551 ⛒
License for graphical programming (only required for a running time > 60 minutes)	567713 ⛒
Software Bürkert Communicator	**Link ▶**

1.) Due to lack of space, the M12 single connectors may not be suitable for their simultaneous use on the same side of the Y connector. Please use the available ready-made assembled cable in this case.

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD

845/3- 4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th