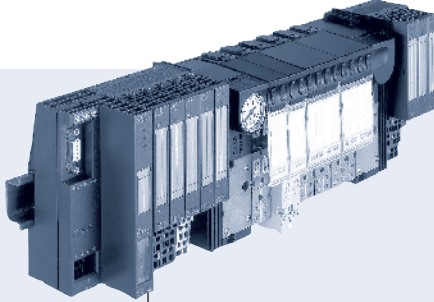


Remote Process Actuation Control System AirLINE - Siemens ET 200S

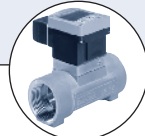


Type 8644 can be combined with...

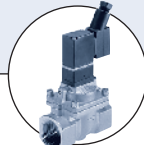
- Fully compatible with Siemens ET 200S
- Combination of Fieldbus, pilot valves and I/O modules
- High flexibility
- Optionally integrated PLC functionality
- Compact design
- High flow rate



Type 8175
Sensors



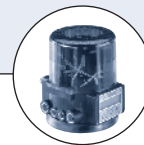
Type 8032
Switches



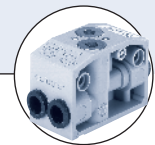
Type 6212
Solenoid valves



Type 2012
Process valves



Type 8630
Valve controllers



Type 0498
Double pilot controlled check valve

The AirLINE System integrates high performance solenoid pilot valves, remote electronic I/O and fieldbus communication into a process actuation and control system that is both compact and extremely flexible. Its modular design allows fully customized, pre-mounted and tested solutions to exactly

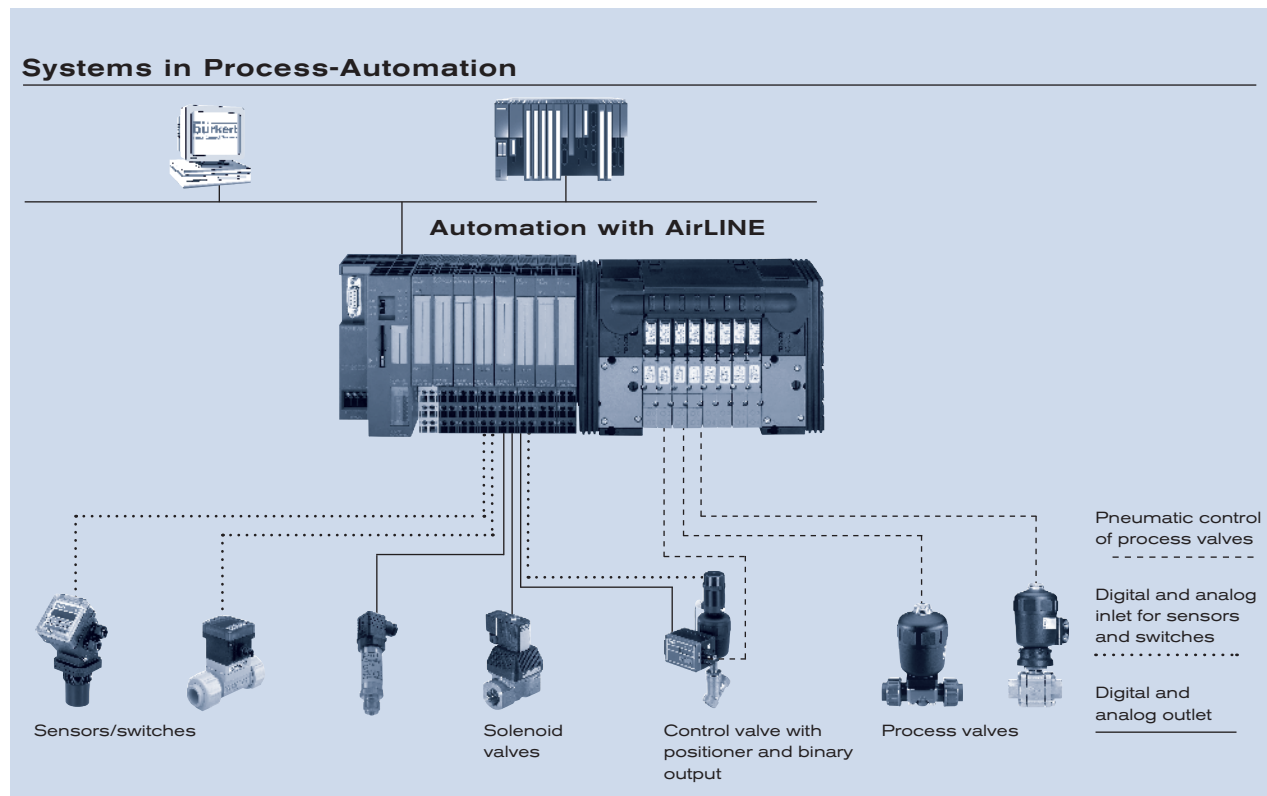
meet all application needs including the integration of a local Mini PLC. Due to the full electronic and mechanical integration, the valve block can be added without the need of any tools or wiring.

| Specifications | Pilot valve type | |
|--|--|--|
| | 0460, 6524, 6525 | 0461, 6526, 6527 |
| Mounting dimensions | 11 mm | 16.5 mm |
| Circuit functions/ways | C (3/2) D (3/2) H (5/2) H (5/2) impulse L (5/3) in middle position all ports closed N (5/3) in middle position all ports vented | C (3/2) D (3/2) H (5/2) H (5/2) impulse L (5/3) in middle position all ports open N (5/3) in middle position all ports vented |
| Flow rate | 300 l/min (200 l/min for functions H impulse, L and N) | 700 l/min (500 l/min for functions H impulse, L and N) |
| Pressure range | Vac. up to 145 PSI | Vac. up to 145 PSI |
| Module types | 2x and 4x (optional integrated check valves and p-shut-off-valve) | 2x and 4x (optional integrated check valves) Combination of 11 mm modules (3 valves) and 16.5 mm modules is possible |
| Max. number of modules | Depending on application | Depending on application |
| Max. number of valves functionalities | 64 (by use of Type 0460 & Type 6524 2 x 3/2-way valve: 32) | 32 (by use of Type 0461: 24) |
| Pneumatic intermediate supply module | necessary after 24 valve functions; with 2 x 3/2-way valve: necessary after 16 valve functions | necessary after 16 valve functions |

to be continued on page 2

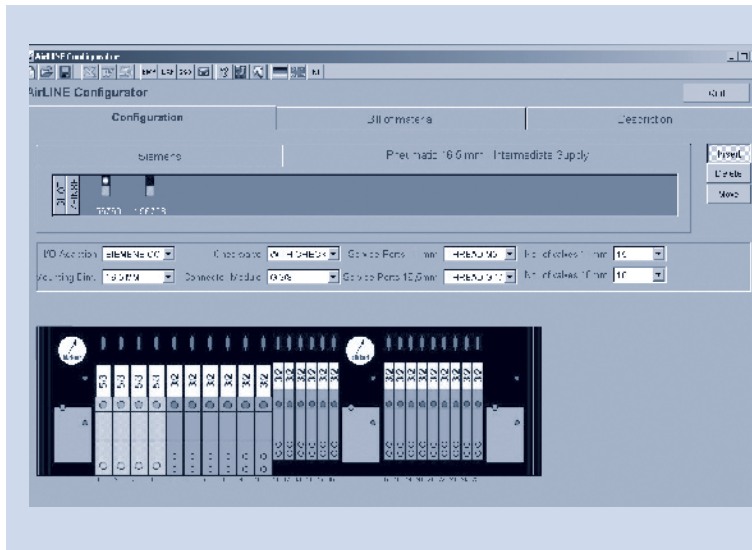
| Specifications | Pilot valve type | |
|-------------------------------|---|---|
| | 0460, 6524, 6525 | 0461, 6526, 6527 |
| Fieldbus type | PROFIBUS DP | PROFIBUS DP |
| Electrical modules | Siemens ET200S | Siemens ET200S |
| Digital modules | 2 or 4 inputs 2 or 4 outputs, others on request | 2 or 4 inputs 2 or 4 outputs, others on request |
| Analog modules | 2 or 4 inputs (0-10 V, 0-20 mA, 4-20 mA, RTD, TC) 2 outputs (0-10 V, 0-20 mA, 4-20 mA) others on request | 2 or 4 inputs (0-10 V, 0-20 mA, 4-20 mA, RTD, TC) 2 outputs (0-10 V, 0-20 mA, 4-20 mA) others on request |
| Operating voltage | 24 V/DC | 24 V/DC |
| Permissible voltage tolerance | +20%/-15% (by use of Type 0460: ±10%) | +20%/-15% (by use of Type 0461: ±10%) |
| Residual ripple | 1 V _{ss} | 1 V _{ss} |
| Rated power per valve | 1 W (0.5 W nominal power after 120 ms) | 2 W (1 W nominal power after 120 ms) |
| Rated current per valve | 43 mA (28 mA holding current after 120 ms) 41 mA (by use of Type 0460) | 85 mA (52 mA holding current after 120 ms) 41 mA (by use of Type 0461) |
| Temperatures | | |
| Operating | 32°F to 131°F (0°C to +55°C) (by use of Type 0460: 32°F to 122°F (0°C to +50°C)) | 32°F to 131°F (0°C to +55°C) (by use of Type 0461: 32°F to 122°F (0°C to +50°C)) |
| Storage | -4°F to 140°F (-20°C to +60°C) | -4°F to 140°F (-20°C to +60°C) |
| Rating | IP20 IP65 in closed field housing | IP20 IP65 in closed field housing |
| Approvals for hazardous areas | Zone 2 | on request |

Application example



DTS 1000082493 EN Version: B Status: RL (released | freigegeben | validé) printed: 22.09.2017

Configuration software



AirLine is a system of modular design which is precisely adapted to the specific requirements of the customer. Bürkert offers a software program, the Configurator, for the simple, precise generation of the required configuration of each Airline system.

The Bürkert Configurator defines:

- Number and types of valves
- Type of (intermediate) supplies

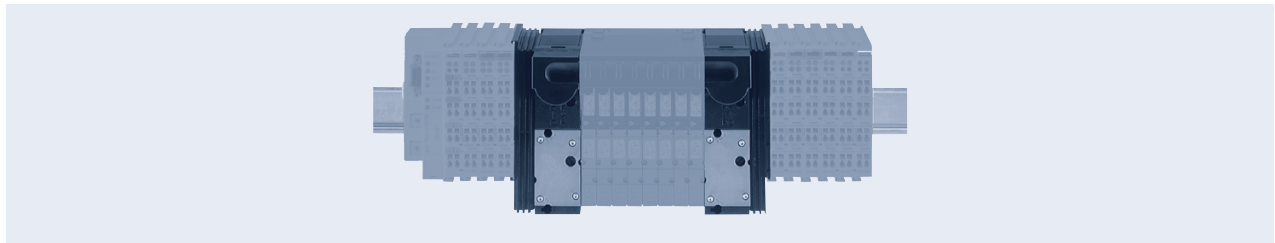
The results supplied by the Configurator:

- Bill of materials, incl. list prices
- Illustration


For more information consult individual datasheets, downloadable at www.burkert-usa.com

Pneumatic module and electrical interfaces for modules series Siemens ET 200S


Connector modules ME02



Connector module "left"

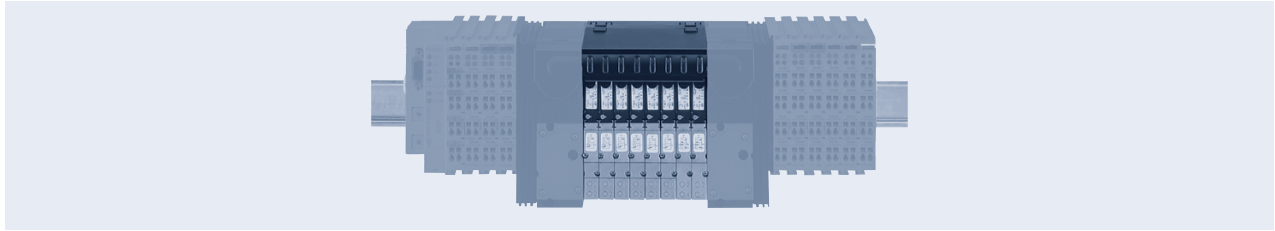
| | Description | Port connection | Item no. |
|---|------------------------|-----------------------|----------|
|  | Without pressure gauge | threaded port G 1/4 | 154 042 |
| | | threaded port NPT 1/4 | 154 044 |
| | | push-in 10 mm | 154 043 |
| | With pressure gauge | threaded port G 1/4 | 154 093 |
| | | threaded port NPT 1/4 | 154 095 |
| | | push-in 10 mm | 154 094 |

Connector module "right" and Pneumatic intermediate supply module

| | Description | Port connection | Item no. |
|---|--------------------------|-----------------------|----------|
|  | Connector module "right" | | |
| | Without pressure gauge | threaded port G 1/4 | 154 000 |
| | | threaded port NPT 1/4 | 154 092 |
| push-in 10 mm | | 154 091 | |
| | With pressure gauge | threaded port G 1/4 | 154 045 |
| | | threaded port NPT 1/4 | 154 047 |
| | | push-in 10 mm | 154 046 |
| Pneumatic intermediate supply module | | | |
| | Without pressure gauge | threaded port G 1/4 | 154 071 |
| | | threaded port NPT 1/4 | 154 073 |
| | | push-in 10 mm | 154 072 |
| | With pressure gauge | threaded port G 1/4 | 154 074 |
| | | threaded port NPT 1/4 | 154 076 |
| | | push-in 10 mm | 154 075 |

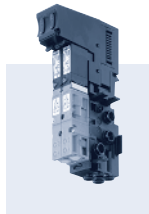
Pneumatic module and electrical interfaces for modules series Siemens ET 200S

AirLINE valve modules



Pneumatic basic module, electrical basic module and pilot valves

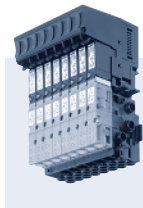
2 valves wide/2 valves wide with 2 x 3/2-way valve



Service port 2 (A), 4 (B)

Threaded port M5
Threaded port M7
Push-in \varnothing 6 mm
Push-in \varnothing 1/4"
Push-in \varnothing 5/32"

8 valves wide/8 valves wide with 2 x 3/2-way valve

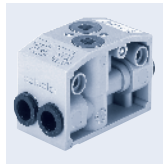


Service port 2 (A), 4 (B)

Threaded port M5
Threaded port M7
Push-in \varnothing 6 mm
Push-in \varnothing 1/4"
Push-in \varnothing 5/32"

Further pneumatic accessories

Typ 0498

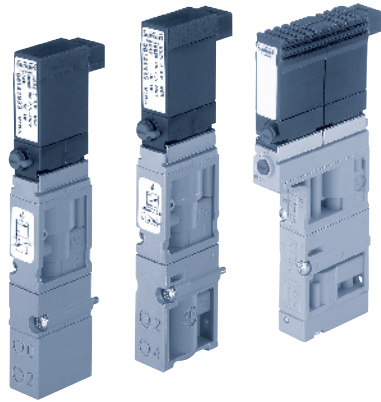


Double pilot controlled
check Valve

Available options on request

- Check valves in R, S and P-shut
- Covering plate for spare channels
- Channel separation plugs to build different pressure areas

11mm width per station: Multi-way solenoid valve Types 6524 and 6525



The solenoid valve Types 6524 and 6525 consist of a pneumatic valve body fitted with Type 6104 rocker pilot valve. The rocker principle allows switching of high pressure at low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.

The 2 x 3/2-way valve version is the combination of two pilot rocker solenoid valves type 6104 and a pneumatic seat valve.

| Specification | 3/2-way valve | 2 x 3/2-way valve |
|----------------------------------|--|---|
| Body material | PA (polyamide) | |
| Seal material | FPM, NBR | |
| Media | Lubricated and non-lubricated dry air, neutral gases (5 µm-Filter) | |
| Port connection | Flange for MP11 | |
| Manual override | As a standard feature | |
| Voltage | 24 V DC | |
| Nominal power | 1 W | 2 x 1 W with reduction of power consumption |
| Duty cycle | Continuous operation (100% ED) | |
| Elec. connection on valve | Rectangular plug 2-pole with raster 5.08 mm | Rectangular plug 3-pole with raster 2.54 mm |
| Mounting | With 2 screws M2 x 20 | With 2 screws M2 x 28 |
| Installation position | As required, preferably with pilot valve upright | |

| | |
|---|---|
| Flow rate: QNn value air [l/min] | Measured at 68°F (+20°C), 87 PSI pressure at valve inlet and 14.5 PSI pressure difference |
| Pressure ranges [PSI] | Measured as overpressure to the atmospheric pressure |
| Response times [ms] | Measured according to ISO 12238 |

Order chart for valves

| Circuit function | Orifice [mm] | C _v | Q _{Nn} -value air [l/min] | Pressure range [PSI] | Response times | | | Item no. |
|--|--------------|----------------|------------------------------------|----------------------------|----------------|--------------|--------------------------|-----------------------|
| | | | | | Opening [ms] | Closing [ms] | Voltage/Frequency [V/Hz] | |
| <p>3/2-way valve, servo-assisted in de-energized position port 2 to atmosphere</p> | 4 | .28 | 300 | Vac. - 101.5 | 15 | 20 | 24 V DC | 153 958 |
| | | | | 14.5 - 101.5 ¹⁾ | 15 | 20 | 24 V DC | 150 333 |
| | | | | 36.25 - 101.5 | 12 | 20 | 24 V DC | 144 933 |
| | | | | 36.25 - 145 | 15 | 28 | 24 V DC | 148 227 |
| <p>3/2-way valve, servo-assisted in de-energized position port 2 pressurized</p> | 4 | .28 | 300 | 14.5 - 101.5 ¹⁾ | 12 | 20 | 24 V DC | 150 334 |
| | | | | 36.25 - 101.5 | 12 | 20 | 24 V DC | 144 934 |
| | | | | 36.25 - 145 | 15 | 28 | 24 V DC | 152 139 |
| <p>5/2-way valve, servo-assisted in de-energized position port 1 connected to port 2, port 4 exhausted</p> | 4 | .28 | 300 | 14.5 - 101.5 ¹⁾ | 15 | 20 | 24 V DC | 150 335 |
| | | | | 36.25 - 101.5 | 15 | 20 | 24 V DC | 144 935 |
| | | | | 36.25 - 145 | 20 | 28 | 24 V DC | 150 610 |
| <p>2 x 3/2-way valve, servo-assisted in de-energized position port 2/4 to atmosphere</p> | 4 | .28 | 300 | 14.5 - 101.5 ¹⁾ | 12 | 20 | 24 V DC | 170 269 ²⁾ |
| | | | | 36.25 - 101.5 | 12 | 20 | 24 V DC | 170 268 ²⁾ |

¹⁾ Version with auxiliary air.

²⁾ Version with integrated reduction of power consumption

11 mm width per station: Multi-way solenoid valve Types 0460



The solenoid valve Type 0460 consists of a pneumatic valve body fitted with a double coil pilot valve. The principle allows switching of high pressures together with low power consumption and fast response times. All valves are equipped with manual override as a standard.

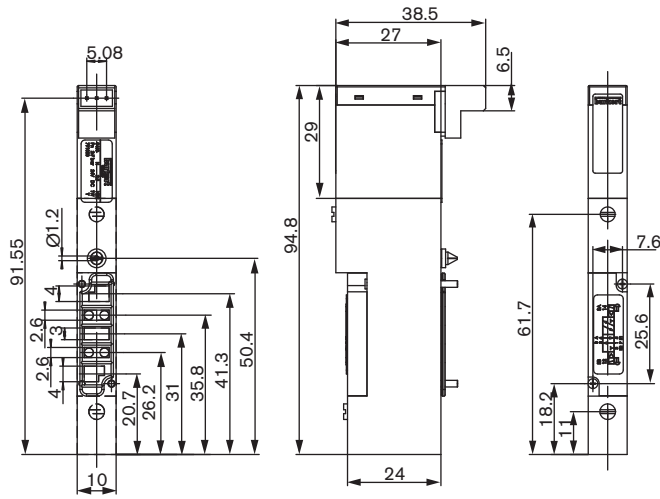
| Technical data | |
|---------------------------------|---|
| Body material | Aluminium |
| Seal material | NBR |
| Media | Lubricated and non-lubricated dry air, neutral gases (5 µm-filter recommended) |
| Port connection | Flange |
| Pneumatic module | MP11 |
| Supply port 1 (P), 3 (R), 5 (S) | G 1/4 NPT 1/4 Push-in connection Ø 10 mm |
| Service port 2 (A), 4 (B) | Push-in connection Ø 6 mm Push-in connection Ø 1/4" Push-in connection Ø 4 mm = ø 5/32" M5 M7 |
| Voltage | 24 V DC |
| Electrical connection on valve | Rectangular plug |
| Manual override | Standard |
| Flow rate: QNn-value air l/min] | Measured at 68°F (+20°C), 87 PSI pressure at valve inlet and 14.5 PSI pressure difference |
| Pressure ranges [PSI] | Measured as overpressure to the atmospheric pressure |
| Response times [ms] | Measured according to ISO 12238 |

Ordering chart valves

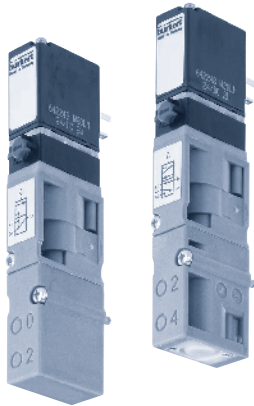
| Circuit function | Orifice [mm] | C _v | Q _{Nn} -value air [l/min] | Pressure range [PSI] | Nominal power [W] | Response times | | Item no. |
|---|--------------|----------------|------------------------------------|----------------------|-------------------|----------------|--------------|----------|
| | | | | | | Opening [ms] | Closing [ms] | |
| H 5/2-way valve, servo-assisted impulse version | 2.5 | .18 | 200 | 29 - 101.5 | 1 | 15 | 15 | 154 183 |
| L 5/3-way valve, servo-assisted in middle position all ports blocked | 2.5 | .18 | 200 | 29 - 101.5 | 1 | 15 | 20 | 154 184 |
| N 5/3-way valve, servo-assisted in middle position port 2 and 4 exhausted | 2.5 | .18 | 200 | 29 - 101.5 | 1 | 15 | 20 | 154 185 |

Dimensions [mm]

5/2 way impulse and 5/3 way version, circuit function H impulse, L and N



16.5mm width per station: Multi-way for solenoid valve Types 6526 and 6527



The solenoid valve Types 6526 and 6527 consist of a pneumatic valve body fitted with Type 6106 rocker pilot valve. The rocker principle allows switching of high pressure at low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.

| Specification | |
|---------------------------|---|
| Body material | PA (polyamide) |
| Seal material | NBR |
| Media | Lubricated and non-lubricated dry air, neutral gases (10 µm filter) |
| Port connection | Flange for MP12 |
| Manual override | Standard |
| Voltage | 24 V DC |
| Nominal power | 2 W, 1W |
| Duty cycle | Continuous operation (100% ED) |
| Elec. Connection on valve | Tag connector acc. to DIN EN 175301-803 (previously DIN 43650) Form C |
| Mounting | With 2 screws M3x30 |
| Installation position | As required, preferably with pilot valve upright |

| | |
|----------------------------------|---|
| Flow rate: QNn value air [l/min] | Measured at 68°F (+20°C), 87 PSI pressure at valve inlet and 14.5 PSI pressure difference |
| Pressure ranges [PSI] | Measured as overpressure to the atmospheric pressure |
| Response times [ms] | Measured acc. to ISO 12238 |

Order chart for valves

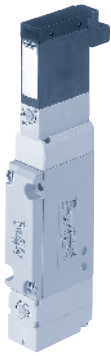
| Circuit functions | Orifice [mm] | C _v | Q _{Nn} -value air [l/min] | Pressure range [PSI] | Nominal power [W] | Response times | | | Item no. |
|---|--------------|----------------|------------------------------------|--------------------------|-------------------|----------------|----------------------------|--------------------------|-----------------------|
| | | | | | | Opening [ms] | Closing [ms] ³⁾ | Voltage/Frequency [V/Hz] | |
| C 3/2-way valve, servo-assisted in de-energized position port 2 to atmosphere | 6 | .64 | 700 | 14.5 - 145 ¹⁾ | 2 | 20 | 12 | 24 V DC | 156 842 |
| | | | | 14.5 - 145 ¹⁾ | 2 | 20 | 12 | 24 V DC | 163 028 ²⁾ |
| | | | | 29 - 145 | 2 | 20 | 12 | 24 V DC | 156 318 |
| | | | | 29 - 145 | 2 | 20 | 12 | 24 V DC | 158 944 ²⁾ |
| | | | | 29 - 116 | 1 | 20 | 17 | 24 V DC | 156 840 |
| | | | | 29 - 116 | 1 | 20 | 12 | 24 V DC | 158 947 ²⁾ |
| D 3/2-way valve, servo-assisted in de-energized position port 2 pressurized | 6 | .64 | 700 | 14.5 - 145 ¹⁾ | 2 | 12 | 20 | 24 V DC | 157 672 |
| | | | | 14.5 - 145 ¹⁾ | 2 | 20 | 12 | 24 V DC | 163 029 ²⁾ |
| | | | | 29 - 145 | 2 | 12 | 20 | 24 V DC | 156 320 |
| | | | | 29 - 145 | 2 | 12 | 20 | 24 V DC | 158 946 ²⁾ |
| | | | | 29 - 116 | 1 | 17 | 20 | 24 V DC | 156 841 |
| | | | | 29 - 116 | 1 | 20 | 12 | 24 V DC | 158 948 ²⁾ |
| H 5/2-way valve, servo-assisted in de-energized position port 1 connected to port 2, port 4 exhausted | 6 | .64 | 700 | 14.5 - 145 ¹⁾ | 2 | 20 | 12 | 24 V DC | 156 828 |
| | | | | 14.5 - 145 ¹⁾ | 2 | 20 | 12 | 24 V DC | 163 030 ²⁾ |
| | | | | 29 - 145 | 2 | 20 | 12 | 24 V DC | 156 337 |
| | | | | 29 - 145 | 2 | 20 | 12 | 24 V DC | 158 942 ²⁾ |
| | | | | 29 - 116 | 1 | 20 | 17 | 24 V DC | 156 827 |
| | | | | 29 - 116 | 1 | 20 | 12 | 24 V DC | 158 943 ²⁾ |

¹⁾ version with auxiliary air

²⁾ electric connection with manual override.

³⁾ closing time approx. 5 ms higher when used together with valve unit

16.5 mm width per station: Multi-way solenoid valve Type 0461



The solenoid valve Type 0461 consists of a pneumatic valve body fitted with a double coil pilot valve. The principle allows switching of high pressures together with low power consumption and fast response times. All valves are equipped with manual override as a standard.

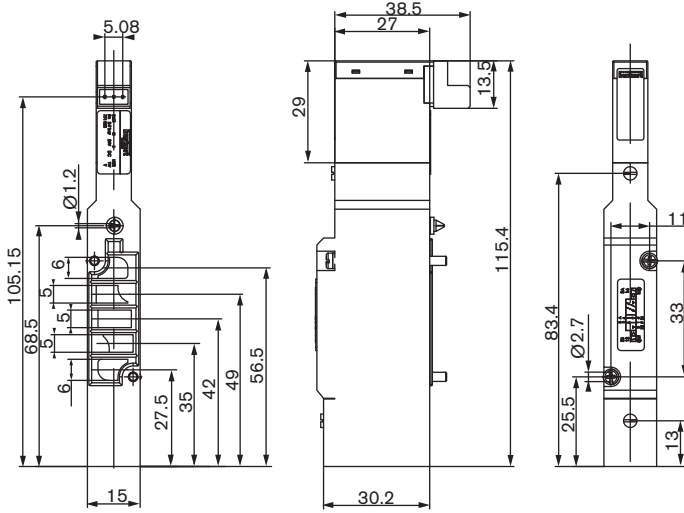
| Technical data | |
|--|---|
| Body material | Aluminium |
| Seal material | NBR |
| Media | Lubricated and non-lubricated dry air, neutral gases (10 µm-filter recommended) |
| Port connection | Flange |
| Pneumatic module | MP12 |
| Supply port 1 (P), 3 (R), 5 (S) | G 3/8 NPT 3/8 |
| Service port 2 (A), 4 (B) | G 1/8 NPT 1/8 Push-in connection Ø 8 mm |
| Operating voltage | 24 V DC |
| Electrical connection on valve | Rectangular plug |
| Manual override | Standard |
| Flow rate: QNn-value air l/min] | Measured at 68°F (+20°C), 87 PSI pressure at valve inlet and 14.5 PSI pressure difference |
| Pressure ranges [PSI] | Measured as overpressure to the atmospheric pressure |
| Response times [ms] | Measured according to ISO 12238 |

Ordering chart valves

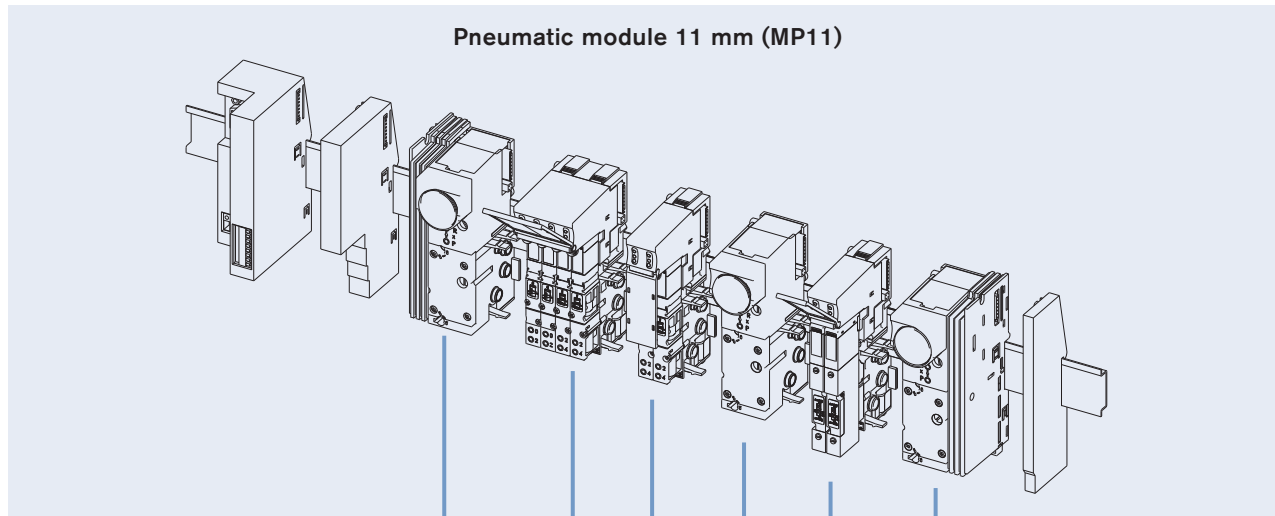
| Circuit function | Orifice [mm] | C _v | Q _{90°} -value air [l/min] | Pressure range [PSI] | Nominal power [W] | Response times | | Item no. |
|--|--------------|----------------|-------------------------------------|----------------------|-------------------|----------------|--------------|----------|
| | | | | | | Opening [ms] | Closing [ms] | |
| <p>5/2-way valve, servo-assisted impulse version</p> | 6 | .46 | 500 | 36.25 - 101.5 | 1 | 20 | 30 | 156 766 |
| <p>5/3-way valve, servo-assisted in middle position all ports blocked</p> | 6 | .46 | 500 | 36.25 - 101.5 | 1 | 15 | 50 | 156 767 |
| <p>5/3-way valve, servo-assisted in middle position port 2 and 4 exhausted</p> | 6 | .46 | 500 | 36.25 - 101.5 | 1 | 15 | 50 | 156 768 |

Dimensions [mm]

5/2 way impulse and 5/3 way version, circuit function H impulse, L and N



Pneumatic modules and electrical interfaces for modules series Siemens



Pneumatic module 11 mm (MP11)

Connector module "left", with or without pressure gauge
 Threaded port G 1/4
 Threaded port NPT 1/4
 Push-in 10 mm

Pneumatic basic module, electrical basic module and pilot valves
4 valves wide (pneumatic 2 x 2valves wide) (4 x 11 mm)

Service port 2 (A), 4 (B)
 Threaded port M5
 Threaded port M7
 Push-in \varnothing 4 mm and 5/32"
 Push-in \varnothing 6 mm
 Push-in \varnothing 1/4"

2 valves wide (2 x 11 mm)
 Service port 2 (A), 4 (B)
 Threaded port M5
 Threaded port M7
 Push-in \varnothing 4 mm and 5/32"
 Push-in \varnothing 6 mm
 Push-in \varnothing 1/4"

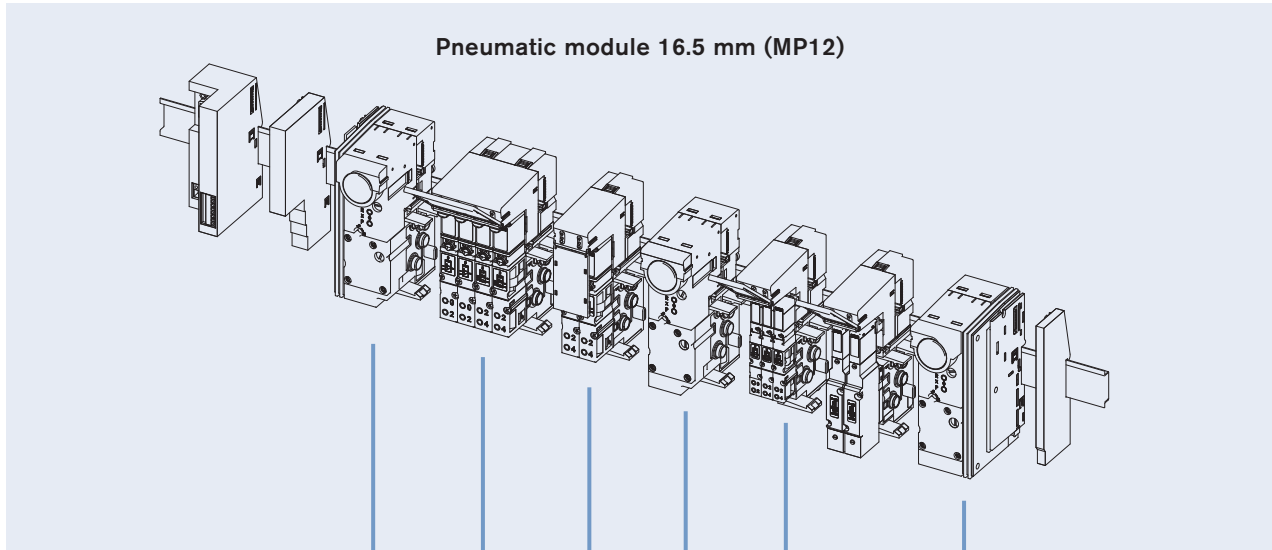
Connector module "right", With or without pressure gauge
 Threaded port G 1/4
 Threaded port NPT 1/4
 Push-in 10 mm

Pneumatic basic module, electrical basic module and pilot valves
2 valves wide (2 x 11 mm)
 Service port 2 (A), 4 (B)
 Threaded port M5
 Threaded port M7
 Push-in \varnothing 4 mm and 5/32"
 Push-in \varnothing 6 mm
 Push-in \varnothing 1/4"

Intermediate supply module, with or without pressure gauge
 Threaded port G 1/4
 Threaded port NPT 1/4
 Push-in 10 mm

DTS 1000082493 EN Version: B Status: RL (released | freigegeben | validé) printed: 22.09.2017

Pneumatic modules and electrical interfaces for modules series Siemens



Pneumatic module 16.5 mm (MP12)

**Connector module "left",
With or without pressure gauge**

Threaded port G 3/8
Threaded port NPT 3/8

**Pneumatic basic module, electrical
basic module and pilot valves**

4 valves wide (4 x 16.5 mm)

Service port 2 (A), 4 (B)
Threaded port G1/8
Threaded port NPT1/8
Push-in \varnothing 8 mm and \varnothing 5/16"

2 valves wide (2 x 16.5 mm)

Service port 2 (A), 4 (B)
Threaded port G1/8
Threaded port NPT1/8
Push-in \varnothing 8 mm and \varnothing 5/16"

**Connector module "right",
With or without pressure gauge**

Threaded port G 3/8
Threaded port NPT 3/8

**Pneumatic basic module, electrical
Basic module and pilot valves**

3 valves wide (3 x 11 mm)

Service port 2 (A), 4 (B)
Threaded port M5
Threaded port M7
Push-in \varnothing 6 mm

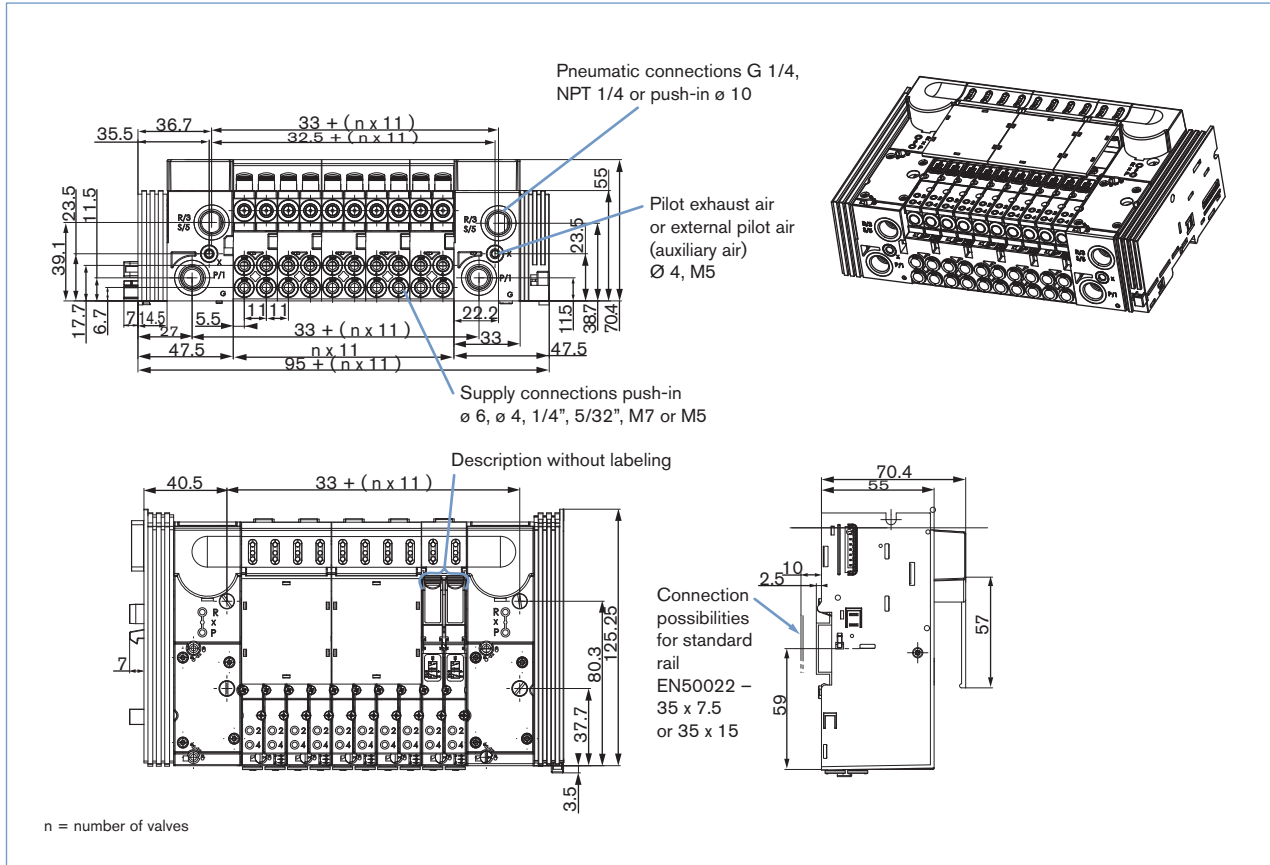
**Intermediate supply module,
With or without pressure gauge**

Threaded port G 3/8
Threaded port NPT 3/8

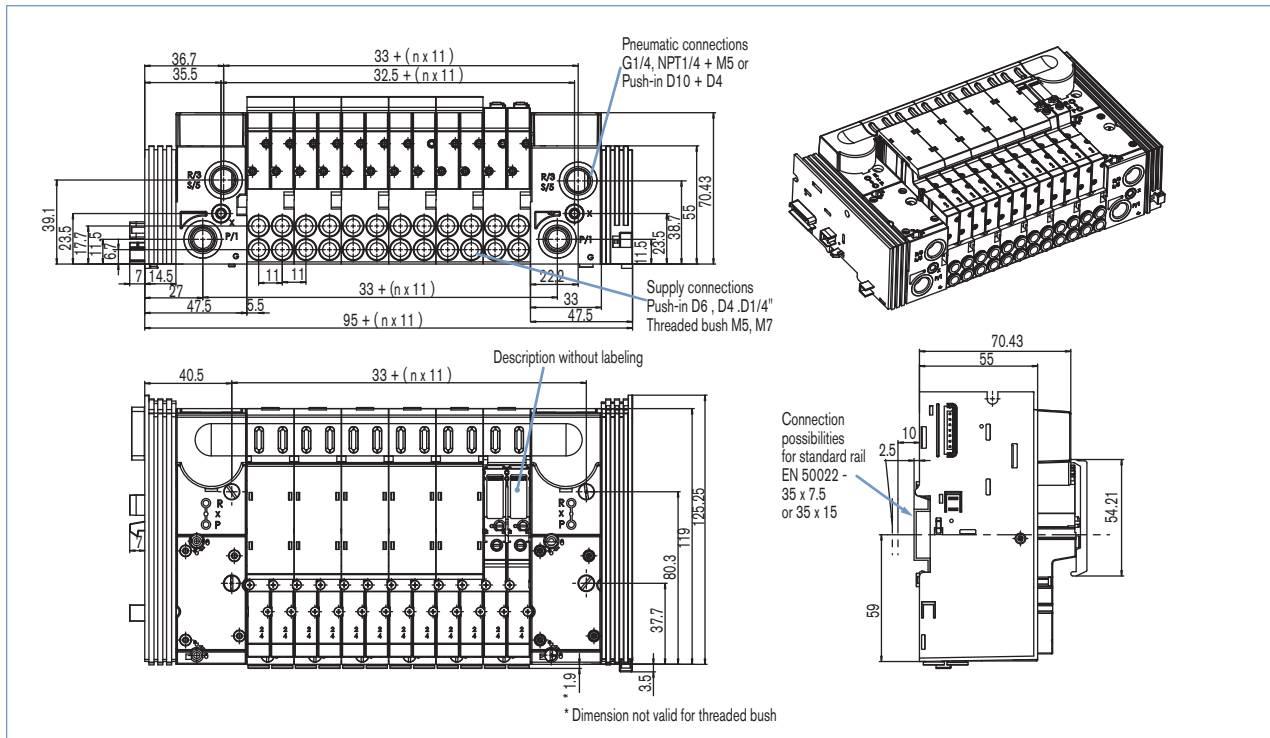
DTS 1000082493 EN Version: B Status: RL (released | freigegeben | validé) printed: 22.09.2017

Dimensions [mm]

11 mm mounting dimensions for Type 6524 / 6525



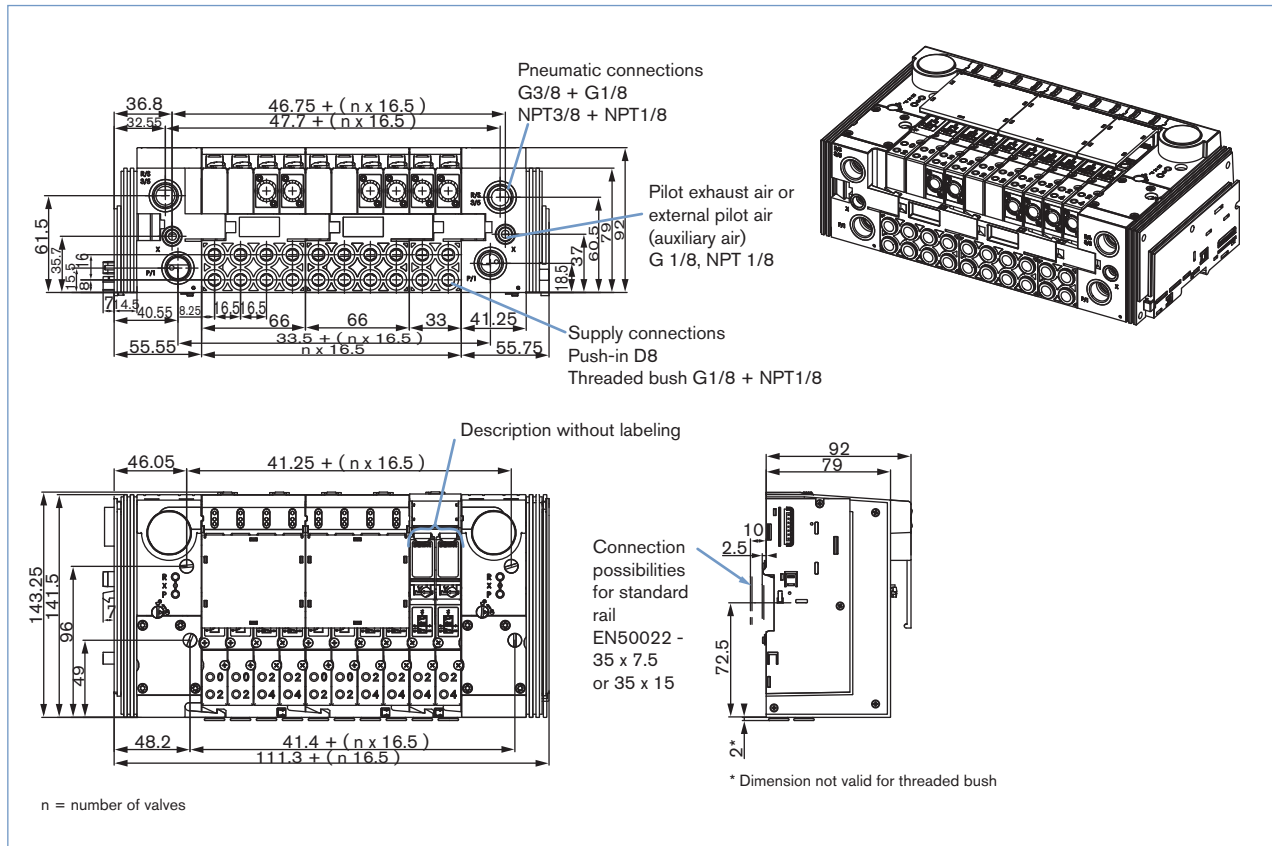
11 mm mounting dimensions for Type 6524 2 x 3/2-way valve



DTS 1000082493 EN Version: B Status: RL (released | freigegeben | validé) printed: 22.09.2017

Dimensions [mm]

16.5 mm mounting dimensions for Type 6526 / 6527



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