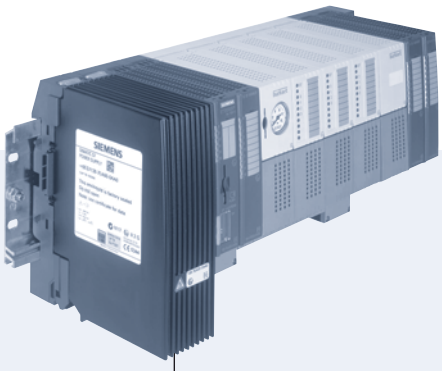
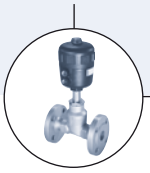
bürkert
FLUID CONTROL SYSTEMS



Modular electrical and pneumatic automation system

- For use in hazardous areas (zone 1/21)
- Developed in cooperation with Siemens Automation and Drives
- Electrical connection via PROFIBUS® DP-is, electrical I/O functions via Siemens SIMATIC ET 200 iSP™ modules
- Compact design / Protection rating IP30

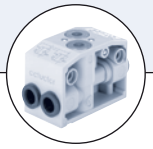
Type 8650 can be combined with ...



Type 2012
Process valve



Type 1062
Position feedback



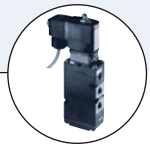
Type 0498
Double pilot controlled check valve



Type 2000
Angle valve



Type 8030
Sensor



Type 6519 EEx-i
Pneumatic valve

AirLINE Ex Type 8650 is a modular electrical and pneumatic automation system that controls complex processes in hazardous areas (Zone 1 / 21).
The protection class "intinsically safe" (EEx-i) of electronic modules and valves allows the change of modules during operation.
With the modules of the cooperation partner Siemens, Bürkert offers electrical, analogue and digital I/O functions for use in zone 0.
A data set on a SD-Card with serialised data will be delivered as a complete system.

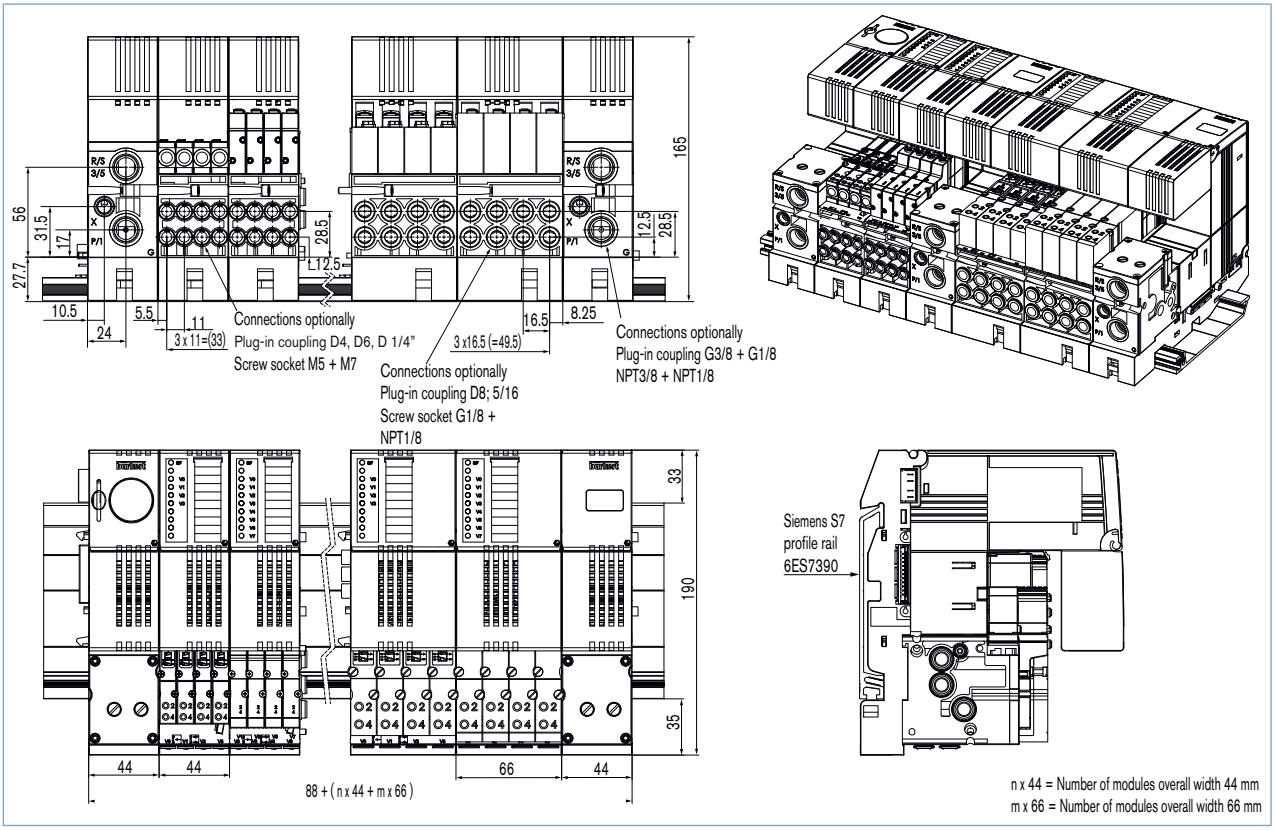
Technical data	
System structure Number of valves Valve types 6524 / 6525 Valve types 6526 / 6527 max. width of the system	 max. 48 valve functions max. 32 valve functions 1070 mm (inclusive Siemens modules) (see *Technical data* in the operating instructions)
Max. power consumption	see *Technical data* in the operating instruction
Duty cycle	100 % ED (continuous operation)
Operating voltage	24 V DC in EEx-e
Residual ripple	2 Vss
Mounting	on S7 profile rail from Siemens
Temperatures Operation Storage	 0 to +55 °C (horizontal installation) -40 to +70 °C
Interference elimination interference resistance emitted interference	according to EMV statutes EN 50082-2 EN 50081-2
Rating	IP30
Protection class	I (according to IEC 61140)
Approvals	ATEX Zone 1 and 21 IEC-Ex FM-Ex in preparation

PROFIBUS® registered Trademark of PROFIBUS NUTZERORGANISATION e.V.
SIMATIC ET 200iSP™ decentralised peripheral device from Siemens

DTS 1000089716 EN Version: D Status: RL (released | freigegeben | validé) printed: 05.07.2008

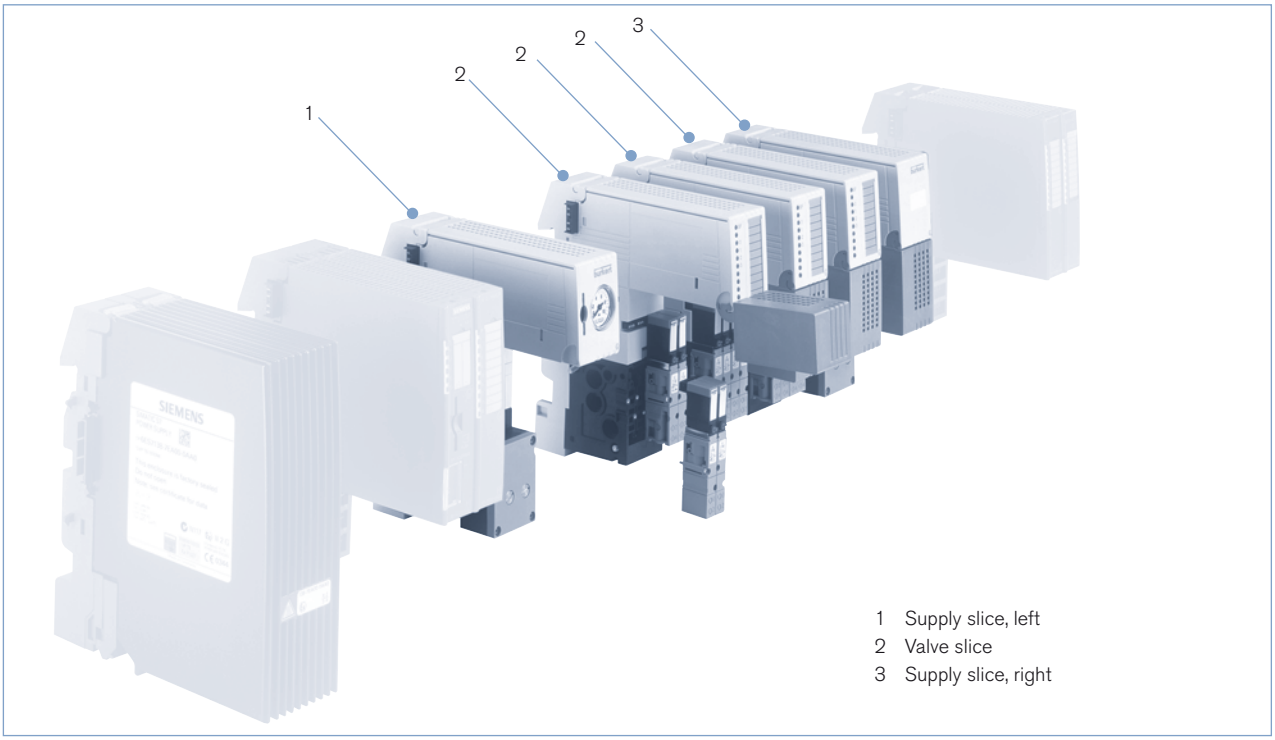
Dimensions [mm]

System AirLINE Ex Type 8650



DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

Structure example AirLINE Ex Type 8650



1 Supply slice, left
2 Valve slice
3 Supply slice, right

Configurator

AirLINE Ex is a modulary structured automation system that can be precision-adapted to specific requirements. For this purpose Bürkert provides an item of software, the configurator, which enables you to put together your required configuration in a precisely structured way.

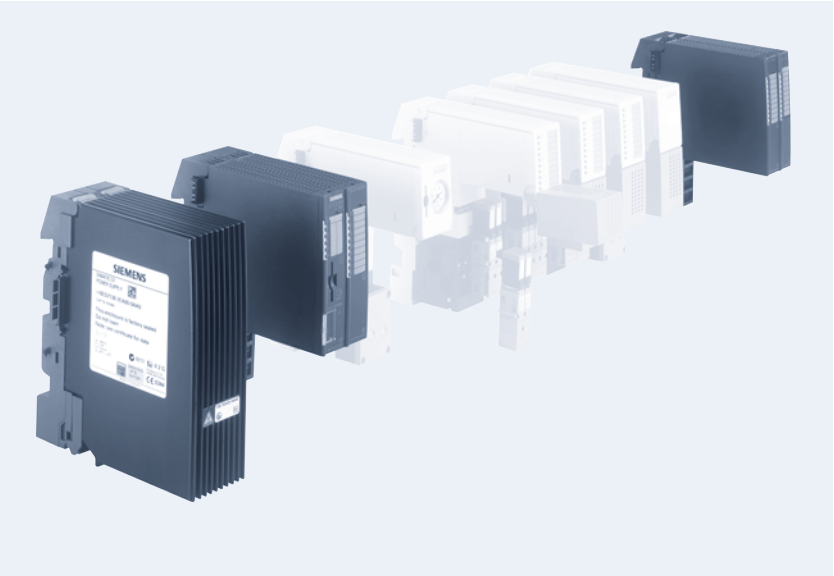


The Bürkert configurator makes it easier to create a configuration by allowing you to choose modules in the program easily and bring them together in one complete system.

In the end you have:
- the documentation concerning your configuration,
- the bill of material (including list prices),
- dimensions,
- the required diagrams,
- files in DXF format for integration into your working.

DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

Electrical modules of series Siemens SIMATIC ET 200iSP™



Technical data*	
Operating voltage	24 V DC in EEx-e by Power-Supply module
Temperatures	
Operation	-20 ... +70 °C
Storage	-40 ... +70 °C
Rating	IP30
Protection class	I according to IEC 60536
Approvals	
Terminal module	II2G EEx-e IIC T4
Electronic module	II2G EEx-i IIC T4
for use in	ATEX Zone 1 and 21

*detailed specifications see manual Siemens SIMATIC ET 200iSP

The Siemens SIMATIC ET 200iSP™ is suitable for use in explosion-protected areas. It consists of power supply and interface module and a maximum 32 electronic modules.

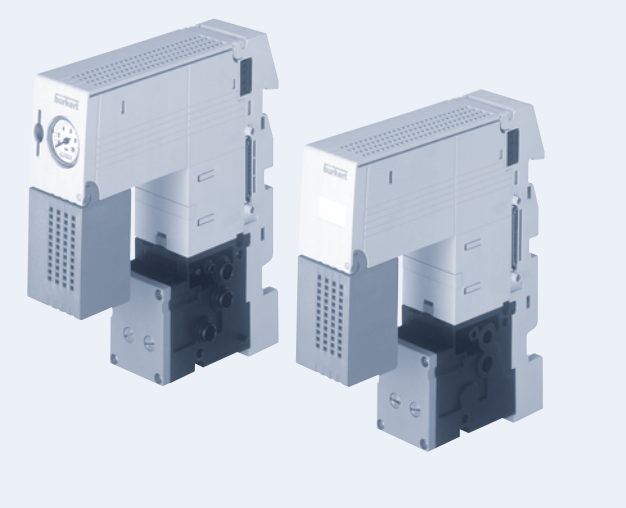
Overview of the Siemens components required for the AirLINE Ex type 8650

The Siemens components required for the AirLINE Ex type 8650 are presented in an overview in the following. For detailed information concerning the modules from series ET 200iSP™ please refer to the corresponding data sheets from Siemens.

Components fo the SIMATIC ET 200iSP™ –systems	
Profile rail	The profile rail is a rack from the ET 200iSP™ system. You mount the modules on this rail.
Terminal module	The terminal modules carry the stationary wiring. They accommodate the power supply, interface and electronic modules.
 Power-Supply module	The power supply module is positioned on terminal module TM-PS-A / TM-PS-B (optionally redundant). It supplies electronics and sensors with power.
 Interface module	The interface module is positioned on terminal module TM-IM / EM or TM-IM / IM. It connects the ET 200iSP™ system with the DP master and distributes the data to the populated electronic modules.
 Electronic module	The electronic modules are positioned on terminal module TM-IM / EM or TM-EM / EM. It determines the functions (e. g. digital or analogue electronic I/O module).
Termination module	The termination module complements the station.

DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

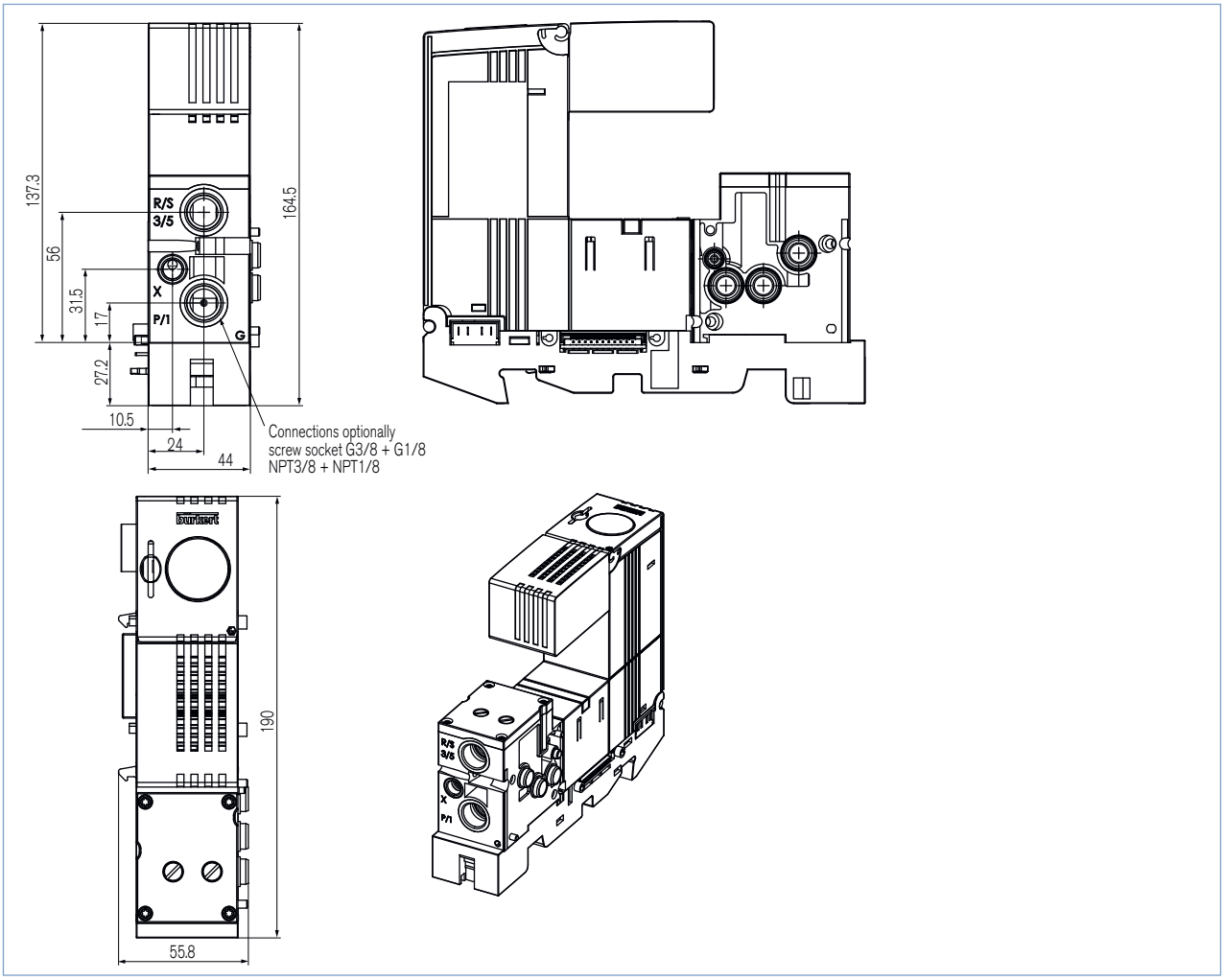
Supply slice left / right / middle



Technical data	
Power consumption	0 W (Module is electrically passive)
Pneumatic connections	G3/8" and G1/8" or NPT3/8" and NPT1/8"
Media	lubricated and non lubricated dry air; neutral gases (5 µm-filter recommended)
Duty cycle	100 % ED (continuous operation)
Dimensions [mm]	ca. 50 x 190 x 120
Material (housing / pneumatic)	PA, PBT, PC
Weight [g] (without / with manometer)	480 / 520

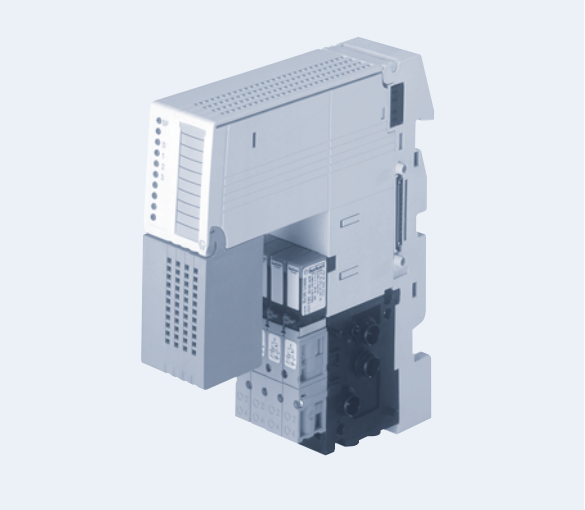
The supply slices (on the picture supply slices right / left) compose the interface between the electronic modules of the Siemens SIMATIC ET 200iSP™ series and the pneumatic valve block from Bürkert. With the supply slices the AirLINE Ex-System is powered with compressed air.

Dimensions [mm]



DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

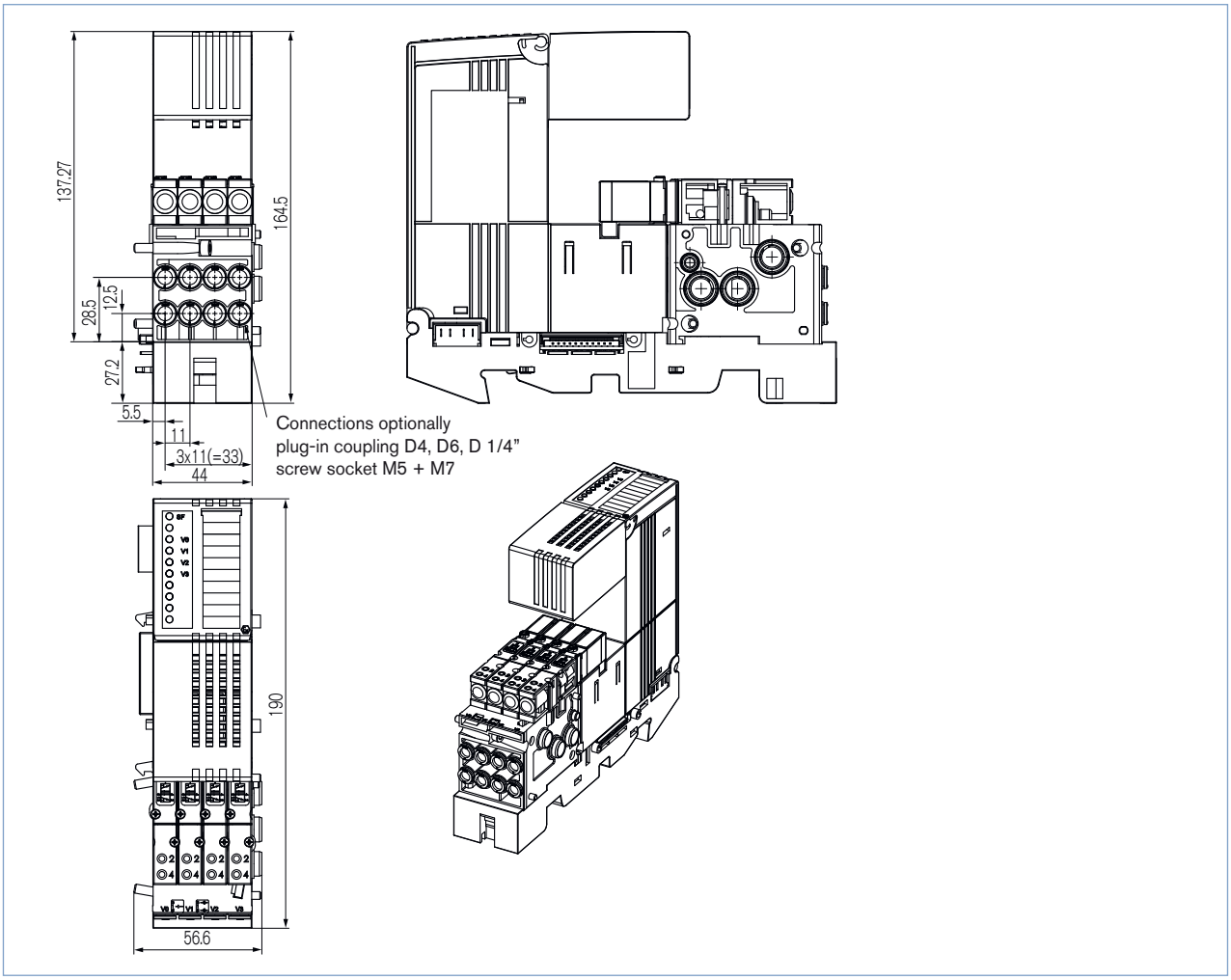
Valve slice 44 mm



Technical data	
Power consumption	2.9 W (for 2 x 3/2-way valves: 3.6 W)
Pneumatic connections of the valve slice for Valves with 11 mm per station	Plug-in connection D4, D6, D1/4"; Thread M5, M7
Media	lubricated and non lubricated dry air; neutral gases (5 µm-filter recommended)
Duty cycle	100 % ED (continuous operation)
Dimensions [mm]	ca. 50 x 190 x 120 ca. 72 x 190 x 120
Material (housing / pneumatic)	PA, PBT, PC
Weight [g] (without valves)	470

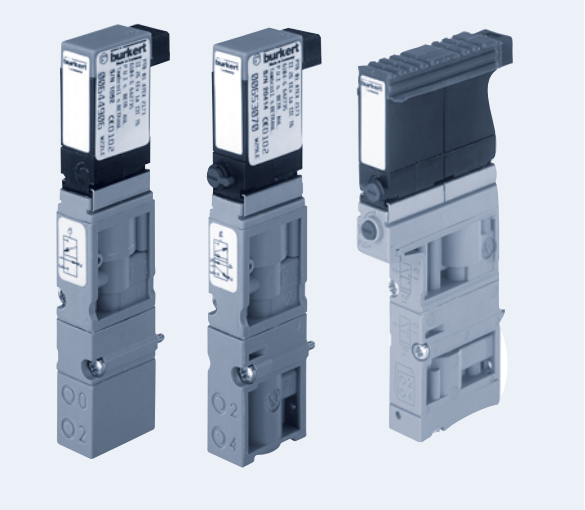
A valve slice is composed of a terminal module which represents the backplane. On this terminal module an electronic and a pneumatic basic module is fixed. Pilot valves of the following types can be assembled:
6524 / 6525 EEX-i (11 mm width per station).

Dimensions [mm]



DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

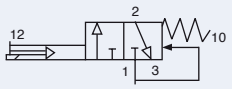
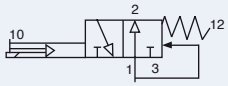
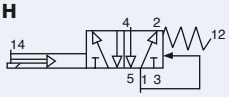
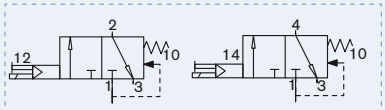
Pilot valves type 6524 and type 6525 EEx-i (11 mm width per station)



Technical data	
Body material	PA (polyamide)
Sealing material	NBR
Media	lubricated and non lubricated dry compressed air; neutral gases (5 µm-filter recommended)
Port connection	Flange for MP 13
Manual actuation	yes (alternative versions without)
Rated power	0.3 W (for 2 x 3/2-way valves: 2 x 0.3 W)
Duty cycle	100 % ED (continuous operation)
Electrical connection at the valve	rectangular plug RM 2.54 mm
Installation	with 2 screws M2 x 20

The pilot valves of types 6524 and 6525 consist of a solenoid valve (EEx-i design) and a pneumatic poppet valve as amplifier. The operating principle enables high pressure to be controlled with low power consumption and short switching times. The valves are equipped with manual override (alternatively versions without).

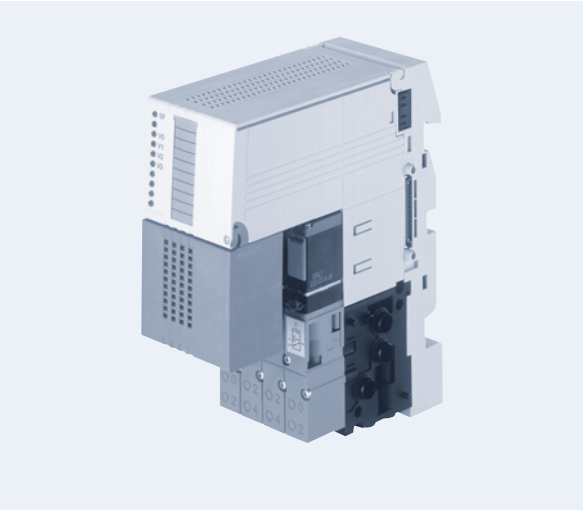
Ordering chart

Circuit function	Orifice	QNn value air [l/min]	Response times Opening [ms]	Response times Closing [ms]	Pressure range [bar]	Versions	Item no.
C = NC (normally closed)  3/2-way valve, servo-assisted, currentless, Port 2 decreased	4	300	35	45	2.5 ... 7	with manual override	173 667
						without manual override	173 669
					1 ... 7	with manual override	175 735[1)]
					vaccum ... 7	with manual override	173 668[1)]
						without manual override	173 671[1)]
D = NO (normally open)  3/2-way valve, servo-assisted, currentless, Port 2 pressurised	4	300	35	45	2.5 ... 7	with manual override	173 673
						without manual override	173 674
H  5/2-way valve, servo-assisted, currentless, Port 1 with Port 2, Port 4 exhausted	4	300	35	45	2.5 ... 7	with manual override	173 675
						without manual override	173 676
					1 ... 7	with manual override	175 633[1)]
C  2 x 3/2-way valve, servo-assisted in de-energized position port 2/4 to atmosphere	4	300	15	20	2.5 ... 7	with manual override	182 086
					1 ... 7	with manual override	182 088

1) Version with auxiliary pilot air

DTS 1000089716 EN Version: D Status: RL (released | freigegeben | validé) printed: 05.07.2008

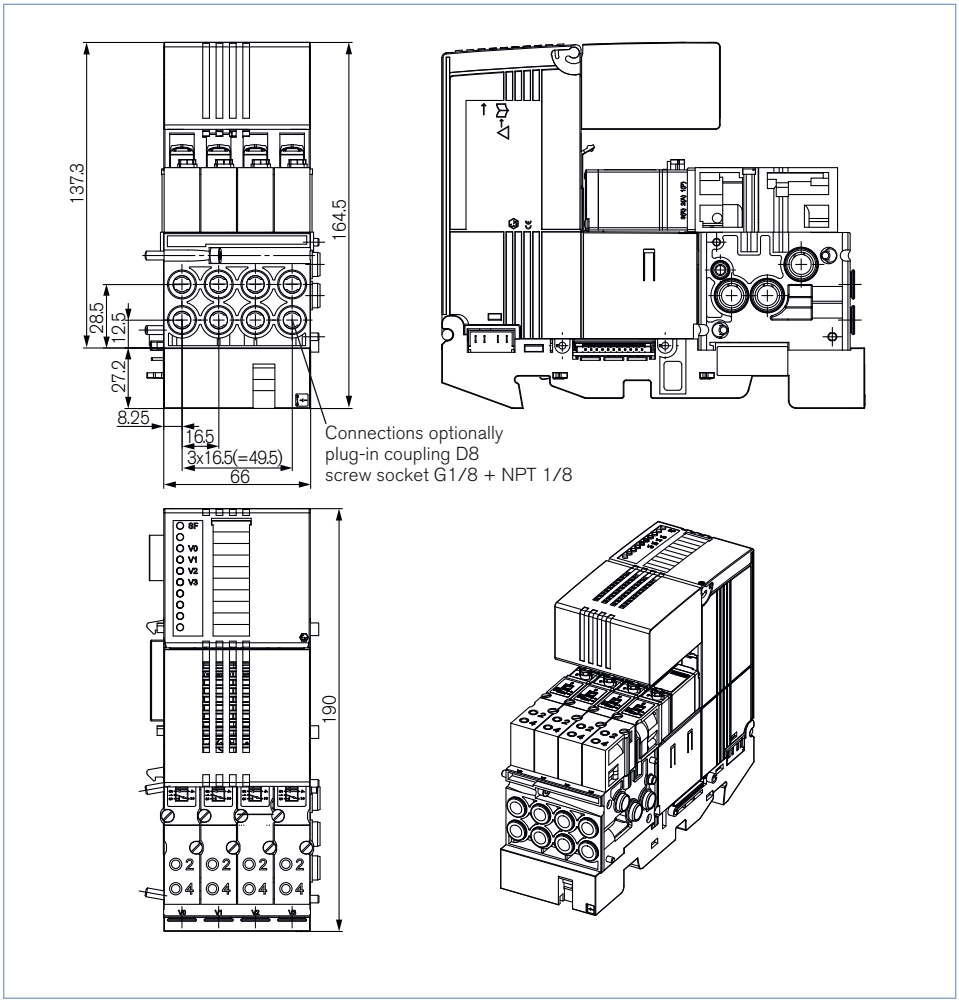
Valve slice 66 mm



Technical data	
Power consumption	2.9 W
Pneumatic connections of the valve slice for Valves with 16.5 mm per station	 Plug-in connection D8; Thread G1/8", NPT1/8"
Media	lubricated and non lubricated dry air; neutral gases (5 µm-filter recommended)
Duty cycle	100 % ED (continuous operation)
Dimensions [mm]	ca. 50 x 190 x 120 ca. 72 x 190 x 120
Material (housing / pneumatic)	PA, PBT, PC
Weight [g] (without valves)	580

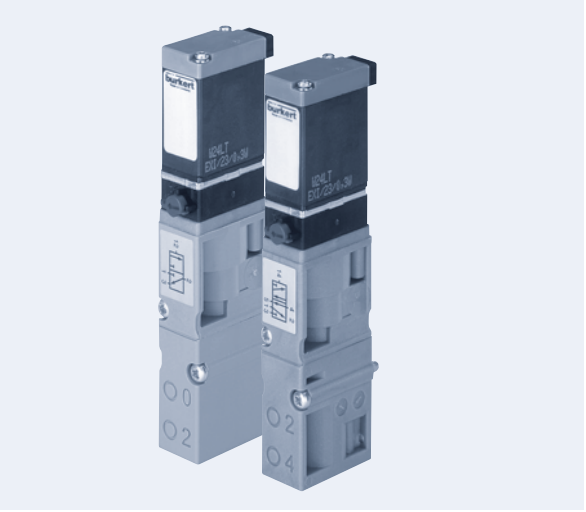
A valve slice is composed of a terminal module which represents the backplane. On this terminal module a fourfold electronic and a fourfold pneumatic basic module is fixed. Pilot valves of the following types can be assembled:
6526 / 6527 EEX-i (16.5 mm width per station)

Dimensions [mm]



DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

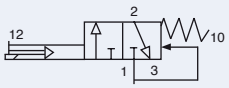
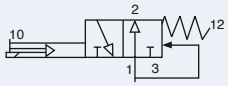
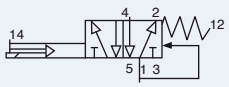
Pilot valves type 6526 and type 6527 EEx-i (16.5 mm width per station)



Technical data	
Body material	PA (polyamide)
Sealing material	NBR
Media	lubricated and non lubricated dry compressed air; neutral gases (5 µm-filter recommended)
Port connection	Flange for MP 13
Manual actuation	yes (alternative versions without)
Rated power	0.3 W
Duty cycle	100 % ED (continuous operation)
Electrical connection with the valve	rectangular plug RM 5.08 mm
Installation	with 2 screws M3 x 30

The pilot valves of types 6526 and 6527 consist of a rocker type solenoid valve of type 6106 (EEx-i design) and a pneumatic poppet valve as amplifier. The operating principle enables high pressure to be controlled with low power consumption and short switching times. The valves are equipped with manual override (alternatively versions without).

Ordering chart

Circuit function	Orifice	QNn value air [l/min]	Response times Opening [ms]	Response times Closing [ms]	Pressure range [bar]	Versions	Item no.
C = NC (normally closed)  3/2-way valve, servo-assisted, currentless, Port 2 decreased	6	700	80	90	2 ... 10	with manual override	175 634
						without manual override	175 674
					1 ... 8	with manual override	175 731[1]
					-0,9 ... 8	with manual override	175 673[1]
						without manual override	175 723[1]
D = NO (normally open)  3/2-way valve, servo-assisted, currentless, Port 2 pressurised	6	700	80	90	2 ... 8	with manual override	175 725
						without manual override	175 726
H  5/2-way valve, servo-assisted, currentless, Port 1 with Port 2, Port 4 exhausted	6	700	80	90	2 ... 8	with manual override	175 727
						without manual override	175 728
					1 ... 8	with manual override	175 729[1]

1) Version with auxiliary pilot air

DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

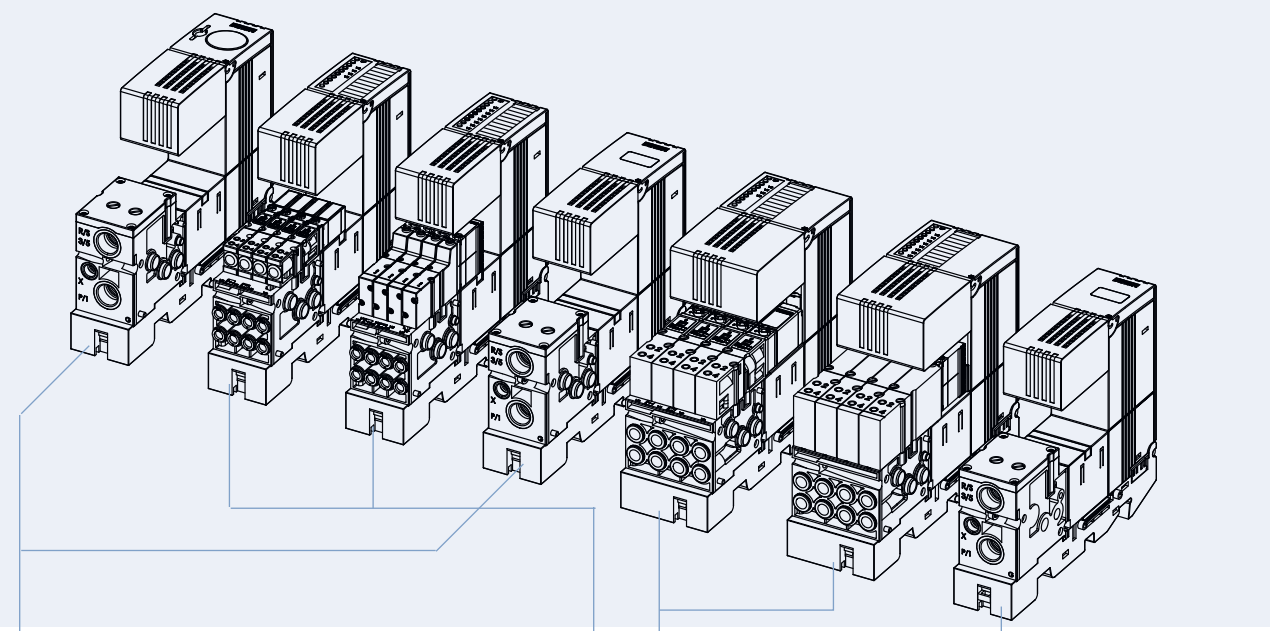
Ordering chart System-Accessory

Accessory	Specification	Item no.
Plates for 3/2 and 5/2 way valves (11 mm) / flange profile 6524 / 6525 (mounting in the place of a valves)	Complete dummy plate for 3/2 and 5/2-way valves (To close an unused valve position)	650 373
	Complete dummy plate for 2 x 3/2-way valves (To close an unused valve position)	661 092
	Supply plate, complete for 2 x 3/2-way valves[1] (For additional medium supply during consumption-intensive applications or for feeding separate media circuits or pressure stages)	667 945
	Breather plate, complete for 2 x 3/2-way valves[1] (For additional exhaust during consumption-intensive applications or for exhaust of separate media circuits or pressure stages)	667 947
	Supply plate, complete for 3/2 and 5/2-way valves[1] (For additional medium supply during consumption-intensive applications or to supply separated medium groups or pressure levels)	649 637
	Exhaust plate, complete for 3/2 and 5/2-way valves[1] (For additional ventilation during consumption-intensive applications or to exhaust separated medium groups or pressure levels)	655 166
Plates for 3/2 and 5/2 way valves (16.5 mm) / flange profile 6526 / 6527	Complete dummy plate for 3/2 and 5/2-way valves	653 765
	Supply plate, complete[1] (For additional medium supply during consumption-intensive applications or to supply separated medium groups or pressure levels)	649 637
	Exhaust plate, complete[1] (For additional ventilation during consumption-intensive applications or to exhaust separated medium groups or pressure levels)	653 697
profile rail	length 480 mm	655 982
	length 530 mm	655 983
	length 585 mm	671 701
	length 830 mm	671 702
	length 885 mm	671 703
further accessories	Plug to block P-channel (to build up several pressure levels or media groups in a 8650 system)	655 068
	suitable ex-bus plug e. g. from Siemens: Order no. 6ES7-972-0DA60-0XA0	655 981

[1] These plates use the working connections and medium channels of the respective valve position. Since they have smaller diameters than the connections on the clamping pieces, the potential throughflow values are correspondingly lower!

DTS 1000089716 EN Version: D Status: RL (released I freigegeben I validé) printed: 05.07.2008

Example configuration



Supply slice left / middle	
pneumatic connections	G 3/8" and G 1/8" or NPT 3/8" and NPT 1/8"

Supply slice right	
pneumatic connections	G 3/8" and G 1/8" or NPT 3/8" and NPT 1/8"

Valve slice 44 mm	
pneumatic connections	Plug-in coupling D4, D6, D 1/4"; thread M5, M7

Valve slice 66 mm	
pneumatic connections	Plug-in coupling D8; thread G 1/8", NPT 1/8"

DTS 1000089716 EN Version: D Status: RL (released | freigegeben | validé) printed: 05.07.2008

To find your nearest Burkert facility, click on the orange box → www.burkert.com

In case of special application conditions, please consult for advice.

We reserve the right to make technical changes without notice.
© Christian Bürkert GmbH & Co. KG

0805/4_EU-en_00895010