CGS PROZESS-ANALYTIK

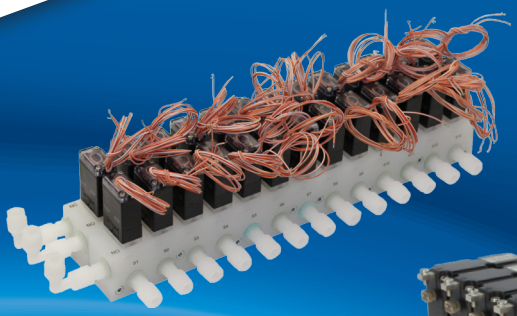
Solenoid Valve Block

- Off- and changeover switching of gas streams
- Application for pure, aggressive and corrosive gases
- Fast response time via low volume
- Variously configurable
- Easy to maintain
- Compact design
- Easily extendible

CGS In-House Development & Production.

MVB-DBB-S2

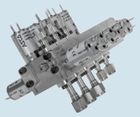
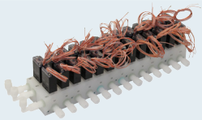
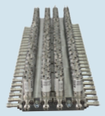
MVB-2K



MVB-PVDF-S2

MVB-Ex-S1

TABLE OF CONTENTS

MVB - Single row; Stainless steel	MVB-S	
	MVB-K	
	MVB-SP	
	MVB-KP	
	MVB-D	
	MVB-3/2W	
	MVB-EAG	
MVB - Double row; Stainless steel	MVB-2	
	MVB-GC	
	MVB-2K	
	MVB-2SP	
MVB - Double Block & Bleed	MVB-DBB-S1	
	MVB-DBB-S2	
MVB - PVDF	MVB-PVDF-S1	
	MVB-PVDF-S2	
MVB - Special; Stainless steel	MVB-SSV	
	MVB-MB	
	MVB-3	
	MVB-4	
MVB - Ex	MVB-Ex-S1	
	MVB-Ex-S2	
	MVB-Ex-S3	
	MVB-Ex-S4	

SOLENOID VALVE BLOCKS

Description

The product solenoid valve block is used for off- and changeover switching of various gas streams. The characteristic of the blocks is their compact design. This means low assembling space and quick response times of the analysis by low volume inside the changeover block or gas path. The block is individual applicable by its various configurations. The blocks are easy to maintain and expandable because of its modular design. They are developed and produced in accordance to the application range or customer requirements. The different solenoid valves are suitable for pure, aggressive and corrosive gas applications.

Legend: Schema

S:	Sample gas
ZG:	Zero gas
SG:	Span gas
PG:	Purge gas
OUT:	Outlet to analyzer
PUG-OUT:	Outlet purge line
BLD-OUT:	Outlet bleed line
BY:	Outlet bypass
CB:	Continuous bypass
CA:	Control air
RV:	Relieve valve
N:	Orifice
Fil:	Filter
B:	Blind flange/plate
BS:	Blind screw
K2:	Double ferrule fitting 2 mm
K3:	Double ferrule fitting 3 mm
K6:	Double ferrule fitting 6 mm
K16:	Double ferrule fitting 1/16“
K18:	Double ferrule fitting 1/8“
K14:	Double ferrule fitting 1/4“
St3,2:	Push-In 3.2 mm
St4:	Push-In 4.0 mm
R6:	Hose connector 6.0 mm
R8:	Hose connector 8.0 mm

STAINLESS STEEL; SINGLE ROW

STAINLESS STEEL; SINGLE ROW

Description

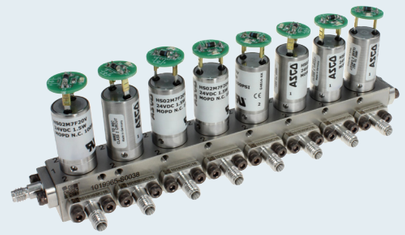
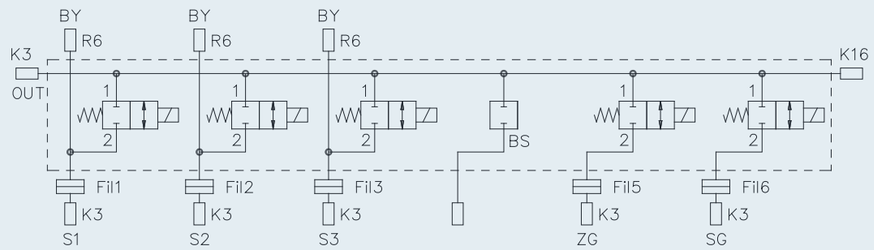
The single row version of the solenoid valve block is used for switchover of sample and/or calibration gases to an analyzer. The other way round the block can be used to switchover one sample gas to various analyzers. The block can be cleaned and certified for O_2- applications. For a fast response time of a trace moisture analyzer, it can be equipped with a special diaphragm. Tested until gas quality 6.0.
Solenoid valves with soldering lugs can be equipped with an anti-surge diode or a LED-board. The diode and board is used for a fast and secure deactivation of the solenoid valve. The board shows the activation by LED.
Development of a compact and efficient gas switching with low death volume.

Application

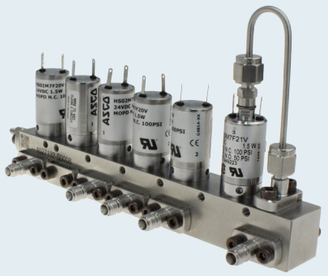
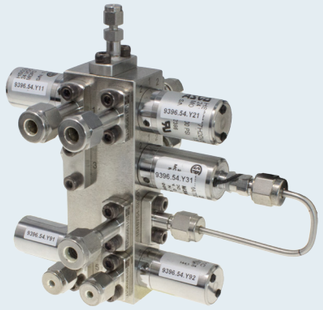
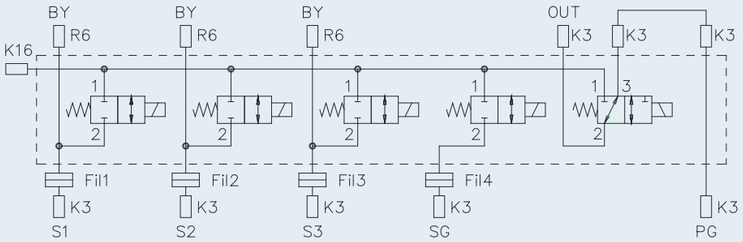
Continuous gas analysis
Bypass outlets can be drilled for each sample stream. This is used for continuous flow of the sample gas through the stainless steel block. This allows a fast availability of the product which should be measured. This means fast detection and reaction at changes in the process.
Discontinuous gas analysis
The other way round the block can be used to switchover one sample gas to various analyzers.
Calibration/Validation
Depending on the application it can be switched between sample and various calibration gases. The switchover is used for manual or automatic calibration or validation for the verification of the analyzer.

Technical data

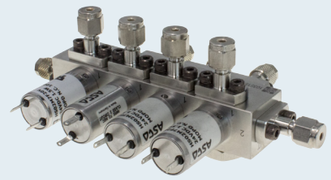
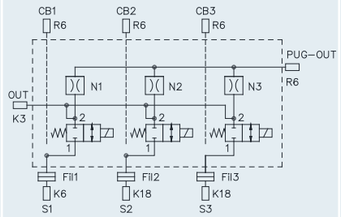
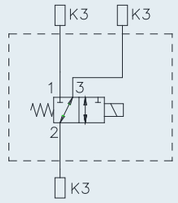
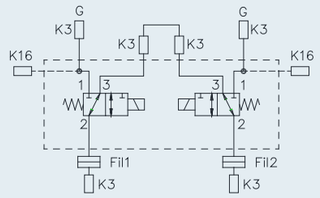
Connectors	
Flange	1/16"; 1/8"; 1/4" 2 mm; 3 mm; 6 mm R6; R8
Material	Stainless steel 1.4305 O-ring FKM sealed
Filter	
Filter size	20 µm or 50 µm
Material	Stainless steel 1.4305
Solenoid valves	
Voltage	24 VDC
Power consumption	1.5 W
Connection type	Soldering lug or cable
Response time	<10 ms
Operating cycles	500 million
Sealing material	FKM
Max. gas pressure	7 bar (at inverse use 3.5 bar)
Operation mode	2/2-way (NC) 3/2-way

Product	MVB-S; standard single row	MVB-K; standard single row compact
		
Schema		
Order document	V1, V12	V37
Changeover gas paths	1 - 10	6, 8, 10, 12, 14, 16, 18, 20
Characteristic	Compact changeover. Calibration block for continuous gas analysis.	**Further development of MVB-S** More gas streams. Compact design. Bypass purge through valve seat.

STAINLESS STEEL; SINGLE ROW

Product	MVB-SP; standard purge	MVB-KP; compact purge
		
Schema		
Order document	V8	V25
Changeover gas paths	2 - 6 + purge gas	2 - 5 + purge gas
Characteristic	**Further development of MVB-S** Purge gas supply by 3/2-way valve. Purging of analysis cell in case of power failure.	**Further development of MVB-K** Purge gas supply by 3/2-way valve. Purging of analysis cell in case of power failure.

STAINLESS STEEL; SINGLE ROW

Product	MVB-D; Orifice	MVB-32W; 3/2-way	MVB-EAG; On/Off sample preparation
			
Schema			
Order document	V34	V15	V19
Changeover gas paths	1 - 8	2 --> 1	2 --> 2
Characteristic	**Further development of MVB-S** Purging of solenoid valve seat to atmosphere; avoid influences by possible leakages of the valve.	3/2-way switchover.	Bypass switching for sample preparation equipment as purifier or humidifier unit.

STAINLESS STEEL; DOUBLE ROW

STAINLESS STEEL; DOUBLE ROW

Description

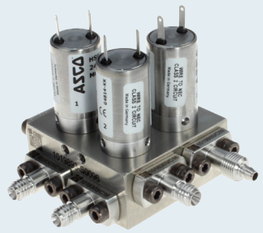
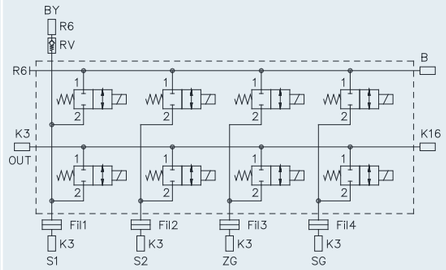
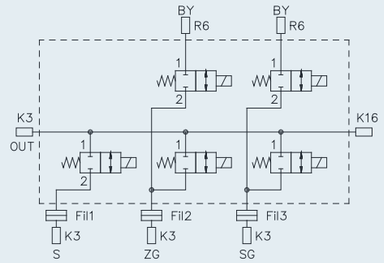
The double row version of the solenoid valve block is used for switchover of sample and/or calibration gases to one or various analyzers. The other way round the block can be used to switchover two sample gases to various analyzers. The block can be cleaned and certified for O_2- applications. For a fast response time of a trace moisture analyzer, it can be equipped with a special diaphragm. Tested until gas quality 6.0.
Solenoid valves with soldering lugs can be equipped with an anti-surge diode or a LED-board. The diode and board is used for a fast and secure deactivation of the solenoid valve. The board shows the activation by LED.
Development of a compact and efficient gas switching with low death volume.

Application

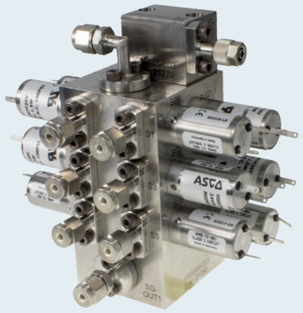
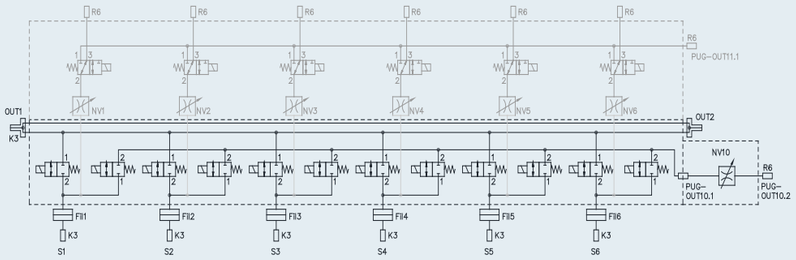
Continuous/Discontinuous gas analysis; Calibration/Validation
Bypass outlets can be drilled for each sample stream. This is used for continuous flow of the sample gas through the stainless steel block. This allows a fast availability of the product which should be measured. This means the gas path is continuously purged and avoids gas disposals at discontinuous analysis. The second solenoid valve row is used to purge the sample or calibration gas stream as fast as possible. This allows a fast availability of the product which should be measured. Relief valves must be assembled by the use of a pump in the sample gas outlet.

Technical data

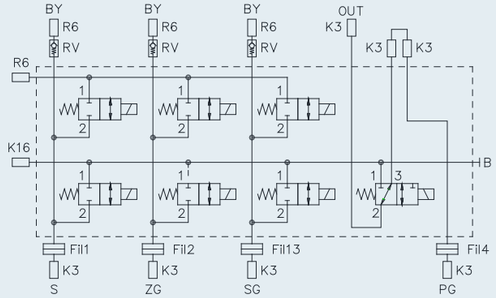
Connectors	
Flange	1/16“; 1/8“; 1/4“ 2 mm; 3 mm; 6 mm R6; R8
Material	Stainless steel 1.4305 O-ring FKM sealed
Filter	
Filter size	20 µm or 50 µm
Material	Stainless steel 1.4305
Solenoid valves	
Voltage	24 VDC
Power consumption	1.5 W
Connection type	Soldering lug or cable
Response time	<10 ms
Operating cycles	500 million
Sealing material	FKM
Max. gas pressure	7 bar (at inverse use 3.5 bar)
Operation mode	2/2-way (NC) 3/2-way

Product	MVB-2; standard double row	MVB-GC; gas chromatograph
		
Schema		
Order document	V2, V3, V30	V4, V14, V27
Changeover gas paths	2 - 10	2 - 10
Characteristic	Compact changeover. With quick purge.	Calibration block with quick purge of the calibration gas for discontinuous gas analyzers.

STAINLESS STEEL; DOUBLE ROW

Product	MVB-2K; standard double row compact
	
Schema	
Order document	V32
Changeover gas paths	6 - 16
Characteristic	**Further development of MVB-2** More gas streams. More compact design. Bypass purge through valve seat.

STAINLESS STEEL; DOUBLE ROW

Product	MVB-2SP; standard double row purge
Schema	
Order document	V20, V21
Changeover gas paths	1 - 6 + purge gas
Characteristic	**Further development of MVB-2** Purge gas supply by 3/2-way valve. Purging of analysis cell in case of power failure.

STAINLESS STEEL; DOUBLE BLOCK AND BLEED

Description

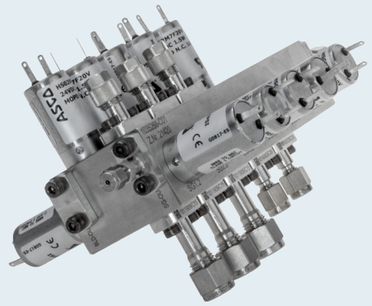
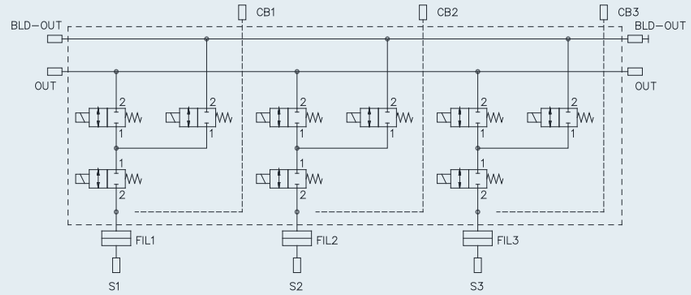
The double block and bleed version of the solenoid valve block is used for switchover of sample and/or calibration gases to one or various analyzers. The block can be cleaned and certified for O_2- applications. For a fast response time of a trace moisture analyzer it can be equipped with a special diaphragm. Tested until gas quality 6.0.
Solenoid valves with soldering lugs can be equipped with an anti-surge diode or a LED-board. The diode and board is used for a fast and secure deactivation of the solenoid valve. The board shows the activation by LED.
Development of a compact and efficient gas switching with low death volume.

Application

Continuous/Discontinuous gas analysis;
Calibration/Validation
Bypass outlets can be drilled for each sample stream. This is used for continuous flow of the sample gas through the stainless steel block. This allows a fast availability of the product which should be measured. This means the gas path is continuously purged and avoids gas disposals at discontinuous analysis. The purge solenoid valve row is used to purge the sample or calibration gas stream as fast as possible. This allows a fast availability of the product which should be measured. Bypass and quick purge are equipped with solenoid valves (MVB-DBB-S2 only). If a pump is used in the sample gas outlet this valves must be closed during an analysis.

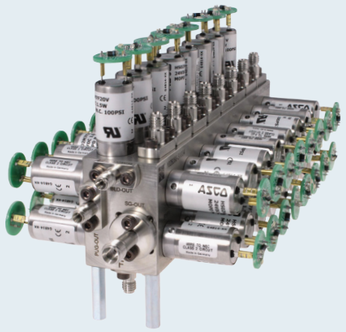
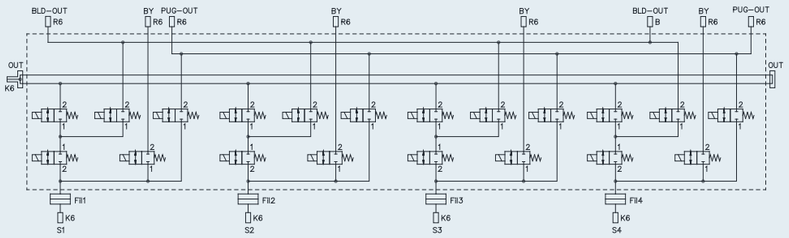
Technical data

Connectors	
Flange	1/16"; 1/8"; 1/4" 2 mm; 3 mm; 6 mm R6; R8
Material	Stainless steel 1.4305 O-ring FKM sealed
Filter	
Filter size	20 µm or 50 µm
Material	Stainless steel 1.4305
Solenoid valves	
Voltage	24 VDC
Power consumption	1.5 W
Connection type	Soldering lug or cable
Response time	<10 ms
Operating cycles	500 million
Sealing material	FKM
Max. gas pressure	7 bar (at inverse use 3.5 bar)
Operation mode	2/2-way (NC) 3/2-way

Product	MVB-DBB-S1; double block and bleed
	
Schema	
Order document	V26, V35
Changeover gas paths	2 - 8
Characteristic	**Further development of MVB-S** Simple version of double block and bleed with continuous bypass.

DOUBLE BLOCK AND BLEED

PVDF

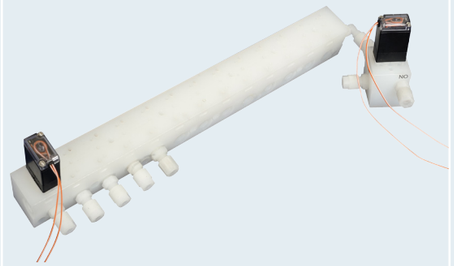
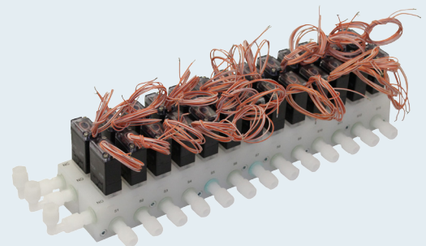
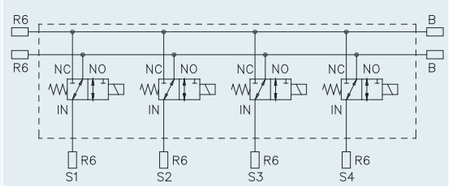
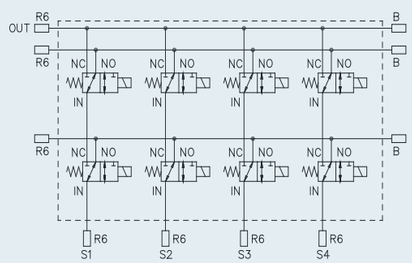
Product	MVB-DBB-S2; double block and bleed
	
Schema	
Order document	V18
Changeover gas paths	4, 6, 8
Characteristic	**Further development of MVB-2** Simple version of double block and bleed with continuous bypass and quick purge.

Description

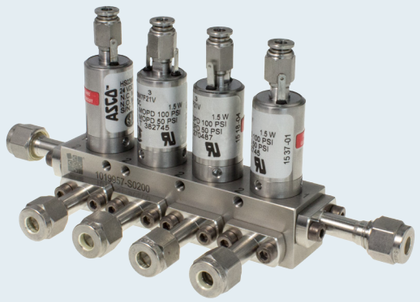
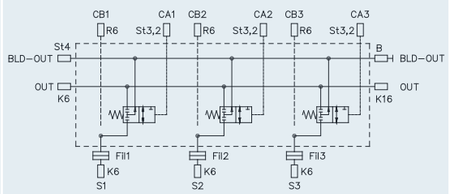
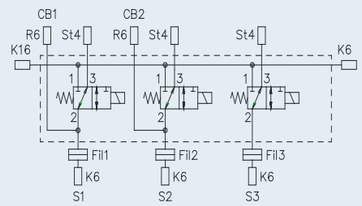
The solenoid valve block PVDF is characterized by its chemical resistance and it is used for stream switching up to 13 different streams. The compact flange solenoid valves are available as a 2/2-way valve in the NO or NC version and as a 3/2-way valve. Therefore the solenoid valve block PVDF can be equipped very flexible. The application is air monitoring in particular when reactive components are measured.

Technical data

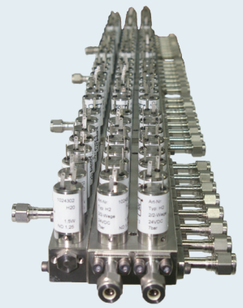
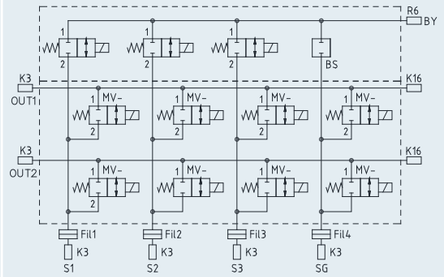
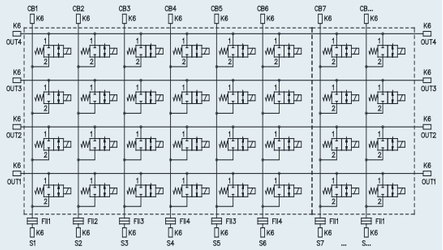
Connectors	
Flange	Screw in fitting R6; R8
Material	PVDF
Solenoid valves	
Voltage	24 VDC
Power consumption	3.4 W
Connection type	Cable
Response time	ca. 25 ms
Sealing material	FKM
Max. gas pressure	2 bar
Operation mode	2/2-way (NC) 2/2-way (NO) 3/2-way

Product	MVB-PVDF-S1	MVB-PVDF-S2
		
Schema		
Order document	MVB-PVDF_1	MVB_PVDF_2
Changeover gas paths	2 - ...	2 - 13
Characteristic	• Application in PVDF • Solenoid valve seat in PVDF	• Application in PVDF • Solenoid valve seat in PVDF

STAINLESS STEEL; SPECIAL

Product	MVB-SSV; Pneumatic valves Double Block and Bleed	MVB-MB; Sample Bypass
		
Schema		
Order document	V38	V39
Changeover gas paths	2 - ...	4 - 10
Characteristic	**Feature** • 3-fold solenoid valve block • Pneumatic valves SSV • Block and Bleed function • Various extendible by flange connectors • Max. sample gas pressure 17.2 bars • Control air 2.8 bars (hose) • Seals FPM • Optimized gas guidance with continuous bypass • Flange adapters with integrated sinter metal filter **Application** • Sample and calibrations gas switchover for 1 analyzer • Application for Atex-Zone	**Feature** • 3/2-way solenoid valve 24 VDC • Max. sample gas pressure 3.5 bars • Bypass outlet hose • Seals FKM • Optimized gas guidance with continuous bypass • Flange adapters with integrated sinter metal filter **Application** • Sample and calibrations gas switchover for 1 analyzer • Specific switchover from sample to bypass mode

STAINLESS STEEL; SPECIAL

Product	MVB-3; triple row	MVB-4; quadruple row
		
Schema		
Order document	V16	V31
Changeover gas paths	8 - 24	6 - 24
Characteristic	**Feature** • 2/2-way solenoid valve 24 VDC • Max. sample gas pressure 7 bars • Seals FKM • Optimized gas guidance with continuous bypass • Flange adapters with integrated sinter metal filter **Application** • Ambient air monitoring for switchover of sample gases to two analyzers (Row 1 & 2), with continuous Bypass (Row 3)	**Feature** • 2/2-way solenoid valve 24 VDC • Max. sample gas pressure 7 bars • Seals FKM • Optimized gas guidance with continuous bypass • Flange adapters with integrated sinter metal filter **Application** • Ambient air monitoring for switchover of sample gases to various analyzers (in this case 4); variously extendible

STAINLESS STEEL; EX

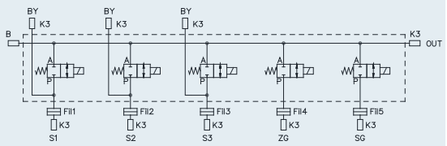
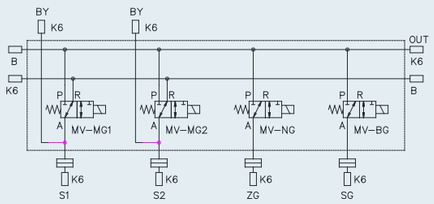
STAINLESS STEEL; EX

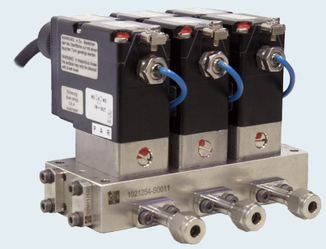
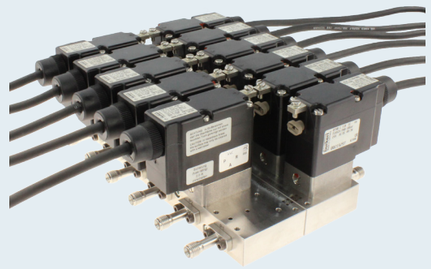
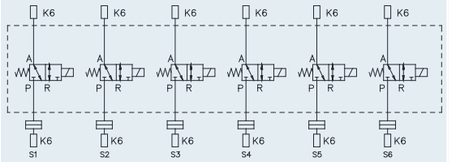
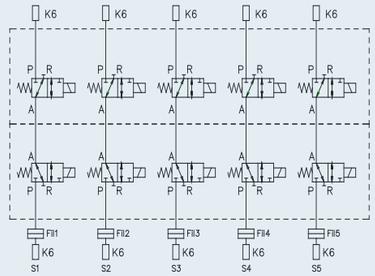
Description

Solenoid valve blocks (MVB) made of stainless steel are suitable for nearly every application because of its Ex approval. No matter if single or double shutoff as well as switching gases to one or two common gas outlets. Because of its modular construction they are space saving and can be expanded to a high amount of valves. The free choice of all various fitting sizes make solenoid valve blocks made by CGS adaptable for your local situation. Electrical activated 2/2- or 3/2-way valves navigate the gas flow prefiltered by an 20 µm or 50 µm sinter metal filter through the valve block and give information about the switching status by a position feedback signal. The function and leak tested valve block can easily be mounted immediately.

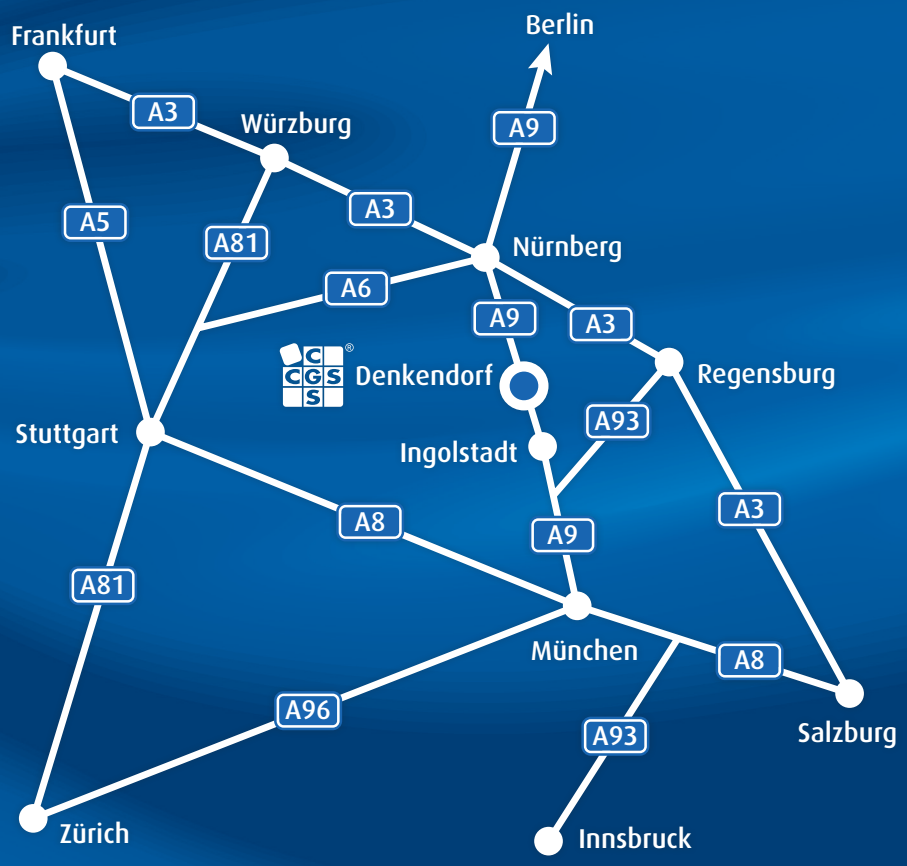
Technical data

Connectors	
Flange	1/16"; 1/8"; 1/4" 2 mm; 3 mm; 6 mm R6; R8
Material	Stainless steel 1.4305 O-ring FKM sealed
Filter	
Filter size	20 µm or 50 µm
Material	Stainless steel 1.4305
Solenoid valves	
Voltage	24 VDC or 230 V / 50 Hz
Power consumption	11 W
Connection type	Cable
Response time	ca. 30 - 40 ms
Sealing material	FKM
Max. gas pressure	10 bar
Operation mode	2/2-way (NC) 3/2-way
Special model	opt. with position feedback

Product	MVB-Ex-S1	MVB-Ex-S2
Schema		
Order document	MVB-Ex-B3	MVB-Ex-S
Changeover gas paths	2 - 9	2 - 4 (one block) further blocks can be flanged
Characteristic	• Ex-Application	• Ex-Application

Product	MVB-Ex-S3	MVB-Ex-S4
		
Schema		
Order document	MVB-Ex-B	MVB-Ex-B2
Changeover gas paths	1 - 6	1 - 6
Characteristic	• Ex-Application	• Ex-Application

CGS PROZESS-ANALYTIK



How to reach us:

- BAB A9 Nuremberg - Munich
- Exit at Denkendorf interchange (Exit 59)
- Turn right towards Beilngries
- At the roundabout (LIMES), take the third exit (Industrial area entrance 1)
- Take the first street on the left (Keltenstraße)

www.cgs-company.de

CGS Prozessanalytik GmbH
Keltenstraße 3
D-85095 Denkendorf

Tel: +49 8466 9415 - 0
Fax: +49 8466 9415 - 49
info@cgs-company.de

MDE_E_CGS_MVB_1.0