



Sincroflux

Regulating Valves

Classification and Area of Application

Sincroflux is a regulating valves with electric actuator, for medium and high pressure applications. It is particularly for use with previously treated, non-aggressive gaseous fluids.

It is particularly suitable for use within the framework of installations for the distribution of natural gas, as well as for supply networks for civil and industrial use.

It is truly a TOP ENTRY design, which confers to the valve management advantages, for example the ability to performs full maintenance without uninstalling it from the connection pipe.

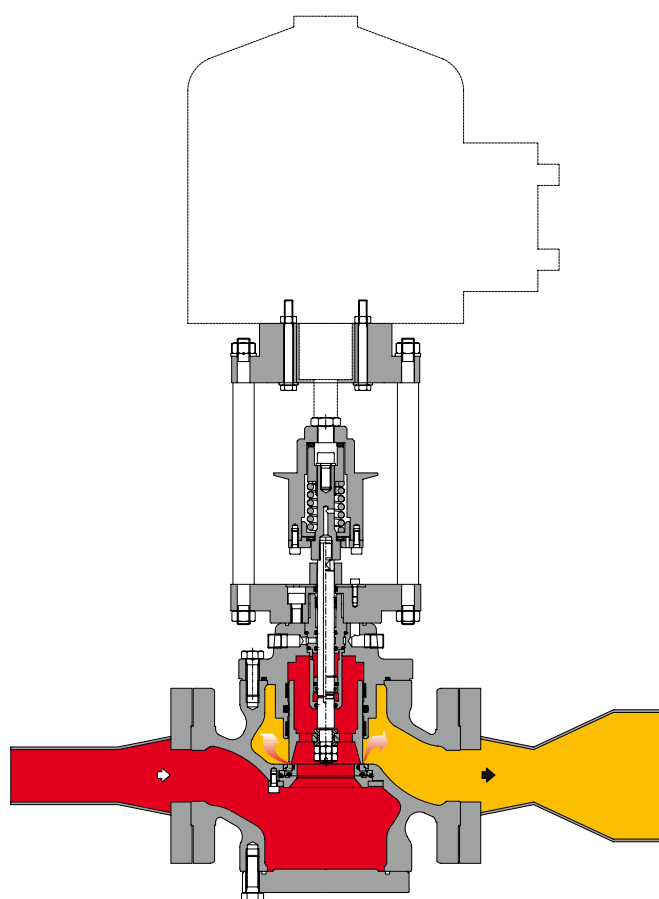


Fig.1

SINCROFLUX - Standard version

Features

Functional features:

- **Maximum inlet pressure:** Up to 102 bar
- **Minimum working differential pressure:** 0,5 bar
- **Minimum ambient temperature:** Execution up to -40°C,
- **Maximum ambient temperature:** +60°C
- **Inlet gas temperature:** Up to -20°C + 60°C,
- **Lock-up pressure class SG:** Up to 2,5

Design feature:

- **Nominal dimensions DN:** 25 (1"); 50 (2"); 80 (3"); 100 (4"); 150 (6"); 200 (8").
- **Flanged connections:** Class 150-300-600 RF or RTJ, according to ANSI B16.5 and PN 16 according to UNI EN 1092 or ISO 7005.

Materials: **

- **Body:** Cast steel ASTM A 352 LCC for classes ANSI 600 and 300; Cast steel ASTM A 216 WCB for classes Ansi 150 and PN 16/40.
- **Head covers:** ASTM A 350 LF2 forged steel
- **Stem:** AISI 416 stainless steel
- **Plug:** ASTM A 350 LF2 Nickel coated on sealing surface
- **Seat:** Nitril Rubber Vulcanized on a metal support
- **Sealing ring:** Nitril rubber
- **Connection fittings:** In zinc-plated carbon steel according to DIN 2353; Stainless steel on request.

REMARK

* Different functional features available on request.

** The materials indicated above refer to the standard models.

Différents matériaux peuvent être fournis pour des besoins spécifiques.

Cg, KG and K1 coefficient

Nominal diameter								
Millimeters	25	50	80	100	150	200	250	300
Inches	1"	2"	3"	4"	6"	8"	10"	12"
Cg flow coefficient	575	2220	4937	8000	16607	25933	36525	55000
KG flow coefficient	605	2335	5194	8416	17471	27282	38425	57860
K1 flow coefficient	106,78	106,78	106,78	106,78	106,78	106,78	106,78	106,78
								Tab. 1

For sizing formulas refer to www.fiorentini.com/sizing

Modularity and Accessories

The project of **SINCROFLUX** valve has been designed with a high degree of modularity that allows to incorporate, within the basic valve, alternative devices and additional accessories.

These can also be added to a basic valve at a later time, with no need to change the existing assembly piping connections.

Incorporated Silencer DB/819

The silencer **DB/819** allows absorbing the noise that is generated in the regulating valve during the lamination process.

Its great efficiency is due to the fact that noise absorption takes place at the same point where it is generated, thus preventing its propagation.

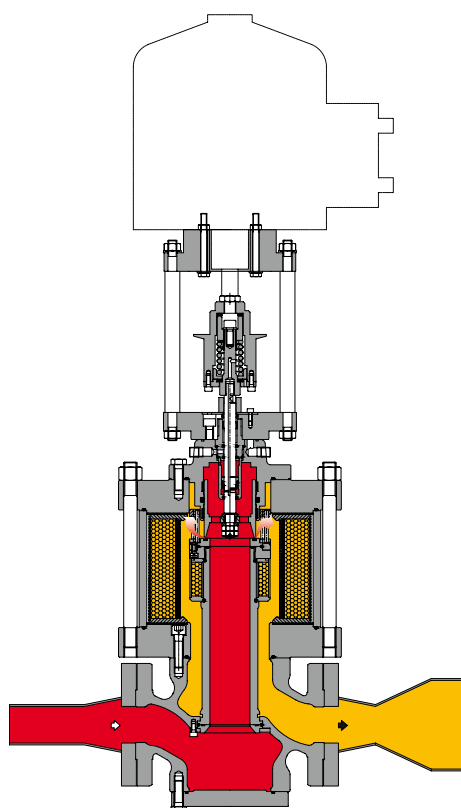


Fig.2

SINCROFLUX - With built-in silencer

This mechanical solution allows to still have the possibility of incorporating in the basic valve, besides the silencer, also the slam-shut valve or the monitor

With the application of the silencer **DB/819** the Cg and KG valve coefficients are 5% lower than the corresponding basic valve.

Slam shut device model SB/82 o HB/97

Slam shuts are **Safety device** whose task is cutting the gas flow if abnormal pressure conditions appear, compared to the one set during calibration of the dedicated pressure switch.

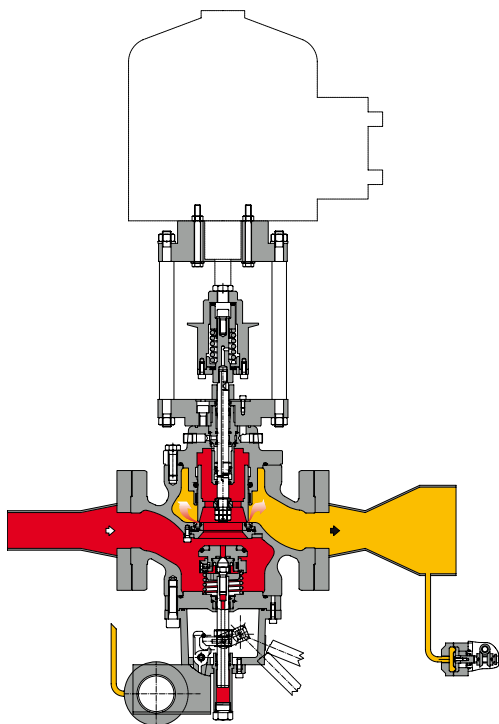


Fig.3

SBC 782 - With slam shuth SB

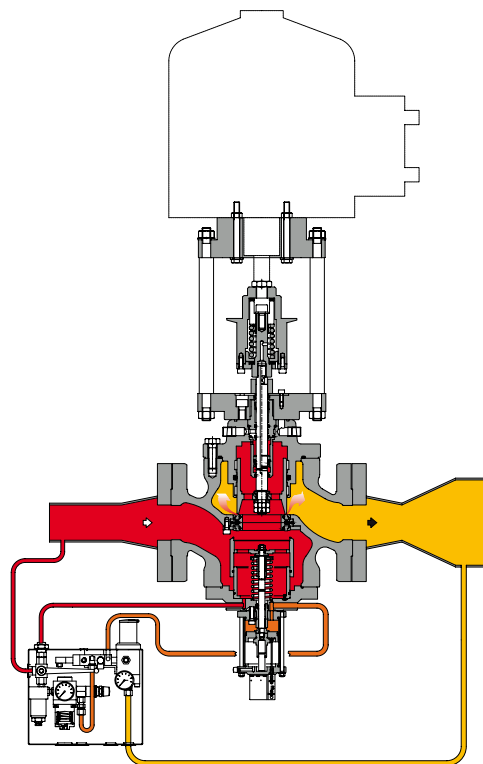


Fig.4

SBC 782 - With slam shuth HB

The calibration can be varied, according to the operating needs, in the ranges referred to in the table N.2, according to the model of pressure switch applied.

The slam shut device is equipped with a button for local manual control of the block operation.

The reset of the block device, for safety reasons, is exclusively manual and, inside the block device, a bypass device is provided, in order to make the reset operation easier.

The slam-shut device can be equipped with accessories of pneumatic or electromagnetic type allowing control, as well as with sensors (micro-switches) for the remote signaling of its tripping.

Pressure switch

MOD. SB	MIN.	MAX
102M	0,2 ÷ 2,8	0,2 ÷ 5,5
102MH	2,8 ÷ 5,5	0,2 ÷ 5,5
103M	0,2 ÷ 8	2 ÷ 22
103MH	8 ÷ 19	2 ÷ 22
104M	1,6 ÷ 18	15 ÷ 45
104MH	18 ÷ 41	15 ÷ 45
105M	3 ÷ 44	30 ÷ 90
105MH	44 ÷ 90	30 ÷ 90
MOD. HB		
103	0,4 ÷ 6,8	1.3 ÷ 11
104	1 ÷ 20,6	10 ÷ 31,5
105	2,5 ÷ 50	25 ÷ 76
105/92	45 ÷ 75	58 ÷ 85
		Tab.2

Values in Bar(g)

The slam shut valve can be calibrated for pressure increase, **over pressure shut off (OPSO)** and/or for pressure drop, **under pressure shut off (UPS0)**.

The two intervention modes can be tuned independently, using the dedicated calibration springs: a spring for the intervention of maximum pressure and a second spring for the intervention of minimum pressure.

The choice between the two models - SB/82 and HB/97 - depends on the size of the valve and on the maximum instantaneous flow rate to be provided.

In general, up to a diameter of DN 80 (3") included, the valve model SB/82 only is mounted; while, for greater sizes, it is necessary to assess whether it is suitable to mount the model HB/97 instead of model SB/82.

For in-depth assessments, please contact our technical and sales department.

The slam shut device incorporated in the valve causes a reduction of the coefficients Cg and Kg equal to about 7% of the value of the basic valve.

Sizing of regulating valves

In general, the choice of a regulating valves is made based on the calculation of the flow rate determined by the use of formulas and on the flow rate coefficients (Cg or KG) as indicated by the EN 334 standard.

For the sizing of the involved valves, kindly refer to our website: www.fiorentini.com/sizing.

$$F_c = \sqrt{\frac{175.8}{S \times (273.16 + t)}}$$

S = relative density to air
t = gas temperature [°C]

Correction factors Fc		
Type of gas	Relative density (S)	Fc factor
Air	1.00	0.78
Propane	1.53	0.63
Butane	2.00	0.55
Nitrogen	0.97	0.79
Oxygen	1.14	0.73
Carbon dioxide	1.52	0.63

Tab.3

The chart shows the correction factors FC valid for above mentioned gas at 15 °C and to the declared relative density.

Flow rate conversion			
Stm ³ /h	x	0,94795	= Nm ³ /h

Tab.4

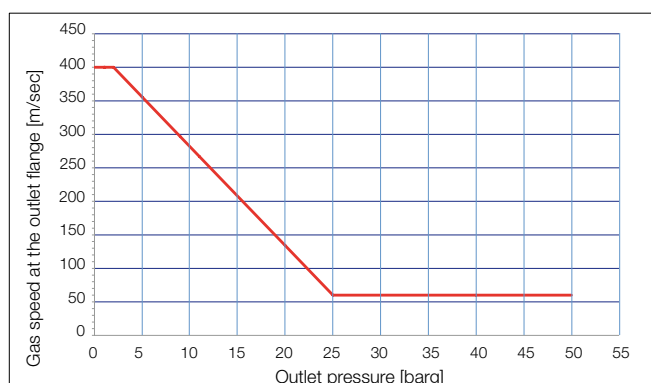
Caution:

In order to get optimal performance, to avoid premature erosion phenomena and to limit noise emissions. It is recommended to check that gas speed at the outlet flange does not exceed the values of the graph below. The gas speed at the outlet flange may be calculated by means of the following formula:

$$V = 345.92 \times \frac{Q}{DN^2} \times \frac{1 - 0.002 \times Pd}{1 + Pd}$$

where:

- V** = gas speed in m/sec
Q = gas flow rate in Stm³/h
DN = nominal size of valve in mm
Pd = pressione di uscita dal regolatore in bar.



SINCROFLUX

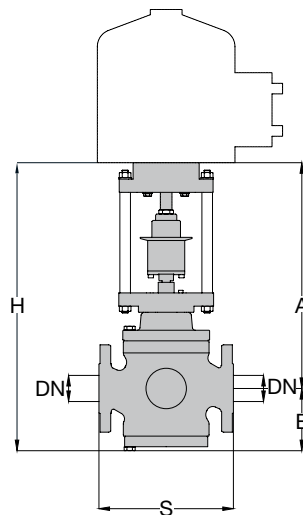


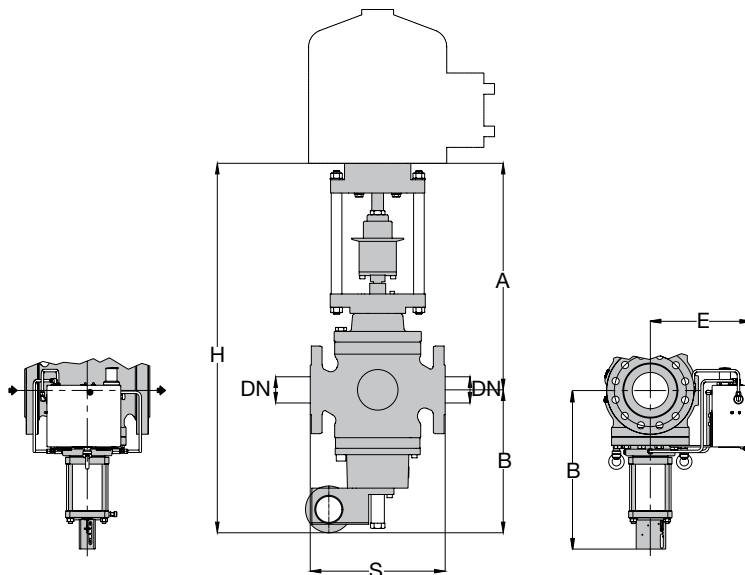
Fig.5

Dimensions							
Millimeters	25	50	80	100	150	200	250
Inches	1"	2"	3"	4"	6"	8"	10"
S - Ansi 150/PN 16	184	254	298	352	451	543	673
S - Ansi 300	197	267	317	368	473	568	708
S - Ansi 600	210	286	336	394	508	609	655
A	405	436	470	502	576	590	800
B	100	130	150	190	225	265	340
H	505	566	620	692	801	855	995
							Tab.5

Pneumatic fittings: 10x8mm

Dimensions S according to EN 334 and IEC 534-3.

Weight in Kg							
Ansi 150/PN 16	39	43	58	100	192	298	790
Ansi 300	40	44	62	110	234	360	840
Ansi 600	41	46	65	119	249	385	890
							Tab.6

SINCROFLUX + SB/82 o HB/97

Fig.6
Dimensions

Millimeters	25	50	80	100		150		200		250	
Inches	1"	2"	3"	4"		6"		8"		10"	
S - Ansi 150/PN 16	184	254	298	352		451		543		673	
S - Ansi 300	197	267	317	368		473		568		708	
S - Ansi 600	210	286	336	394		508		609		752	
A	405	436	470	502		576		590		655	
B	215	240	270	300	518*	375	645*	450	687*	530	796*
E	310	310	320	320	358*	420	410*	420	445*	470	510*
H	620	676	740	802		951		1040		1185	

Tab.7

Pneumatic fittings: 10x8mm

* Weights & dimensions with HB/97. Dimensions S according to EN 334 and IEC 534-3.

Weight in Kg

Ansi 150/PN 16	48	53	68	114		204		350		840	
Ansi 300	50	55	75	125	133*	249	290*	415	448*	890	969*
Ansi 600	51	56	78	134	145*	264	316*	440	474*	940	989*

Tab.8

SINCROFLUX + DB/819

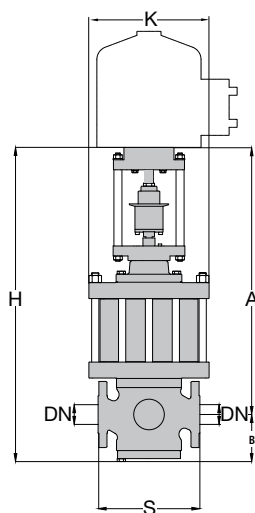


Fig.7

Dimensions							
Millimeters	25	50	80	100	150	200	250
Inches	1"	2"	3"	4"	6"	8"	10"
S - Ansi 150/PN 16	184	254	298	352	451	543	673
S - Ansi 300	197	267	317	368	473	568	708
S - Ansi 600	210	286	336	394	508	925	1115
A	605	661	740	812	861	1085	1300
B	215	240	270	300	375	450	530
H	705	791	890	1002	1086	1190	1495
K	220	300	330	390	480	595	695
							Tab.9

Pneumatic fittings: 10x8mm

Dimensions S according to EN 334 and IEC 534-3.

Weight in Kg							
Ansi 150/PN 16	65	108	148	214	449	725	1170
Ansi 300	67	110	157	243	492	815	1270
Ansi 600	66	112	160	252	524	840	1320
							Tab.10

Syncroflux + DB/819+SB/82 o HB/97

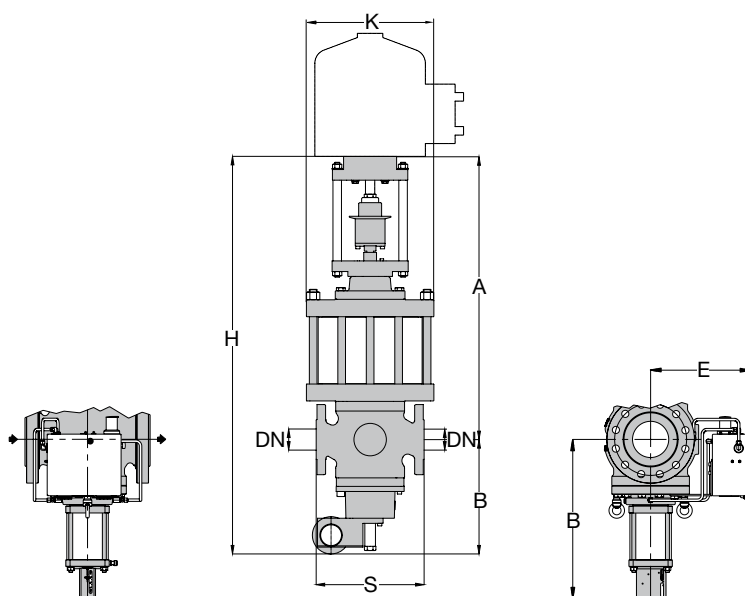


Fig.8

Dimensions

Millimeters	25	50	80	100		150		200		250	
Inches	1"	2"	3"	4"		6"		8"		10"	
S - Ansi 150/PN 16	184	254	298	352		451		543		673	
S - Ansi 300	197	267	317	368		473		568		708	
S - Ansi 600	210	286	336	394		508		609		752	
A	605	661	740	812		861		925		1155	
B	215	240	270	300	518*	375	645*	450	687*	530	796*
E	310	310	320	320	358*	420	410*	420	445*	470	510*
H	820	901	1010	1112		1236		1375		1685	
K	220	300	330	390		480		595		695	

Tab.11

Pneumatic fittings: 10x8mm

* Weights & dimensions with HB/97. Dimensions S according to EN 334 and IEC 534-3.

Weight in Kg

Ansi 150/PN 16	74	118	158	228		461		777		1220	
Ansi 300	77	121	170	258	272*	512	545*	870	896*	1320	1400*
Ansi 600	78	123	173	267	284*	544	571*	940	918*	1370	1420*

Tab.12

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