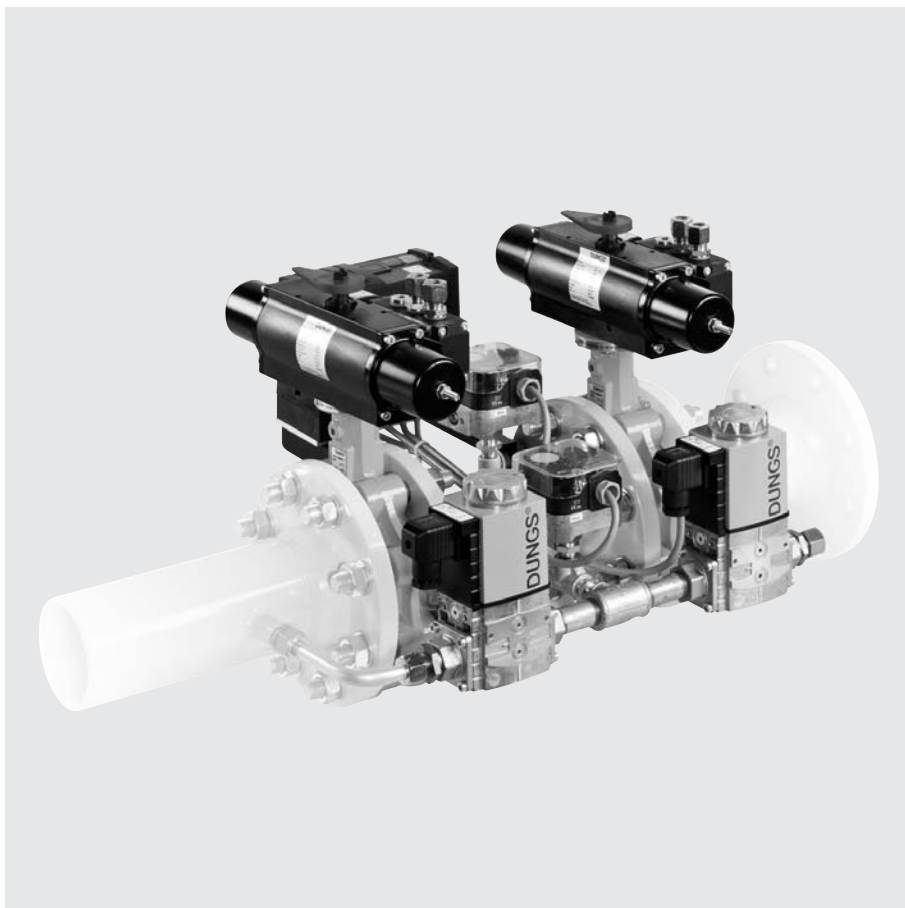


HF Bloc
Double valve combination
Nominal diameter DN 50 - DN 300

HF Bloc-...-VPS
HF Bloc-...-DSLCL-SG
HF Bloc-...-DSLCL-HP

DUNGS®
Combustion Controls

7.70



Technology

DUNGS double valve combination HF Bloc-... is an integration of two pneumatically controlled butterfly valves to a compact fitting:

- automatic butterfly valves acc. to DIN EN 161, class A, group 2.
- max. operation overpressure of up to 5 bar (500 kPa)
- normally closed
- fast opening, fast closing
- high flow rates with minor pressure losses
- pneumatic actuator with an integrated solenoid valve to control compressed air supply
- small dimensions, low weight
- assembled valve check system

Application

Double valve combinations are used where previously two single valves have been used. Diverse control oriented tasks can be performed in combination with DUNGS gas pressure control devices and additional components.

Suitable for gases of gas families 1, 2, 3 acc. to DVGW G 260 and other neutral gases. HF Bloc-...-DSLCL-SG for biogases according to DVGW G 262 and special gas applications (depending on evaluation of gas analysis specific for the system).

Approvals

HF Bloc-... with inspection certificate

HF Bloc-...	Two one-level butterfly valves, normally closed, fast opening, fast closing. Integration of two automatic butterfly valves with a valve check system at the installation length according to DIN EN 558-1 for biogases, according to G 262, gases of gas families 1, 2, 3 and other neutral gases.
HF Bloc-... SG	Version for special gases: Two one-level butterfly valves, normally closed, fast opening, fast closing. Integration of two automatic butterfly valves with a valve check system at the installation length according to DIN EN 558-1 for special gases.

Technical data - Valve

Nominal diameter	DN 50 65 80 100 125 150 200 250 300
Flanges	Connection flange as per DIN EN 1092-1 (PN 16) Construction length as per DIN EN 558-1
Max. operating pressure	HF Bloc-xxx-VPS: 500 mbar (50 kPa) HF Bloc-xxx-DSLC-SG: 500 mbar (50 kPa) HF Bloc-xxx-DSLC-HP: 5 bar (500 kPa)
Valve V1	automatic butterfly valve according to EN 161: Class A, Group 2
Valve V2	automatic butterfly valve according to EN 161: Class A, Group 2
Closing time	< 1 s
Opening time	DN 50 - DN 150: < 1 s DN 200 - DN 300: ≤ 2.5 s
Materials of the gas-bearing parts	HF Bloc-...-VPS HF Bloc-...-DSLC-HP Housing: GGG 40, w/o non-ferrous Seals: NBR HF Bloc-...-DSLC-SGH GGG 40, w/o non-ferrous HNBR HF Bloc-...-DSLC-SGV GGG 40, w/o non-ferrous Viton
Ambient temperature	HF Bloc -...-... -10 °C to +60 °C HF Bloc -...-DSLC-SGV 0 °C to +60 °C
Mounting position	Drive standing vertically to lying horizontally
Dirt trap	For HF Bloc-... protection we recommend additional installation of an upstream connected gas filter, see data sheet 11.02

Technical data - pneumatic drive

Control air	clean dry compressed air according to ISO 8573-1, Class 3 and 5, or nitrogen, with switching cycles ≥ 2/min lubrication, dew point min. 10 °C lower than ambient temperature
Compressed air connection	G 1/4
Nominal pressure	6 - 8 bar (600 - 800 kPa)
Voltage / frequency	~(AC) 230 V (+10 % -15 %); 50-60 Hz =(DC) 24 V (+10 % -15 %) other voltage values on request
Power / current consumption entire fitting	Power at ~(AC) 230 V: Starting power 11 VA, holding power: 6 VA Power at =(DC) 24 V: Starting power 11 VA, holding power: 2 W
Protection type / duty cycle	IP 65 / 100 % duty cycle (Protection type of the HF Bloc-... see table page 4)
Electrical connection	Plug-in connection according to DIN 43650

System accessories

The double valve combination is prepared for direct mounting of **DUNGS** system accessories and additional equipment.

Please observe the technical data of the system accessories.

High-pressure switch for gas, air, smoke and exhaust gases

GW...A4 HP

Datasheet 5.04

Safety solenoid valve SV

Datasheet 6.01

High Flow Safety Valve HFSV...

Datasheet 6.40



If a system accessory is added, it may not be possible to mount further devices.

Information on system accessories

VPS 504 / 508 valve proving system

Datasheet 8.10 / 8.13

Control device for system tightness controls DSLC px Vx

Datasheet 8.21

Driving function

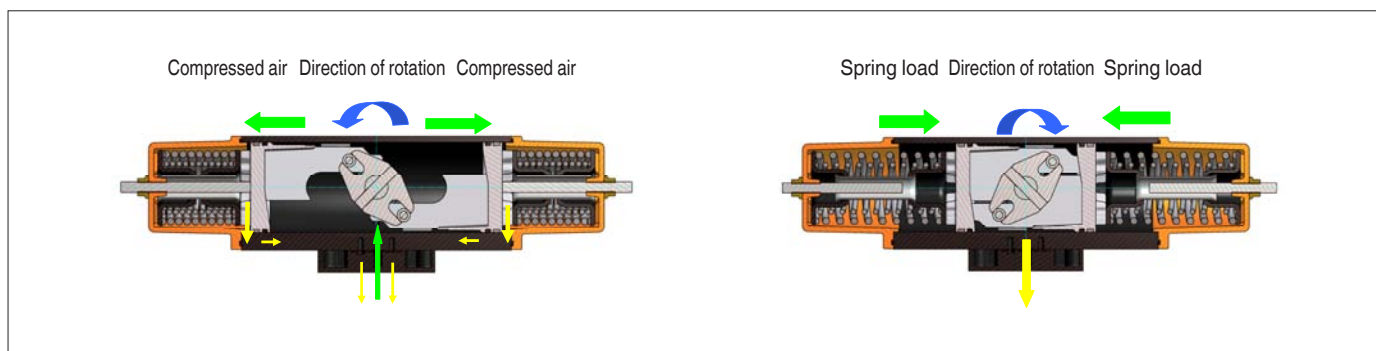
A solenoid valve with integrated draw-in of the exhaust is preceding the pneumatic drive as default.

For switching the solenoid valve, the control connection of the valve is pressurized, the interior chamber of

the cylinder is filled and the pistons move apart. During this process the motor shaft rotates counterclockwise, the valve is opened and the spring units are tensioned.

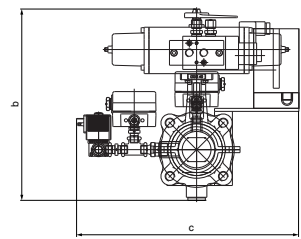
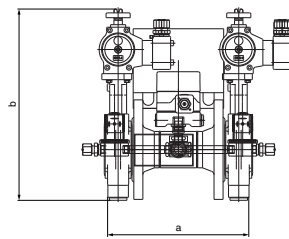
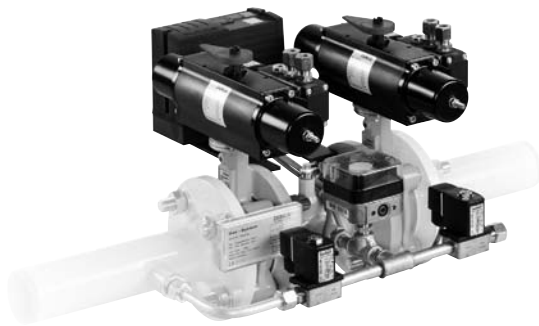
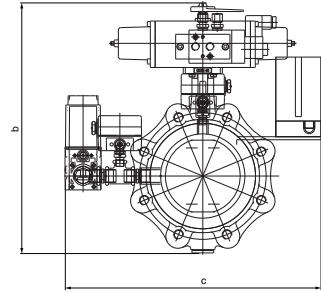
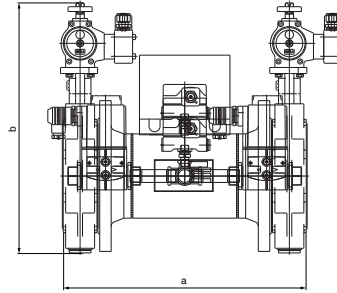
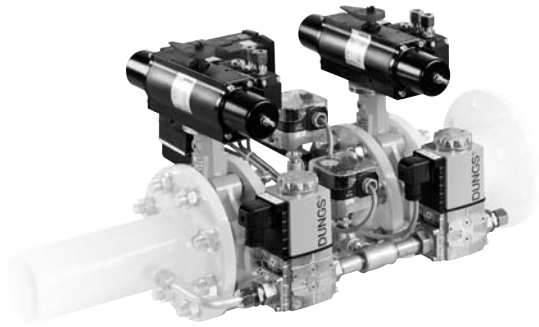
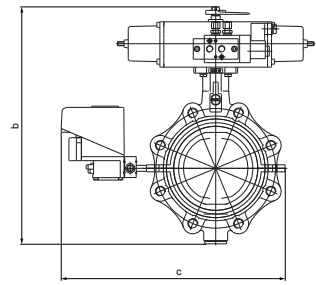
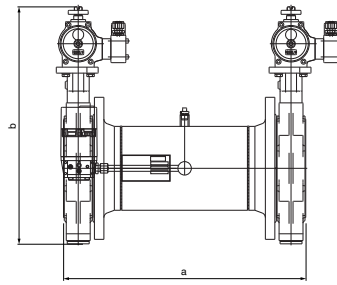
Switching of the solenoid valve during a pressure loss or power failure deaerates

the interior chamber, the spring units under tension are released and press the pistons together < 1 s.



Version	Symbol	Image	Pressure range	Equipment			
			$p_{max.}$	Valve V1	Valve V2	Valve proving system	min. / max. Pressure control device
HF Bloc-xxx-VPS			500 mbar	X	X	VPS 508	-
HF Bloc-xxx-DSLС-SG...			500 mbar	X	X	DSLС SV... SGV	LGW...A4 SGV
HF Bloc-xxx-DSLС-HP			5 bar	X	X	DSLС MV	GW...A4 HP

Dimensions for HF Bloc-...



Version	Connection DN	Dimensions [mm]			Accessories
		a	b	c	
HF Bloc-5080-VPS	80	310	369	450	VPS 508
HF Bloc-5100-VPS	100	350	390	450	VPS 508
HF Bloc-5125-VPS	125	400	429	450	VPS 508
HF Bloc-5150-VPS	150	480	476	450	VPS 508
HF Bloc-5050-DSLC-...	50	240	318	430	DSLC+SV/MV+GW
HF Bloc-5065-DSLC-...	65	290	335	435	DSLC+SV/MV+GW
HF Bloc-5080-DSLC-...	80	310	369	440	DSLC+SV/MV+GW
HF Bloc-5100-DSLC-...	100	350	390	455	DSLC+SV/MV+GW
HF Bloc-5125-DSLC-...	125	400	429	470	DSLC+SV/MV+GW
HF Bloc-5150-DSLC-...	150	480	476	484	DSLC+SV/MV+GW
HF Bloc-5200-DSLC-...	200	600	544	496	DSLC+SV/MV+GW
HF Bloc-5250-DSLC-...	250	730	665	525	DSLC+SV/MV+GW
HF Bloc-5300-DSLC-...	300	850	715	551	DSLC+SV/MV+GW

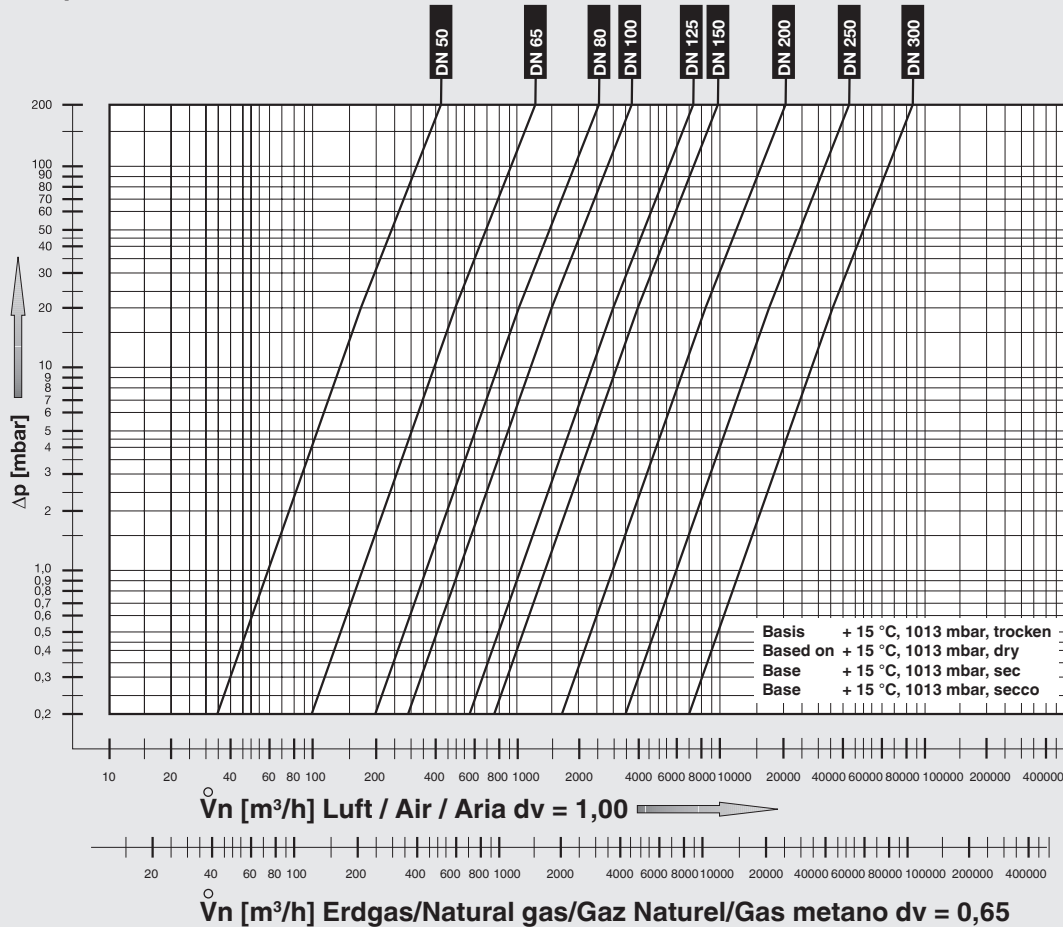
Version	Order Number	Voltage	p _{max.} [bar]	Connection DN	Volume [l]	Weight [kg]	Protection type
HF Bloc-5080-VPS	255 804	~(AC) 230 V	0.5	DN 80	1.30	35	IP 54
HF Bloc-5100-VPS	255 805		0.5	DN 100	2.40	40	
HF Bloc-5125-VPS	255 806		0.5	DN 125	4.20	50	
HF Bloc-5150-VPS	255 807		0.5	DN 150	4.20	63	
HF Bloc-5080-VPS	255 808	=(DC) 24 V	0.5	DN 80	1.30	35	IP 54
HF Bloc-5100-VPS	255 809		0.5	DN 100	2.40	40	
HF Bloc-5125-VPS	255 810		0.5	DN 125	4.20	50	
HF Bloc-5150-VPS	255 811		0.5	DN 150	4.20	63	
HF Bloc-5050-DSLC-SGH	255 812	=(DC) 24 V	0.5	DN 50	0.40	26	IP 42
HF Bloc-5065-DSLC-SGH	255 813		0.5	DN 65	0.80	29	
HF Bloc-5080-DSLC-SGH	255 814		0.5	DN 80	1.30	39	
HF Bloc-5100-DSLC-SGH	255 815		0.5	DN 100	2.40	44	
HF Bloc-5125-DSLC-SGH	255 816		0.5	DN 125	4.20	52	
HF Bloc-5150-DSLC-SGH	255 817		0.5	DN 150	7.70	65	
HF Bloc-5200-DSLC-SGH	255 818		0.5	DN 200	16.80	98	
HF Bloc-5250-DSLC-SGH	255 819		0.5	DN 250	33.00	146	
HF Bloc-5300-DSLC-SGH	255 820		0.5	DN 300	54.40	181	
HF Bloc-5050-DSLC-SGV	255 821	=(DC) 24 V	0.5	DN 50	0.40	26	IP 42
HF Bloc-5065-DSLC-SGV	255 822		0.5	DN 65	0.80	29	
HF Bloc-5080-DSLC-SGV	255 823		0.5	DN 80	1.30	39	
HF Bloc-5100-DSLC-SGV	255 824		0.5	DN 100	2.40	44	
HF Bloc-5125-DSLC-SGV	255 825		0.5	DN 125	4.20	52	
HF Bloc-5150-DSLC-SGV	255 826		0.5	DN 150	7.70	65	
HF Bloc-5200-DSLC-SGV	255 827		0.5	DN 200	16.80	98	
HF Bloc-5250-DSLC-SGV	255 828		0.5	DN 250	33.00	146	
HF Bloc-5300-DSLC-SGV	255 829		0.5	DN 300	54.40	181	
HF Bloc-50050-DSLC-HP	255 830	~(AC) 230 V	5	DN 50	0.40	24	IP 42
HF Bloc-50065-DSLC-HP	255 831		5	DN 65	0.80	27	
HF Bloc-50080-DSLC-HP	255 832		5	DN 80	1.30	36	
HF Bloc-50100-DSLC-HP	255 833		5	DN 100	2.40	42	
HF Bloc-50125-DSLC-HP	255 834		5	DN 125	4.20	53	
HF Bloc-50150-DSLC-HP	255 835		5	DN 150	7.70	66	
HF Bloc-50050-DSLC-HP	255 836	=(DC) 24 V	5	DN 50	0.40	24	IP 42
HF Bloc-50065-DSLC-HP	255 837		5	DN 65	0.80	27	
HF Bloc-50080-DSLC-HP	255 838		5	DN 80	1.30	36	
HF Bloc-50100-DSLC-HP	255 839		5	DN 100	2.40	42	
HF Bloc-50125-DSLC-HP	255 840		5	DN 125	4.20	53	
HF Bloc-50150-DSLC-HP	255 841		5	DN 150	7.70	66	

HF Bloc
Double valve combination
Nominal diameter DN 50 - DN 300

HF Bloc-...-VPS
HF Bloc-...-DSL-SC
HF Bloc-...-DSL-HP

DUNGS®
Combustion Controls

Volume flow pressure difference characteristics



$$\dot{V}_{\text{verwendetes Gas/gas used}} = \dot{V}_{\text{Luft/air}} \times f$$

$$f = \sqrt{\frac{\text{Dichte Luft / Spec. weight air}}{\text{Dichte des verwendeten Gases / Spec. weight of gas used}}}$$

Gasart Type of gas	Dichte Spec. Wgt. [kg/m³]	dv	f
Erdgas Natural gas	0.81	0.65	1.24
Stadtgas City gas	0.58	0.47	1.46
Flüssiggas LPG	2.08	1.67	0.77
Luft Air	1.24	1.00	1.00

We reserve the right to make any changes in the interest of technical progress.

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