Pressure regulator
FRN
Zero pressure regulator

4.11

DUNGS®
Combustion Controls



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Technical description

The DUNGS pressure regulator, type FRN, has an adjustable setpoint spring. The pressure regulator complies with EN 88-1 and DIN 3380.

- Input pressures up to 50 mbar (5 kPa)
- High flow rate
- Sturdy, precise and sensitive regulation of regulator input pressure (response pressure)
- Inlet pressure compensation diaphragms
- Internal pulse for regulator output pressure as standard
- Rp 1/2 to Rp 2 threaded connection
- DN 40 to DN 100 flange connection

Application

The DUNGS pressure regulator, type FRN, does not contain any non-ferrous metals and is suitable for gases up to max. 0.1 vol.% H_2S, dry.
Suitable for gases of families 1, 2, 3 and other neutral gaseous media.

Approvals

EC type test approval as per EC Gas Appliance Directive:
FRN … CE-0085 AQ7126
Approvals in other important gas consuming countries.

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FRN Spring-loaded pressure regulator with adjustable setpoint spring. Internal tap of regulator output pressure; external pulse and blower pressure connections.

Specifications

Nominal diameters Pipe thread as per ISO 7/1 Flange	DN 40 50 65 80 100 Rp 11/2 2 Connection flange (PN 16) as per DIN EN 1092-1
Max. operating pressure	up to 500 mbar (50 kPa)
Pressure regulator	Pressure regulator as per EN 88-1, Class A, Group 2
Input pressure range	2.5 mbar or p_2 + 2.50 mbar to 50 mbar
Output pressure range	-3 mbar to +5 mbar as a factor of adjustable setpoint spring and applied air pressure (pulse)
Materials of gas-conveying parts	Housing: aluminium, steel Seals and diaphragms: NBR
Ambient temperature	-15 °C to +70 °C
Measuring/ignition gas connections	G 1/4 ISO 228 on both sides in inlet section
Pulse connection	Existing internal in outlet section Externally prepared on housing
Installation position	Regulator dome vertically downwards
Measurement opening	G 1/8 ISO 228 in the baseplate (option DN 40 to DN 100) Reclosable opening for setting system-specific valuas when the system is put into operation, e. g. gas motor

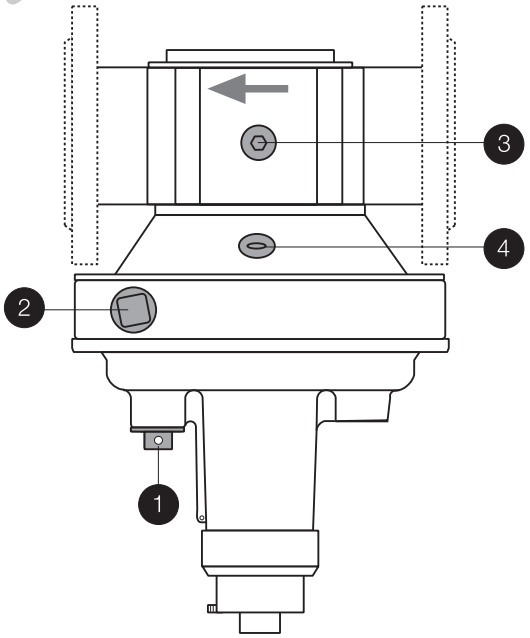
Pressure taps
Pulse and fan connection

1 Breathing plug: connection for compensation line

2 Breathing plug: connection for ventilation pipe (min. DN 15)

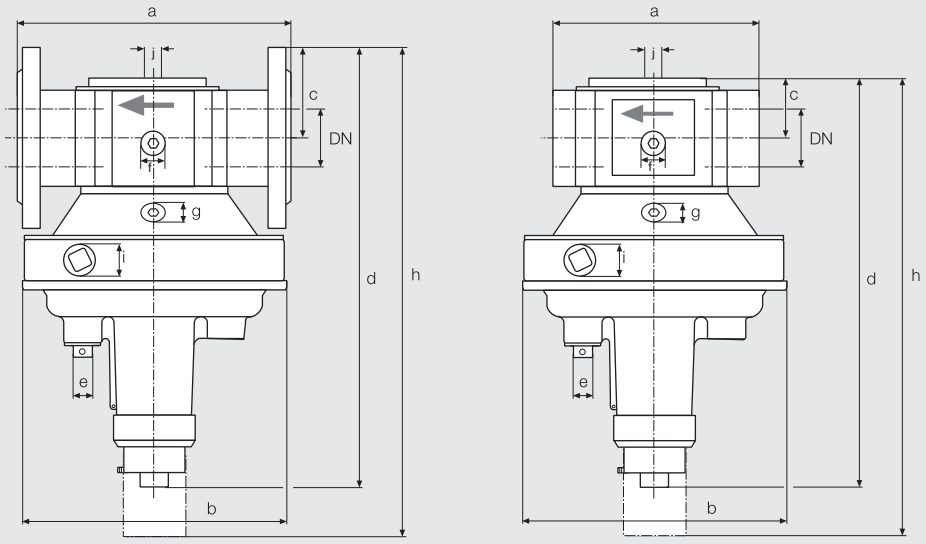
3 G 1/4 ISO 228 screw plug in input section on both sides

4 Right: p_2 instrument gland
Left: G 1/4 screw plug



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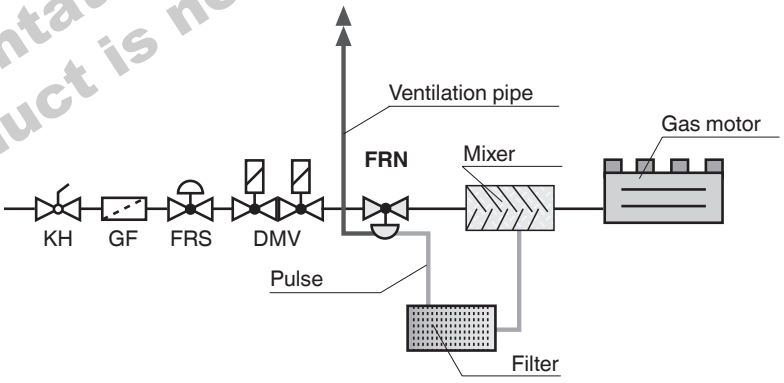
Dimensions

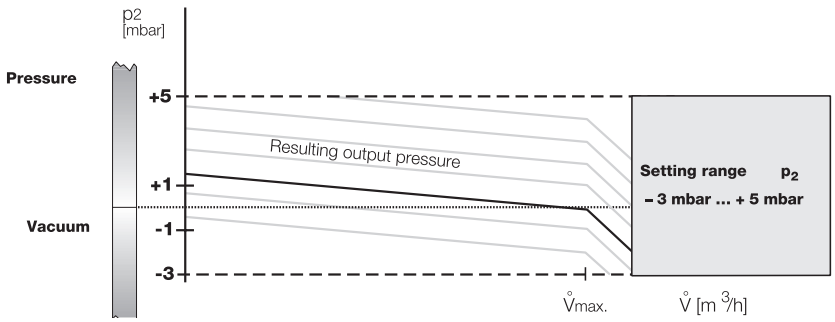


Type	Order No.	$p_{max.}$ [mbar]	Rp / DN	Dimensions [mm] a	b	c	d	e	f	g	h	i	j	Weight [kg]
FRN 515	103 044	**500**	Rp 1 1/2	150	195	40	285	G 1/2	G 1/4	G 1/4	395	G 1/2	G 1/8	4.0
FRN 520	101 287	**500**	Rp 2	170	250	47	345	G 1/2	G 1/4	G 1/4	480	G 1/2	G 1/8	6.0
FRN 5040	244 124	**500**	DN 40	200	195	75	315	G 1/2	G 1/4	G 1/4	430	G 1/2	G 1/8	5.0
FRN 5050	241 746	**500**	DN 50	230	250	82.5	375	G 1/2	G 1/4	G 1/4	510	G 1/2	G 1/8	7.5
FRN 5065	241 755	**500**	DN 65	290	285	92.5	440	G 1/2	G 1/4	G 1/4	620	G 1/2	G 1/8	10.5
FRN 5080	241 757	**500**	DN 80	310	285	100	440	G 1/2	G 1/4	G 1/4	620	G 1/2	G 1/8	13.0
FRN 5100	241 760	**500**	DN 100	350	350	110	535	G 1/2	G 1/4	G 1/4	800	G 1/2	G 1/8	20.0

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Application example
Zero pressure regulator

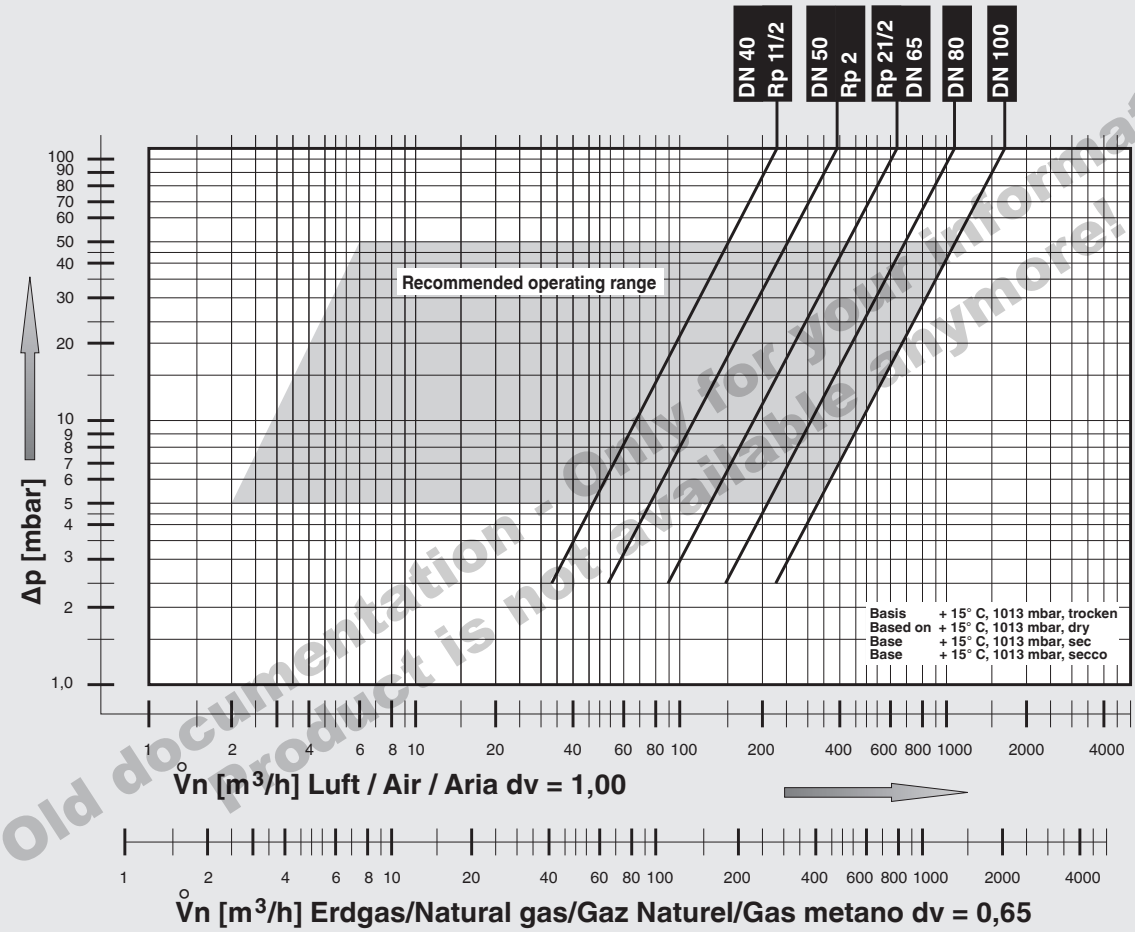




The adjustment spring acts against the force due to weight of moving parts. The force due to weight is compensated as a factor of the pretension of the adjustment spring.
The chamber between the working diaphragms must be connected with atmosphere (ventilation pipe). A pressure compensation line (pulse) may be connected to the regulator dome.

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Flow diagram
in regulated state



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

Head Offices and Factory
Karl Dungs GmbH & Co. KG
Siemensstraße 6-10
D-73660 Urbach, Germany
Telephone +49 (0)7181-804-0
Fax +49 (0)7181-804-166

Postal address
Karl Dungs GmbH & Co. KG
Postfach 12 29
D-73602 Schorndorf, Germany
e-mail info@dungs.com
Internet www.dungs.com