

## Technical description

DUNGS gas safety and regulator trains are built to customer specifications in compliance with the technical regulations of DVGW, TRD and the related EN standards, taking into account the prevailing requirements of the gas supplying companies.

## Application

Gas trains made by DUNGS are designed for use in industrial furnaces, steam boilers and heat generation processes for medium- and large-size forced-air burners, atmospheric gas boilers and gas motors.

The gas trains can be supplied in the following pressure ranges and nominal diameters:

**Pressure ranges**

**Nominal diameters**

**Low-pressure range LP:**  $p_1 \leq 100$  mbar

**Threaded connection:** Rp 1/4 - Rp 2

**Medium-pressure range MP:**  $100 \text{ mbar} < p_1 \leq 4$  bar

**Flange connection:** DN 20 - DN 200

**High-pressure range HP:**  $p_1 > 4$  bar (on request)

**Product range**

Ball valves KH, gas filters GF  
 Gas pressure regulators FRS, FRNG, FRN, FRU  
 Gas pressure regulators with integrated safety shut-off valve and/or safety blow-off valves  
 Safety shut-off valves SAV  
 Safety blow-off valves SBV  
 Gas pressure switches GW  
 Solenoid valves, single-stage MV(DLE)  
 Solenoid valves, two-stage ZRD(LE)LE

Vent gas valves LGV  
 Ignition gas valves MV, MVD, MVDLE  
 GasMultiBloc MB-D, MB-ZRDLE  
 Double solenoid valves DMV  
 Motorised butterfly valves DMK, actuator drives  
 Valve proving systems VDK, VPS  
 Closed position signal contact K01/1  
 Test burners  
 Ignition transformers  
 Compensators  
 Pressure gauges with shut-off valve

Automatic gas burner controls DGA...  
 Control cabinets  
 Pressure booster systems  
 One- and/or two-rail regulator systems.  
 Further fittings, additional equipment and bearing constructions for gas safety and regulator trains on request.

**Project engineering**

On request, we will carry out the complete calculation and design for your gas safety and regulator trains.



Gas filter  
Ball valve



Gas pressure regulators



Solenoid valve, single-stage



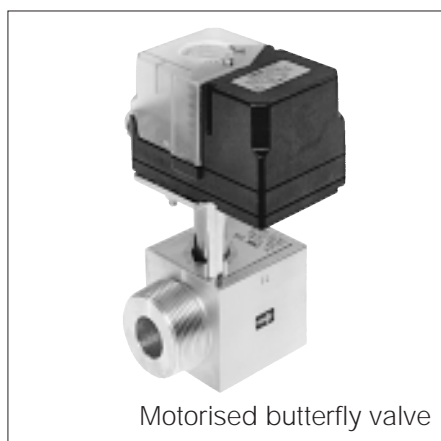
Solenoid valve, two-stage



Double solenoid valves



Gas pressure switch  
Air pressure switch



Motorised butterfly valve

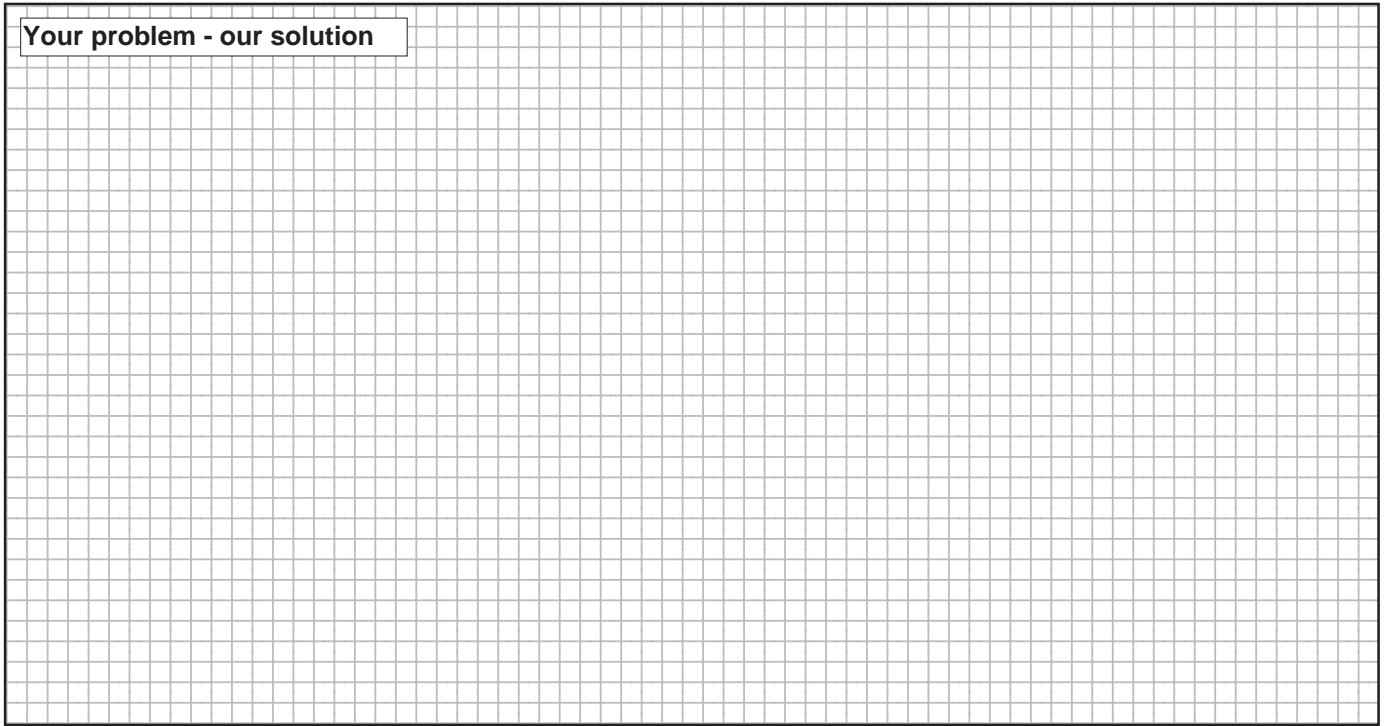


GasMultiBloc



GasMultiBloc and valve proving system

Your problem - our solution



Details for gas train calculation

Type of gas	<input type="text"/>	
Relative density, $d_v$	<input type="text"/>	[1]
Calorific value, $H_{u,n}$	<input type="text"/>	[kWh/m <sup>3</sup> ]
Max. operating pressure $p_{max}$	<input type="text"/>	[bar, mbar]
Gas inlet pressure, $p_1$	<input type="text"/>	[bar, mbar]
Gas pressure (burner) $p_{Br}$	<input type="text"/>	[bar, mbar]
Min. operating performance, $Q_{min}$	<input type="text"/>	[kW]
Max. operating performance, $Q_{max}$	<input type="text"/>	[kW]
Min. gas volumetric flow	<input type="text"/>	[m <sup>3</sup> /h]
Max. gas volumetric flow	<input type="text"/>	[m <sup>3</sup> /h]
Electrical voltage	<input type="text"/>	[V]
Other details	<input type="text"/>	
Flange/threaded connection	<input type="text"/>	[DN, Rp]

Simplified icons for representing gas trains (in compliance with DIN 2429, TRGI, TRF and DIN 2481)

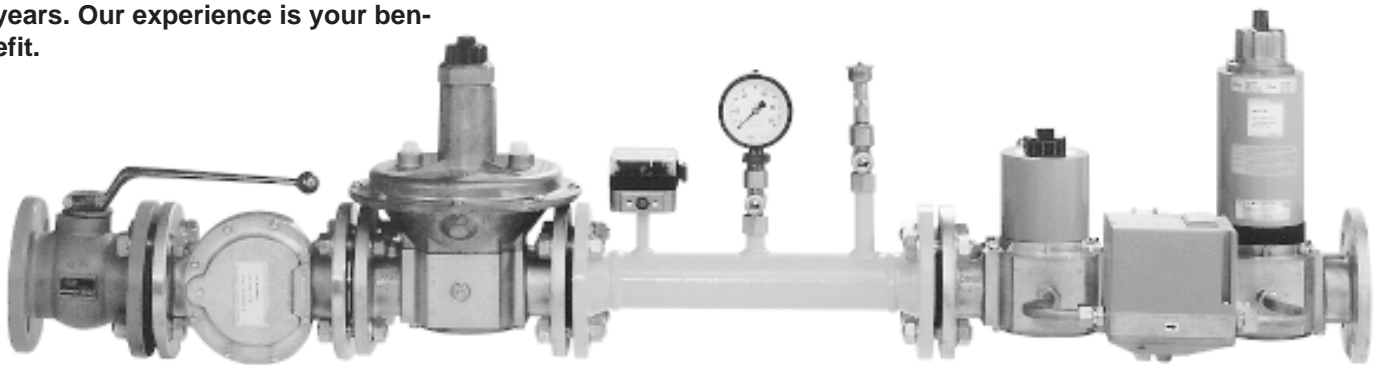
	Main line		Filter		Three-way valve
	Movable line, hose		Compensator		Fan, blower
	Junction without connection point		Pressure regulator		Push-button valve
	Junction with connection point		Safety shut-off valve		Valve proving system
	Branch		Safety blow-off valve		Pressure switch
	Pulse line		Regulator valve		Meter
	Flange connection		Non-return valve		Pressure gauge
	Threaded connection		Motorised butterfly valve		Thermometer
	90° elbow		Solenoid valve, single-stage		
	Ball valve with manual drive		Solenoid valve, two-stage		



At its Osnabrück plant, in Germany, and at other DUNGS companies throughout the world DUNGS manufactures complete gas trains to customer-specific requirements using DUNGS fittings and components of other renowned manufacturers. More than 20,000 gas trains have been manufactured in the past 25 years. Our experience is your benefit.

Gas regulator and safety systems  
Consulting  
Project engineering  
Manufacturing  
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We reserve the right to make any changes in the interest of technical progress.



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