

# Laboratory Gas Scrubber LGW DN50

## Application

Laboratory gas scrubber LGW DN50 is designed for gas scrubbing in chemical laboratories, for pilot plants and for small chemical and pharmaceutical businesses. Gas volume flows up to 50 m<sup>3</sup>/h can be cleaned without loss of pressure. It is used during testing, in production, filling, draining and cleaning of equipment, during breakdowns and repairs, i.e. whenever very small flows of discharge air have to be drawn off either temporarily or during continuous operation. The laboratory gas scrubber allows noxious substances to be absorbed, dusts to be separated, vapours to be condensed and hot gases to be saturated and cooled. Laboratory gas scrubber LGW DN50 is mounted, ready for operation, as a compact unit on an easily manoeuvrable trolley. Its main dimensions have been selected in such a way that it can pass through normal doorways and be transported in the average lift. The

use of polypropylene as a material (PP) means that the scrubber is resistant to the majority of caustic, acid and alkaline solutions and sour off-gases up to a temperature of approx. 80°C. In individual cases, the material and dimensions of LGW DN50 can be adapted to the operating requirements. It is possible to design these units in electrically conductive plastics, stainless steel or fibreglass reinforced plastics.

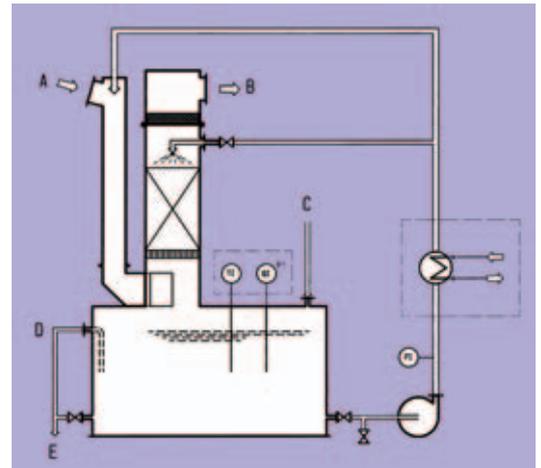
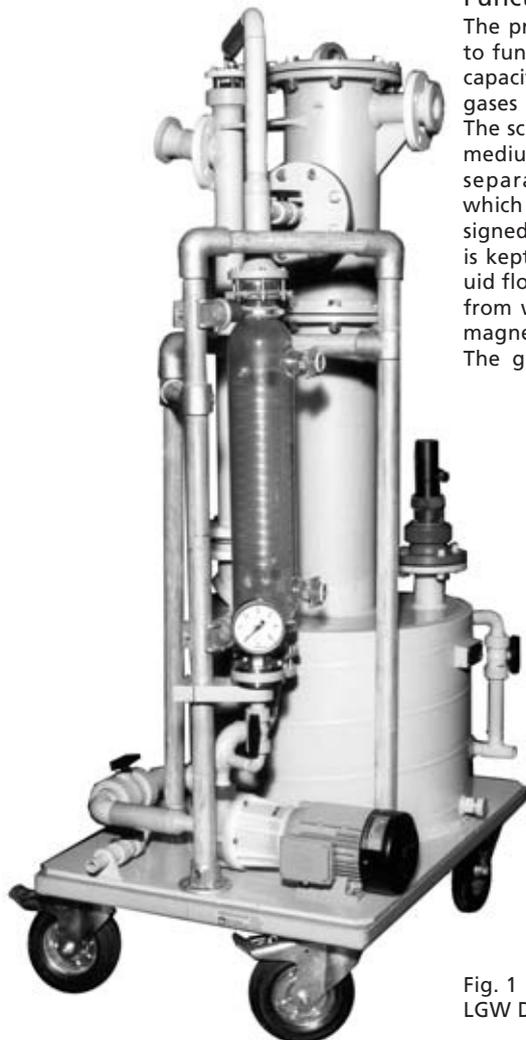


Fig. 2  
General construction of LGW DN50

A = Gas inlet  
B = Gas outlet  
C = Process liquid  
D = Overflow  
E = Discharge



## Function

The principle duty of the gas scrubber is to function as a jet scrubber which, in its capacity of ejector, extracts and conveys gases without an additional ventilator. The scrubbing liquid serves as the motive medium. The mixture of gas and liquid is separated in a centrifugal separator which is arranged downstream. This is designed in such a way that foam formation is kept at a minimum. The scrubbing liquid flows back into the liquid supply tank from where it is recycled by means of a magnetically coupled circulation pump. The gas also flows through a counter-

flow scrubbing column which is arranged downstream which is provided either with the scrubbing liquid from the circulation pump or if necessary with make-up scrubbing liquid. Entrained liquid droplets are separated in a demister arranged downstream before the gas outlet. The solvent or reaction heat which is produced during the scrubbing process can be discharged either through fresh liquid with corresponding liquid overflow which is continually fed in, or through the additional installation of a gas cooler.

Laboratory gas scrubber LGW DN50 is distinguished by the following characteristics :

- o maintenance free and easy to use
- o mobile, easy handling
- o corrosion resistant because of suitable material design
- o auto-suction, no ventilator required · No pressure loss up to 50 m<sup>3</sup>/hr
- o good load range, partial load efficiency
- o resistant to fouling
- o high reliability

Fig. 1  
LGW DN50 from PP

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## Technical data

Gas suction flow	5 - 50 m <sup>3</sup> /h
Gas temperature	max. 80 °C
Scrubbing liquid	water, diluted caustics and acids
Liquid flow	3.5 m <sup>3</sup> /h
Delivery head	18 mLC
Tank capacity	100 l
Motor power	1 kW
Voltage	220/380 V, 50 Hz
Protection type	EEx ell T3
Voltage, frequency, Protection type	
Revolutions	2,900 1/min
Weight, empty	ca. 125 kg

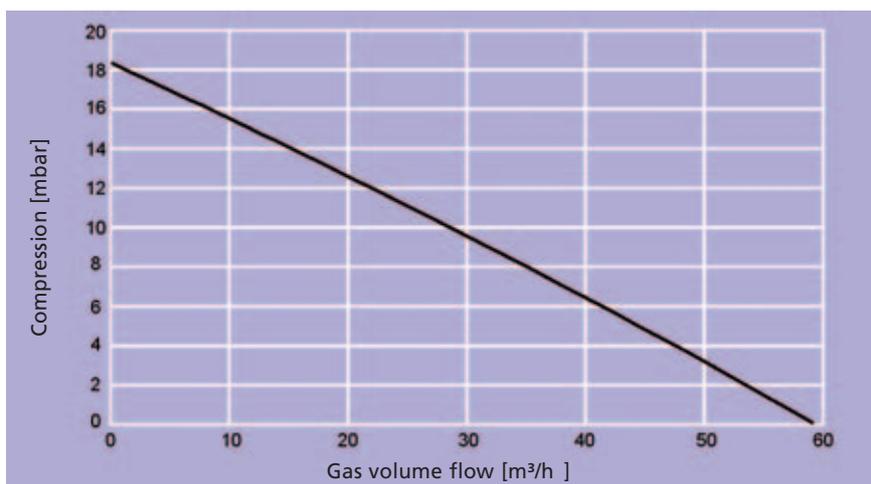


Fig. 3

## Standard equipment

Jet scrubber	PP
Centrifugal separator with pump supply tank and counter-flow scrubbing column	PP
Nozzles, demister and packing	PP
Circulation pump	PVDF (parts in contact with product)
Liquid piping and shut-off fittings	PP
Manometer	PP / PTFE / stainless steel
Trolley	steel

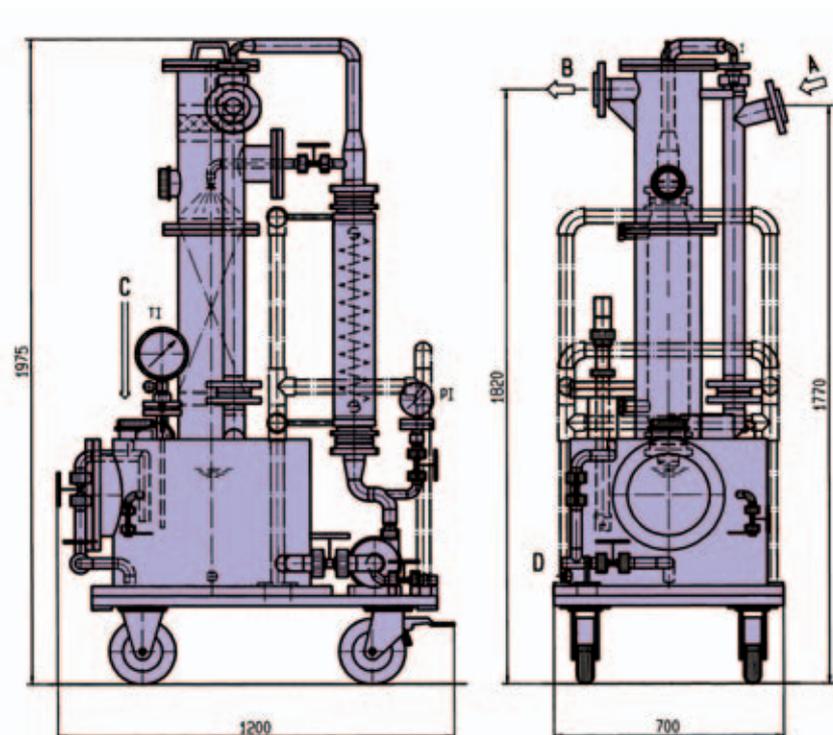


Fig. 4

A = Gas inlet	(DN 50, PN 10)
B = Gas outlet	(DN 50, PN 10)
C = Process liquid	(DN 25, PN 10)
D = Liquid outlet	(DN 32 x 3, PN 10)

For all inquiries please use our questionnaire.