Gas Supply

Flexible Solutions for Individual Gassing Needs

Technology

The DASGIP gassing modules MF4 and RX2/4 offer accurate and flexible gas supply at benchtop and pilot scale.

■ MF4 Gas Supply Module

Four input channels allow mass flow controlled supply of different gasses, including nitrogen, oxygen, carbon dioxide, methane and carbon monoxide. Each outlet can be set to an individual gas flow rate. Benchtop scale, pilot scale and larger volumes are supported through gas flow rates up to 30 sL/min.

The MF4 provides important safety features such as seamless integration of online pressure control using external pressure sensors and non return valves prohibiting back flush of gasses or liquids. These features guarantee safe operation of disposable bags and glass vessels or pressurized operation of stainless steel tanks in R&D and production environments.

■ RX2/4 Gas Mixing Station

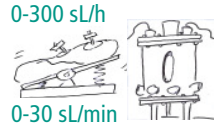
Individual gas mixing of two gases for four reactors is provided by automated solenoid valves. Four rotameters and precision needle valves allow independent flow rate control.

The RX2/4 is an economic solution for oxygen enrichment of microbial fermentations at benchtop scale.

Application

■ Microbiology & Biorenewables

DASGIP gassing modules are standard solutions for the biotech industry and cater to the individual demands of each laboratory. While the rotameter-based RX2/4 provides a sound solution for standard processes, the MF4 is adjustable to a wide range of gas types and thus, enabling users to work with various cells, microorganisms and enzymes.

	System	Input	Output	Mixing	Precision	Scale
Gas Mixing	 MX4/4	1 2 3 4	1 2 3 4	✓✓✓	★★★	 0-300 sL/h
	 MX4/1	1 2 3 4	1	✓✓✓	★★ ★★	 0-30 sL/min
Gas Supply	 RX2/4	1 2	1 2 3 4	✓	★	 0-30 sL/h
	 MF4	1 2 3 4	1 2 3 4	--	★★ ★★	 0-30 sL/min

DASGIP Gassing Solutions

DASGIP AG ■ Rudolf-Schulten-Straße 5 ■ 52428 Jülich ■ Germany
Tel: +49 2461/980-0 ■ Fax: +49 2461/980-100 ■ www.dasgip.com

DASGIP BioTools, LLC ■ 151 Memorial Drive ■ Shrewsbury, MA 01545
Tel: +1 508 842 69 00 ■ Fax: +1 508 842 01 41 ■ www.dasgip.com

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■ System Integration and Stand Alone Solution

All DASGIP modules are part of the DASGIP Parallel Bioreactor Systems for microbiology and cell culture. The modules can also be operated as stand-alone systems.

■ Laboratory, Production and Quality Assurance

Whether used in laboratories, in production or as part of quality assurance, DASGIP gassing solutions fulfill the highest demands.

DASGIP systems directly support important programs of the biotech industry such as the FDA's PAT initiative and the Quality by Design approach.

Technical Data

	Features	RX 2/4	MF4
Module			
Dimensions (WxDxH)		390 x 170 x 190 mm	300 x 320 x 190 mm
Ambient Conditions	5°C to 40°C; max. 80% rH; no outdoor use	✓	✓
Power Supply	115 to 230 V_{AC}, 50 - 60 Hz	✓	✓
Weight in kg		4	9
Digital Interfaces	RS232/RS485	✓	✓
Gas Inlet			
Count		2	4
Connectors	Push in 6 mm	✓	✓
Integrated Pressure Regulator	Min. 0.2 bar, max 2 bar	Manual	
Gas Types		O_2, N_2, Air	Various
Gas Outlet			
Count		4	4
Connectors	Push in	4 mm	6 mm
Flow Control		Rota–meter	Mass Flow
Gas Mixing	O2/Air and others	✓	
Pressure Control			Option
Max. Flow Rates		30sL/h and 250sL/h	1800sL/h or 30sL/min
System Integration			
Analog Interface	0-10 V_{DC}		✓
Comm. Protocol		DPP	DTP
Software			
Control & Data Logging	DASGIP EasyAccess		✓
Programming Library	ActiveX, COM, .Net		✓
Programming	For VB, C++, .Net and others		✓
Interface	MS Excel®, National Instru-ments Lab View®		✓

Quality System certified by DQS ■ DIN EN ISO 9001 ■ Reg.-No. 63431