

## Backpressure Controller for process gas analysis instrumentation



In the field of gas analysis an analyzer's response is often dependant upon the sample gas pressure. Pressure dependency can occur through a number of different physical parameters simultaneously and can be difficult to impossible to correct for. The best and most accurate approach is therefore to control the pressure itself. The use of an LFE pControl backpressure controller alleviates the need for complicated correction algorithms.

A further benefit of an LFE pControl backpressure controller is e.g. the return of the analyzed gases back into the process. In this way unnecessary emissions into the environment can be avoided.

- Eliminate pressure errors at the source.
- Quick and precise pressure control under extremely wide range of gas flow.
- A single pControl-system is suitable for use with multiple gas analyzers.

The LFE pControl backpressure controller typically operates at approximately 0.2 bars above ambient pressure (i.e. 1.2 bar absolute), but can be easily set to other operating pressures.

The specially designed control valve of the LFE backpressure controller provides for an extremely constant pressure over an extremely wide range of gas flow. This allows for a single LFE pControl to be used in conjunction with a number of gas analyzers.

The piezo-resistive pressure transducer is temperature controlled to improve stability. An optional PTFE isolating diaphragm is available to improve corrosion resistance.

### Technical Data

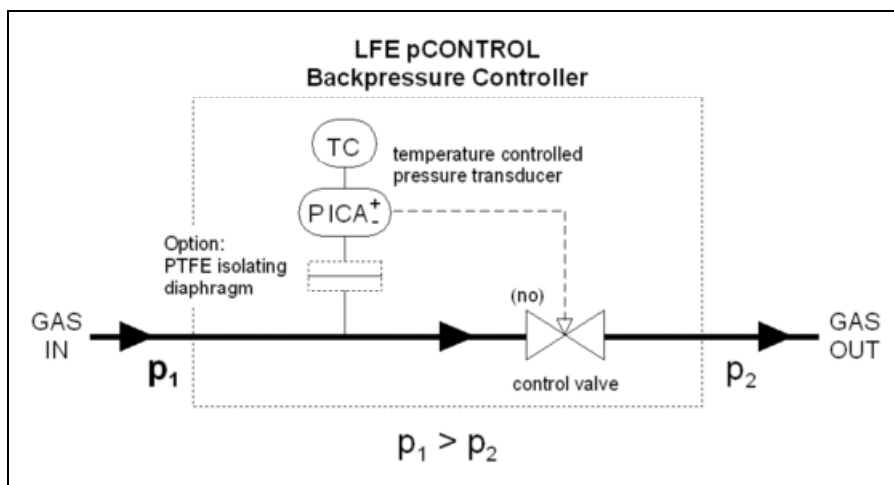
Housing	Cast aluminum purgable housing for wall mounting protective class IP65; HxWxD: 230 x 330 x 185mm
Power supply	100 - 240VAC 50 - 60Hz
Measuring Range	standard: 1.0 - 1.5 bar absolute (other ranges on request)
Range of flow	Dependant upon setpoint pressure and pressure at gas outlet (see diagram) Example: setpoint at 1.2 bar (abs.) and outlet at barometric pressure: Gas flow from <math>< 10 \text{ l}_n/\text{h}</math> up to approx. 1000 $\text{l}_n/\text{h}</math>$
Read-out	LC-display (text and graphics); user interface based on NAMUR <sup>[1]</sup> recommendation
Instrument Status	Plain text description on the LC-display as well as categorization into one of the following states (NAMUR <sup>[1]</sup> recommendation): INSTRUMENT FAULT, MAINTENANCE REQUIRED, MAINTENANCE
Analog signal output	0(4) - 20 mA (isolated and configurable)
Digital outputs	3 configurable, floating contacts for instrument status- or threshold monitoring
Analog input (option)	isolated 0(4) - 20mA input for optional external setpoint control

[1] NAMUR: Standardization commission for measuring and control technology in the chemical industry (sub-committee for operability of microprocessor-controlled process analytical- instrumentation)

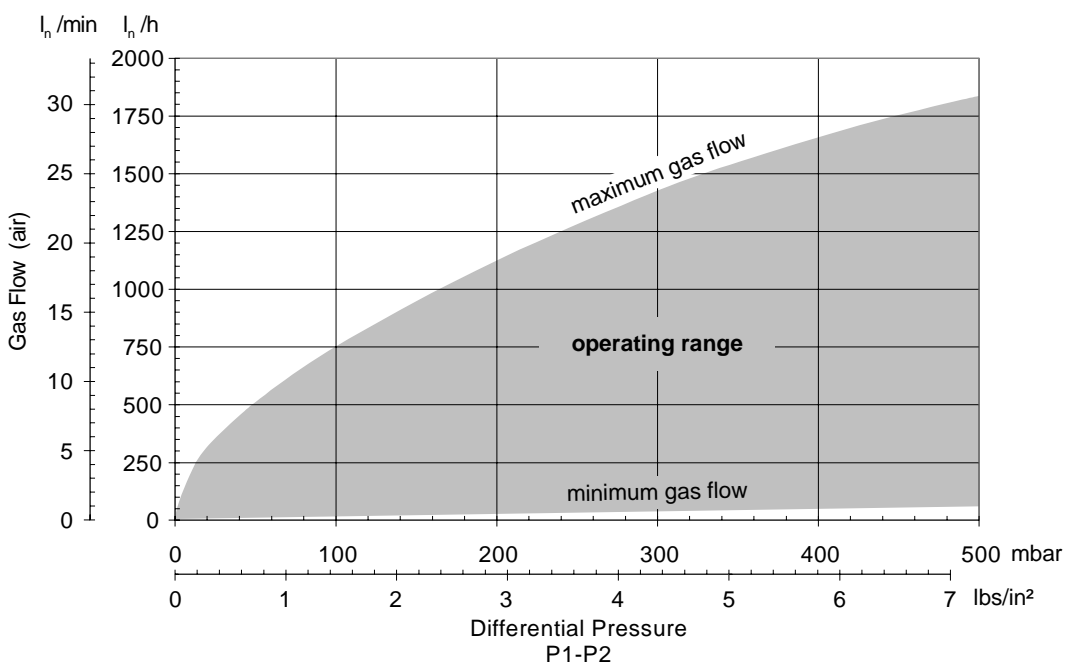
**Technical Data (continued)**

Gas Connectors	Sample gas: $\phi$ 12mm Swagelock (standard; other sizes on request) Housing purge: $\phi$ 6mm Swagelock (standard; other sizes on request)
Maximum gas pressure	1 bar overpressure (approx. 2 bar abs.)
Materials in contact with sample gas	Gas Lines & Control Valve: stainless steel (SS 316), PTFE, PVDF and FPM seals Pressure Transducer: Polyester-, silicon- and silicone compounds Note: enhanced corrosion resistance is attained with the optional PTFE isolating membrane

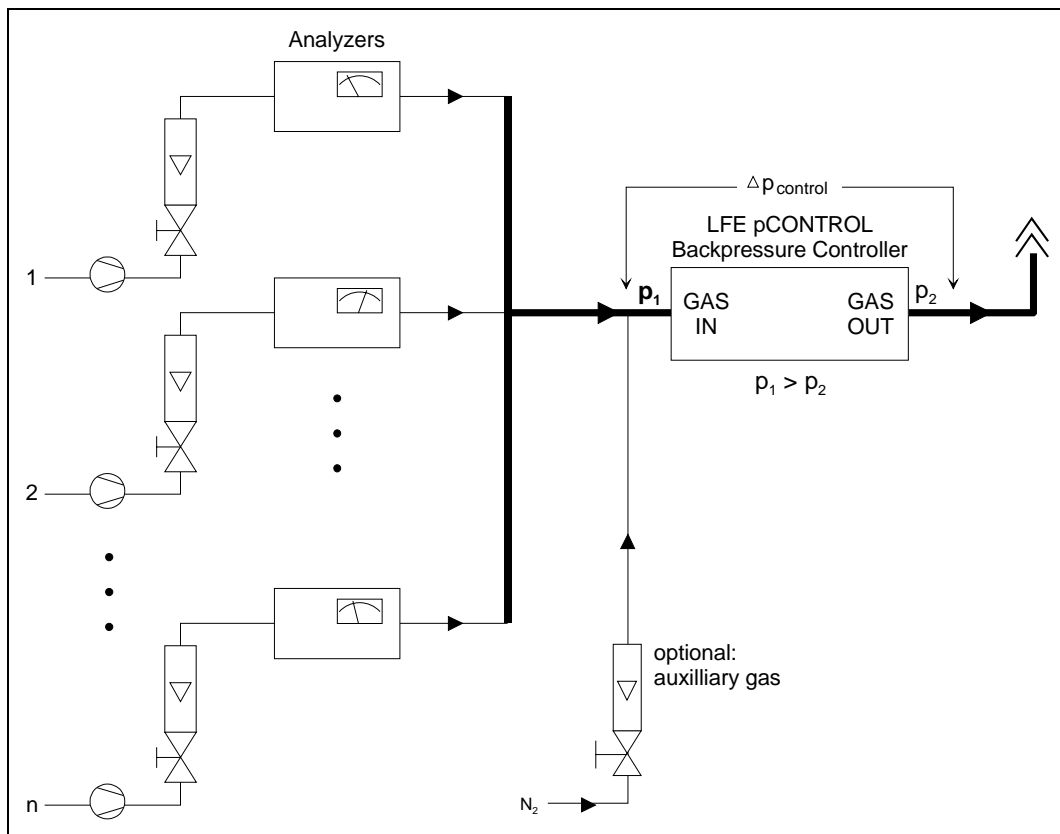
Technical specifications subject to change without notice



Functional diagram



Operating range: differential pressure vs. gas flow



Sample application with multiple gas analyzers

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