Annular gap gas mixer

DATA SHEET

Description

Gas mixers are essential components in AFR control systems of gas engines. They ensure that the desired gas/air ratio is complied with under all operation conditions. The HEINZMANN GMA annular gap gas mixer covers an engine power range of 100 to approx. 500 kW and is available in 3 sizes with different cross sections.

Its variable annular gap enables you to precisely adjust the mixture ratio of air/burnable gas for various types of gas. The Venturi-type gas mixing duct, which has excellent flow characteristics for the gas/air, suffers only minimal pressure losses and provides a homogeneous mixture throughout the speed and load range. This optimises operating quality, efficiency and emissions for every working point of the engine, and guarantees reliable starting. This mixer's properties make it ideally suitable for use with lambda-1 and lean-burn engines.

It is driven by a high-resolution, reliable stepping motor with powerful controller. The digital control is CAN-compatible with all common protocols and is therefore ideal for integration in a higher-level engine management system. It also offers additional diagnostic functions. The position setpoint is assigned by CAN or by an analogue input, which can be configured for numerous input signal specifications.

An enhanced version with fully integrated lambda control allows easy, quick installation with the greatest possible system integration, and therefore constitutes a low-price complete solution.

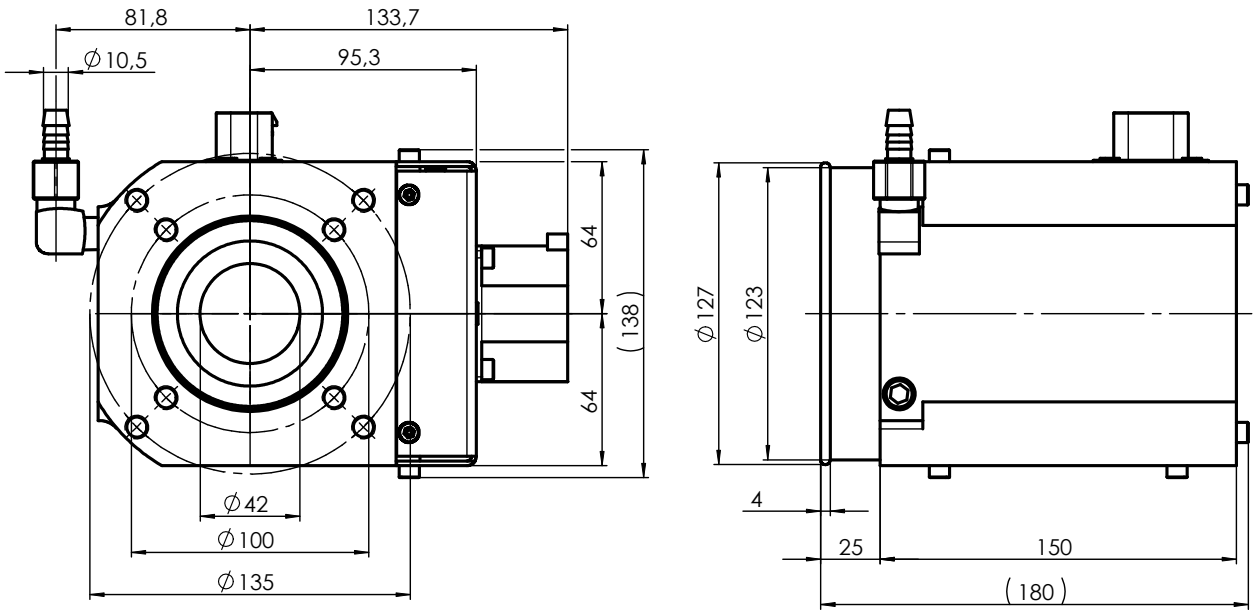
Application range

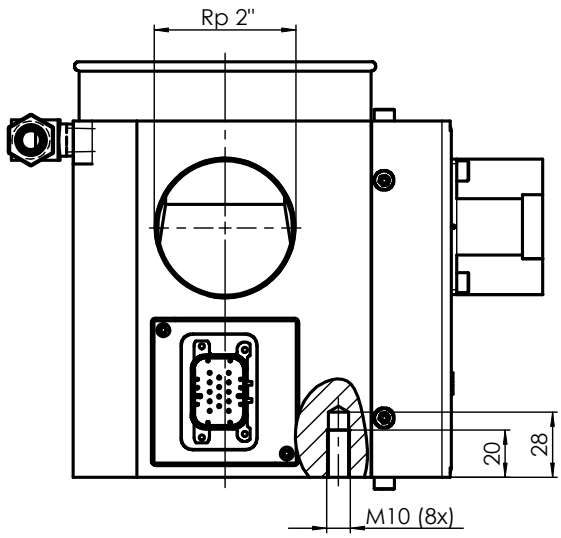
- Gas mixing system for naturally aspirated and supercharged gas engines
- Suitable for lambda-1 and lean-burn engines
- Applicabel for natural as well as biogas and low calorific fuel types

Features

- Sturdy and compact design, integrated gas mixing and metering unit
- Maintenance-free design
- Low pressure losses thanks to Venturi-shaped nozzle design
- Homogeneous mixture of burnable gas and air thanks to optimised flow conditions in the mixing duct
- Mixture ratio remains constant throughout the operating range according to Bernoulli's Equation
- Suitable for different types of gas (e.g. natural gas, waste dump gas, biogas, propane)
- Suitable for use with lambda-1 and lean-burn engines
- Enhanced version with integrated lambda control

Dimensions





Dimensions for size GMA 42

Standards

CE, ATEX (in preparation)

Technical data

Operating range	Engine power 110 ... approx. 500 kW
Types of gas	Natural gas, waste dump gas, biogas, propane
Operating voltage	nom. 24 VDC, max. 2 A
Operating voltage range	12 ... 32 VDC
Setpoint input	0 ... 20 mA, 4 ... 20 mA, 0 … 5 V, PWM signal, CAN as an option
Setpoint feedback	0 ... 5 V, (output 0 ... 20 mA in preparation)
Error output	Ground switching max. 300 mA
Display	Equipment-on indicator lamp (LED), group error display (LED), 1× status LED as an option, (other status displays in preparation)
Diagnosis/programming	Via HEINZMANN DcDesk serial interface with adapter, with CAN communication as an option
Connection	14-way TYCO connector
Ambient temperature	-40... +105 °C max. (electronics)
Permitted humidity	Up to 95 % at 55 °C
Degree of protection	IP55
Vibration strength	+/- 1 mm at 1 ... 20 Hz, max. 0.24 m/s at 21 ... 63 Hz, max. 9 g at 64 ... 2000 Hz
Shock resistance	30 g, 11 ms half-sine
Weight	approx. 6.4 kg

Design and specifications are subject to change without notice

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