

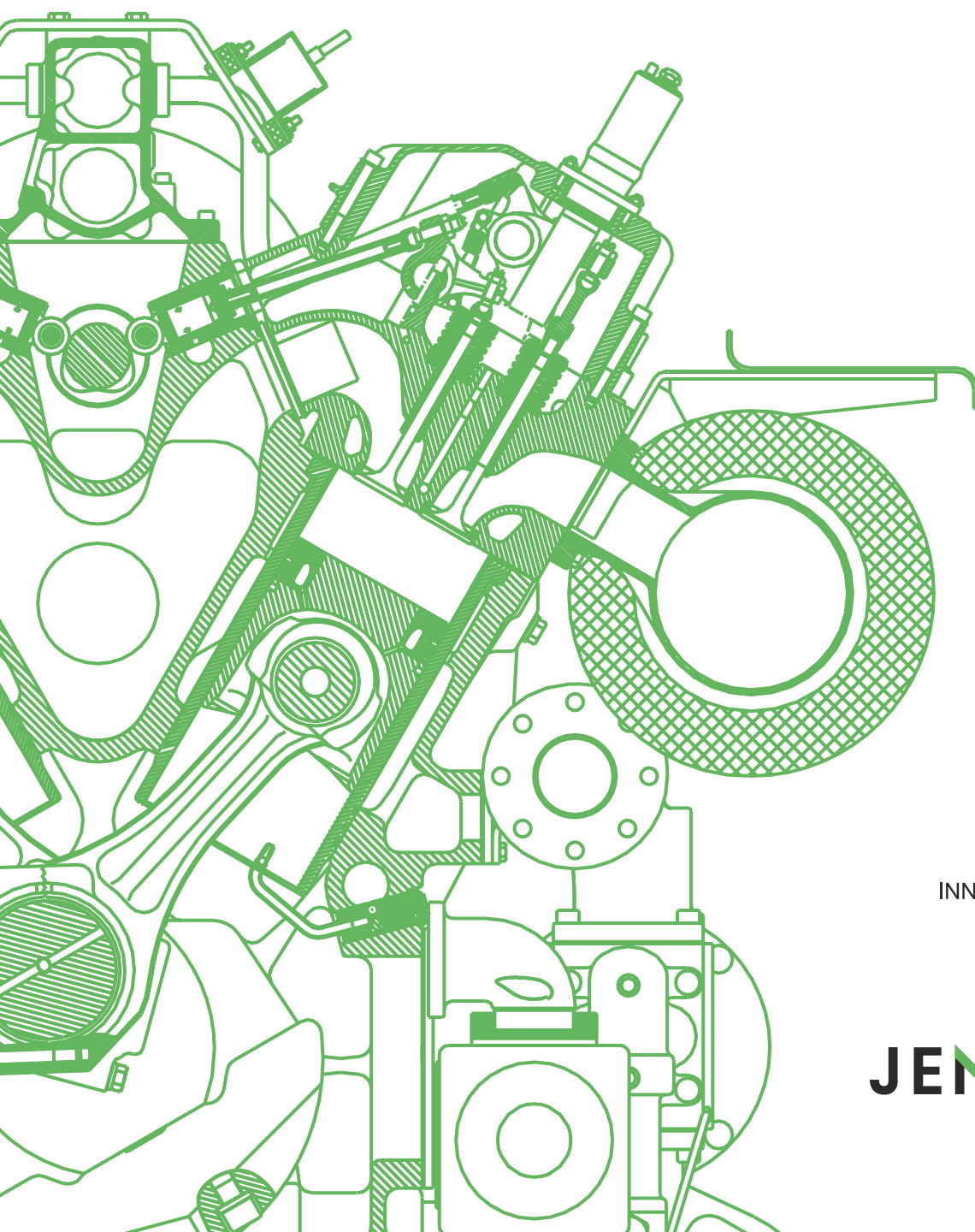


# ST-230

## Service Technician Instruction

### Gas meter Quantometer Q250

Measures to be taken in the event of an early meter mechanism failure



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## 1 Scope

This Service Technician Instruction (ST) applies to Jenbacher\* engine type J420 gas-fuelled natural gas engine sites equipped with a Quantometer Q250 gas meter (part number 408705).



**Figure 1:** Gas meter Quantometer Q250 (symbolic representation)

## 2 Purpose

This Service Technician Instruction covers the gas meter Quantometer Q250, defines the measurement range in which the Q250 should operate according to the manufacturer, and provides information about the arrangement that has been made for the event of a meter mechanism failure if the recommended measuring range reserve is not observed.

## 3 Additional information

When working on Jenbacher modules, all applicable local regulations must of course be observed in addition to our documentation. In relation to this Service Technician Instruction we stress the fact that the following documents must also be observed:

- Technical Instruction TA 1100-0111: General conditions – Operation & Maintenance
- Technical Instruction TA 2300-0001: Employee protection
- Technical Instruction TA 2300-0005: Safety regulations
- HONEYWELL ELSTER Instruction Manual: Turbine gas meters and Quantometers ('ST-230\_Att-01' in the INNIO Customer Portal)
- PHOENIX CONTACT Installation Notes MNR 9075795: Frequency transducer MINI MCR-2-F-UI-PT-C ('ST-230\_Att-02' in the INNIO Customer Portal)
- PHOENIX CONTACT Installation Notes MNR 9000681: Frequency transducer MCR-F-UI-DC ('ST-230\_Att-03' in the INNIO Customer Portal)

## 4 Description of the facts

Gas meters are usually integrated by the customer in the area of the gas train in order to indicate the flow of the fuel gas operating volume (volume in operating state). Each of these devices has a defined measuring range. In the case of the Quantometer Q250, the range is between 20 and 400 cubic meters per hour [m<sup>3</sup>/h], whereby the manufacturer recommends operation below 70% of the maximum measuring range, i.e. below 280 m<sup>3</sup>/h.

Operating above this 70% limit (usually caused by a high operating volume flow as a result of low supply pressure in the gas line) can lead to damage to the meter mechanism and thus to an early failure of the gas meter.

### Early failure of the Quantometer meter mechanism:

According to the recommendation of the manufacturer, a reserve of at least 30% must be observed when selecting the Quantometer gas meter (operation below 70% of the maximum measuring range). If the Q250 meter mechanism fails within the warranty period in one of the systems defined at the beginning of this document (see chapter 'Scope'), where this 30% reserve is not met, INNIO will provide a larger replacement device (see table) free of charge, with no additional working time charged.

Quantometer gas meter	Affected device	Larger replacement device
Part number	408705	1243626
Model	Q250 DN80	Q400 DN100
Nominal diameter [mm/inch]	80/3	100/4
Component length [mm]	120	150
Measuring range [m <sup>3</sup> /h]	20 - 400	32 - 650
LF pulse rate [pulses/m <sup>3</sup> ]	1	1
HF pulse rate [pulses/m <sup>3</sup> ]	10500	6630
HF frequency [Hz @ Q <sub>max</sub> ]	1167	1192

**Table 1:** Technical data of the relevant gas meters

HF ...high frequency

LF ...low frequency

### Required measures for the Quantometer conversion:

- Submit warranty claim (open warranty case).  
In the course of warranty processing, the circuit diagram must also be updated.
- Adjustment of the pipe connections (by the customer) for the replacement device with nominal diameter DN100 (instead of DN80) and component length 150 mm (instead of 120 mm).
- Installation and commissioning of the replacement device in accordance with the updated circuit diagram and ST-230\_Att-01 (HONEYWELL ELSTER Instruction Manual – Turbine gas meters and Quantometers).
- Configure PHOENIX CONTACT frequency transducer:
  - When using the current frequency transducer MINI MCR-2-F-UI-PT-C:  
Configuration of DIP switches according to the updated circuit diagram and ST-230\_Att-02 (PHOENIX CONTACT Installation Notes MNR 9075795 - Frequency transducer MINI MCR-2-F-UI-PT-C).
  - When using the old frequency transducer MCR-F-UI-DC:  
Configuration of parameters according to the updated circuit diagram and ST-230\_Att-03 (PHOENIX CONTACT Installation Notes MNR 9000681 - Frequency transducer MCR-F-UI-DC).
- When using the built-in high-frequency pulse output, change parameter 11867 (Measuring range of gas volume at 20 mA) on the DIA.NE\* to 650 cubic meters per hour [m<sup>3</sup>/h] [PARAMAIN/Gas/Special gas/Gas volume].

No.	Name	Value	Unit
11401	Measuring of gas volume active	<input checked="" type="checkbox"/>	
11868	Measuring range of gas volume at 4 mA	0	m <sup>3</sup> /h
11867	Measuring range of gas volume at 20 mA	650	m <sup>3</sup> /h

**Figure 2:** Parameter adjustment on the DIA.NE

## 5 Revision code

Index	Date	Description / Revision summary
2	10.10.2019	DIA.NE path for parameter change corrected
1	09.10.2019	First version of this document

**Table 2:** Revision history

\*Indicates a trademark