

Calibration system for SF₆ gas density measuring instruments, Model BCS10

Applications

- Testing the SF₆ gas density measuring instruments by means of comparative measurements
- Simple measurement on site, in the laboratory or in the workshop

Special features

- Pressure generation via a hand pump
- Precision digital gas density indicator with accuracy 0.6 %
- Variable connection concept of the test items
- Precise pressure setting by means of the fine adjustment valve
- Low weight and compact design



Calibration system, model BCS10

Description

Simple operation

The robust modular calibration system model BCS10 serves for the inspection of the SF₆ gas density and pressure measuring instruments by means of comparative measurements. This calibration system is used to check quickly and easily both density-based and pressure-based mechanical and electronic measuring instruments.

Precise and flexible calibration

This calibration system consists of the model CPP30 test pump and the directly mounted model GDI-100-D precision digital gas density indicator. This combination enables the precise adjustment of the measuring point as well as a measured value display in 10 density units or 26 pressure units. Customer-specific pressure units can also be used with this system.

Practical and robust storage

The calibration system model BCS10 is delivered in a robust service case made of plastic. A foam insert provides additional protection and arranges the contents clearly.

Principle of operation

The test item is connected to the calibration system by means of a metal flex hose and a suitable adapter, which are included in delivery.

The system is put under pressure when the pump is operated, the fine adjustment valve makes it possible to exactly approach the measuring points. The same pressure is applied to both the test item and the reference instrument (precision digital gas density indicator model GDI-100-D).

A comparison of the displayed values of the test item and the reference instrument allows you to check or assess the suitability for use of the gas density measuring instruments on site.

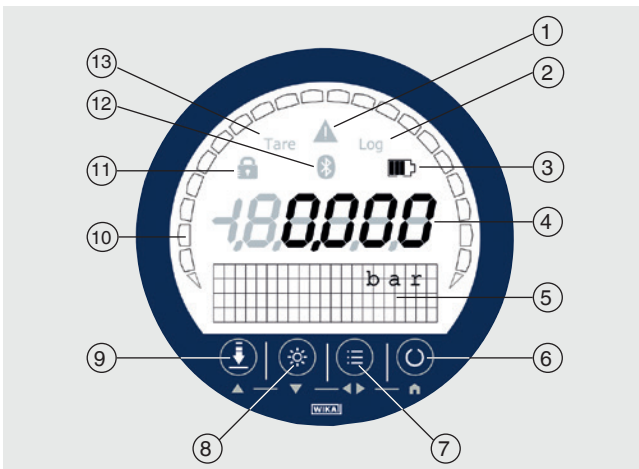
An adjustable overpressure valve releases the pressure when a set pressure value (e.g. 8 bar) is achieved and thus prevents the overload of the test item. Optionally, the valve can be set by the factory to a certain pressure value.

Test assembly



- ① Digital pressure gauge
- ② Adjustable overpressure valve
- ③ Fine adjustment valve
- ④ Pressure relief valve
- ⑤ Switchable pressure/vacuum generation
- ⑥ Pump handles
- ⑦ Adjustable knurled nut for setting the pumping capacity (overpressure protection)

Description of the precision gas density indicator



① Warning notice for:

- Exceeding or dropping below the pressure range
- Exceeding or dropping below the temperature range
- Logger memory is more than 90 % full
- Instrument error or battery status < 10 %

- ② **Log:** Logger function active/inactive
- ③ Battery status
- ④ Pressure indication
- ⑤ Matrix field serves as menu and secondary display
- ⑥ **On/Off button**
- ⑦ **MENU button**
Calling up the menu
- ⑧ **LIGHT button**
Turning the backlighting on and off
- ⑨ **ZERO button**
The current pressure value will be set to "0" (gauge) or reference pressure (abs.)
- ⑩ Bar graph indicates the current pressure graphically
- ⑪ **Lock symbol:** MENU button or ZERO button locked/unlocked
- ⑫ **WIKA-Wireless:** WIKA Wireless active/inactive
- ⑬ **Tare:** TARE active/inactive

Specifications calibration system model BCS10

Measuring range

- Measuring range comp. pressure: 0 ... 8.87 bar @ 20 °C
- Measuring range density: 0 ... 60 g/l
- Measuring range pressure: 0 ... 16 bar abs.
- Overload safety of the sensor: 48 bar
- Burst pressure: 140 bar

Accuracy specifications

- Accuracy of pressure measurement: 0.05 % FS
- Accuracy of density measurement: 0.6 % FS
- Compensated temperature range: -10 ... +50 °C

Digital display

- Type of indication: 7-segment LCD
- Digits: 5 ½-digit
- Resolution: depending on the selected pressure unit
- Bar graph display: 20-segment bar graph, 0 ... 100 %
- Possible density units: g/litre, kg/m³
- Possible pressure units SF₆ at 20 °C: bar, psi, kg/cm², kPa, MPa and 15 other units

Operating conditions

- Ingress protection: IP65
- Ambient temperature: -10 ... +50 °C
- Medium temperature: 0 ... +50 °C
- Storage temperature: -20 ... +70 °C
- Relative humidity: < 95 % r. h. (non-condensing)

Communication

- Interface: WIKA-Wireless
- Data exchange: "myWIKa device" app (available free of charge in Google Play Store and Apple App Store)

Functions

- Overpressure protection: Adjustable overpressure valve
- Fine pressure adjustment: By means of the fine adjustment valve
- Measuring rate for pressure: up to 50/s
- Measuring rate for density: up to 3/s
- Memory: MIN/MAX values
Integrated data logger
- Data logger: Cyclic logger: Automatic recording of up to 20,000 values
Cycle time: Selectable from 1 ... 3,600 s in steps of 1 second or by measuring rate in the following increments:
Density measurement: 1/s, 3/s
Pressure measurement: 1/s, 3/s, 10/s and 50/s

"myWIKa device" app is recommended for using the data logger function

Voltage supply

- Power supply: 3 x 1.5 V AA alkaline batteries
- Battery life: Typically 2,000 ... 2,500 h (without backlighting and WIKa-Wireless not active)
- Battery status display: Symbol display, with 4 bars displaying the battery status in segments of 25 %

Plastic case

- Dimensions in mm: 395 x 295 x 106
- Weight: approx. 4 kg (with contents)


Scope of delivery (full equipment)

- Precision digital gas density indicator model GDI-100-D with mounted pneumatic test pump model CPP30
- Test adapter with quick coupling for G 1/2
- Test adapter with quick coupling for G 3/4
- Test adapter with quick coupling for M30 x 2
- Test adapter with quick coupling for calibration valve of GDM-100-CV or GLTC-CV (M26 x 1.5)
- Adjustable overpressure valve
- Metal flexible hose for connecting the test item, length 2 m
- Plastic case, incl. foam insert and operating instructions
- Calibration certificate

Dimensions in mm

Height x width: 220 x 105

Approvals

Logo	Description	Country
	EU declaration of conformity <ul style="list-style-type: none">■ EMC directive■ Pressure equipment directive■ RoHS directive■ R&TTE directive■ EN 300 328, harmonised frequency range 2,400 ... 2,500 MHz is used;■ Bluetooth® Classic, max. transmission power 10 mW. The instrument may be used without limitations in the EU and also CH, NO and LI	European Union

Accessories and spare parts

	Designation	Order number
	Plastic case, incl. foam insert with suitable free spaces for model BCS10 Dimensions in mm: (W/H/D) 395 x 295 x 106	on request
	Test adapter with quick coupling for G 1/2	14037984
	Test adapter with quick coupling for G 3/4	14037987
	Test adapter with quick coupling for M30 x 2	14037946
	Test adapter with quick coupling for calibration valve of GDM-100-CV or GLTC-CV (M26 x 1.5)	14146937
	Metal flexible hose for connecting the test item, length 2 m	14037413
	Protective rubber cap for precision digital gas density indicator	14109396

Ordering information

Specification of the model is sufficient for ordering. To order desired options and accessories, also specify their order number.

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