

**Operating Instructions
for
Flow Indicators for Vertical Installation**

Model: DAB



We don't accept warranty and liability claims neither upon this publication nor in case of improper treatment of the described products.

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2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition. Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- Flow Indicators for Vertical Installation model: DAB

4. Regulation Use

Any use of the device, which exceeds the manufacturer's specification, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Operating Principle

Flow-through sight glasses with sight glass cylinders and flanges are designed for monitoring fluid in pipelines. It also can be equipped with a swimming ball, e.g. made of polypropylene (PP).

6. Mechanical Connection

Before installation:

- Remove all transport protections and make sure that there are no packaging parts in the device.
- Handling flow-through sight glasses with sight glass cylinders and flanges requires special care.
- Make sure that the permitted max. operating pressures and operating temperatures of the device must not be exceeded (see technical data).
- The materials of the flow-through sight glasses and flanges must be compatible with the media in contact with them.
- Install the flowmeter in the pipeline without tension.
- Protect the measuring tube from damage from the outside.
- Avoid pressure surges in the measuring tube e.g. by quickly shutting off the flow.
- After the mechanical installation it should already be checked, whether the connection fitting / pipe is tight (see chapter Commissioning), if possible.
- If fire occurs, sealing is not guaranteed.

The installation must be carried out in a pressureless state. Dangerous liquids, gases or vapors should be drained. The installation should be tension-free. The pressure and temperature limits must be observed.

When installing in pipelines, please note:

1. Connections must be parallel to each other, so that a distortion of the housing is avoided.
2. Before installation, the pipes must be thoroughly cleaned
3. Rinse and dry the instrument

During commissioning, pay attention to leaks and eliminate the leaks by retightening the fastening elements. The system should be tested with a maximum of 1.1 times the nominal pressure.

7. Maintenance

Before servicing, ensure that the unit is depressurised, that no medium is present and that the working temperature is $<40^{\circ}\text{C}$. The cleaning should be done carefully with a clean cloth. Scratches, especially on glass components, should be avoided.

The sight glasses with sight glass cylinder and flanges must be stored clean and dry at temperatures between -10°C and $+40^{\circ}\text{C}$.

8. Replacement of the sight glass

After interruption of the liquid flow, the flange connection can be released and the instrument removed. When replacing glass components always replace the associated sealing elements. Before installing the new glass and gaskets, clean the sealing surfaces from any contamination. If the glass and gaskets are correctly inserted, the instrument can be placed back in the pipeline and the flange connection made

9. Technical Information

Material	
Thread connection:	red cast iron RG-5
Supports:	red cast iron RG-5
Glass:	Borosilicate glass
Sealing:	PTFE
Threaded bolts:	brass MS-58
Ball 15 and 20mm:	PA 6.6 density 1.13 g/cm^3
Ball 30, 40 and 50 mm:	rubber density 1.46 g/cm^3
Threaded bolts:	according to flow range
Maximum operating pressure:	10 bar
Operating temperature:	$-200^{\circ}\text{C} / + 230^{\circ}\text{C}$ (PTFE seals)

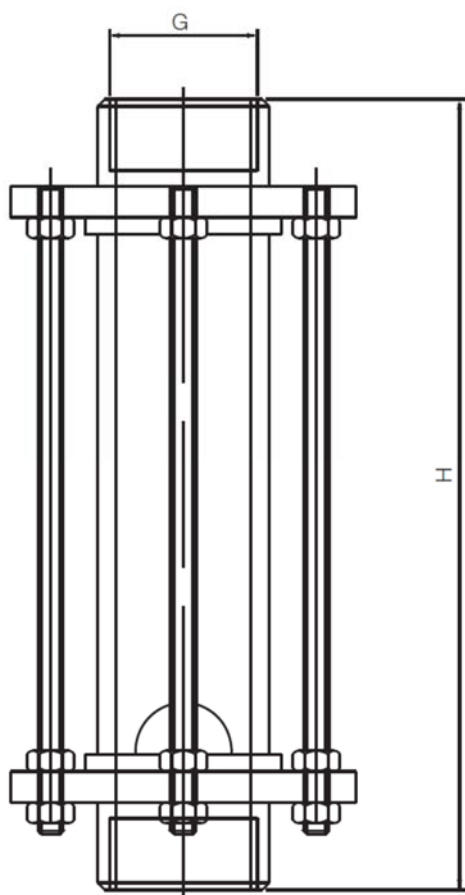
DAB

10. Order Codes

Example: **DAB-1101HR20**

Connection thread G	DAB without ball	DAB with ball
G $\frac{1}{2}$	DAB-1100HR15	DAB-2100HR15
G $\frac{3}{4}$	DAB-1101HR20	DAB-2101HR20
G1	DAB-1102HR25	DAB-2102HR25
G1 $\frac{1}{4}$	DAB-1103HR32	DAB-2103HR32
G1 $\frac{1}{2}$	DAB-1104HR40	DAB-2104HR40
G2	DAB-1105HR50	DAB-2105HR50
G2 $\frac{1}{2}$	DAB-1106HR65	DAB-2106HR65
G3	DAB-1107HR80	DAB-2107HR80

11. Dimensions



Model	P _{max}	t _{max}	G	Height H [mm]	Glass cylinder D x length [mm]	Weight [kg]	Ball diameter [mm]
DAB-..00HR15	6 bar	100 °C	G½	92	16.5 x 50	0.5	10
DAB-..01HR20	6 bar	100 °C	G¾	137	32 x 100	0.65	15
DAB-..02HR25	6 bar	100 °C	G1	145	40 x 100	0.95	20
DAB-..03HR32	6 bar	100 °C	G1¼	145	40 x 100	1.1	20
DAB-..04HR40	6 bar	100 °C	G1½	145	50 x 100	1.18	20
DAB-..05HR50	6 bar	100 °C	G2	150	60 x 100	1.25	30
DAB-..06HR65	6 bar	100 °C	G2½	150	70 x 100	1.76	40
DAB-..07HR80	6 bar	100 °C	G3	195	90 x 100	3.95	50