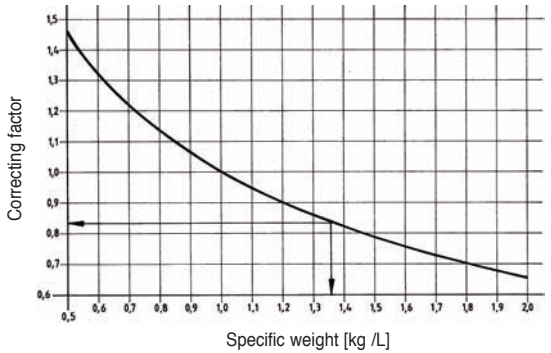
CORRECTING OF READING: FLOW vs. SPECIFIC WEIGHT

On the diagram, a correcting factor corresponds to different specific weight for correcting the scale indication *(graduated in flow of water at 20°C)*. The viscosity is considered as the same of water.

Example

A liquid with a S.W. of 1.36 kg/L corresponds to a correcting factor of 0.83. All readings have to be multiplied by 0.83. If the reading is **900 L/h** *(water at 20°C)*, the real flow rate is **747 L/h**.

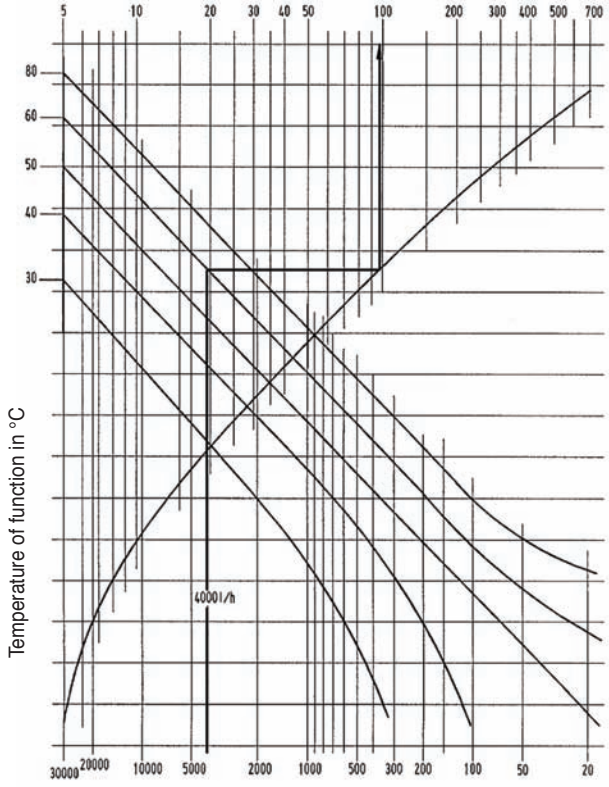


CORRECTING OF READING: FLOW vs. TEMPERATURE

On the diagram, the flow rate indications correspond to different temperature *(variation of specific weight against the service temperature)*

Example

For a reading of **3900 L/h** when the service temperature is **60°C** the correction is of **100 L/h**. The real flow rate is then **4000 L/h**.



BAMO MESURES
22, Rue de la Voie des Bans - Z.I. de la Gare - 95100 ARGENTEUIL
Tél : (+33) 01 30 25 83 20 - Web : www.bamo.fr
Fax : (+33) 01 34 10 16 05 - E-mail : info@bamo.fr

Instructions Manual for Variable area flow rate indicators IDP, PDP and contact ZE 951

Call us or send us an e-mail for needed information

DESCRIPTION

As an example, how to identify a flow indicator **IDP 100 T PVDF A:**

IDP:	Plastic flow rate indicator *(PDP is a smallest version)*
100:	Beginning of the scale (End of scale is x 10) in L/h of water at 20°C
T:	Calibrated tube in Trogamid (T) [others = PVC (V), Polysulfon (P) or (PVDF)]
PVDF:	PVDF diver *(often called the float)*
A:	Built-in magnet in the diver for a switch control *(option)*

STANDARD EQUIPMENT

PVDF Diver
PVC unions *(female – to be glued on site)*
EPDM O-ring seals
Scales in L/h of water at 20°C
Scale in L/h of water / 20°C for the PDP version

OPTIONS

FLANGES:	On request, in PVC, PPH, PVDF or stainless steel with flat seals.
UNIONS:	On request, BSP threaded unions in cast iron or Stainless steel
SEALS:	On request O-rings in FPM
SCALES:	On request, please ask for a quotation. AIR with service pressure (abs) from 1 to 9 bar at 20°C HCl at 33% NaOH at 30% and at 50%

For a quotation including these options, please specify the fluid type and concentration, service temperature and pressure.

TECHNICAL FEATURES

Maximal pressure

PVC unions:	PN 10 at 20°C
Cast iron unions:	PN 16 at 20°C

Temperature limits

PVC:	0...50°C *(water)*
Trogamid:	0...80°C *(water)*
Polysulfon:	0...120°C *(water)*

Caution: These limits may be restricted to the union material acceptance. The minimal temperature is -20°C if the fluid is not freezing.

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STARTING UP

DESCRIPTION

The variable area flow metres are dedicated to indicate the flow rate of fluids, liquid or gaseous, clean and free of particles.

For liquids:

Pressure does not interfere on the measurement. The specific weight and the viscosity should be stable. A variation of temperature will affect the indication *(see the drawing)*.

For gases:

The specific weight, temperature and pressure should be stable. If they are supposed to vary, please ask information to our technicians.

MOUNTING

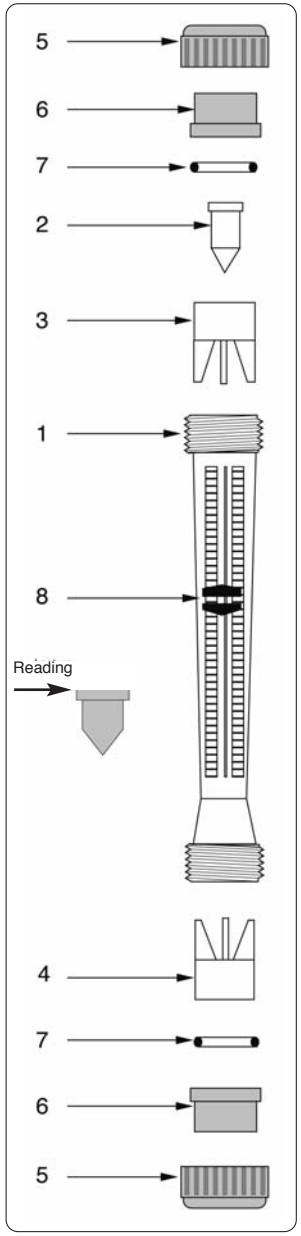
For correct results, the flow must be vertical and ascending. Clean all the pipes before starting up the installation: this will avoid particles to damage the instrument. During the mounting, it is necessary to remove the diver *(float)*, discard the protective net. Inlet and outlet have to be perfectly aligned; flanges and seals must perfectly correspond to each other. Introduce the diver: the bottom is the smaller diameter. Union connections have to be hand squeezed.

FLOW RATE READING

The flow lifts up the diver (float) without friction. The top of the diver *(largest diameter)* indicates directly the flow rate on the graduated scale.

MAINTENANCE

There is no particular maintenance needed. If tube darkening occurs, clean it with a plastic brush and a highly diluted solution of washing soda.
Alcohol and other organic solvents are prohibited.



SPARE PARTS

Mark	Designation	Qty.	Material
1	Measuring tube	1	Trogamid PVC Polysulfon PVDF
2	Float	1	PVDF PVDF with built-in magnet
3	Upper stopper	1	PVDF (IDP - PDP)
4	Lower stopper	1	PVDF (IDP)
5	Union nut	2	PVC *(Other on request)*
6	Adaptor	2	PVC *(Other on request)*
7	O-ring seal	2	EPDM *(FPM on request)*
8	Red index	2	ABS

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ZE 951 ALARM SWITCH

For IDP and PDP flow indicators

DESCRIPTION

The type "A" of IDP and PDP flow indicators includes a diver *(float)* with a built-in magnet, necessary to actuate the alarm switch. The housing of the contact **ZE 951 is IP 65**. It fits on the indication tube on the dovetail *(rear face)*. All area must be free of magnetic fields, vibrations and the room temperature should be between **0°C and 50°C** *(55°C for the fluid as a maximum)*.

The electrical connector, has a cable gland convenient for a diameter cable of 4 to 6 mm. The cable outlet should be downward to avoid water or condensation to penetrate inside the housing.

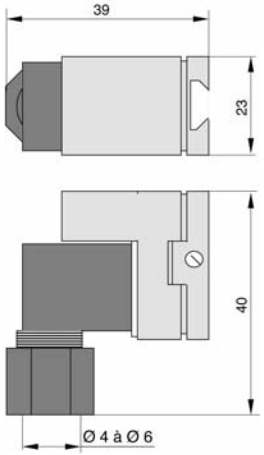
The alarm is done by a Reed contact when the diver (float) passes in front of it. Its switching power is **10 VA / 100 V / 0.5 A**. A relay like our ES2001will protect the Reed contact for high power connected device.

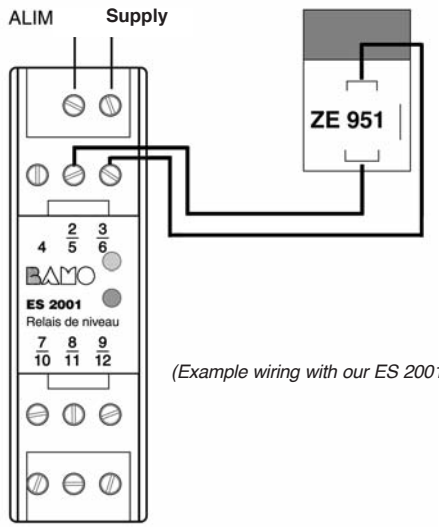
WIRING

The test of the contact with a multi-meter will indicate the contact status (NO or NC with flow-less) depending of the ordered model. The orientation upward or downward of the contact does not modify the status.

TECHNICAL FEATURES

Switching power:	10 VA / 100 V AC / 0.5 A
Status NO with flow-less:	Code **P 48 119**
NC with flow-less:	Code **P 113 131**
Protection:	IP 65, DIN plug (acc. to DIN EN 175301-803)
Temperature limits:	Room 0...50°C Fluid 0...55°C





(Example wiring with our ES 2001 relay)

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