

# Paddle wheel flow sensor BAMOFLU 100



- On-line flow sensor
- From ND 15 up to ND 600
- Output: Rectangular pulses
- Materials: PVC, PPH, PVDF or AISI 316

## APPLICATIONS

BAMOFLU is designed for neutral or slightly aggressive liquids, free from solid particles (demineralized water, pool water after filtration, etc.)

## DESCRIPTION

The liquid flow, causes rotation of a 5-blade paddle wheel with magnetic inserts. Variations of magnetic field produce pulses whose frequency is directly proportional to the speed of the fluid.

The liquid may content no more than 2 % of solid particules, non-magnetique and size < 0.5 mm.  
The viscosity may be between 0.5 and 20 cSt, beyond which an on-site calibration will be necessary.

### Commissioning recommendations:

- The pipeline must always be full
  - Do not have liquid / gas interfaces
  - The flow-rate must be between 0.8 and 10 m/s
- Refer to the manual for the required straight lengths.*

## TECHNICAL FEATURES

|                    |   |
|--------------------|---|
| Output             | From 38 to 45 Hz according fitting vs. pipe I.D.<br>Rectangular pulses, 5 ... 24 V DC |
| Power supply       | 7 ... 30 V DC / 30 mA (stabilized)<br>Sensor protected against reverse polarity       |
| Measuring range    | 0.8 ... 10 m/s  |
| Accuracy           | ± 1 % With calibrated frequency converter   |
| Repeatability      | ± 0.5 %   |
| Linearity          | ± 1 %   |
| Pressure limits    | PPH & PVDF: 10 bar at 20 °C<br>AISI 316 L: 25 bar (with stainless steel nut)          |
| Temperature limits | PVC: 40 °C; PPH: 85 °C; PVDF & AISI 316: 100 °C                                       |
| Body               | PPH or PVDF or AISI 316 L   |
| Paddle wheel       | E-CTFE (Halar)  |
| Rotor shaft        | Ceramic (Al <sub>2</sub> O <sub>3</sub> )   |
| Seals              | FPM (standard); EPDM on request   |
| Connector          | Plug DIN 43 650, IP 65  |

**EC Conformity:** The instrument meets the legal requirements of the current European Directives

## CODE NUMBERS AND REFERENCES

| Code    | Reference              | Description                         |
|---------|------------------------|-------------------------------------|
| 780 100 | BAMOFLU 100 - PVC      | PVC paddle wheel flow sensor        |
| 780 125 | BAMOFLU 100 - PPH      | PPH paddle wheel flow sensor        |
| 780 150 | BAMOFLU 100 - PVDF     | PVDF paddle wheel flow sensor       |
| 780 175 | BAMOFLU 100 - AISI 316 | AISI 316 L paddle wheel flow sensor |

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Paddle wheel flow sensor  
**BAMOFLU 100**

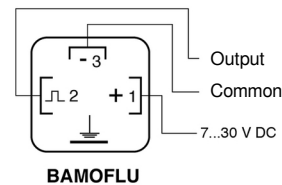
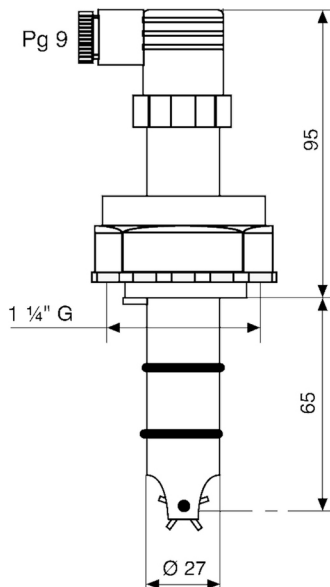
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## DIMENSIONS



## RELATED CONVERTERS

Our converters are delivered set up according to the application parameters confirmed with the purchase order: Flow rate max. and pipe I.D. For programmable converters, the setting is saved to nonvolatile internal memory (EEPROM type).

### BIF 6040: Flow-rate indicateur and counter

The BIF 6040 provides display by red LED of instantaneous flow and flow totalization.

It is fully configurable on site without any simulator.

It provides a power supply of 24 V DC to the sensor (12 V DC on request).

Panel mount, standard cut: 48 x 96 mm.

(Data-sheet 282-01)

### BCP 48: Counter and downcounter

The BCP 48 performs simple counting or a dosage.

Set up may be done on site without a simulator.

It provides a power supply of 12 V DC to the sensor.

Panel mount, standard cut: 48 x 45 mm.

(Data-sheet 289-03)

### BAMOTOP 281: Frequency converter

The BAMOTOP 281 converts the pulse signal into an analogue signal 0/4 ... 20 mA, or, 0/2 ... 10 V.

This converter is delivered with a set up according to the application parameters confirmed with the purchase order.

Rail DIN mounting (DIN 35).

It provides a power supply of 12 V DC to the sensor.

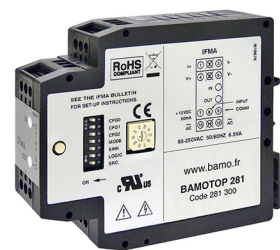
(Data-sheet 281-01)



BIF 6040



BCP 48



BAMOTOP 281

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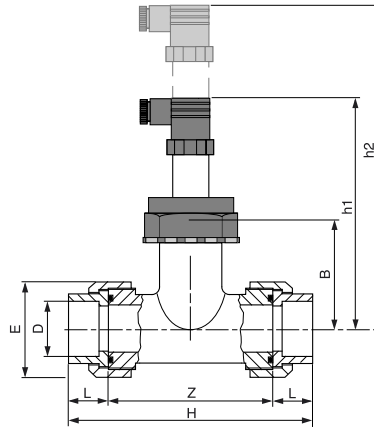
## MOUNTING ACCESSORIES

### Mounting Tees:

The mounting tees in PVC, PPH, PVDF or AISI 316L are convenient for pipes from ND 15 to ND 40 with half-unions and FPM seals (flanges or to weld on site: on request).

For pipe inner diameters ND 15 to ND 300, we can supply sleeves with flanges, center to center = 250 mm (Materials: on request).

Pressure limit 10 bar at 20 °C  
 Temperature limit Depending of sensor material  
 Fitting PVC: Solvent welding; PPH or PVDF: Fusion welding



#### PVC version

| Code    | ND | D  | R      | H     | Z    | L  | B    | E  | h1  | h2  |
|---------|----|----|--------|-------|------|----|------|----|-----|-----|
| 780 205 | 15 | 20 | 1"     | 113   | 81   | 16 | 73   | 53 | 168 | 243 |
| 780 207 | 20 | 25 | 1 1/4" | 126   | 88   | 19 | 80   | 62 | 170 | 245 |
| 780 209 | 25 | 32 | 1 1/2" | 139.5 | 95.5 | 22 | 81   | 71 | 173 | 248 |
| 780 211 | 32 | 40 | 2"     | 170   | 118  | 26 | 84   | 84 | 177 | 252 |
| 780 213 | 40 | 50 | 2 1/4" | 199   | 137  | 31 | 82,5 | 98 | 181 | 256 |

#### PPH version

| Code    | DN | D  | R      | H     | Z    | L    | B    | E  | h1  | h2  |
|---------|----|----|--------|-------|------|------|------|----|-----|-----|
| 780 240 | 15 | 20 | 1"     | 111   | 73   | 14.5 | 73   | 53 | 168 | 243 |
| 780 242 | 20 | 25 | 1 1/4" | 120.5 | 80   | 16   | 80   | 62 | 170 | 245 |
| 780 244 | 25 | 32 | 1 1/2" | 133.5 | 81   | 18   | 81   | 71 | 173 | 248 |
| 780 246 | 32 | 40 | 2"     | 163.5 | 84   | 20.5 | 84   | 84 | 177 | 252 |
| 780 248 | 40 | 50 | 2 1/4" | 195   | 82.5 | 23.5 | 82.5 | 98 | 181 | 256 |

#### PVDF version

| Code    | DN | D  | R      | H     | Z     | L    | B    | E  | h1  | h2  |
|---------|----|----|--------|-------|-------|------|------|----|-----|-----|
| 780 260 | 15 | 20 | 1"     | 111   | 82    | 14.5 | 73   | 53 | 168 | 243 |
| 780 262 | 20 | 25 | 1 1/4" | 120.5 | 88.5  | 16   | 80   | 62 | 170 | 245 |
| 780 264 | 25 | 32 | 1 1/2" | 133.5 | 97    | 18   | 81   | 71 | 173 | 248 |
| 780 266 | 32 | 40 | 2"     | 161.5 | 120.5 | 20.5 | 84   | 84 | 177 | 252 |
| 780 268 | 40 | 50 | 2 1/4" | 193.5 | 146.5 | 23.5 | 82.5 | 98 | 181 | 256 |

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## Supporting collars:

For mounting on plastic pipes only (PVC, PE or PPH), we supply support collars in PP or PVC-C with NBR seal.

## Simplified BAMOFLU mounting:

The support collar is delivered with the special adaptor to fit the BAMOFLU to the threaded sleeve of the collar.  
The fitting is pre-mounted on the collar and does not require any adjustment on site.  
The complete assembly respects the immersion distance ( $0.12 \times \text{ØD}$ ).

## Technical features:

|                   |  |
|-------------------|--|
| Pipeline          | From ND 40 (O.D. 50 mm) up to ND 100 (O.D. 110 mm) |
| Body              | Polypropylene or PVC-C                             |
| Adaptor           | PPH or PVC-C                                       |
| Seal              | O-ring in NBR (EPDM or FPM on request)             |
| Screws            | Galvanized steel                                   |
| Pressure limit    | 10 bar at 20 °C                                    |
| Temperature limit | 55 °C  |

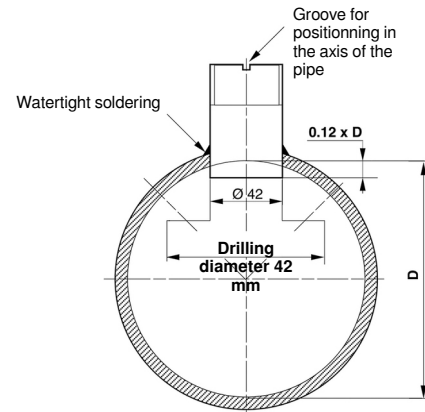


Supporting collar including fitting for BAMOFLU

| PE/ PPH version |            | PVC-C version |               | Dimensions |     |      |
|-----------------|------------|---------------|---------------|------------|-----|------|
| Code            | Reference  | Code          | Reference     | ND         | Ø d | R    |
| 780 901         | COL 50 PE  | -             | -             | 40         | 50  | 1 ½" |
| 780 906         | COL 63 PE  | 780 907       | COL 63 PVC-C  | 50         | 63  | 2"   |
| 780 911         | COL 75 PE  | 780 912       | COL 75 PVC-C  | 65         | 75  | 2 ½" |
| 780 916         | COL 90 PE  | 780 917       | COL 90 PVC-C  | 80         | 90  | 3"   |
| 780 921         | COL 110 PE | 780 922       | COL 110 PVC-C | 100        | 110 | 4"   |

## BF150 adaptor:

Adaptors available for pipes from ND 50; In AISI 316L, PVC, PPH or PVDF. The adaptor allows sensor mounting on-line.  
For mounting with adaptors( BF150 ), it is important to respect the immersion distance specified on the drawing.  
This dimension complies with the standard ISO 7145-1982, respecting relation with inner diameter  $0.12 \times \text{ØD}$



| Code    | Reference   | Description                      |
|---------|-------------|----------------------------------|
| 780 200 | BF 150-I    | Aaptor in AISI 316 L for welding |
| 780 201 | BF 150-PVC  | Adaptor in PVC for welding       |
| 780 202 | BF 150-PPH  | Adaptor in PPH for welding       |
| 780 203 | BF 150-PVDF | Adaptor in PVDF for welding      |

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