

# ORIFICE PLATE FLOWMETER DB SERIE

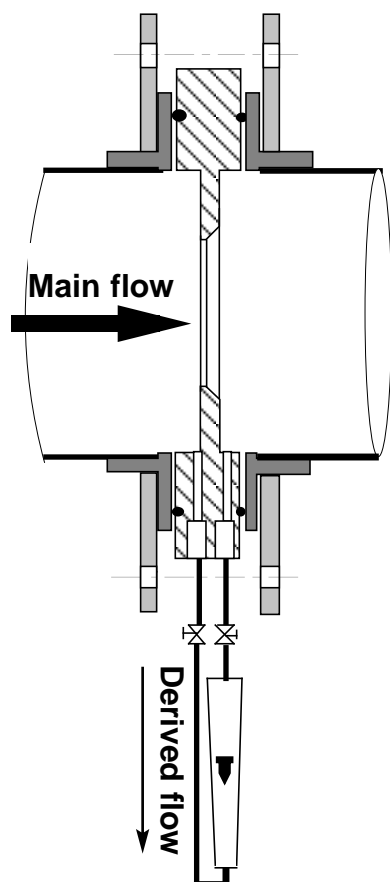


- Designed for aggressive fluids
- Direct reading indicator
- From ND 50 up to ND 200 pipes
- Scale amplification from 2 to 10.
- Mounting in all positions
- Standardized with NF X 10-102 Norm
- Accuracy:  $\pm 2,5$  % full scale
- Option: Electrical switch counter

## PRESENTATION

Diaphragm is inserted between 2 flanges in the main duct. The differential pressure is transmitted to the exterior via 2 pressure ports on each diaphragm face. This pressure is proportional to the flow rate square in circulation inside of the duct. A flowmeter, mounting in derivation allow a direct reading of the flow rate. To obtain a strictly proportional to the main flow rate, a BORDA injector is insert before or after flowmeter.

This flowmeter can be replaced by a counter, allowing a totalization. Orifices can be only delivered in stainless steel 316 L, or with pressure ports directly on steel or stainless steel. Their accuracy is 1%, diameters are from 50 and 60 mm. We supply flowmeter with special graduation for derivated measure on all existing diaphragm, only if specifications are given before graduation.



## SPECIFICATION

Measuring range	: From 2 to 350 m <sup>3</sup> /h (see table on the back)
Accuracy	: $\pm 3$ % (DB/IDP) $\pm 4$ % (DB/PDP)
Repeatability	: $\pm 0,3$ % (DB/IDP) $\pm 0,4$ % (DB/PDP)
Scale amplification	: 2 to 10 (DB/IDP) 2,5 to 10 (DB/PDP)
Max. temperature	: 50°C - PVC 90° - PPH 120°C - PVDF
Max. pressure	: 10 bar (20°C)

## MATERIALS

Diaphragm	: PVC - PPH - PVDF
Flowmeter associated	: PVC (DB/IDP-V - DB/PDP-V) : Trogamid (DB/IDP-T - DB/PDP-T) : Polysulfon (DB/IDP-P - DB/PDP-P)
Float	: PVDF
Supply line	: PVC - PPH - PVDF
Stop valves	: PVC - PPH - PVDF
O-Ring	: EPDM (standard) - FPM (on request)
BORDA injector	: PVC - PPH - PVDF

## OPTION

For DB/IDP	: Electrical switch ZE 951
For DB/PDP	: Electrical switch ZE 951

# BAMO MESURES

13, rue Pasteur - 95 100 ARGENTEUIL - FRANCE  
Tél : (+33) 01 30 25 83 20 - E-mail : info@bamo.fr  
Fax : (+33) 01 34 10 16 05 - Site : http://www.bamo.fr

ORIFICE PLATE FLOWMETER  
DB SERIE

21/11/2002

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## SCALES

Ranges indicated on the attached board, for DB/PDP flowmeters, are not contractual, but can be modified within flow rate or diameter.

For DB IDP, minima flow rates have to be multiplied by 1,25. Flow rates are indicated for PVC NP 10 pipes. In all events, the thickness and the exact interior diameter pipe have to be specified, so we may assure the specifications of the system.

DB / PDP Serie - water 20 °C				
ND	Range 1 m <sup>3</sup> /h	Range 2 m <sup>3</sup> /h	Range 3 m <sup>3</sup> /h	Range 4 m <sup>3</sup> /h
50	2 - 10	5 - 25		
65	2 - 10	6 - 30		
80	3 - 15	6 - 30	10 - 50	
100	4 - 20	6 - 30	16 - 80	
125	136	6 - 30	16 - 80	30 - 150
150	245	10 - 50	20 - 100	40 - 200
200		20 - 100	40 - 200	70 - 350

## PRESSURE LOSS

The loss of charge is the difference of pressure between upstream and downstream unrecoverable, create by the orifice. This loss of charge can be calculated on request.

## INSTALLATION REQUIREMENTS

The installation conditions are useful to warrant a coherent measure in the range of precision. The straight pipe lengths upstream of the orifice, undermentioned, are given for indication.

	Number of D
Simple elbow at 90° or T (flow rate by one branch)	7
2 elbows at 90° in 2 different plans	17
Reducing from 2 D to D on length 1,5 D to 3 D	7
Valve completely open (type membran valve or ball valve)	7
Downstream	3

The straight pipe length upstream depend to relation between intern pipe diameter (D), and the diameter orifice. The exact length to respect for conserving the precision of whole measure are communicated after each case study.

## FIXATION FLANGES

The union nuts will be center with the flange of fixation as precisely as possible. The union nut arrest boards should be of the same diameter than intern diameter of tube, to avoid perturbation in liquid flow. On request, we can deliver union nuts, flanges and screw.

## TO SPECIFY FOR ANY COMMAND ORDER

Fluid : .....

Pressure : .....bar

Temperature : .....°C

Volumic mass : .....Kg/m<sup>3</sup> or Kg/Nm<sup>3</sup>

Max flow to measure : .....m<sup>3</sup>/h or Nm<sup>3</sup> /h

Diameter of main duct : .....mm

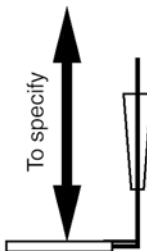
Thickness of duct : .....mm

Material of the duct : .....

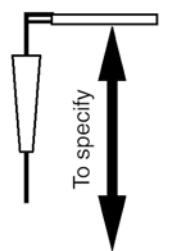
Sense of circulation : HB mounting, Left / Right  
: HH mounting, Left / Right  
: HB mounting, Right / Left  
: HH mounting, Right / Left

Circulation : VB mounting, From bottom to top  
: VH mounting, From bottom to top  
: VB mounting, From top to bottom  
: VH mounting, From top to bottom

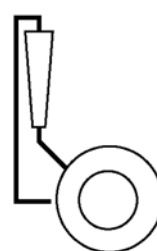
VH mounting



HB mounting



VB mounting



HH mounting

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