

Flowmeter OREO for DN100 mm - Pressure 0.1-25 bar - Flow 1.2 – 300 m³/h



Description

This flowmeter is a mechanical inspection device to check flow and volume for fire hydrants. The mechanical flowmeters DB100A and DB100AL comply with the requirements of the users in terms of metric flow reliability; they are handy and easy. The DB100 displays the volumes and the flows for use from 1 to more than 300 m³/h with a precision of reading of 0.1 m³ for all measures. The use of batteries EF with very high longevity enables a permanent and autonomous operation during 10 year.

Measure - flow measurement from 1.2 to 300m³/h

To meet all your needs, the DB100 display the volume and flow from 1.2 to more than 300m³/h with an accuracy of 0.1 m³. Manometer precision 0.05 bar.

The new manometers color offers a static and dynamic reading very precise of the pressure from 0.1 to 25 bars.

Handiness - Easy checking

The foam handle and the conception in one piece stainless steel EF enable a very good catch in hand without tiredness.

Featherweight: 6.5 kg for the DB100A. The DB100A is at the moment the lightest flowmeter on the market thanks to the choice of materials of low density

Protection - Reinforced fittings: 25 bars

The high resistant fittings 25 bars, and the epoxy coating, ensure longevity in difficult working conditions. Tight electronics: IP68 STAINLESS

To secure the electronic display of any water projection, all the DB100 are equipped with flexible tight protection.

Environment

Energy: minimize the external consumption of energy from the longevity of the batteries with low level of discharge + limit rejection batteries.

Materials: used in durability, that limits the consumption of raw materials.

Recycling: 90% of the DB100 are easily recycled (possible reprocessing by EF-OREO).

Version	Mass (kg)	References
Type DB100A - Flowmeter OREO EPOXY	6.50	224992
Type DB100AL - Flowmeter OREO EPOXY	9.50	224993

Technical characteristics

Manometer

Manometer	Measurement type		Min	Max	Precision	
	Needle	Glycerin bath	(bar)	(bar)	(to 1 bar)	(dilated scale)
			0.1	25	+/- 0.1	+/- 0.05

Flowmeter

Flowmeter	Numerical display	Measurement limit (m3/h)		Precision		
		min	Max	to 60 m3/h (%)	Remain (%)	Remain (%)
		1.2	300	99.9	99.5	1/10

Volume

Volume	Numerical display	Volume presence		Display precision	
		Face		Volume 1/10 m3	

Electronic

Electronic	Numerical display	Protection IP	
		IP 68 STAINLESS	

Energy

Energy	Type of feed	Autonomy	Display
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Lithium standard battery	10 years (85 000 hours)	Level of battery
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Construction

Construction	Weight (kg)	Length (mm)	Valves and fittings	Body coating
DB100A	6.5	430	Aluminium	Epoxy
DB100AL	11.5	460	Aluminium with brass valve	Epoxy

Accessories

Designation	Mass	Reference
Brise jet de sol: connecting piece 100 mm and hydraulic conception	6.2 kg	225015
Ground support with fire connecting piece: tenue par roue véhicule and connecting piece DN100 mm	4.1 kg	224998
Lenticular valves with 2 connecting pieces 100 mm: high precision, anti water hammer (multi-turn), aluminium connecting pieces, brass body	6.3 kg	224996
Case for DB100A: case covered with steel, alveolate foam high resistance	4.1 kg	224994
Case for DB100AL	6.0 kg	225014
Pipe 5m length with 2 aluminium connecting pieces DN100	8.5 kg	224997
Aluminium plug DN100 with locking system	0.5 kg	225000

Maintenance

The DB100 don't need any particular maintenance. A cleaning from time to time and a respect of the water material are sufficient to keep the flowmeter in good conditions of operation.

Repair: 90% of all the problems can be solved by the user through these instructions.

Assistance: If necessary, please contact our technical department.

Periodicity of control

Regularly	Every 2 years	Every 4 years	Between 8 or 10 years
Cleaning dust	Calibration	Mechanical play	Change of the electronic batteries and the sensor
Instrument legibility	Condition of the paint	Glycerin	

Spare parts

Item	Designation	Item	Designation
0	Foam of the handle	10	M4 stainless steel 316L locknut
1	Small can of paint	A	Moulded electronics + lidcle
2	Label (arrow side)		
3	Label		
4	Battery		
5	Electronic battery		
6	Tightness seal		
7	IMP turbine		
8	PFTE washers		
9	Stainless steel manometer		

* Use only original parts

Repairing procedure

Indications	Corrective action	Repair
Appearance		Repair on site
Scratched paint	To retouch with paint containing polyurethane (colour RAL 3000)	
Damaged foam of the handle	To remove the handle support using a screwdriver and to change the foam of protection	
Damaged label	To unstick carefully the label with the cutter, to clean the residues of adhesive and to stick new labels	
Electronic display		
Do not indicate any more the flow	To open the lid by unscrewing the 4 higher screws, to change the battery then to screw again the lid with its screws	
Do not indicate any value	To open the lid by unscrewing the 4 higher screws, to change the batteries	
Became wet	To open the lid by unscrewing the 4 higher screws, to remove the batteries and to let dry 72 hours minimum. To place the batteries, to change the tightness seal and to screw again the lid	Repair on site
Unstable display after change of the turbine	To tighten the stainless nut which maintains the turbine on its axis of 1/8 turn	

Indications	Corrective action	Repair
Mechanical pieces		
Damaged manometer	To remove the old one and to replace it	
Damaged electronic parts	To remove the lid, to disconnect the four electric wires, then connect them on the new electronics, and screw again the lid	
Damaged turbine	To remove the old one by withdrawing the stainless nut of the axis and to replace it	
Difficult or impossible rotation / difficult reading of the flow	To check that there are no foreign parts which block the turbine, if not to replace the PFTE washers by the similar ones	
Structure parts		
Damaged body or damaged valve	No corrective action	To return the material to the factory
Damaged connecting parts		
Damaged inlet filter		
Deformed main axis		

Control and calibration

CONTROLE QUALITE Fiche individuelle de validation DB100A	Rapport numéro : OCQ-10274 Le : 18.07.2009
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INSTRUMENT CONTROLE

** Fabricant : VAUDREY EF	** Type matériel : Vérificateur hydrants
** Modèle : DB100A OREO	** Numéro : DB100A-09.0112
** Année : 2009	** Dn : 100 mm

☑ CONTROLE EN COURS

- ☑ Essai pression niveau 1 :
- ☑ Essai pression niveau 2 :
- ☑ Test présence impuls :
- ☑ Test fonctionnement électronique :

Effectué et satisfaisant

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☑ CONTROLE METROLOGIQUE

- ☑ Etalonnage multi-points :
- ☑ Paramétrage 0 à 60 m³/h :
- ☑ Présence rapport d'essai :
- ☑ Essai fonctionnement incliné :

Effectué et satisfaisant

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☑ CONTROLE FINAL

- ☑ Fonctionnement manomètre :
- ☑ Conformité de tous les contrôles :
- ☑ Vérification état général :

Effectué et satisfaisant

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OBSERVATIONS :

Modèle DB100A OREO, identique au DB100A avec la présence des options :

- Rajoute pièces INOX : pieds, renfort manomètre, protection afficheur
- Protection IP rainforcée
- Changement rapide emetteur
- Système minimisant la consommation

ORIGINAL La mention ci-dessus «ORIGINAL» écrite en rouge signifie que vous êtes en possession du document d'origine.	VAUT POUR VALIDATION <u>Responsable qualité</u> Nom : Visa :
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Control

Each device is checked in the factory.

At the end a report is written and attached to each device.

Calibration



SERVICE QUALITE
SERVICE METROLOGIE

RAPPORT D'ESSAI

n° EF0118 du 14.12.2009

● **DEMANDEUR :**
Commande n° :

Banc agréé DRIRE
Etalons reliés COFRAC

● **APPAREIL TESTE :**

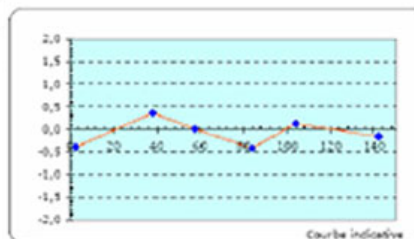
Fabricant : **ELECTROFLUIDE**
Numéro : **DB100BL-09.118**

Modèle : **DB100BL**
Année : **2009**

Etat : **Neuf**
Dn : **100**

● **RESULTATS DE MESURE :**

Debit (m³/h)	Teste (l/min)	Référence (l/min)	Erreur (%)
2,68	495	496,97	-0,40
38,22	1997	1989,94	0,35
57,70	1997	1996,94	0,00
83,92	2002	2010,49	-0,42
103,96	1990	1987,61	0,13
142,19	1995	1998,25	-0,16



* premier essai : débit démarrage x 2

TOLERANCES COMPTEURS NEUFS :
Eau froide : $Q_{max}-Q_R \pm \pm 1/2\%$; $Q_{min} \pm \pm 1/2\%$
Eau chaude : $Q_{max}-Q_R \pm \pm 1/3\%$; $Q_{min} \pm \pm 1/5\%$

Observation(s) : Essais effectués après calibrage du 0 à 60 m³/h
Débit de démarrage comptage : environ 1,2 m³/h

● **JUGEMENT :**
CONFORME ☒
NON-CONFORME ☐
SANS OBJET ☐

ORIGINAL
La mention « original » écrite en rouge signifie que vous êtes en possession du document d'origine

● **REFERENTIEL :** Procédure QUALITE n° EF-P1002

Responsable Qualité
M. OUEVY-LEFEVRE

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Tel : 03 26 85 92 52
Fax : 01 70 79 04 07

10 avenue Georges Clémenceau
51100 REIMS

ELECTROFLUIDE
contact@OREO-FRANCE.eu

Each device is calibrated in a laboratory approved DRIRE under the number N° 80 380 2 05 01. This laboratory has standards connected COFRAC. This laboratory can check any device of different marks. At the end of the control a certificate is established and joined to each device.

Use (DB100)

- Before each test it's always necessary to carry out a purge of the installation, without the flowmeter
- Don't close the valve downstream too quickly in order to avoid the "water hammer" effects which could involve the deterioration of the flowmeter.

Before any checking

- to make safe the surface of checking and to materialize it,
- to check that the gate valve is opened with its maximum,
- to carry out a purge of the pipeline in order to prevent that any foreign elements, like stones for example, do not deteriorate the flowmeter DB100

Static pressure

- to install the DB100 respecting the right direction of assembly
- to install the valve downstream (if not integrated)
- to install the discharge pipe
- to open partially the valve downstream of the flowmeter DB100
- to open the valve of the fire hydrant (don't exceed 100 m³/h)
- to close the valve downstream of the flowmeter
- to measure the value displayed on the manometer

Flow under 1 bar

- to open to the maximum the valve of the fire hydrant (13 turns)
- to regulate, by opening the valve downstream of the flowmeter, pressure at 1 bar (*)
- to record the value displayed in m³/h (letter R on the monitor)
- to close again, slowly, the valve of the fire hydrant
- to remove the flowmeter

(*) If the displayed flow becomes too important before to have obtained the pressure of 1 bar, measure the displayed pressure at 60m³/h to define the conformity of the fire hydrant.

Choice between FLOW and CUMULATED VOLUME

Through successive support, we obtain by alternation:

- If Flow (in m³/h): presence of the letter R before the display
- If volume (in m³): no letter before the display

R – not used

Operation limit

To take care of the measuring device avoiding all shocks and remains < 300 m³/h and 16 bars. IP68 resists to water projections without pressure, but the bill-poster cannot be drowned.

To refer to technical documentation to know the operational limits.

Job sites in France

- Commissariat Energie Atomique
- ERDF
- Rennes Gendarmerie
- SDIS 95 - Val d'Oise
- SDIS 51 - Marne

- SDIS 97 - Réunion
- SDIS 48 - Lozère
- SDIS 45 - Loiret
- SDIS 68 - Haut Rhin
- Mairie de Marseille (préfecture 13)
- Mairie de Chalons en Champagne (préfecture 51)
- Mairie de Troyes (préfecture 10)
- Sogea
- Sade
- Ehtp - Nge
- ABB Kent Comptage

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