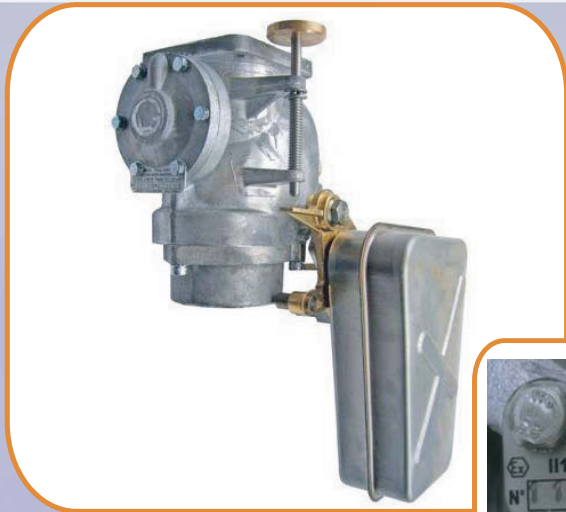


# Solo Filling Limiter

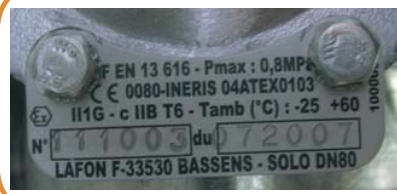
## European Standard EN 13616



The SOLO filling limiter is an environmental protection and a safety equipment

The SOLO filling limiter is characterized by its integral passage and its short re-opening time allowing a very quick filling

It results from the more than 30 years LAFON's experience in the field of filling limiters



### Technical Characteristics

- European Standard EN 13616
- Usable for the direct filling by pump or by gravity
- Products : hydrocarbons
- For underground and overground tanks
- Maximum flow : 60 m<sup>3</sup>/h - 1000 l/mn
- Minimum flow : 3,6 m<sup>3</sup>/h - 60 l/mn
- Maximum pressure : 8 bar - 110 psi
- Minimum pressure : 150 mbar - 2,17 psi
- Re-opening time/flow : less than 1 mn
- Easy installation :  
Directly under the manhole lid

### Advantages

Flow higher than competitors' ones from 20 to 25 % (integral passage for a quicker filling)


Usable for gravity or under pressure (8 bar) filling

Installation very easy (screwable flange)

Anti-vortex, preventing the premature shutting

Equipment lifetime (not corrodable stainless steel construction floating)

Individually tested in workshop

Reference	Description
10000950	SOLO DN 80 - 3" BSP
10004040	SOLO DN 80 - 4" BSP
Marking ATEX  II 1G c IIB T6	

ATEX : EC examination attestation of type INERIS 04  
ATEX 0103 + complement INERIS 04 ATEX 0103/1

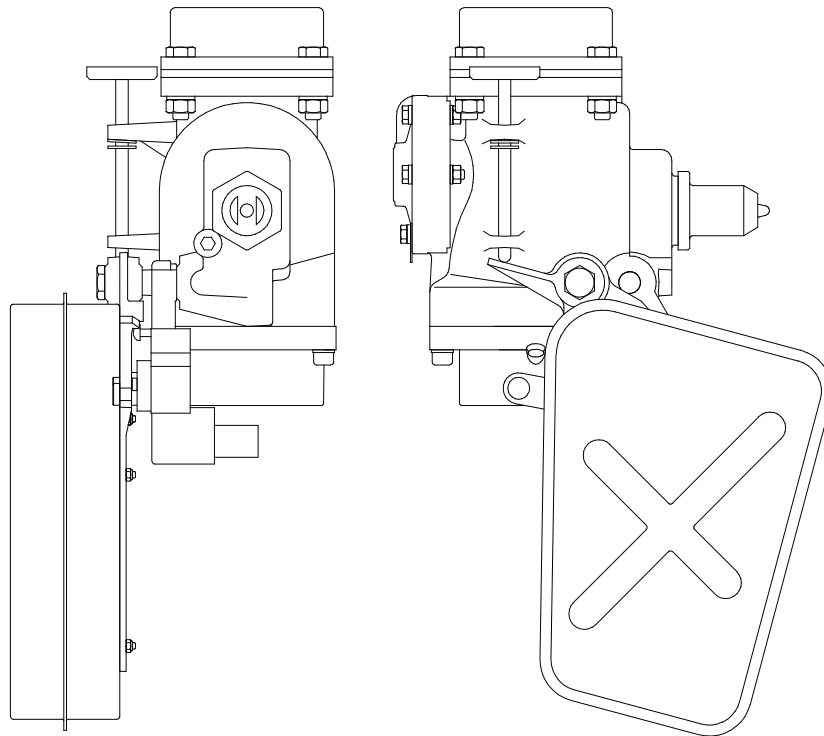


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# SOLO VF TYPE

## OPD



# Installation, maintenance and operating instructions

BEFORE ANY USE OR INTERVENTION ON  
EQUIPMENTS SUBMITTED TO THE ATEX DIRECTIVE,  
READ CAREFULLY THE SAFETY INSTRUCTIONS  
INSTRUCTIONS

## TABLE UPDATE

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## INSTRUCTION LEAFLET

### 1) MARKING

LAFON F-33530 BASSENS

SOLO

CE 0080

 II 1G c IIB T6T<sub>amb.</sub> : -25°C à +60°C

INERIS 04ATEX0103



AECET



Denis CADIOT

### 2) SAFETY INSTRUCTIONS

Any change in the OPD may invalidate its certification. Check certificate and documents relating to the device equipment to obtain information on the temperature class and explosion group. Staff should be empowered to ATEX interventions to prevent degradation of the certified equipment protection mode.

### 3) COMPLIANCE WITH STANDARD

The SOLO type equipment complies with Directive 94/9/EC. The equipment usable in group IIB hazardous areas is built according to following European standards:

- EN 13463-1 : 2001,
- EN 13463-5 : 2003,
- EN 13616 : 2004

### 4) DESCRIPTION

The SOLO OPD is designed to be mounted on the fill pipe, inside an oil storage tank. Tank filling is made with a tanker truck. During filling, the product level rises in the tank. When the level reach the float, the valve is driven to the flow passage and, driven by its flow, is pressed against its seat. Then the staff closes the delivery truck valve. The liquid comprised between the truck valve and the limiter is decompressed through a hole machined in the valve. The valve opens. Complete emptying of the delivery hose is possible. An additional feature is used to limit water hammer when closing the OPD. If at the end of the delivery the operator opens by error the tanker valve again, the float rises and drives the valve in the liquid passage. The limiter closes again. This time, the float is raised up and locks the valve against its seat. There is no more possibility of extra filling. During the progressive emptying of the tank, the float falls gradually and allows the OPD

reset.

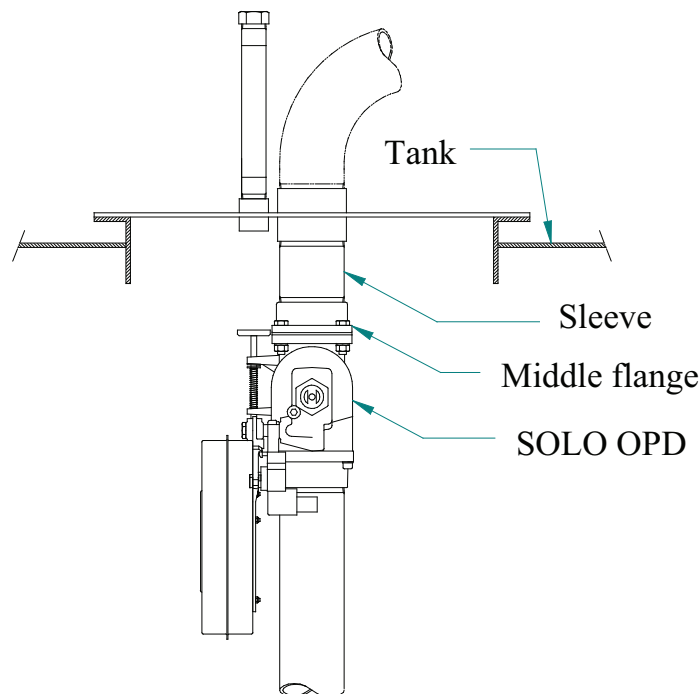
## 5) EQUIPMENT TEMPERATURE IN OPERATION

The equipment temperature in operation is comprises between  $-25^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ .

## 6) INSTALLATION/USE

For installation and running, corresponding EN standards and national regulations for device safety, as well as general rules admitted in technical field must be imperatively observed. Commissioning must be performed by qualified staff.

**To respect the SOLO OPD grounding when mounting in tank, bonding should be ensured between the OPD fixing flange and the tank via a threaded sleeve (Figure below). A unit electrical continuity test is to be foreseen.**

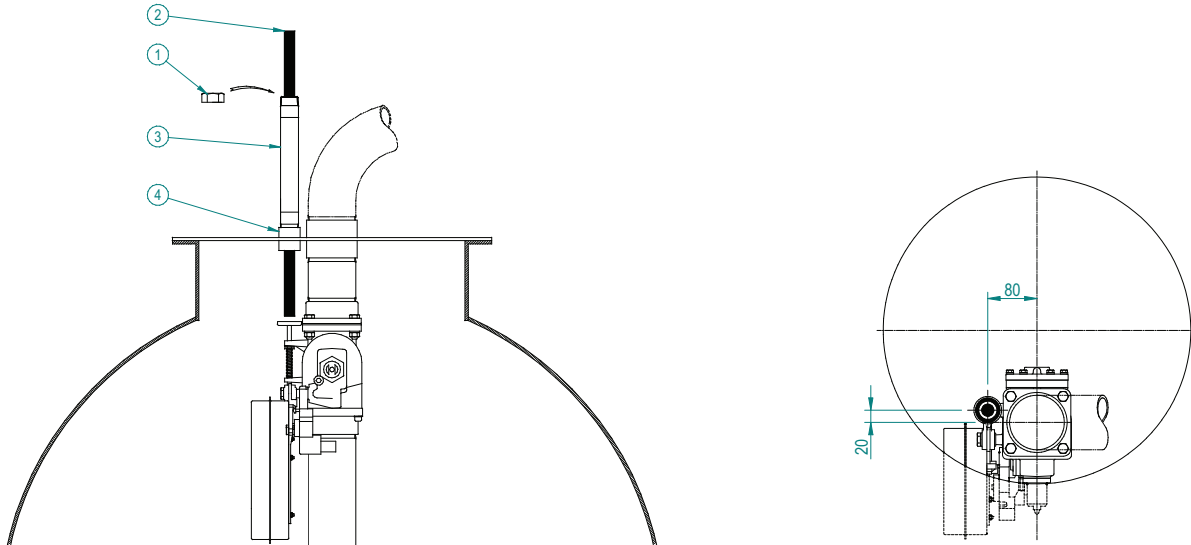


## 7) MAINTENANCE

EN Standards in force regarding maintenance of operating means in explosion risk zone and national provisions must be observed. Troubleshooting must be performed by qualified staff.

## 8) STANDARD TEST EQUIPMENT INSTALLATION

Sleeve position



## 9) OPERATIONS TO BE REALIZED FOR USING THE TEST EQUIPMENT

- Weld a sleeve (4) (diameter called 20/27 or 26/34)
- Install a tube extension (3) on it.
- Provide a watertight plug (1) at the top

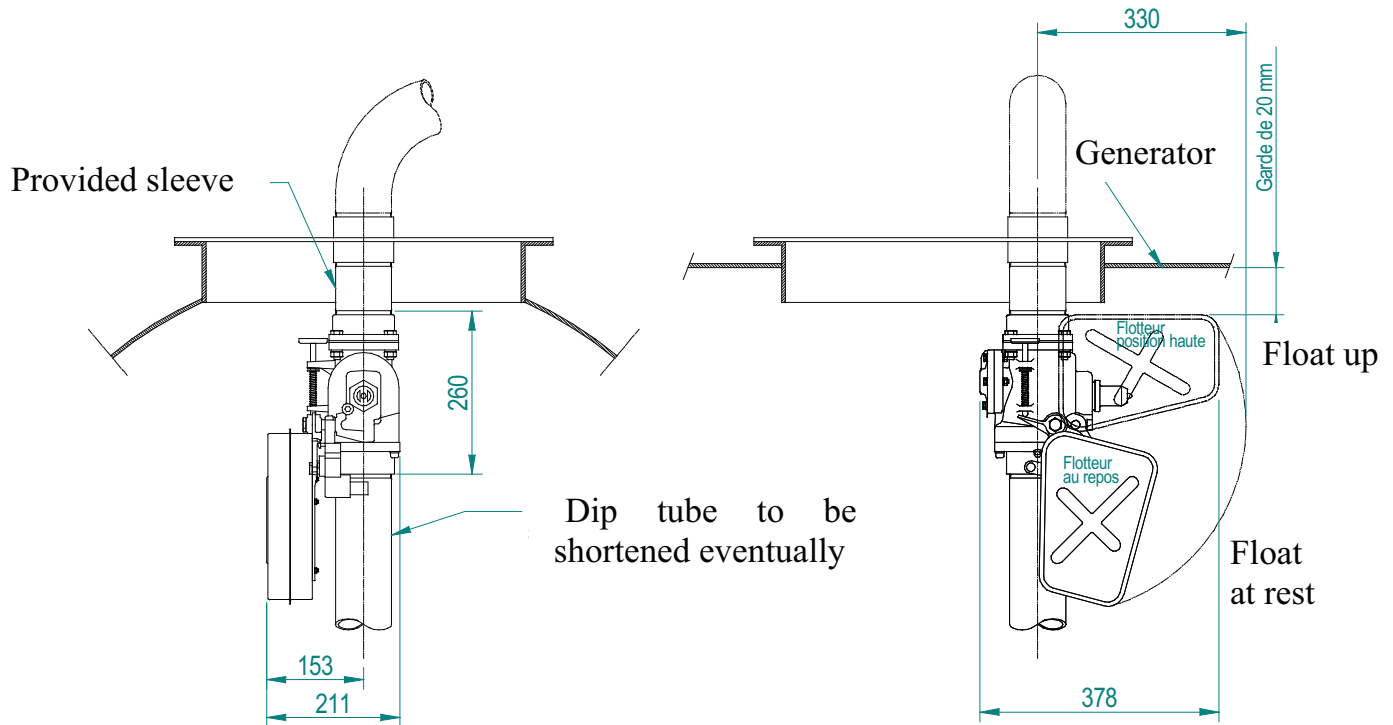
## 10) TEST EQUIPMENT OPERATION :

Our test equipment is an integral part of the OPD. To use it:

- Unscrew the sealing cap (1)
- Insert a rod (2) in the tube (3),
- During the unloading, press the rod (2) until valve closing,
- Exit rod (2) and replace the cap (1),
- Wait a minute to drain the hose

Note: the sleeve, tube, cap and rod will be provided by the installer.

## 11) INSTALLATION OF THE SOLO 80 NN OPD:



### CAUTION:

DON'T FORGET THE CROSS INSTALLATION:  
LONG PART UP

- Note the required sleeve 80/90 length: hold the float horizontally, leaving a guard of 2cm between it and the generator,
- Cut or extend the provided sleeve,
- Fit flange
- Install the cross in the main OPD (long side outside)
- Install the OPD on the flange
- Install the dip tube beneath the OPD.

Note: If possible, check the float clearance inside the manhole.

## 12) IMPERATIVE FOR 80 AND 102 DIAMETER:

Install the cross (provided in the kit) on the top flange in the foreseen housings (long part up).

