

## ZCE 11 - AMETHYSTE

### RECEPTION METERING UNIT FOR PETROLEUM PRODUCTS MEASUREMENT BY GRAVITY

Description – Installation – Operation –  
Servicing

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### RECEPTION METERING UNIT FOR PETROLEUM PRODUCTS MEASUREMENT BY GRAVITY

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#### Warning

This note comprises information necessary to the installation, the start-up and the maintenance of the reception metering unit ZCE 11. The complementary specific notes to the accessories are provided separately.

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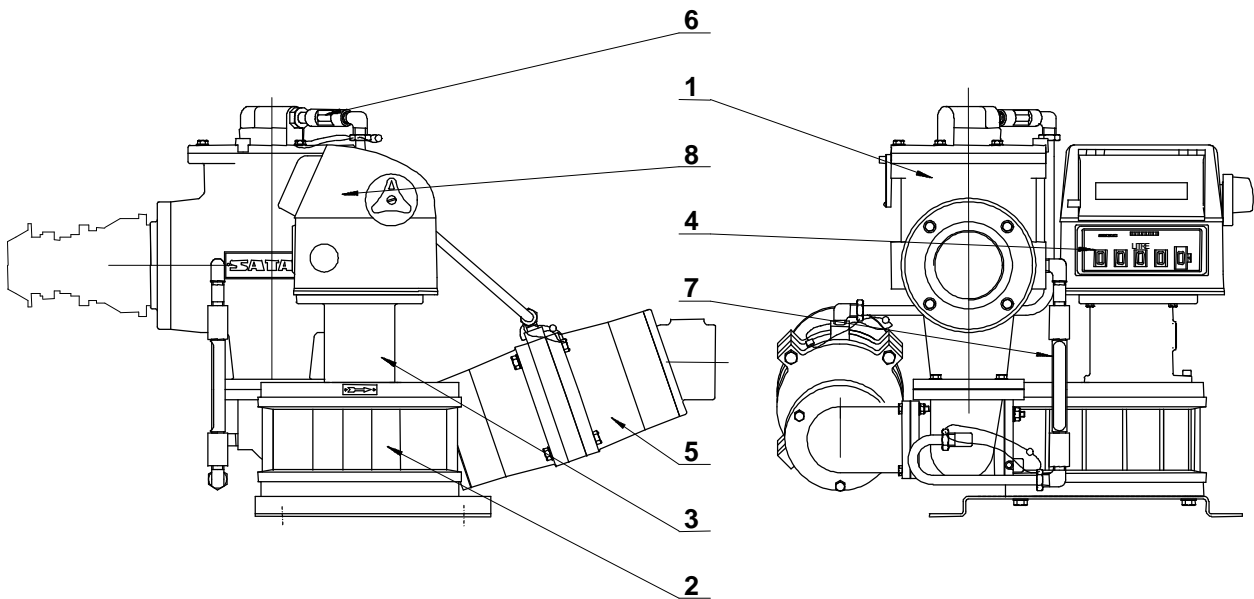
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## 1. Description

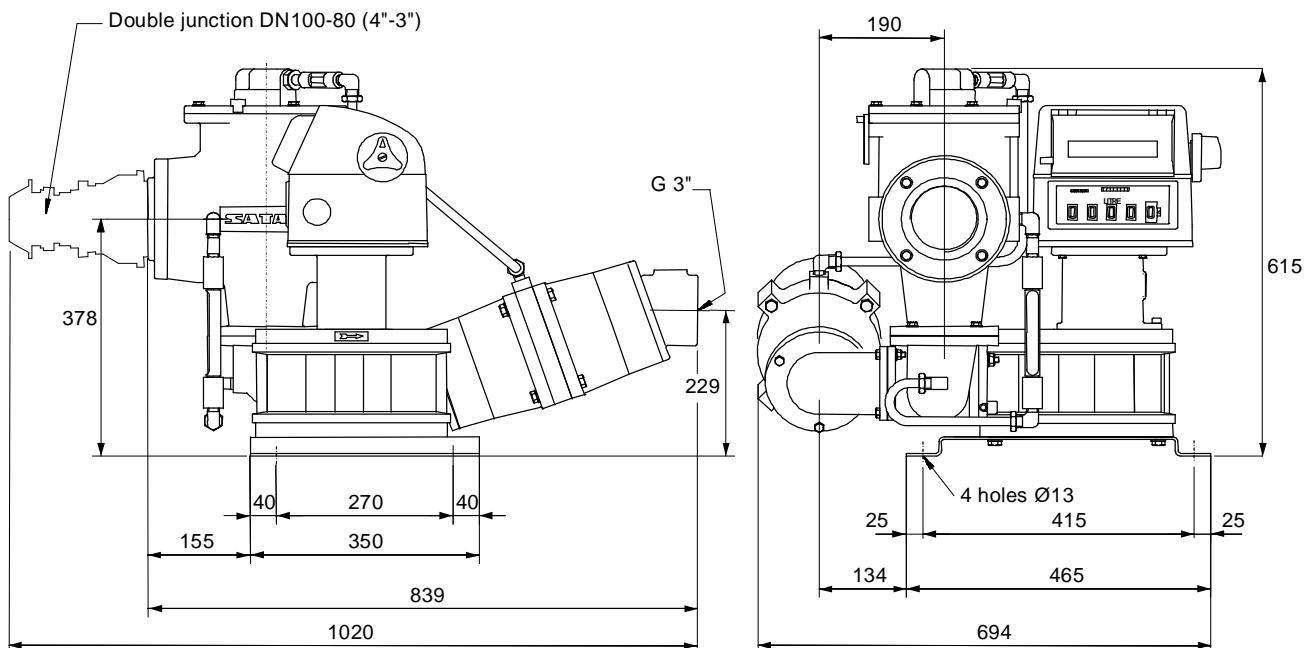
### 1.1. Constitution

Gravity metering unit ZCE 11 is composed of difference elements:



- A SATAM air eliminator model EC35 (1) consisting of a protective strainer (200  $\mu$  for gasoline and 450 $\mu$  for diesel oil)
- A SATAM meter model ZC17 80/80 (2)
- A calibrating mechanism (3) (AB37)
- A mechanical register VR7887 (4) with graduation in litter or a electronic flow computer EQUALIS (L, S or MPC)
- The adjusting device AB 37 (3) is replaced by a standard transmitter of impulses AC for the meters equipped with an electronic flow computer Equalis.
- A stop-valve type XAD49 (5).
- 2 sight-glasses (6) and (7). Upper sight-glass, enabling the user to check that only gas is evacuated through the air eliminator / stop-valve connection. Sight glass enabling verification of the liquid level.
- Option: Tickets printer (8) (with the mechanical version indicator VR 7887)

## 1.2. Dimensions



## 2. Installation

### 2.1. Reception

The package of the ZCE 11 is specially studied and realised with the maximum of security.

If however is observed an important impact, make all reserves beside the carrier and tell it to SATAM.

### 2.2. Checking

#### Remark:

You must respect the regulation of the country during the installation of ZCE 11 metering unit, about the liquid of 1<sup>st</sup> category.

### 2.3. Mounting

#### 2.3.1. Fixing

You have need 4 bolts for the fixation of ZCE 11.

#### 2.3.2. Hydraulic connection

The entry of the liquid on air eliminator will be made by female threading ( $\varnothing$  4") delivered with symmetrical joint.

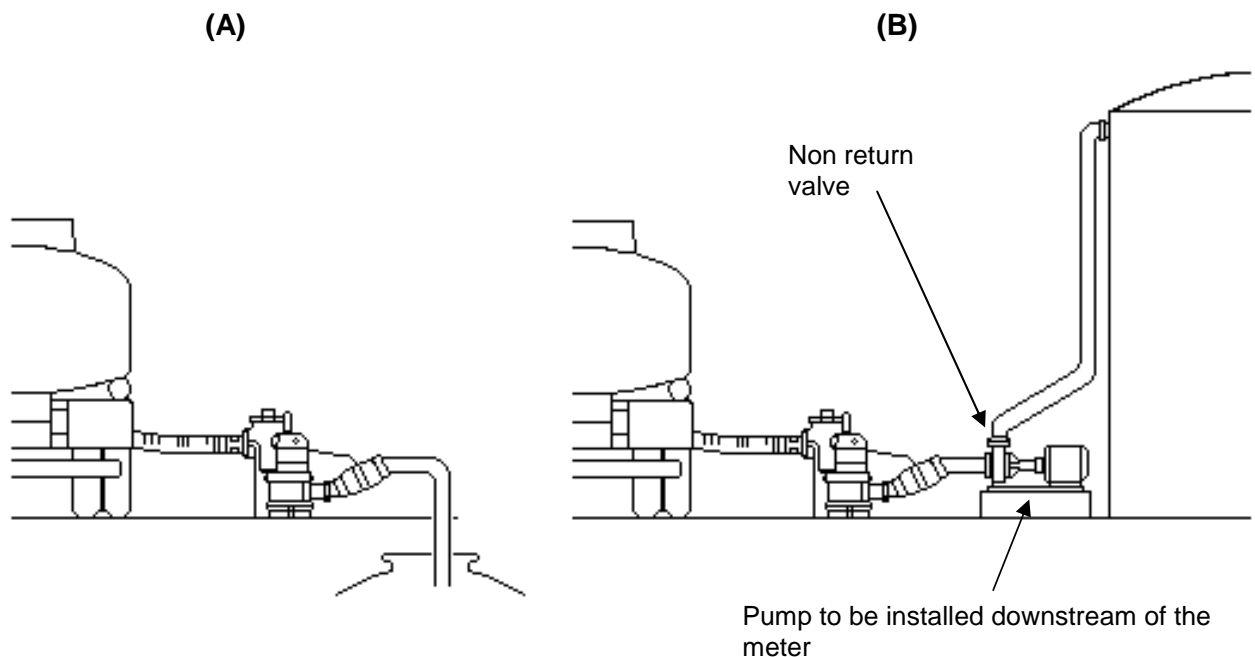
The connection of exit of ZCE 11 on a stop-valve, will be made by a female threading ( $\varnothing$  3"). Verify that ZCE 11 reception to install corresponds well to the product to receive.

The connection to the stocking will be realised with the piping of  $\varnothing$  80 mm (3"), the most short and direct possible to obtain a maximal debit

#### 2.3.3. Placement to the Earth

To obtain the electrical continuity with installation, you must connect points of junctions of « earth » and make a placement to the earth for the vehicle.

## 2.4. Installation type



### 2.4.1. Underground storage tanks (A)

The installation to follow is:

- A meter of reception by product, associate to one or several 3 way valves.

The setting of this or these valves has to be realised such manner that one piping is in operation.

### 2.4.2. Overhead storage tanks (B)

Installation with centrifugal pump mounted down stream of the meter.

This pump which should not be self-priming, pumps the product measured to an overhead storage tank. The pump is equipped with a no return valve at its outlet.

The flowrate of the pump has to be selected carefully in order not to exceed the gravity flowrate coming to the ZCE 11.

#### **Important:**

Whatever is the type of pump, the engine has always to be protected by a circuit breaker placed on the table, ruled for maximum intensity corresponding to the power of the engine.

It is recommended that the circuit breaker is supplied a thermal relay of minima tension, to avoid the functionally after a short stop of the sector.

The button Start / Stop has to be installed near the ZCE 11 in an ADF box.

## 3. Start-up of the ZCE 11

When all electrical and hydraulic connections are ended, we can proceed to the start-up of the ZCE 11.

### Caution:

Never to lose danger view of manipulation of product essentially combustible and to respect rules of security of utilisation in equal case. Notably, prohibition to smoke, extinction near, etc.

- Placement to the earth of the truck.
- Put the mechanical register to zero by swing its handle. If the mechanism register is supplied of ticket printer, the discount to zero will be undertaken after introduction of the ticket in, the face write in under, and swing the handle.
- For the sets of counting provided with an electronic head RUBIS, to refer to the note of use U513235, U511280 for SAPHIR, U516308 for the EQUALIS L and U516716 for the EQUALIS MPC.
- Make the connection between ZCE 11 and the truck by a flexible the most short possible in  $\varnothing$  80 (3") or if possible  $\varnothing$  100 (4").
- Open the delivery valve of the truck.
- After complete delivery, you must verify that the level of the product on the sight is drained to 50 % allowing dismounting of the hose connected between the truck and the group ZCE 11.

## 4. Maintenance

- Verification of basket filter (once per month)

The dismantling of the basket filtering is an operation that necessitates no particular kit.

It is indispensable to verify the filter-basket to avoid that impurities in too great number come blocked this last.

- Register and tickets printer

Register and tickets printer is entirely lubricated and ruled in factory. However, it is necessary to clean and lubricate machines periodically.

- Control of the measuring system

- The control of the measuring system must be perform at the first start-up operation and periodically once a year.

If during the first test the measuring system is no good, you can adjust with the AB37calibrating mechanism for the meters equipped with a mechanical indicator and by means of the calibration coefficient for the electronic flow computer version with Equalis.

The control of the measuring system must be achieved by means of gauge of a minimum volume of 1000 L

### 4.1. REMARK VERY IMPORTANT

**We strongly advise against the use of a high pressure water jet to clean the measuring unit, as this could seriously damage the metering unit.**

## 5. Appendix

### 5.1. Example with 4 tanks

- A 3 ways sluice "A" is placed on the exit of the meter
  - Entry AE
  - Exit AS1, AS2
- In cascade, on exit "AS1" and "AS2", are placed 2 sluices "B1" and "B2"
  - Entry BE1, BE2
  - Exit BS1, BS2, BS3, BS4
- The sluice "A" puts in communication the entry "AE" to the exit "AS1"
- The sluice "B1" puts in communication the entry "BE1" and the exit "BS1"
- The other piping are closed

**NOTE:** This installation is not necessary in the case of diesel oil

