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# Gas Receiver Type RA-GA2

Specification N° :

**07RAGA2GENR00-E**

Product :

**Gas Receiver Type RAGA-2**

Page N° :

**1 of 2**

Title :

**Function and construction, functional and operating features**

Revision N° :

**00 – 23.11.17**

## 1.0 Specification of construction, functional and operating features

The specification outlines the function and gives the construction and operating features of the device in reference as well as the environmental and operating conditions for which the device is designed. These last depend mainly on the compatibility of the materials, components and finishing with the environmental and operating conditions of the transformer. The compatibility limits are indicated for the different executions.

## 2.0 Function

The Gas Receiver allows to descend the gases accumulated in the Buchholz relay at man's height in order to sample them more easily. It also allows to inject air or gas into the Buchholz relay, operating at man's height, in order to test the contacts.

**The analysis of the gases accumulated inside the Buchholz relay as well as the speed of accumulation give a rough indication about the functionality of the transformer.**

## 3.0 Construction features

### 3.1 Materials and components

- Body and bottom plate are made of aluminium;
- Tempered glass windows;
- Window frames are made of glass reinforced Nylon;
- Nickel coated brass cocks, plugs and compression fittings;
- Gaskets as specified for the different executions;
- External screws of stainless steel.

### 3.2 Reference drawings

Assembly and overall dimensions:

- |                                |                |
|--------------------------------|----------------|
| • Type RAGA-2-A                | N° 7.160.233   |
| • Type RAGA-2-B                | N° 7.160.000   |
| • Type RAGA-2-C                | N° 7.160.183   |
| • Type RAGA-2-SC               | N° 7.160.183-S |
| • Type RAGA-2-SJ               | N° 7.160.400-S |
| • Template for customer choice | N° 07.RAGA-2   |

### 3.3 Tightness and resistance to pressure

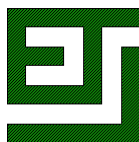
- Oil tight to transformer oil at 100°C and 1 bar;
- Mechanical resistance to vacuum (10 torr);
- Mechanical resistance to pressure up to 4 bar.

### 3.4 Painting and protection against corrosion

Casting and bottom plate are painted internally and externally by one coat of epoxy primer and externally by one finishing coat of polyurethane paint, standard final colour RAL 7031. The primer paint is resistant to transformer oil up to 120°C

The painting cycle is agreed by the Italian utility ENEL.

The specification N° 00VERRxx describes in details all the relevant characteristics of the painting.



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Page N° :

**2 of 2**

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## 4.0 Installation and operation

### 4.1 Installation

The gas receiver Type RAGA-2 is mounted at man's height on an easily accessible part of the transformer and connected by means of a copper pipe and the compression fitting B to the gas drain cock of the Buchholz relay.

After installation proceed as follows to fill the gas receiver with oil:

- Open all taps on the pipe connecting the Buchholz relay and the gas receiver;
- Open tap A and let escape the air inside the receiver; the oil head from the conservator will push the oil from the Buchholz relay to the gas receiver;
- When the gas receiver is full of oil close tap A; the receiver is ready for operation.

### 4.2 Operation for gas accumulation

When gases accumulate in the Buchholz relay, the alarm contact operates. To descend the gases into the gas receiver for test purposes proceed as follows:

- Open Tap D and let the oil inside the gas receiver escape; the oil head from the conservator will push the gas from the Buchholz relay into the connecting pipe to the gas receiver and hence into the gas receiver;
- When the gas receiver is full of gas or all the gas has been descended close tap D;
- By means of tap A the gases can be sampled or examined; see test device EG5.

### 4.3 Operation for Buchholz relay testing

To test the contacts of the Buchholz relay by compressed air or gas operate as follows:

- Connect the pressure bottle or the air pump to one of the cocks A, D or C;
- Pump air or gas into the gas receiver; the gas will enter the pipe connecting the receiver to the Buchholz relay and hence enter the Buchholz relay itself;
- Stop pumping air when the contact of the Buchholz relay operates.

## 5.0 Operating limits

The materials and the components determining the operating limits of these gas receivers are mainly those used for the gaskets.

### 5.1 Standard execution

Gaskets are of nitrile rubber and the admitted operating conditions are:

**Ambient conditions:**

Ambient temperature

-20°C - +50°C

Relative Humidity

95% at 20°C - 80% at 40°C - 50% at 50°C

**Insulating liquid:**

Mineral oil or silicone oil

Temperature range

-20°C - +110°C

### 5.2 Special executions

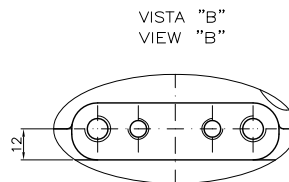
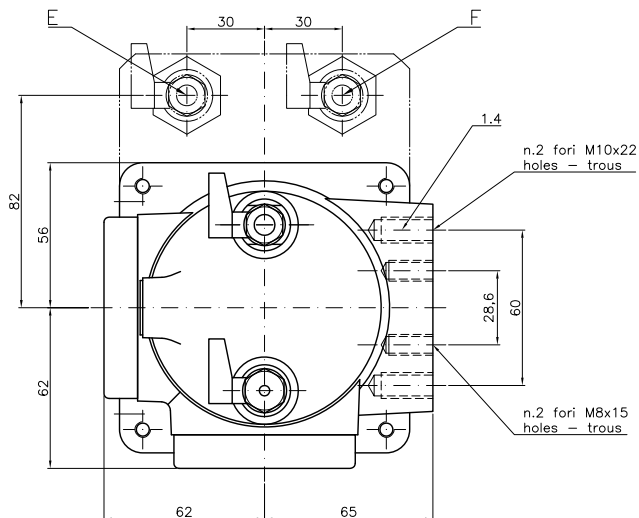
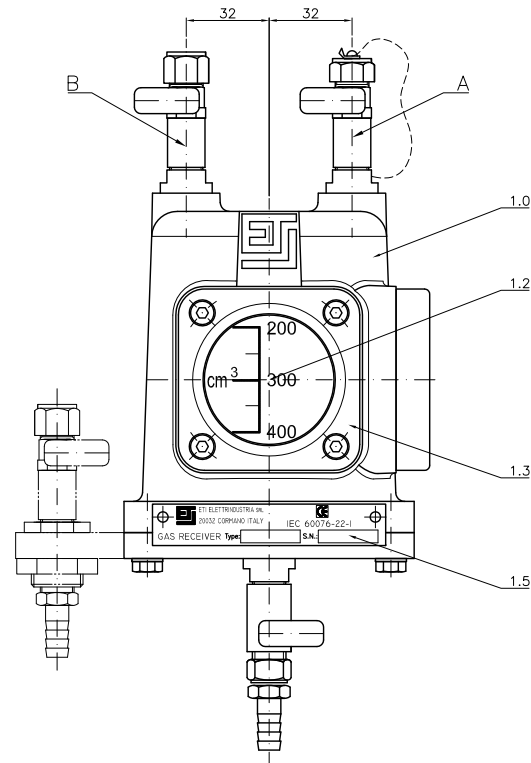
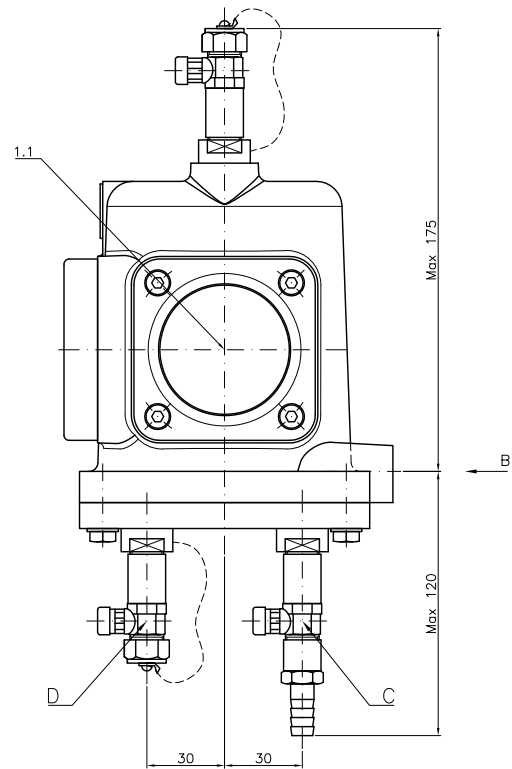
For other ambient or operating conditions to be defined specifically.

## 6.0 Reference specifications

- Gas sampling device EG5
- Painting and corrosion protection

N° 09EGGENRxx

N° 00VERRxx

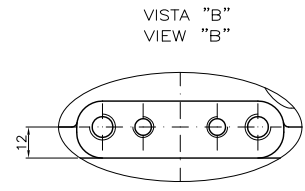
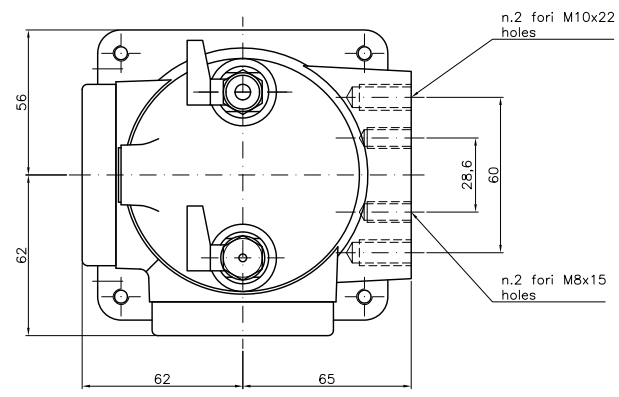
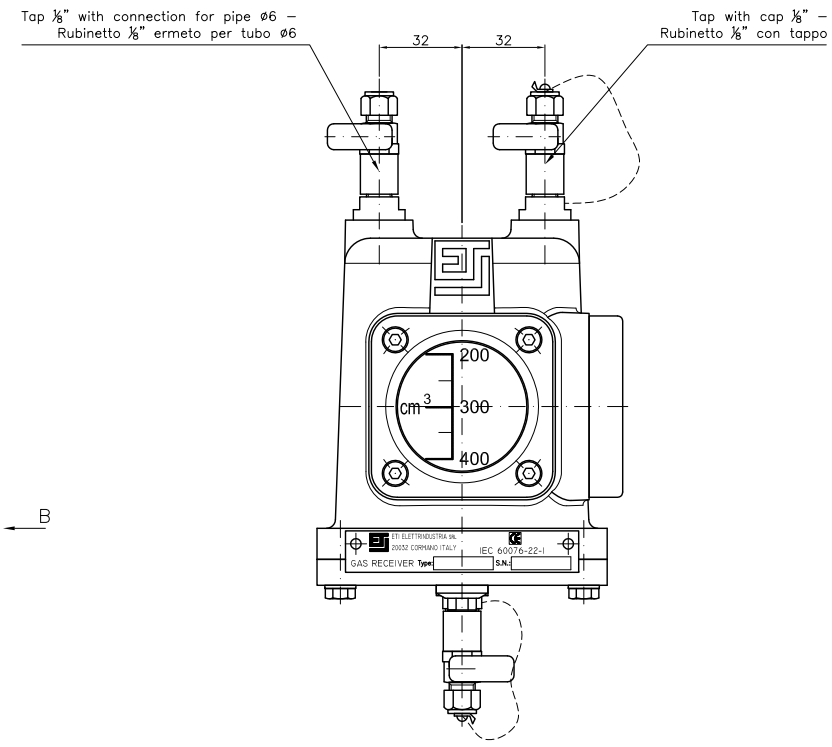
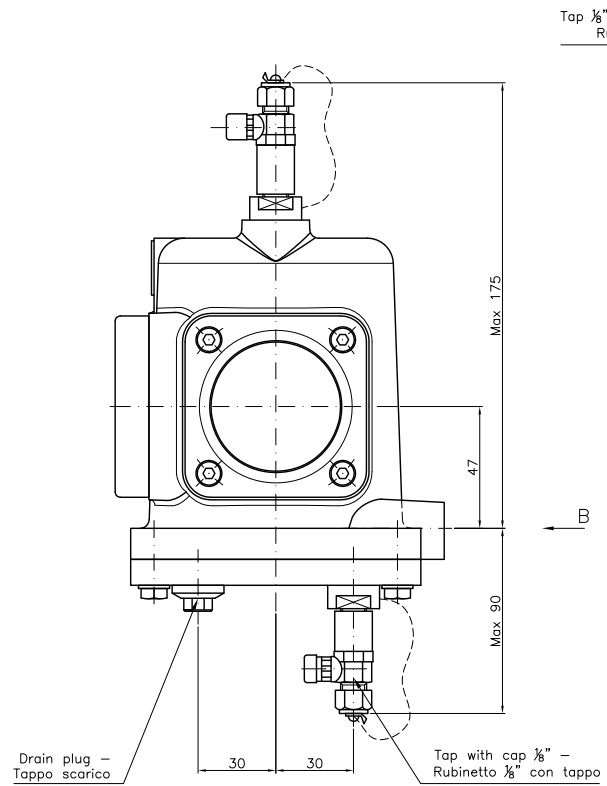


STANDARD ETI

- A RUBINETTO CON TAPPO 1/4''G  
TAP WITH CAP 1/4''G  
ROBINET AVEC CAPOT 1/4''G
- B RUBINETTO CON ERMETO PER TUBO Ø8.0  
TAP WITH CONNECTION FOR PIPE Ø8.0  
ROBINET AVEC CONNECTION POUR TUBE Ø8.0
- C RUBINETTO CON ATTACCO A CANNA Ø8.0  
TAP WITH RUBBER HOSE CONNECTION Ø8.0  
ROBINET AVEC CONNECTION POUR TUBE CAOUTSCHOUK Ø8.0
- D RUBINETTO CON TAPPO 1/4''G  
TAP WITH CAP 1/4''G  
ROBINET AVEC CAPOT 1/4''G
- E RUBINETTO CON ERMETO PER TUBO Ø8.0 + ATTACCO A CANNA Ø8.0  
TAP WITH CONNECTION FOR PIPE Ø8.0 + RUBBER HOSE CONNECTION Ø8.0  
ROBINET AVEC CONNECTION POUR TUBE Ø8.0 + CONNECTION POUR TUBE CAOUTSCHOUK Ø8.0
- F RUBINETTO CON ERMETO PER TUBO Ø8.0 + TAPPO  
TAP WITH CONNECTION FOR PIPE Ø8.0 + CAP  
ROBINET AVEC CONNECTION POUR TUBE Ø8.0 + CAPOT

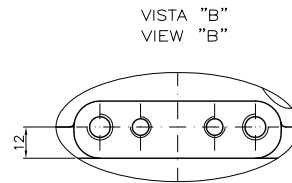
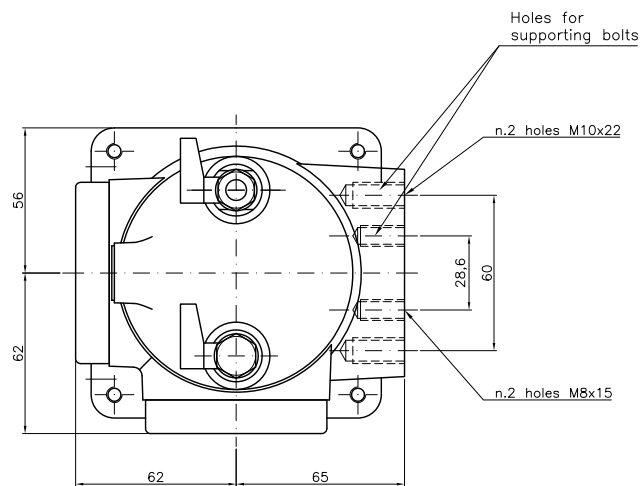
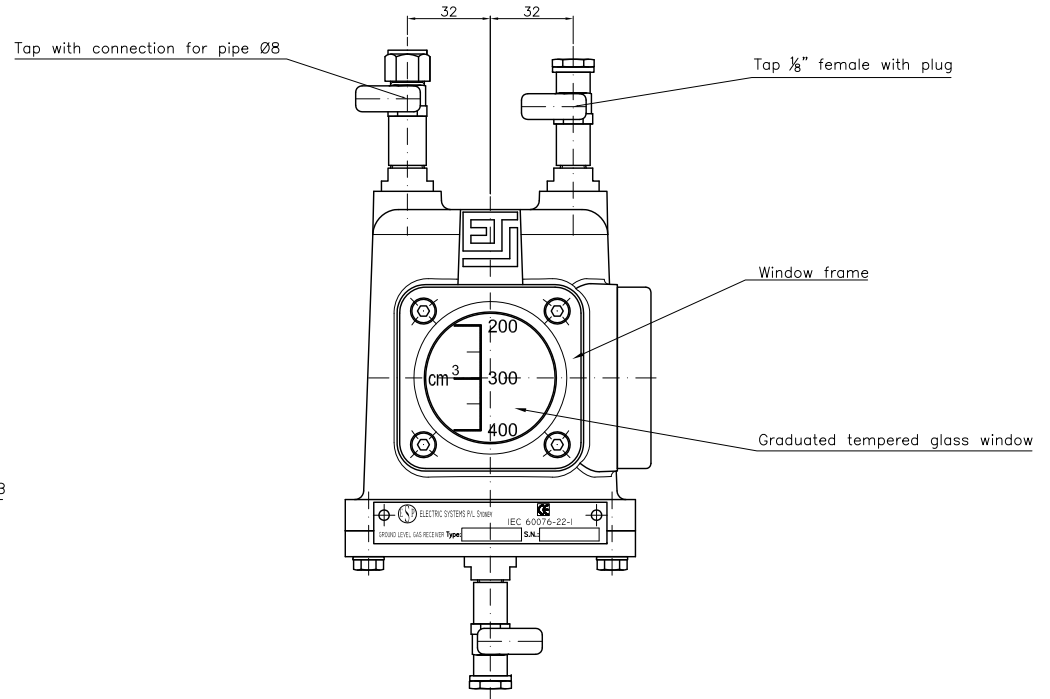
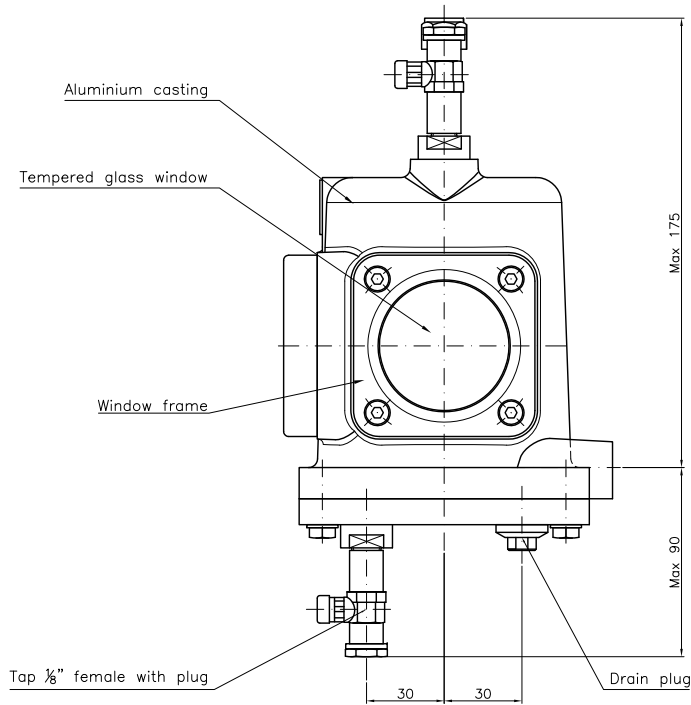
POS. E+F A RICHIESTA  
POS. E+F ON REQUEST  
POS. E+F SUR DEMANDE

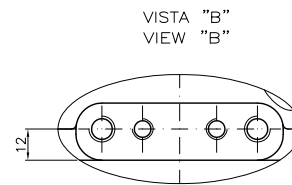
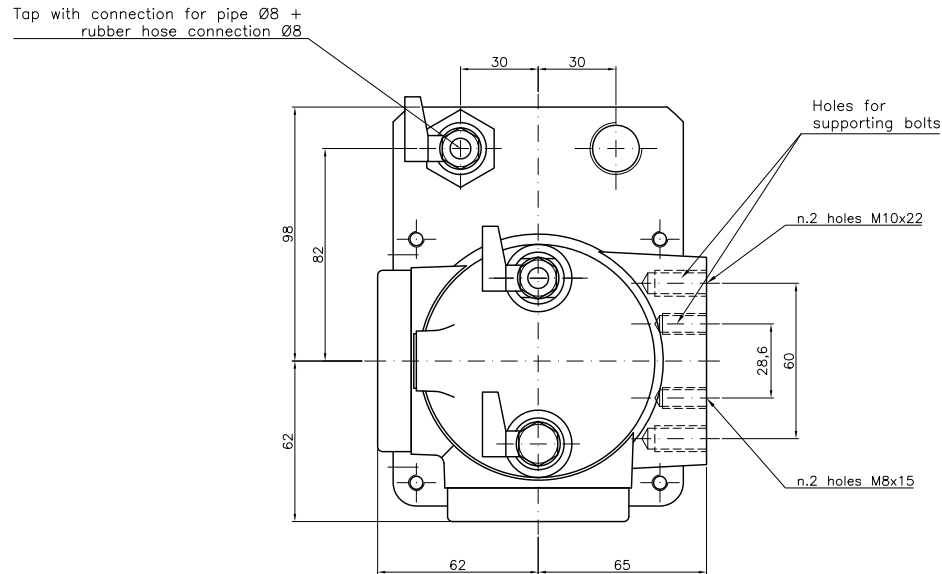
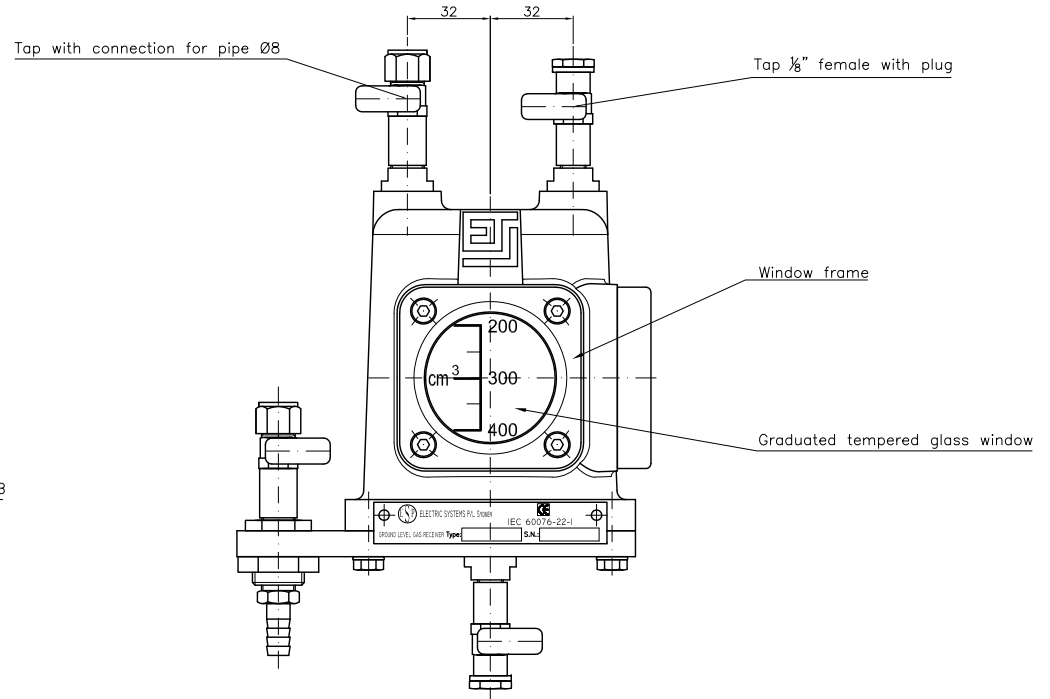
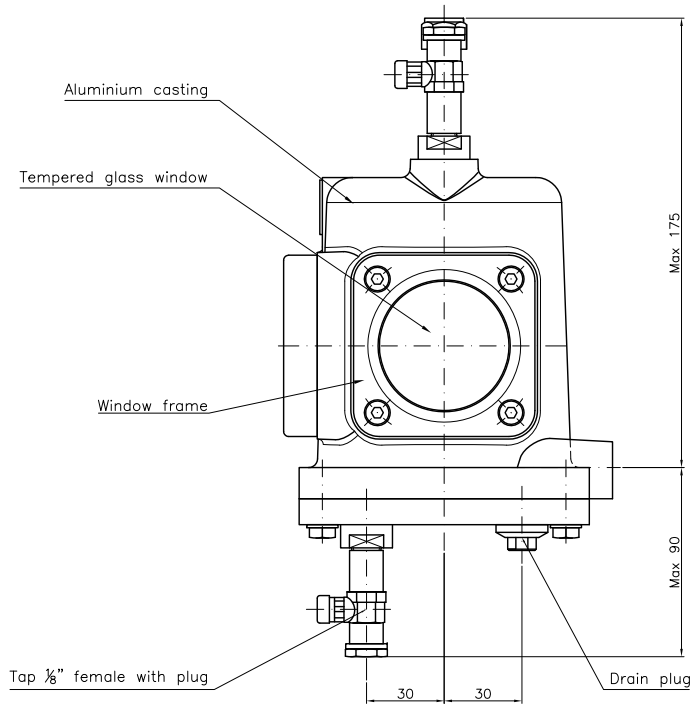
Altre esecuzioni a richiesta.  
Other executions on request.  
Autres execution sur demande.

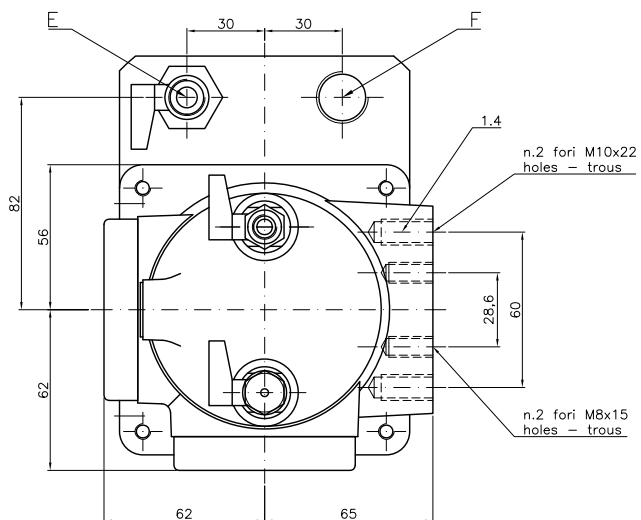
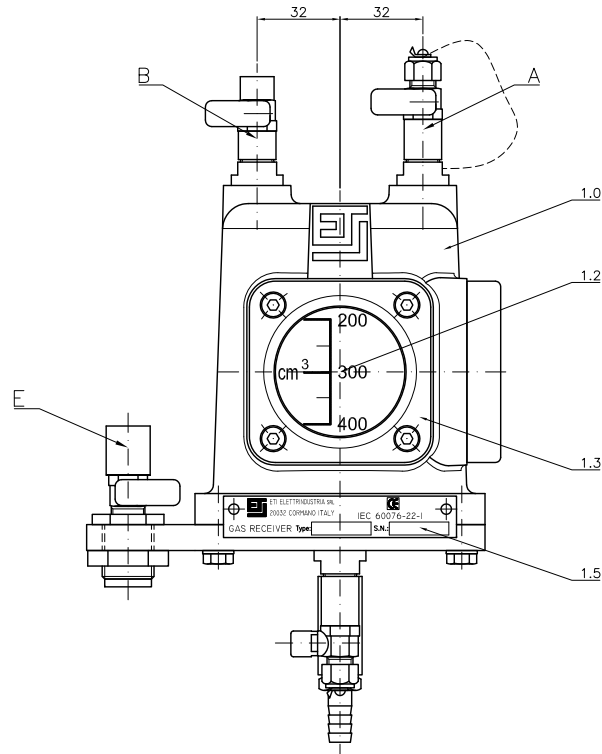
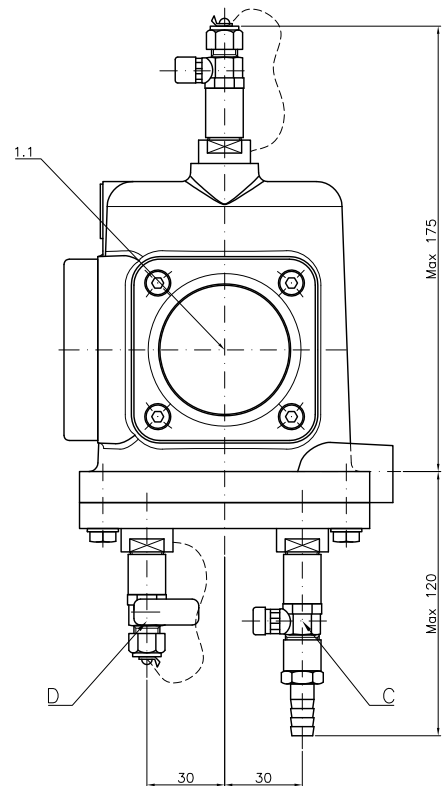


N. rev	Nota di revisione	Data	Firma	Controllo
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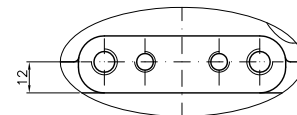
Rev.	Quantità	Descrizione, designazione, materiale, dimensioni, ecc.	N. ordine / riferimento	
Popolazione di	Calcolato da	Approvato da - data	Autore	Data
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ELETTRINDUSTRIA SRL 20032 CORMANO ITALY		Raccoglitore di gas Gas receiver Collecteur de gaz		7.160.233
		Tipo - Type RAGA-2-A		1:1







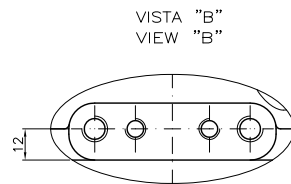
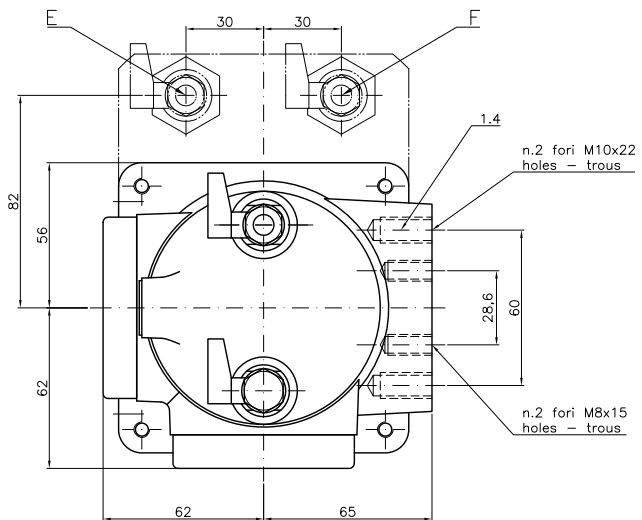
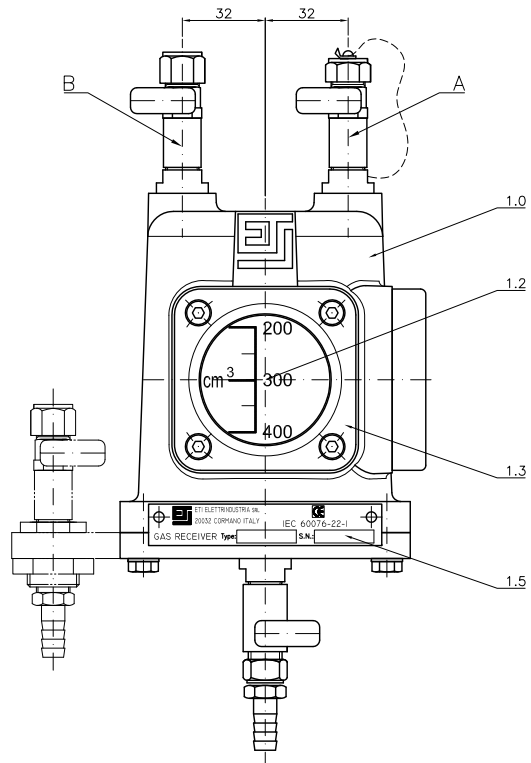
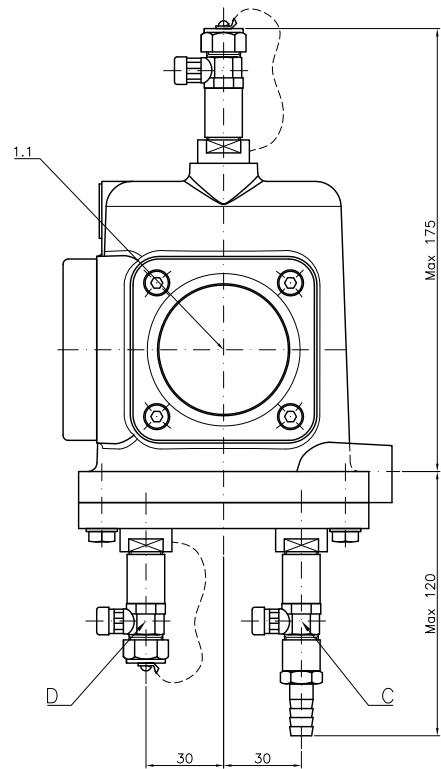
VISTA "B"  
VIEW "B"



STANDARD JST

- A** RUBINETTO CON TAPPO 1/8" G BSPP  
TAP WITH CAP 1/8" G BSPP  
ROBINET AVEC CAPOT 1/8" G BSPP
- B** RUBINETTO 1/8" G FEMMINA BSPP  
FEMALE TAP 1/8" BSPP  
ROBINET 1/8" BSPP
- C** RUBINETTO CON ATTACCO A CANNA Ø8.0  
TAP WITH RUBBER HOSE CONNECTION Ø8.0  
ROBINET AVEC CONNECTION POUR TUBE CAOUTSCHOUK Ø8.0
- D** RUBINETTO CON TAPPO 1/8" G BSPP  
TAP WITH CAP 1/8" G BSPP  
ROBINET AVEC CAPOT 1/8" G BSPP
- E** RUBINETTO 1/4" G FEMMINA BSPP  
FEMALE TAP 1/4" BSPP  
ROBINET 1/4" G BSPP
- F** /  
/





- A
- B
- C
- D
- E
- F

POS. E+F A RICHIESTA  
 POS. E+F ON REQUEST  
 POS. E+F SUR DEMANDE

- 01 Rub.1/4" MF con tappo
- 02 Rub.1/4" MF con ermeto per tubo Ø8
- 03 Rub.1/4" FF con attacco canna Ø8
- 04 Rub.1/4" MF con tappo inox
- 05 Rub.1/4" MF con ermeto per tubo Ø8 inox
- 06 Rub.1/4" MF con rondella CU 6,5x11,2

- 11 Rub.1/8" MF con tappo
- 12 Rub.1/8" MF con ermeto per tubo Ø6
- 13 Rub.1/8" FF con attacco canna Ø6
- 14 Rub.1/8" MF con tappo inox
- 15 Rub.1/8" MF con ermeto per tubo Ø6 inox
- 16 Rub.1/8" MF con rondella CU
- 17 Rub.1/8" FF con tappo Aus
- 18 Rub.1/8" FF

- 21 Tappo
- 22 Tappo inox
- 23 Tappo cilindrico

- 31 Attacco canna Ø8
- 32 Attacco canna Ø6