

Installation, Regulation and Maintenance Instructions

Glasstube flowmeters
Series FLGS - 1/8"NPT



HOW TO ORDER

TYPE

FLGSS = flow meter type 1

FLGSN = flow meter type 2

MATERING VALVE

-- = none

VI = inlet metering valve

VO = outlet metering valve

FLOW

A = Flow 0.2 - 2,5 NL/m

H = Flow 0.8 - 10 NL/m

SENSOR

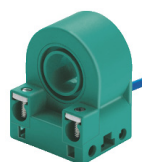
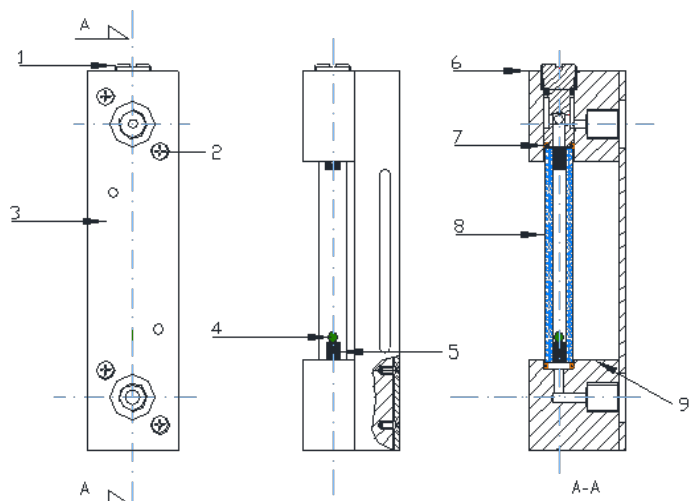
000 = No alarm included

SE1 = monostable alarm P+F RC10-14-NO

SE2 = monostable alarm P+F NCB5-18GM40-NO (only with type2)

For technical information refer to the corresponding technical data sheet

STANDARD MODEL



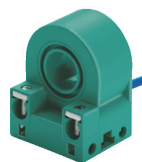
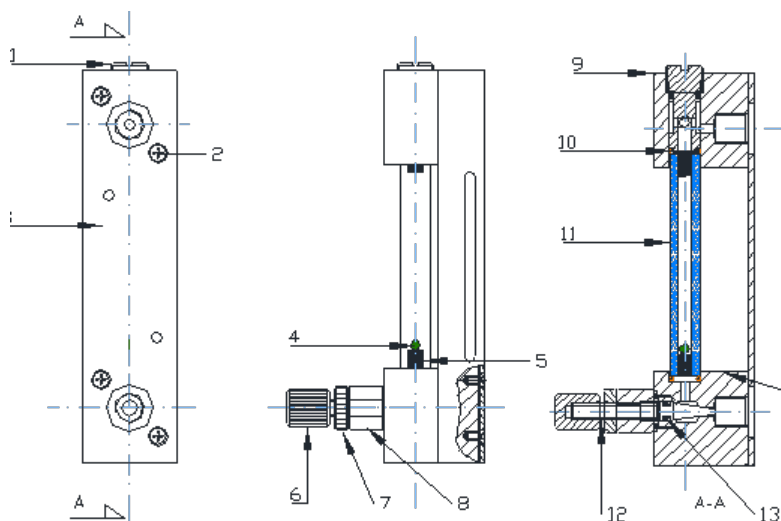
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Pos.	Q.ty mod standard	Q.ty mod /SE	Descrizione
1	1	1	Plug
2	4	4	Screws M3x8
3	1	1	Bracket
4	1	1	Sphere
5	1	1	Spring 0,25-2,5 L/M 0-10 L7M
6	1	1	Upper head
7	3	3	O'ring
8	1	1	Glass Tube 0,25-2,5 L/M 0-10 L7M
9	1	1	Lower head
10	0	1	Sensor TYPE FLGSS
11	0	1	Sensor TYPE FLGSN

ADJUSTABLE MODEL (VI/VO)



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Pos.	Q.ty mod standard	Q.ty mod /SE	Descrizione
1	1	1	Plug
2	4	4	Screws
3	1	1	Bracket
4	1	1	Sphere
5	1	1	Spring 0,25-2,5 L/M 0-10 L7M
6	1	1	Adjustment knob
7	1	1	Ferrule
8	1	1	Steam guide
9	1	1	Upper head
10	1	1	O'ring 6,75x1,78
11	1	1	Glass Tube 0,25-2,5 L/M 0-10 L7M
12	1	1	Adjustment steam
13	1	1	O'Ring
14	1	1	Lower head
15	0	1	Sensor TYPE FLGSS
16	0	1	Sensor TYPE FLGSN

1. INTRODUCTION

Throughout this manual there are a number of HAZARD WARNINGS that must be read and adhered to in order to prevent possible personal injury and/or damage to equipment. Three signal work "DANGER", "WARNING" and "CAUTION" are used to indicate the severity of a hazard, and are preceded by the safety alert symbol.

Danger Denotes the most serious hazard and is used when serious injury or death WILL result from misuse or failure to follow specific instructions.

Warning Used when serious injury or death MAY result from misuse or failure to follow specific instructions.

Caution Used when injury or product/equipment damage may result from misuse or failure to follow specific instructions.

Caution It is the responsibility and duty of all personnel involved in the installation, operation and maintenance of the equipment on which this device is used, to fully understand the procedures by which hazards can be avoided.

The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

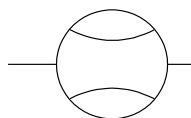
Only personnel with appropriate training should operate machinery and equipment.

Do not service or attempt to remove the machinery or equipment until safety is confirmed.

2. DESCRIPTION / OPERATION

The flowmeter is a suitably graduated transparent glass tube with a conical longitudinal section, inside which there is a spherical body with a diameter slightly smaller than the minimum diameter of the tube, called float. If the pipe is placed in a vertical position, with the largest internal diameter at the top, and the fluid - whose flow rate is to be measured - enters from the bottom, a pressure is exerted on the float that depends on the speed of the fluid in the circular ring between the pipe and the float itself. The pressure decreases as the section of the circular crown that remains free increases, and a balance is reached that depends on the speed (flow rate). Operation is only possible with clean fluids.

3. PNEUMATIC DIAGRAM



4. TECHNICAL FEATURES

Medium: clean air or inert gas compatible with valve materials

Port thread: 1/8"NPT

Flow range: 0.2-2.5 NI/m air 20°C P=1013mbar

0.8-10 NI/m air 20°C P=1013mbar

Accuracy: ± 5% of max scale value

Max inlet pressure: 10bar

Length of scale: 63mm

Working Temperature: -20°C+90°C

Material: Body: AISI 316L

Bracket: aluminum

Float: Stainless Steel

Mating tube: borosilicate glass

Seals: FKM

5. TRANSPORTATION & STORAGE

The preferred storage location is a clean, dry and protected warehouse. If the components have to be

stored outside, precautions should be taken to keep valves clean and dry. For storage temperatures, refer to the table in paragraph "TECHNICAL FEATURES".

To avoid contamination of impurities during the storage period, don't remove thread protection caps; remove them just before the installation phase.

6. INSTALLATION

Warning Before performing any work, read this manual and study all figures. Assure yourself that you understand and you can do what is required in each step. Failure to follow these instructions may affect quick release valve operation and may result in exposure to personal injury.

Before installing the valve, set and block the machine or equipment in a secure position; close the air shutoff valve and exhaust air from air lines and disconnect all electrical power.

7. MOUNTING

- Vertical position, with the flow directed from the bottom to the top
- Connect piping to proper ports using pipe thread sealant on male threads only. Do not allow sealant to enter interior of unit.

8. TESTING

- Apply air pressure to the flowmeter. Check that the float moves. If not, refer to the table in "MAINTENANCE" section of this manual.
- Close outlet port to check if there are leakages. It is possible also to check the proper functioning of the sensor

9. MAINTENANCE

Warning Before performing any work, read this manual and study all figures. Assure yourself that you understand and can do what is required in each step. Failure to follow these instructions may affect quick release valve operation and may result in exposure to personal injury.

Before uninstalling the valve, set and block the machine or equipment in a secure position; close the air shutoff valve and exhaust air from air lines; disconnect all electrical power.

A. Ordinary maintenance

Caution The flow meter should be periodically checked for proper functioning:

- Clean the valve from impurities and dirt;
- Visually check of the integrity of the body
- Check that there aren't leakages;
- Check the correct functionality

B. Troubleshooting

Issue	Possible Cause	Fixes
tube's sphere blocked in the spring	o-ring deformation	Replace part with REPAIR KIT or contact SITECNA technical support for more information

10. MARKING ACCORDING TO 2014/34/UEAtex



II 2G Ex h IIC T6/T5 Gb X

II 2D Ex h IIIC T85°C/T100°C Db X

For using these equipment in potentially explosive atmospheres, it is recommended - for the installation and the maintenance operation - to use tools and instruments that can produce only a single spark (for instance: screwdrivers, spanners). Avoid use of tools that can produce sparks like disk saw or grinder.

Action must be taken to put to earth the units through a suitable connection, checking that all the metal components (fittings and pipe line) have to be equitable potential.

Equipment have to be installed in the corresponding zone according to the marking.

NOTE: special conditions for safe use (X conditions)

Before performing any work, read this manual and assure yourself you understand. X at the end of ATEX substitutes T amb depending on used seals based on the following correspondence:

Series VB, EP, VSR, LK04:

NBR=-20°C+80°C, FMK=-25°C+90°C,

EPDM=-40°C+80°C, FVMQ & HNBR=-60°C+90°C

Series: DP, RF, LK08, TF:

NBR=-20°C+80°C, FMK=-25°C+90°C,

EPDM=-40°C+80°C, FVMQ & HNBR=-55°C+90°C

Serie FP: -30°C+180°C

Serie SLHF, SLVP, SLSC: -55°C+150°C

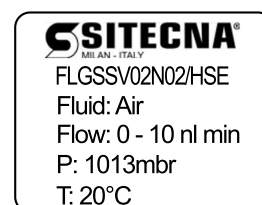
Serie PV, PVSL: -20°C +80°C

Serie SCLP: 2°C+80°C

Serie FLGS: -20°C+90°C

Serie VS: -50°C+230°C

LABEL



Dichiarazione di conformità UE

In accordo con la Direttiva Europea 2014/34/UE

EU-Declaration of Conformity

In accordance with Directive 2014/34/EU

Noi, Sitecna Srl, dichiariamo che i seguenti prodotti / Sitecna Srl declares that the following equipment:

Product	mod.	Product	mod.	Product	mod.
Filter	F	Control spool valve	DP	Vacuum pump	ST-VP
Regulator	R	Poppet Valves	EP	Silencer	SLHF, SLVP, SLSC
Filter Regulator	FR	Quick exhaust valve	VSR	Dust excluder	PV, PVSL
Back Pressure valve	BP	Lock-up valve	LK	Pressure gauge	MBSS, MBS6, MBSN
2 ways switching valve	SV	Overload protector	SCLP	Vacuum pump	ST-VP
3 ways switching valve	S3	Flow regulator	RF	Ball valve	VS
Volume Booster	VB	Tee Filter	TF		

Sono conformi alla normativa di armonizzazione dell'Unione / They comply with the Union harmonization legislation:

Direttiva 2014/34/UE ATEX	Direttiva 2014/34/UE del Parlamento europeo e del Consiglio, del 26 febbraio 2014, concernente l'armonizzazione delle legislazioni degli Stati membri relative agli apparecchi e sistemi di protezione destinati a essere utilizzati in atmosfera potenzialmente esplosiva (rifusione) Testo rilevante ai fini del SEE.
	Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast) Text with EEA relevance.

Secondo le seguenti Norme di riferimento / As per following reference Normative Documents:

EN ISO 80079-36:2016	Atmosfere esplosive - Apparecchi non elettrici per atmosfere esplosive - Metodo di base e requisiti
	Explosive atmospheres - Non-Electrical equipment for explosive atmospheres - Basic method and requirements
EN ISO 80079-37:2016	Atmosfere esplosive - Apparecchi non elettrici per atmosfere esplosive - Tipo di protezione non elettrica per sicurezza costruttiva "c", per controllo della sorgente di accensione "b", per immersione in liquido "k"
	Explosive atmospheres - Non-Electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k"
N 1127-1:2011	Atmosfere esplosive - Prevenzione dell'esplosione e protezione contro l'esplosione - Concetti fondamentali e metodologia
	Explosive atmospheres - Explosion prevention and protection - Basic concepts and methodology

Ai sensi della Direttiva 2014/34/EU, i prodotti sopra indicati riportano la seguente marcatura / According to the Directive 2014/34/EU, above mentioned products reports the following marking:



II 2G Ex h IIC T6/T5 Gb X
II 2D Ex h IIIC T85°C/T100°C Db X

Inoltre, ai sensi della direttiva 2014/34/UE, i prodotti sopra menzionati sono oggetto, per gli aspetti relativi sia alla progettazione sia alla fabbricazione, al controllo interno di fabbricazione (Allegato VIII – Modulo A). Ref 557/Ex-Ab 3213/20 c/o N° 0035 TÜV Rheinland.

In conformity to Directive 2014/34/EU, the afore mentioned equipment, regarding their design and production, are object to internal manufacturing check (Attachment VIII – Module A). Ref 557/Ex-Ab 3213/20 c/o N° 0035 TÜV Rheinland.

La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.

This declaration of conformity is issued under exclusive responsibility of the manufacturer.

Milan, 08/02/2022
Davide Matteo De Corrado
Managing Director

