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Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

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INSTRUCTIONS: OPERATION AND INSTALLATION

PRESSURE RELIEF VALVE SPRINGLOADED

MODEL S3

INDEX PAGE

1. IDENTIFICATION PLATE LEGEND

a) CE marked is required in accordance with PED 2014/68/UE

b) CE marked is NOT required in accordance with PED 2014/68/UE

SERIAL N.	VALVE IDENTIFICATION NUMBER. VALFONTA WILL NEEDS THIS NUMBER FOR SPARE PARTS OR COMMENTS RESPECT OF THIS VALVE.
MOD.	VALVE MODEL
DN	VALVE NOMINAL DIAMETER
PN	VALVE NOMINAL PRESSURE.
MEDIUM	FLUID
P.IN	INLET PRESSURE
P.OUT	OUTLET PRESSURE
BODY	BODY MATERIAL
KVS.	KV VALVE

ATEX marked required according to DIRECTIVE 94/9/EC

(PENDING TO INCLUDE IN FILE)

VALFONTA E 08915 € Badalona (ESPA•A)		
TYPE:	EXCESS PRESSURE VALVES SELF- ACTUATED	
MANUFACTURING YEAR: 2014		MANUFACTURING NUMBER:
II 2 G D		c IIC Tx c IIIC Tx,C
TECHNICAL FILE IN CUSTODY : LOM		CERTIFICATION NUMBER: LOM 14.034 U

Reference	Denomination
II 2	ATEX category, zones 1 & 21
G	Class I application (flammable liquids and gases)
D	Class II application (combustible dust)
c IIC	Safety construction protection mode for substances IIC
C IIIC	Safety construction protection mode for substances IIIC
Tx / Tx€C	Termal class according fluid temp. used
LOM	Number of certification from ExNB (LOM)

SELF-OPERATED PRESSURE REGULATORS

PRESSURE RELIEF VALVE MODEL S3

INSTRUCTIONS: OPERATION AND INSTALLATION

2. VALVE FEATURES

DN15 to DN100	(DN125 and DN150 consult)
DIN PN25 Nodular Iron GJS-400-18-LT (0.7043) DIN PN25 Bronze RG10 (EN-1982 CuSn10-CC480K) DIN PN40 Carbon steel GP240GHN (1.0619) DIN PN40 Stainless steel CF3M (1.4404)	
Stainless steel AISI 316L trim	
Top guided standard construction	
Connection Flanged EN and ANSI On request: Threaded BSP or NPT, BW, SW,,	
Shut off capabilities: - Class IV (metal to metal) - Class VI (PTFE+GR seat) On request, PEEK,NBR, EPDM seals,stellited faced seat,,	
Full port as standard. Reduced port on request	
Setting pressure	0,5 - 20 barg (with different springs)
Max. permissible temperature	0.7043 and 1.0619 -10 to 220ºC 1.4408 -30 to 220ºC Ask for special gaskets up to 250ºC
Seal / Packing / Gaskets	VIRGIN PTFE UP TO 180ºC PTFE+GRAPHITE UP TO 220ºC

Special features
Handwheel regulation, specials gaskets, Super Duplex construction, bronze construction, ,

Approvals
Quality system ISO 9001, Pressure equipment Directive according 2014/68/UE and Atex Directive according 2014/34/UE (file pending to include).

3. OPERATING

Pressure relief valve it•s used to maintain the pressure upstream of the valve to an adjusted set point.

When upstream pressure rises above a set point, the valve opens proportionally pressure rising.

This series of regulators is suitable for steam, gases (group 1 and 2) and liquids.

A relief pressure valve is not a safety valve, and then if necessary, an overpressure protection must be installed.

The valve opens when inlet pressure rises.

The regulator must be carefully handled, transported and stored. Protect the regulator against adverse influences, such as dirt, moisture or frost before it is installed.

When regulators are too heavy to be lifted by hand, fasten the lifting sling at a suitable place on the va lve body.

Do not attach any lifting equipment, slings or supports to mounting parts, such as the adjusting screw or control line.

Special ATEX instructions

- No limitation of use due to the ATEX substance.
- Limitations due to thermal class:

Class I (flammable liquids and gases)

TEMPERATURE CLASS	MAX. SURFACE TEMPERATURE	APPROPRIATE FOR SUBSTANCES WITH IGNITION TEMPERATURE
T1	450€C	Ti >450€C
T2	300€C	Ti >300€C
T3	200€C	Ti >200€C
T4	135€C	Ti >135€C
T5	100€C	Ti >100€C
T6	85€C	Ti >85€C

- Class II (combustible dust)

$$T(x) \ƒ 2/3\ MIT_{cloud}$$

$$T(x) \ƒ 5\ mm\ MIT_{layer}, 75\ K$$

4. SCHEME

This device must be installed by specialized personnel with knowledge and experience. They must know about the current regulations in order to judge the risks that may involve this work.

5. ASSEMBLY

The pipe must be cleaned carefully before installing the valve, to prevent that any small element or impurity may affect the reducing valve work.

It is also very important to install a strainer in front of the valve in order to protect it.

Pressure relief valve must be installed in a horizontal pipe and the direction of the flow should be in the same direction that shows the valve body.

When the steam is condensed, the pipe should be inclined to help with the evacuation.

Assembly Position

Recommended installation position in horizontal pipeline.

The supports holding the valve will be done in the pipe and as close as possible to the flanges but never fixed in the valve or the actuator, to eliminate unnecessary tensions.

Installation

Typical installation, according to the scheme:

Start - up

Open the check valves slowly (to prevent water hammer). First on the upstream pressure side.

Regulation of the valve

Valfonta sets the pressure value approximately at requested value.

To adjust the set pressure (upstream pressure):

- Valves with handwheel: turn the handwheel.
- Valves without handwheel: Unscrew cover cap (item 15) and turn the regulating nut (item 13) with a standard tube tool.

Compressing the spring (turn right) increases the set upstream pressure and decompressing the spring, decreases.

The pressure gauge located on the upstream pressure side allows the adjusted set point to be monitored.

ATEX requirements

- IMPORTANT! The respective national regulations as well as general engineering rules governing the installation and operation of equipment in explosive atmospheres must be observed.

- The valves are ATEX category "II 2 GD" according to 100a ATEX Directive (94/9/EC).

- IMPORTANT! The device can only be used in potentially explosive locations Class I (gases, vapors or liquids) Zones 1 and 2 and Class II (combustible dusts) areas 21 and 22, according to the specifications in the Directive 1999/92/EC , as well as the Electro technical Regulations.

Electrostatic discharges

Under certain conditions, electrostatic discharges that are capable of ignite explosive atmospheres, can be produced. The most important measure of protection is equipotential bonding of all conductive parts and earthing.

In order to avoid electrostatics discharges, the installation of devices and control elements must be earthing.

- IMPORTANT! Connecting the valves to process: it should be ensured electrical continuity of $<10^6$€.

- IMPORTANT! National regulations on maintenance, service, inspection and repair of apparatus and equipment for explosive atmospheres, as well as general engineering rules must be observed.

COMMISSIONING

IMPORTANT! User is the only responsible for a safe use of the devices.

In use, parts that affect the explosion protection of the valves must be checked and act accordingly, f.e.:
- Fixing Elements -screws, nuts, shafts, etc.- see technical documentation of the product supplied. It must be ensure its tightening, proper operation and / or change when necessary. After 2.500h of working or 6 natural months (whichever comes first).
- The seals will be replaced by original spare parts: every 25,000 hours or when periodic inspections result said (the lower range).

- Any other action arising from inspection and maintenance plan, set by the user

- IMPORTANT! If repainting the valves and / or spare parts, ensure there is no paint on moving parts, mounting flange and closure sealing.

INSPECTIONS

- IMPORTANT! National Regulations must be observed. It is user•s responsibility to establish an inspection and maintenance plan for these devices in order to ensure their proper use.
- Inspections must be performed by "qualified staff, because of the kind of equipment and / or installation.
- Purposes can be used to guide the requirements of the UNE-EN 60079-17, in order to establish the inspection plan.
- IMPORTANT! When inspections are "Detailed" or it is degree is ƒClose,, the devices will be completely shut out.

MAINTENANCE

Spare parts are subject to normal wear. They must be inspected and replaced when necessary.

The frequency of the inspections and maintenance depends on the severity of the service conditions. This section provides instructions about replacement, packing, stem, plug and seat.

All maintenance operations can be performed with the valve body installed.

Before any maintenance, ensure the valve is depressurised and clear of media, and isolate it both upstream and downstream. Be sure the temperature isn•t dangerous.

IMPORTANT! Use only genuine parts or recommended by VALFONTA, SL

6. POSSIBLE TROUBLESHOOTING

Trouble	Possible reasons	Recommended response
Pressure exceeds the adjusted set point	Re-adjust setting pressure	Re-adjust setting pressure
	Seat and plug worn down	Disassemble the regulator and replace damaged parts
Pressure drops below the adjusted set point	Valve installed against the flow; see arrow on body	Check direction of flow. Install valve correctly
	Valve or KVS coefficient too small	Check valve sizing. Install larger valve, if necessary
	Foreign particles blocking the plug	Disassemble the regulator and replace damaged parts
Control disorders	Particles between seat and plug	Remove foreign particles. Replace damaged parts
Upstream pressure fluctuates	Valve too large	Check valve sizing. Select smaller KVS coefficient, if necessary
Loud noises	High flow velocity, cavitation	Check sizing. Install flow divider with gases and steam

Technical data

Nominal pressure	PN16-PN25-PN40 or CLASS 150-CLASS 300			
Max. permissible temperature: body	Refer to technical sheet HT-101			
Max. permissible temperature: plug	NBR	EPDM, FPM	PTFE+GR	PEEK
	80€C	150€C	220€C	250€C
Max. permissible temperature: Packing	PTFE+GRAPHITE UP TO 220€C			

7. INSTALLATION DRAWING

DN		15	20	25	32	40	50	65	80	100
Kv	(m…/h)	3.5	5	9	15	22	35	60	85	130
Cv	(gpm)	4	5.8	10.4	17.5	25	41	70	100	152
A (EN 558-1)	(mm)	130	150	160	180	200	230	290	310	350
A ANSI150	(mm) (inches)	€	€	184 7,25†	-	222 8,75†	254 10†	276 10,86†	298.5 11,75†	352.5 13,88†
A ANSI300	(mm) (inches)	€	€	197 7,76†	-	235 9,25†	267 10,51†	292 11,5†	317.5 12,50†	368 14,49†
L (sealing cap)	(mm)	320	320	320	320	360	360	410	410	450
L (Handwheel)	(mm)	410	410	410	410	450	450	520	520	570
Weight	(kg)	10	10	12	13	16	18	30	40	50

€ Available under request

Flanged type	Threaded type

8. RECEIPT ON SITE

ATENTION! Transport and storage of these devices should be in their original packaging.

RECEIPT ONSITE

When receiving the equipment on site, it should be unpacked to check that they agree with the request and delivery notes. At least, verification shall be performed:
- Visual,
- Mechanical

After these checks, if it will not be installed immediately, it will keep in dry and protected atmosphere.

Visual Inspection

Check that during transport, unloading and installation, the devices have not been damaged.

Mechanical Verification

Check all moving parts of the apparatus, as well as screws and other elements fulfill their mission.

IMPORTANT! If is observed abnormality during these guidelines reception, contact urgently VALFONTA to clarify responsibilities and put the devices in correct status.