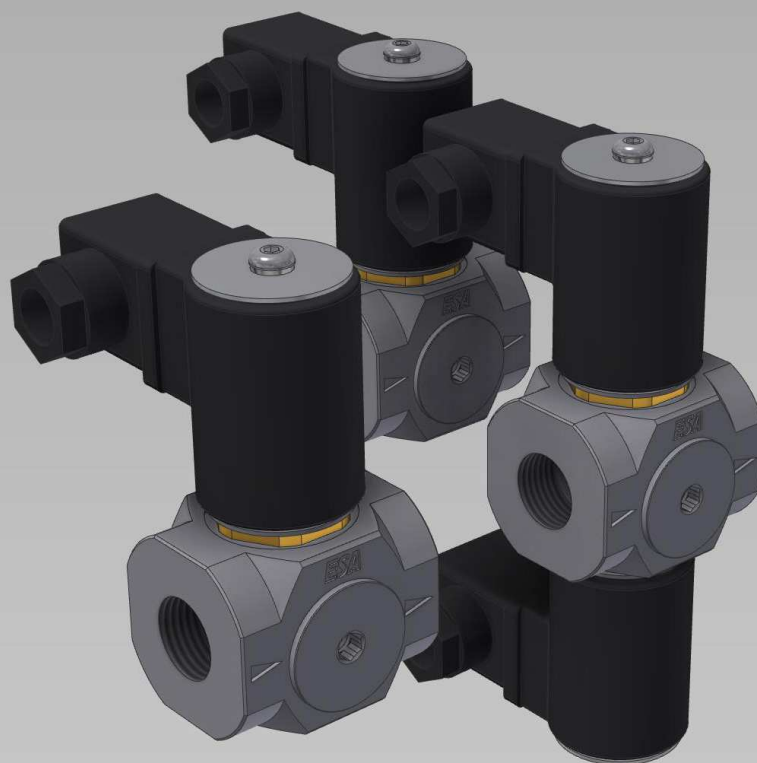


**E1113** rev.2.00 - 07/02/2022



Single and double  
safety gas solenoid valves  
**ISEO-SSV**

## GENERAL WARNINGS



- Each manual, including this one, is an integral part of the ESA catalog.
- Each manual may contain errors or give rise to interpretative doubts. ESA invites you to report any interpretative errors or doubts but will not be able to consider such occurrences as the cause of any disputes.
- This manual and all its parts (logos, texts, photos, tables, graphics, etc...) cannot be reproduced or modified in whole or in part without the written consent of ESA.
- The technical information relating to the design, installation, regulation and operation of the combustion plant intended to host ESA products must be previously shared with ESA. Failing this, ESA declines all responsibility in relation to damage to things and people deriving from improper use of the products.
- In general, a combustion plant is not designed for oven drying refractories. In case of this use, ESA declines any responsibility in this regard.
- The performance of the products indicated in each manual is the result of tests conducted using ESA equipment at our Research and Development Center, under certain operating conditions. These performances cannot be guaranteed using other equipment or outside the aforementioned conditions.
- The design, installation, adjustment and operation of a combustion plant require compliance with all applicable safety standards and regulations. ESA declines any responsibility in relation to its products, if used in plants or in circumstances in which the regulations in force in the place of use are not respected.
- All installation, maintenance, ignition and calibration operations must be carried out by qualified personnel in compliance with all the points indicated in this manual. The indications given in this document do not exempt the customer/user from observing the general and specific legal provisions.
- All personnel responsible for checking and operating the device must be informed of the contents of this manual and must strictly follow its instructions. The operator must wear suitable clothing and PPE according to the legal requirements, respecting the general safety and risk prevention rules. If clarifications, additional information or training are required, contact the ESA sales offices.
- ESA reserves the right to modify the technical characteristics of the products by updating the relative manual at any time and without notice. By consulting the website **www.esapyronics.com** it is possible to download the manuals updated to the latest revision in Italian and English.

## LOGISTICS AND DISPOSAL



- **Transport:** protect the equipment from shocks, vibrations, atmospheric agents, etc... Upon receipt of the product, check the labeling in accordance with the order and promptly notify any discrepancies and/or transport damage.
- **Storage:** store the product in a suitable place, according to the product specifications.
- **Packaging:** the material used must be disposed of according to local regulations.
- **Disposal:** comply with local legislation on this matter.

## CERTIFICATIONS



- ESA ISEO-SSV complies with **EN161** according to certificate **51DM5061** issued by notified body 0051.
- ESA ISEO-SSV complies with the European Union directives: Gas regulation **2016/426/EC**, Low voltage directive **2014/35/EU**.



**EAC** for the Eurasian market (Russia, Belarus and Kazakhstan).

- ESA adopts the Quality System certified by DNV GL in compliance with the **UNI EN ISO 9001** standard.
- ESA adopts the Code of Ethics and Behavior pursuant to Legislative Decree **231/01**.
- ESA products are designed, manufactured and controlled in compliance with the Directives/Regulations, in particular **UNI EN 746-2** "Industrial thermal process equipment - Part 2: Safety requirements for combustion and for the handling and treatment of fuels" harmonized with the Machinery Directive **2006/42/EC**.

## DESCRIPTION

The ISEO-SSV series identifies a model of automatic gas shut-off solenoid valves that is normally closed, which opens when the coil is electrically powered and closes when it is disconnected. The ISEO-SSV-D is designed and built according to a patented internal shape, the peculiarity of which is to include two solenoid valves in series in a single product, both of which close in favor of flow (for greater safety) and certified class A according to EN161; the ISEO-SSV-D is a product specifically designed for those applications that require the presence of two safety solenoid valves in series. The ISEO-SSV is also available in the single solenoid valve version (ISEO-SSV-S), if the presence of the two solenoid valves in series is not necessary. Both are equipped with a transparent connector with LED indicator.

## FEATURES

### Technical features

Fluids: Non aggressive gases according to EN437

Maximum working pressure: 500 [mbar]  
201 [inWC]

Maximum fluid temperature: +60 [°C]  
+140 [°F]

Operating temperature: -20 ÷ +60 [°C]  
-4 ÷ +140 [°F]

Storage temperature: 0 ÷ +25 [°C]  
+32 ÷ +77 [°F]

Available sizes DN10 / DN15

Closing and/or opening time <1 [s]

Supply voltage 115Vac / 230Vac +10÷-15%

Power frequency 50Hz - 60Hz

Single coil absorption 13VA

IP protection degree IP65

Certification Class A according to EN161, group 2; EN13611

Quick connector EN175301-803 Type A Transparent with LED

Connector cable entry Cable gland PG11

Mounting position 360°

Mass ISEO-SSV-S 550g

Mass ISEO-SSV-D 800g

### Construction features

Valve body: Aluminum

Fixed core: Brass

Mobile core: Galvanized AVP

Connection: Thread according to ISO 7/1, NPT thread on request

## GALLERY



**ISEO-SSV-S**

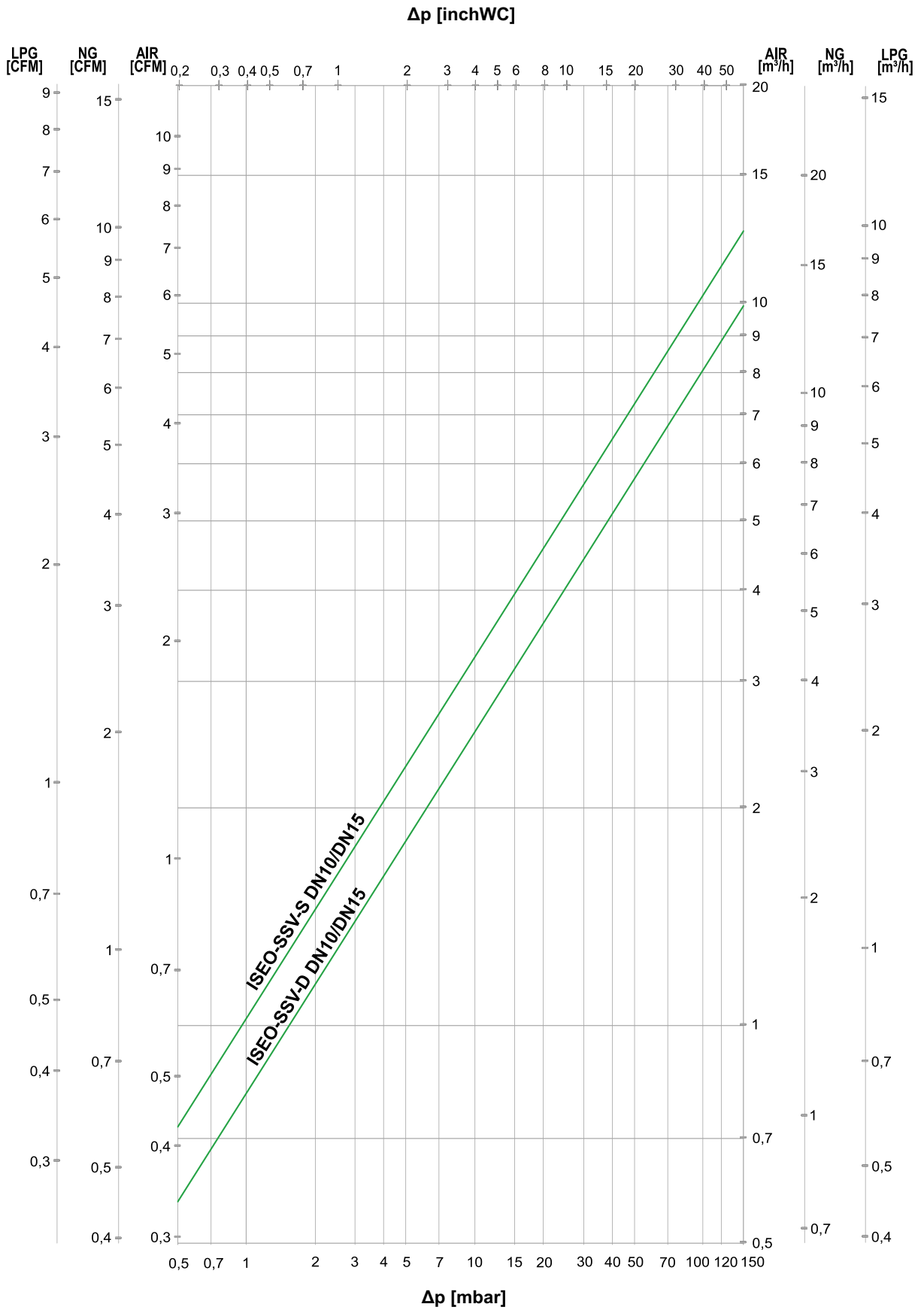


**ISEO-SSV-D**



**ISEO-SSV-S & ISEO-SSV-D**

FLOW CHART



T=0 [°C] e Ps=1013 [mbar]

Flow rate table referred to an inlet pressure of 100 mbarg

G1113/01

## WARNINGS

The ISEO-SSV automatic solenoid valves are safety devices suitable for the interception of fuels and are part of the protection system according to EN746-2. The seal is guaranteed for both external and internal leaks. Any modification or repair performed by personnel not authorized by the manufacturer compromises the safety of the application and automatically invalidates the general warranty conditions. For correct use, observe the following warnings.



- Make sure that all system features are compatible with the valve specifications: hydraulic connections, type of fluid, operating pressure, flow rate, temperature range.
- Avoid excessive amounts of sealant in case of threaded connections, which could interfere with normal valve operation.
- Before proceeding with any installation or service operation, shut off the gas flow upstream and disconnect the electrical supplies.
- If the solenoid valve falls accidentally, it can undergo permanent damage; in this case it is mandatory to replace the equipment.
- Any chips, dirt, welding residues or other debris could clog the solenoid valve and prevent the due safety closure. To reduce this risk, in accordance with EN161, a filter must be installed upstream of the valve with a filtering capacity of 600µm (or less).
- In case of maintenance or replacement of spare parts (e.g. coil, connector, etc.) ONLY the parts indicated by the manufacturer must be used. The use of different components, in addition to voiding the product warranty, could compromise its correct functioning.
- The manufacturer is not responsible for malfunctioning deriving from unauthorized tampering or the use of non-original spare parts.
- The product must be used only for the purpose for which it was built. The manufacturer is not responsible for damage caused by improper use of the appliance.

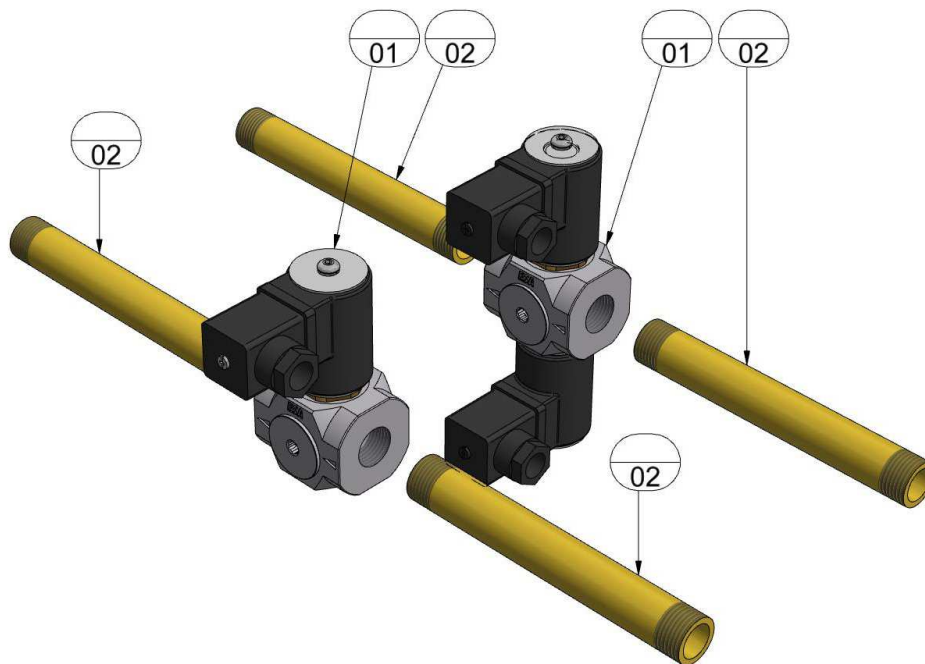


- To avoid the risk of burns and electrocution, the operator must disconnect the power supply before interacting with the device.
- Operate on the solenoid valve and its connector only in the absence of power supply.



- Since the coil is also suitable for permanent power supply, the heating of the device in case of continuous service is a completely normal phenomenon. It is advisable to avoid contact with bare hands with the valve after a continuous power supply of more than 20 minutes. In case of maintenance, wait for the coil to cool down or use suitable protection devices if necessary.

## ISEO-SSV INSTALLATION



D1113101

The valves of the ISEO-SSV series have threaded connections according to ISO 7/1, use sealing pastes suitable for the type of application.

The valve can be installed horizontally or vertically, without having to respect a straight section of upstream or downstream piping.

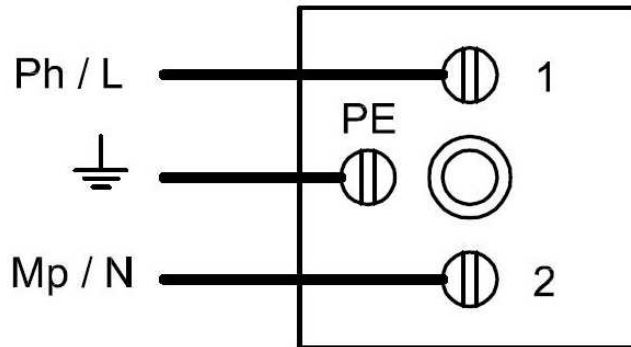
Maintain a distance from the surrounding obstructions that allows the coil to be disassembled, free air circulation and proper maintenance.

### ASSEMBLY

- A** In accordance with the EN161 standard, a filter must be installed upstream of a gas shut-off safety device, with a filtering capacity of 600µm (or less).
- B** Check that the length of the pipe thread (**pos. 02**) is not excessive in order not to damage the body of the appliance (**pos. 01**) during screwing.
- C** Make sure there are no foreign bodies inside the valve (**pos. 01**) or in the pipes (**pos. 02**) before carrying out the assembly.
- D** Check the correct alignment of the pipes (**pos. 02**) to avoid exerting tension on the pipes during the tightening phase or that the device is subject to mechanical stress.
- E** The arrow indicated on the body of the device (**pos. 01**) must point towards the user, in the direction of the gas flow.
- F** Connect the pipes (**pos. 02**) to the valve body (**pos. 01**) using thread sealing paste, taking care not to introduce excess sealant inside the valve.
- G** Do not screw the valve on the pipeline by levering the coil stem.
- H** The correct installation and sealing of the valve and its gaskets towards the outside must be performed through a test in accordance with current legislation and compatible with the characteristics of the valve.

## ISEO-SSV INSTALLATION

### ELECTRIC CONNECTIONS



D1113I02

Pos.	Description	Pos	Command cycles
1	Power phase	PE	PE protective grounding
2	Power supply neutral		

### ELECTRICAL CONNECTION

- A** Check that the mains voltage matches the power supply voltage indicated on the label of the product.
- B** Before wiring the connector, completely unscrew and remove the central screw, paying attention to the positions of the gaskets.  
The connector accepts cables with external diameter from 6.2mm to 8.1mm and conductors with section from 0.5mm<sup>2</sup> to 1.5mm<sup>2</sup>. The cable to be used must be in double sheath, suitable for outdoor use, the choice of conductors and their location must be suitable for the application.
- C**
- D** Connect terminals 1 and 2 to the power supply and the earth conductor to the dedicated terminal.
- E** Properly tighten the conductors in the connection terminals to avoid malfunctioning or overheating which can lead to dangerous conditions.
- F** Close the connector making sure that the conductors do not interfere with each other or with the central screw.
- G** Secure the connector to the coil by tightening the central screw, taking care to position the gasket between the connector and the coil and the o-ring between the screw and the connector in order to ensure the IP65 degree of sealing of the product.
- H** Make sure that the valve body and coil are connected to the protective earth, both through the specific terminal and by other means such as the piping.

### ISEO-SSV ADJUSTMENT AND CALIBRATION

The valves of the ISEO-SSV series with quick opening and closing do not provide for adjustment or calibration devices, but require a functional check at the end of the installation. Before carrying out this check, make sure that the application conditions allow it.

- A** Turn on the power supply to the coil and check that the solenoid valve opens allowing the flow of gas.
- B** Turn off the power supply to the coil and check that the gas flow is intercepted within one second.



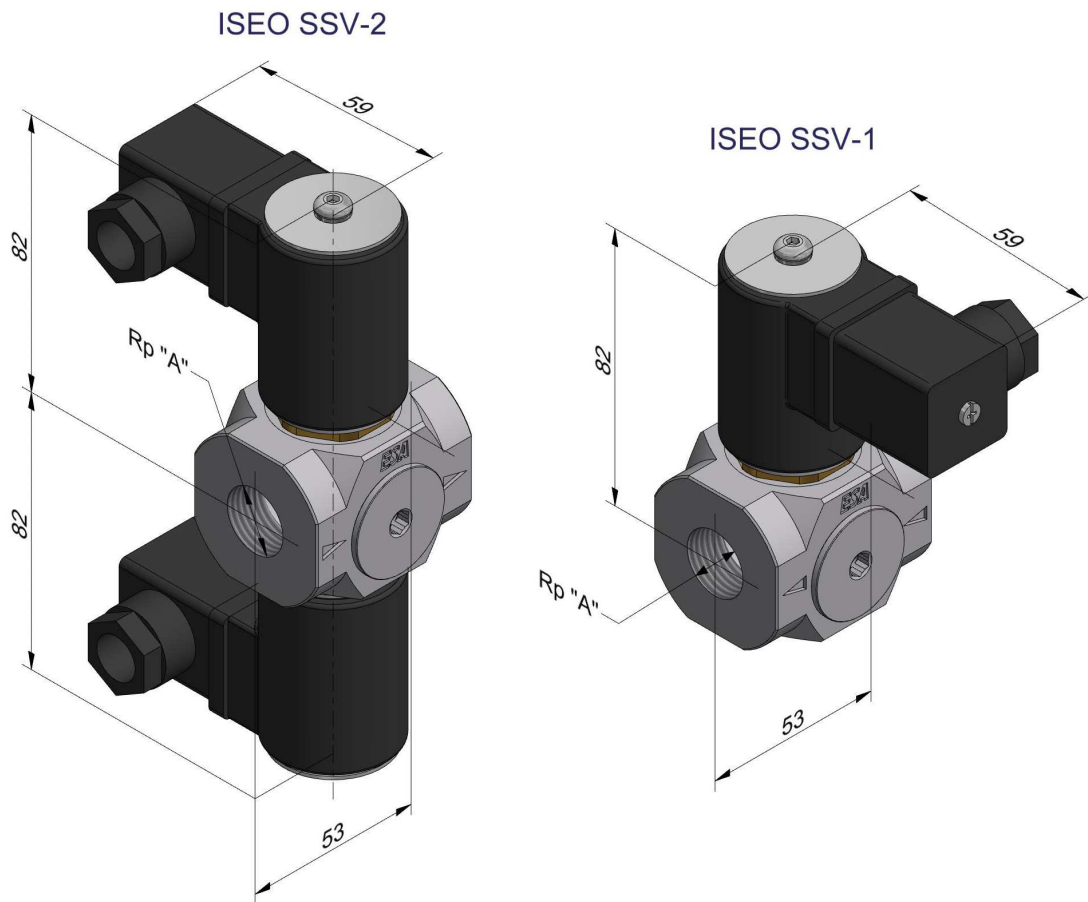
## MAINTENANCE

All maintenance operations, due to the short time and working conditions in which they can be carried out, involve a greater risk of errors and accidents and must therefore be carried out after careful and in-depth analysis of the risks for the operators and for the process, making sure all necessary precautions are in place.

Operation	Frequency [months]	Note
Integrity external seals	12	Check that there are no leaks to the outside with adequate leak detection liquids. In case of replacement, follow the instructions given in the INSTALLATION paragraph.
Valve operation and integrity of internal seals	12	Check operation by following the instructions given in the ADJUSTMENT AND CALIBRATION paragraph.
Valve cleaning	as needed (at least every 12 months)	Check the condition, clean with a clean cloth and compressed air, taking care to remove dust and impurities deposited on the valve.
Integrity of electrical connections	12	Check that the electrical connections and the connection cable are intact and in good condition.

Component	Useful life [years]	Command cycles
Valve seal control systems	10	250.000
Pressure switches	10	N/A
Burner control device	10	250.000
UV flame sensor / electrodes	10.000 operating hours	
Gas regulators	10	N/A
Solenoid valves	10	250.000
Relief valve	10	N/A
Regulation valve	10	N/A
Regulators	10	N/A
Servomotors	10	N/A

### OVERALL DIMENSIONS ISEO-SSV



D1113I03

**ORDERING CODE**

- ISEO-SSV -  -  -  -  -  -  -  -

01                      02                      03                      04                      05                      06                      07                      08

VALVE DIMENSIONS	cod.	01
3/8"	3	
1/2"	4	

05 ELECTRICAL CONNECTION	cod.
Connector LED PG11F	L

VALVE TYPE	cod.	02
Single	S	
Double	D	

06 GAS TYPE	cod.
Non-aggressive gases (Group 2)	N

ACTUATOR	cod.	03
230Vac	2	
115Vac	1	

07	cod.
/	/

CONNECTION TYPE	cod.	04
ISO 7/1 thread	F	
NPT thread	N	

08	cod.
/	/

# ESA contacts



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