ESKA

ERG-H6 and ERG-HZ6 SERIES

GAS PRESSURE REGULATORS

INSTALLATION, USE AND MAINTENANCE GUIDE

“Please Read Carefully Before Any Actions and Follow. Do Not Perform Unindicated Actions”

“Store for Future Needs”

“Products should be installed only by the authorized persons.”

“This product should be mounted conforming to the rules in force and this guide.”

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The right to make modifications on this guide based on technical developments is reserved. The 2014/68/EU Pressurized Equipment Directive is applied and it is prepared accordingly.

1. GENERAL WARNINGS

All the actions given in this guide should be applied only by the specialist personnel approved by the competent authority. Unauthorized persons should not intervene in the product. Our firm shall not be responsible for the malfunctions, damages, accidents etc. caused by the applications performed without abiding by the rules and information in this guide.

The end-users and unauthorized persons should read these instructions, should abide by all the safety rules that may relate to them, should in no case be intervening with the product and the line, should not meddle, modify settings or try physical entry, in case of malfunctions or gas leaks are detected or gas odor is smelled during use etc., they should turn off the intake valve in front of the product and should notify the related gas distribution firm and/or specialized persons approved by the competent authorities. Meanwhile the environment should be ventilated.

If there are electrical voltage or gas pressure around the product do not perform any operations. The necessary intervention should be performed according to the official regulations. It is forbidden to smoke or light fire within 2 meters of the product. The product should be kept away from the chemicals, rain and water as much as possible. All necessary precautions should be taken considering that the product can be exposed to natural events (earthquake, flooding, landslide, fire etc.).

Please read this guide and the label on the product carefully before all actions, then keep this guide and the label safe for future needs; use the product according to the information on the label and conforming to this guide. If the guide and/or label is missing, do not start any actions and first of all request them from the authorities. In any application not indicated in or contradictory to this guide, the product may operate undesirably, may malfunction, property loss, injury and loss of life may occur. Before, during and after actions, if there is any doubtful condition, contact the authorities. Keep this guide, the label on the product and the package of the product always in the facility where the product resides and close to the product. After all actions keep the guide, label and the package at a secure location. If you are unable to access this guide or the label or if there are any not understood, unknown or doubtful issues or during the actions if the actions cannot be realized or you face problems despite abiding by the information given in the guide, please contact the authorities. Do not exceed the technical limits given in the guide and the product label. Do not start any actions without accessing and reading these instructions.

This product is designed for terms and loads conforming to the intended use and other reasonable foreseeable operation conditions. The product should be used only under the design conditions and conforming to the intended use. The operation limits indicated in the technical specifications section should not be exceeded and pressure exceeding the maximum pressure should not be given to the product. No fluids other than the ones indicated as appropriate should be used. Determine all the conditions to make the right product choice. Otherwise the manufacturer shall not be responsible for the flaws. Compare its validity with the information in the guide and on the label present on the product. If everything is conforming start the installation stage. If the information in the guide and on the label are different from each other, please contact the authorities before using the product. If the product is not proper for the site conditions, do not use it. When returning malfunctioning products, replacement products and wrong products to the manufacturer: ensure that the package of the products, related apparatus, accessories, connectors, gaskets and similar parts, the user guide and label are present. Otherwise the manufacturer reserves the right to reject the product.

For all the actions in this guide and throughout the use, utilize proper tools and methods. All of our products are placed in special cardboard-box-parcels to prevent possible damages during transportation and shipment. During transportation and shipment, in all processes and throughout the use, ensure that the products or the boxes do not fall, are not thrown, shaken, exposed to excessive load, force and impacts, are not crushed, that no weight is placed on them, their external parts and outer dents are not damaged, that it does not get wet or is not toppled over. The product, additional parts and spare parts should be kept in their original packages until installation. After the package is opened, it should be checked whether there is any damages on the products and additional parts, if there is damage no operations should be conducted, the supplier should be notified and the product should be left in its original package for inspection.

Before-during-after any actions and throughout the life of the product ensure that necessary legal permits are acquired, all parties who can be related to the operations are notified and warned, all necessary safety precautions should be taken including personal protection (glasses, helmet etc.), transactions conducted in conformity to the legislation, regulations in force, technical standards and rules adopted by the gas institutions, the safety of work conditions are reviewed, all the measures are taken against the fire hazard, the gas is not inhaled, the measures against danger combinations are taken, sufficient measures are taken against bursting of the possible liquids in the line, no foreign items are penetrated through the discharge hole, if any, electrical matters are not brought close to the product, the conformity of the operation area via the general protection plan and necessary safety signs, the substances that have blast and fire causing risk like fire, spark and cigarettes are kept out of and far away from the product and are not used as the product contains inflammable gas.

Except for the parts given together with the product and the package, no parts that are not original or not belong to our firm should be used. When necessary the manufacturer should be contacted to procure spare parts. Meddling with the product, use of non-original parts and/or different parts shall invalidate the product warranty and also shall endanger the proper operation of the product. The products should be replaced at the end of the product life. Follow the laws and regulations in decomposition and recycling-destruction-disposal and similar processes of the products that are removed from the line, spare parts, other parts not to be used anymore, packages (boxes-cardboards-stretches) etc.

After the gas feed of the product is cut, only authorized persons should determine whether there is a gas leak and after it is ensured that there is no gas leak, the product should be configured and commissioned. When appropriate it is recommended that our product is used in gas lines for safety. The product can only be used when it is in perfect condition. Faulty operations and malfunctions should be corrected promptly.

End-users and/or authorized specialist personnel are responsible to apply the correct systems to protect the product. Protective measures should be taken and systems should be established to ensure that the product is not meddled with, the covers of the product are not opened, it is protected against the dangers like earthquakes, fire and flood, damage from corrosion and chemical effects are prevented, it is protected against the effects of environment (traffic, external sources, electrical causes) and adverse weather, mold, UV lights, pests, toxic and irritative solvents/liquids (for example cutting and cooling liquids), direct sun light and corrosive atmospheric effect, unauthorized access is prevented, the gas leaks are detected. Do not damage the corrosion protection (paint, surface coatings etc.) of the product. Otherwise the product life shall be shortened and the warranty shall be nullified.

The static charging on the product, joint parts operating with the product or any parts used together with the product should be prevented and protective measures should be taken. It is recommended that this value is measured in regular intervals. The personnel to check the static load should work with antistatic protective equipment. The product is recommended to be earthed.

In no stage in this guide and throughout the product life, do not try to dismantle the “Shut-off Lever (30)” (only in ERG-H6 series products) of the product, do not let it be exposed to mechanical damage, do not move it around unnecessarily and do not apply excessive force.

In products without safety device (in ERG-HZ6 series products) as there is no safety shutoff system that shuts off the gas path in high and low gas pressure, additional measures should be taken regarding the unwanted excess pressure increases and decreases that may occur at the line outlet.

The manufacturer cannot give a general declaration regarding the noise emission as it is dependent on the regulator valves, facilities where the product shall be used, the work environment and operation conditions. There can be loss of hearing or deafness due to high noise. Therefore, hearing protection should be worn while working close to the product.

Based on the action medium, the product components and pipelines can be overheated or cooled and may cause burn injuries. Take the necessary precautions.

2. DEFINITIONS AND ABBREVIATIONS

Device or Product : ESKA brand Gas Pressure Regulator
SSD – Shutoff Valve : Automated Safety Shutoff Device - Valve
Authorized Institution : Gaz distribution company responsible for gas distribution to the related province or region
Authorized Installer : The person responsible for establishment, installation, commissioning, periodic maintenance and inspections of the product in accordance with the laws, regulations and standard, who is experienced, trained in the matter, who is knowledgeable in the processes, qualified, with high technical knowledge, who knows the issues like laws, legislations, standard etc. related to the works he performs and the safety, experienced in all the necessary measures and authorized by the official authorities.
Vent Line: The line connecting the atmosphere side of the pressure detection device to the atmosphere. In case of a malfunction on the pressure detection device, this line can be used as an exhaust line.
Exhaust Line: In case of a malfunction at any part, it is the line connects the regulator or accessories to the atmosphere in order for the gas to be discharged safely.

PS: Maximum Intake Pressure permissible
PSD: Maximum Resistance Pressure for Sections with Different Strengths
Pumax: Maximum Intake Pressure
Bpu: Intake Pressure Range
TS: Operational Temperature Range
S.N: Serial No
Wd: The Range of All Adjustable Setting Points of the Output Pressure (with different springs)
Wds: Adjustable Spring Setting Range of the Output Pressure (of the related spring used in the regulator)
Pds: Adjustable Point Setting Pressure of the Output Pressure
Wdo: The Range of All Adjustable Setting Points of the High Pressure Safety Shutoff Pressure (with different springs)

Wdso: Adjustable Spring Setting Range of the High Pressure Safety Shutoff Pressure (of the related spring used in the regulator)
Pdso: Adjustable Point Setting Pressure of the High Pressure Safety Shutoff Pressure
Wdu: The Range of All Adjustable Setting Points of the Low Pressure Safety Shutoff Pressure (with different springs)

Wdsu: Adjustable Spring Setting Range of the Low Pressure Safety Shutoff Pressure (of the related spring used in the regulator)
Pdsu: Adjustable Point Setting Pressure of the Low Pressure Safety Shutoff Pressure
AC: Accuracy Class
SG: Shutoff Pressure Class
AG: Safety Shutoff Accuracy Group
SZ: Lockdown Pressure Zone Class
DN: Nominal Diameter
Pdo-DVRf: Discharge Opening Pressure
Qmax, Maximum Flow Rate
Qmin ; Minumum Flow Rate
IS: Regulators with common strength
DS: Regulators with different strength

3. WORKING PRINCIPLE, INTRODUCTIVE AND FUNDAMENTAL INFORMATION

The technical property ranges of the products are as follows. These values may vary within from product to product based on factors like output flow rate, output pressure, input pressure range etc. The final technical information of the product is indicated on the label on the product. In no cases the product shall be used out of the limitations given below

A. GENERAL

Type-Model-Series: ERG-H6 and ERG-HZ6
Product Name:
ERG-HZ6: Gas Pressure Regulator without Safety Shutoff Device
ERG-H6: Gas Pressure Regulator with Safety Shutoff Device
Brand: ESKA VALVE / ESKA
Operational Temperature Range "TS": Class 1 (-10°C ; 60°C) or class 2 (-20°C ; 60°C) or upon request -30°C ; 60°C or -40°C ; 60°C
Field of Use: They are used in transmission and distribution lines, commercial and industrial facilities, pressure control stations.

They should not be used in fields given below:
- Regulators upstreem/on/in the domestic gas consuming devices installed at the output side of the domestic gas gauges,
- Regulators designed to be included in the pressure control systems used in service lines with flow rate by volume of ≤ 200 m3/h and intake pressure of ≤ 5 bars in normal conditions,
- Regulators with a certain document (for example, EN 88-1 and 88-2 etc.),
- Industrial process control valves conforming to EN 1349.

These regulators are proper for use with filtered, non-corrosive and non-aggressive dry gasses.

Maximum Permissible Pressure - Design Pressure: PS4, PS6, PS10, PS16, PS20 bars
Regulator Strength Type: IS or DS (Standard Application PS4 and PS6 IS, PS10, PS16 and PS20 DS Type)
Regulators with common strength "IS": PS4, PS6
Regulators with different strength "DS" PS10, PS16 and PS20 (In DS types PSD8 bars)
Test Pressure: PT=PSx1,5 bars and PT=PSDx1,5 bars are applied.
Regulator Type: Gas Regulator for single stage spring driven direct impact low and medium pressure lines
Can It be Used as Monitoring Regulator? Yes. It can optionally be used in front of a main regulator as an inline monitor product. For monitor product, it should be indicated on the order specifications.
Regulator Malfunction Type: Fail to Open regulator
Noise Pressure Level "Lpa": It differentiates based on product variations.
Intake Pressure Range "bpu": 0.5;4 bars, 0.5;6 bars, 0.5;10 bars, 0.5;16 bars, 0.5;20 bars. Optionally at values in the range of 0,1;20 bars
Output Pressure General Setting Range "Wd"; 100;4200 mbar (LP=100;320 HP=320;4200)
Output Pressure Accuracy Class "AC": ±5% AC5, ±10% AC10
Hysteresis Band:+5%, +10%,
Lockdown Pressure Class "SG": +10% SG10, +20% SG20, +30% SG30
Lockdown Pressure Zone Class "SZ": +5% SZ5, +10% SZ10, +20% SZ20
Maximum Flow Rate "Qmax": Up to 4000 m^3/hour (natural gas) (under standard conditions)
Discharge Opening Pressure Setting Range "Pdo": 30;5300 mbar (In products with discharge system)
Discharge Pressure Tolerance: ±5%, ±10%, ±20%, ±30% (In products with discharge system)
Nominal Diameter - Terminal Connection: DN25-DN32-DN40-DN50 flanged connection, PN16 or Class 150 and DN50 threaded connection

Line Connection Directions: Pass-through (180 degrees)
Product Weight: ERG-H6: approximately 18,5 kg and ERG-HZ6: approximately 17,3 kg
Product Volume: Max. 5,3 Liters
Gas Type: 1. 2. and 3. Family (EN 437)
Fluid Type: Group 1 and 2 gases (2014/68/EU)
Fluid: Coal gas, Natural gas, LPG (in gas phase) and non-corrosive gases
Welding Transaction: None.
Accessible Devices: Discharge system, silencer, inline monitor property, internal sense, external sense, high and/or low pressure safety shutoff system connected to the regulator

Material Standards:
Body: Graphitic Nodular Cast Iron, EN GJS 400-15 (GGG40) (EN 1563) (Note: Optional GGG50)
Lid: Aluminum Cast Alloy, EN AC 43500 (EN 1706)
Seat : Brass Material CuZn40Pb2/CuZn39Pb3 (EN 12164 and/or 12165) (Optional stainless steel)
Diaphragms: Elastomer, Fabric-Reinforced and Non-Reinforced NBR (EN 549)
NOTE: For different requests different materials can be provided.

B. FOR SAFETY SHUTOFF DEVICES (For ERG-H6 Series Products):

High Pressure Safety Shutoff Setting Range "Wdo" 30;5500 mbar
Low Pressure Safety Shutoff Setting Range "Wdu" 10;3500 mbar
Safety Device Accuracy Class "AG": ±5% AG5, ±10% AG10, ±20% AG20, ±30% AG30
Safety Device Shutoff Type: Quick Shutoff
Reaction Time: ≤2 seconds
Safety Device Type: Direct impact shutoff device (spring driven)
Safety Device Functional Type: Class A
Safety Fitting Type: With joint safety fitting
Can it be Used on the Line by itself? No. Always use integrated to the regulator.
Discharge Opening Pressure Setting Range "Pdo": There is no discharge valve in SDD. There is a discharge hole providing direct release to air only in case of malfunction (for example Shutoff diaphragm malfunction).
Discharge Limiter: None.
Accessible Devices: External sense in SSD, OPSO-UPSO

C. DOCUMENTATION:

Applicable Regulations: Pressurized Containers Regulation; 2014/68/EU
Conformity Evaluation Method:

For ERG-H6	DN25-DN32-DN40-DN50	: Category 4, Module B+D
For ERG-HZ6	DN32-DN40-DN50	: Category 2, Module A2
For ERG-HZ6	DN25	: SEP

Applied Technical Infrastructure: Pressurized Containers Regulation; 2014/68/EU PED ANNEX I Basic Safety Requirements
Utilized Reference Standards: EN 334 and EN 14382 (only for ERG-H6 series)
Will it carry CE Marking?:

For ERG-H6	DN25-DN32-DN40-DN50	: CE marking present
For ERG-HZ6	DN32-DN40-DN50	: CE marking present
For ERG-HZ6	DN25	: CE marking not necessary

D. SUMMARY

Gas Pressure Regulator Summary: Regulator as its function, keeps the value of the controlled variable (output pressure - Pds) within the tolerance range via reducing it to the desired/set value without being affected by the disrupting variables (like flow rate and intake pressure). Gas pressure regulator provides for the downstream devices on the gas line to operate safely. Regulators are single grade, directly effective (spring force).

The gas pressure regulator may have a discharge system opening to the air if requested in the order, in that case there can be temporary atmospheric discharge from the support hardware of the regulator (the measures related to the gas to be discharged in this regard should be taken before installation).

The product is fail to open type. Therefore, in case of a malfunction due to tear-puncture of the main diaphragm or excessive reduction of the output pressure due to any reason, it means that the regulator flap shall be opened completely or partially.

It is required to connect a sense line externally for the regulator and safety shutoff device.

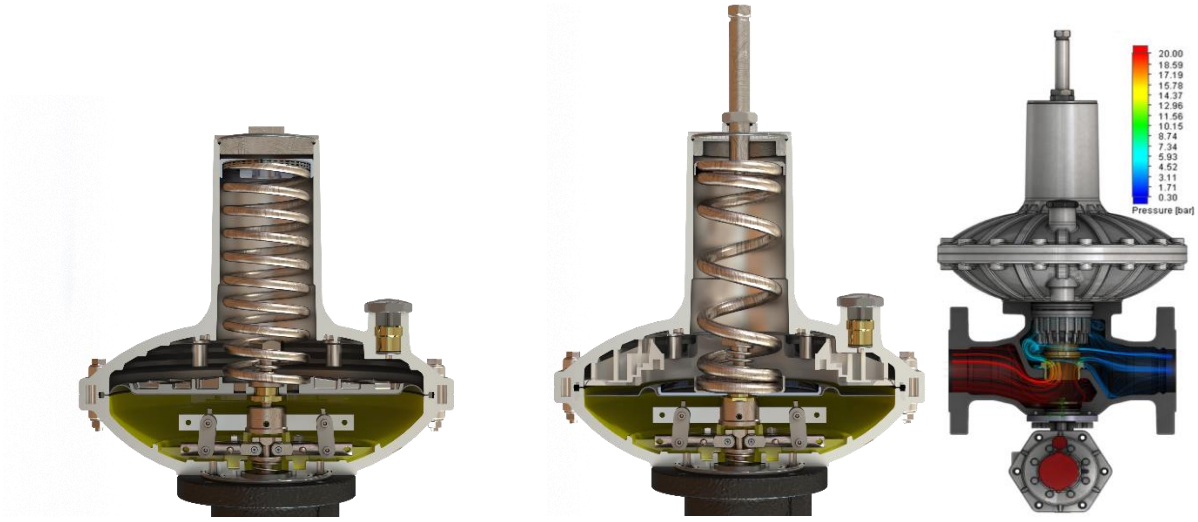
The product has facilitated maintenance property, “Above entry-maintenance without dismantling from the pipe line”.

In order to perform the pressure adjustment better, it has two different setting regulation head system. The gas pressure regulator is not pilot controlled.

Regulators can be used as monitor regulator if requested in the order.

The accuracy and sensitivity of the output pressure is provided by the adjustment pressure spring, balanced regulation structure, internal and external sense connection. Operation pressure is acquired from the power of the adjustment spring and the weight force of the moving parts present in the product. It is possible to set different output pressures by the modification of the output pressure spring. Adjustment spring moves independent of the weight force of the moving parts. The output pressure is adjusted depending on the set tension of the adjustment spring.

In ERG-H6 series gas pressure regulators, there is the additional safety shutoff fitting on the same body, i.e. sits as combined.



LP HEAD HP HEAD

Figure 1.

Combined Gas Safety Shutoff Device (SSD) Summary: Under normal operation conditions, it is device that senses automatically when the monitored pressure (Pds) exceeds the adjusted safety preset pressure value (excess pressure and/or low pressure) and completely shuts off the gas flow automatically (excess pressure monitoring and/or low pressure monitoring). It stays shut until manually set. It is combined with the gas pressure regulator. This device is independent from the regulator function-wise.

High pressure safety and low pressure safety are dependent on the power of the adjustment spring on the product. Through the large diameter spring within the “Shut-off Upper Lid (22)”, the high pressure value (Pdso) can be changed, through the small diameter spring that is inside, the low pressure safety value (Pdsu) can be changed. Modification of these springs can provide setting to two different pressures.

Discharge System: Regulator can be manufactured with a discharge valve if requested in the order, under normal conditions the discharge system is blocked. The relief safety valve constantly monitors the outlet pressure and when it detects the pressure level higher than the nominal outlet pressure of the regulator, it activates the mechanism and vents the gas to the atmosphere. Usually the calibration point is lower than the high pressure shutdown system (OPSO). Under certain conditions, such as gas expansion during hot weather seasons, the Safety Valve is activated before the OPSO shuts down gas lines. It prevents random shutdown related to the pressure increase on the outlet side. The relief safety valve can be readjusted using appropriate tools. The calibration value can be adjusted depending on the strength of the adjustment spring in the product. The calibration can be changed by tightening or loosening the "TAV Nut (8)". It is possible to adjust to different set pressures by changing the "Relief Spring (9)".

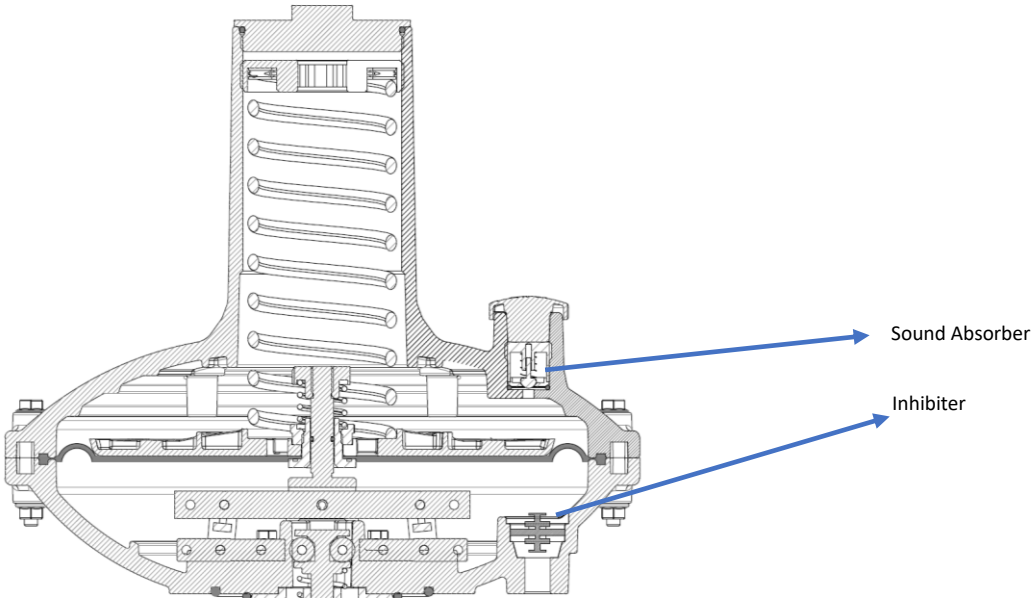


Figure 2.

Sound Absorber: It is the apparatus that slows the inlet or outlet of the gas. It reduces vibration and noise in the product (Figure 2).

Inhibiter: There are blockers above and below the diaphragm in order to eliminate the damaging effects that may arise from excessive pressures (low or high) below the diaphragm or overloading of the spring. This limits the diaphragm movement. Thus, the flap movement is limited (Figure 2).

Monitor Regulator: It is an emergency regulator that is put into service instead of the main regulator, and failure of the latter will cause the outlet pressure to reach the calibration point for monitor intervention. The monitor regulator is usually mounted before the active regulator. Although the function of the monitor regulator is different, all the component parts are almost the same as the active regulator. The only difference on the system is that the output pressure of the monitor regulator is calibrated to a higher pressure than the active regulator. The flow of the monitor regulator is slightly lower than the flow of the active regulator.

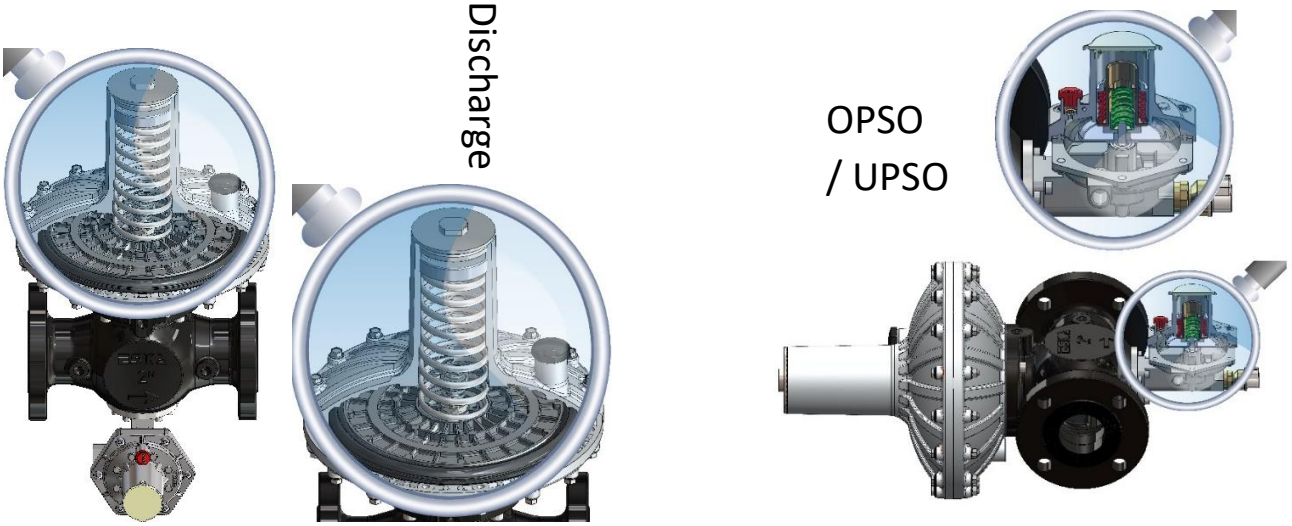


Figure 3. Discharge, OPSO and UPSO Display

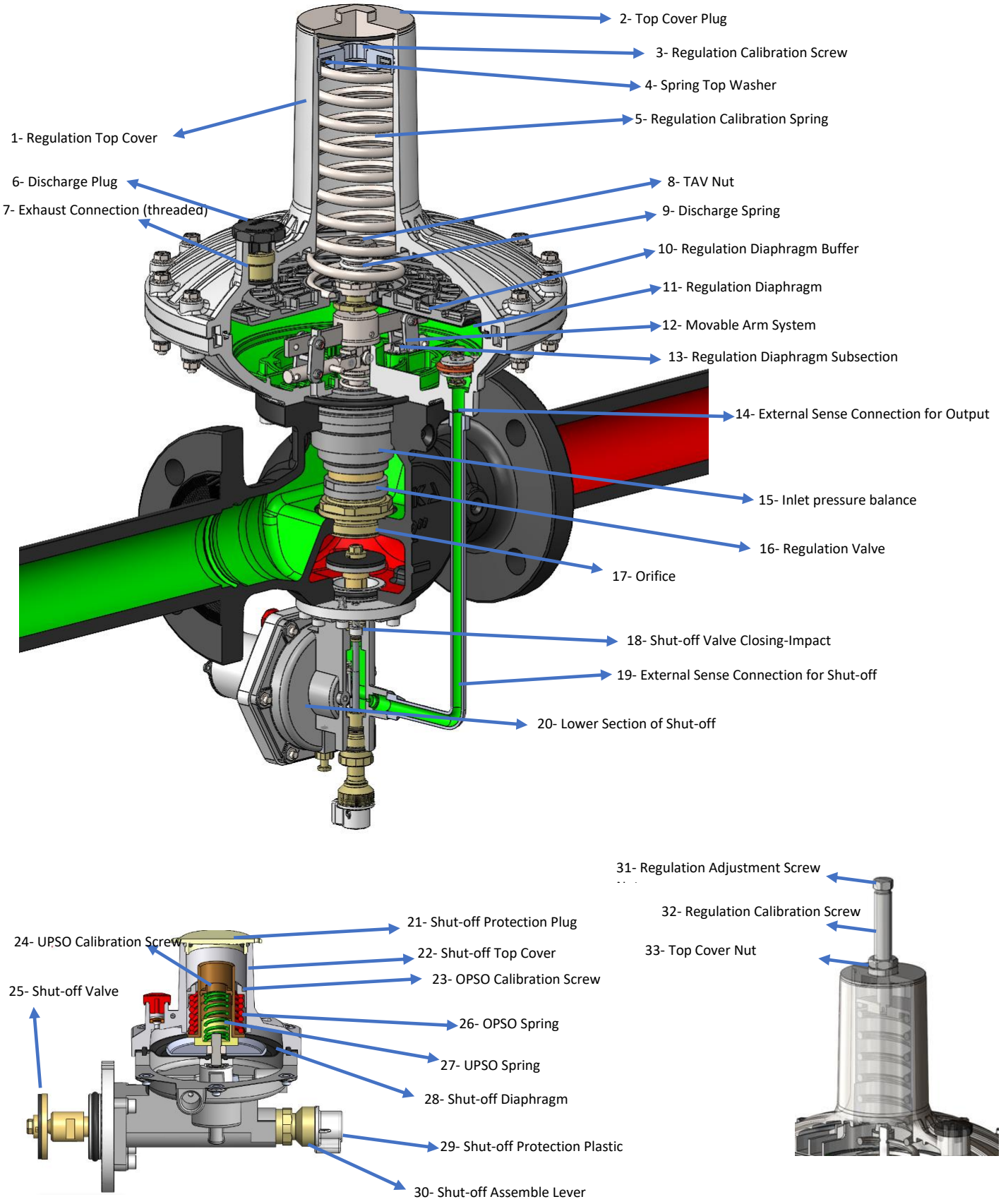


Figure 4.

According to the balance of forces principle, the forces acting on the working mode are: The force of the regulating pressure spring is the output pressure on the regulating diaphragm, the weight force of the moving parts.

Unpressurized state : The force of the "Regulation Adjustment Spring (5)" acts on the "Regulation Diaphragm (11)". In the unpressurized state, no force acts against the "Regulation Diaphragm Subsection (13)" from the outlet side, and the spring force

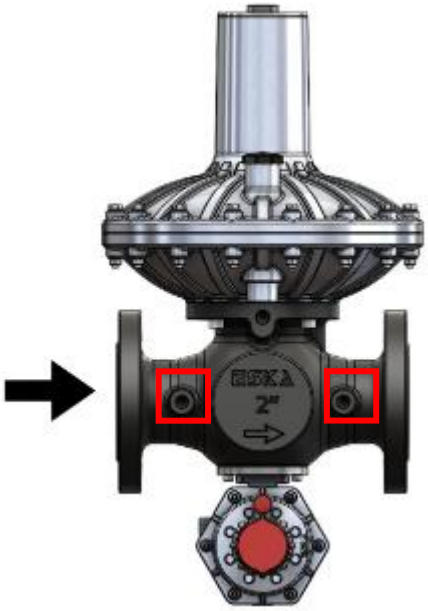
on the “Regulation Diaphragm (11)” presses the “Movable Lever System (12)” down, and thus the “Regulation Valve (16)” is pulled upwards, the gas passage outlet is opened. The regulator is in the open position.

Calibrated state : When the outlet pressure increases, the force acting on the "Regulation Diaphragm (11)" increases in the "Regulation Diaphragm Subsection (13)". The “Regulation Diaphragm (11)” moves upwards until the balance between the force of the “Regulation Adjustment Spring (5)” and the outlet pressure is achieved. This movement pulls the “Movable Arm System (12)” up, pressing the “Regulation Valve (16)” down and narrowing the gas passage outlet. The flow, which decreases in this way, decreases the outlet pressure until the set value of the outlet pressure is reached again and the force balance is restored in the "Regulation Diaphragm (11)". When the outlet pressure increases, the force acting on the "Regulation Diaphragm (11)" increases in the "Regulation Diaphragm Subsection (13)". The “Regulation Diaphragm (11)” moves down until the balance between the force of the “Regulation Adjustment Spring (5)” and the outlet pressure is achieved. This movement presses the “Movable Arm System (12)” down, pulls the “Regulation Flap (16)” up and opens the gas passage opening. In this way, the increased flow increases the outlet pressure until the set value of the outlet pressure is reached again and the force balance is restored in the “Regulation Diaphragm (11)”.

The clapper seal provides full closing with the orifice when the capacity is zero.

Pre-pressure equalization : Changes in inlet pressure have no effect on the balance of forces. The inlet pressure is balanced with the “Inlet Pressure Balance Diaphragm (15)”. The inlet pressure is transmitted to the chamber on the "Inlet Pressure Balance Diaphragm (15)" through a gap in the "Regulation Valve (16)". While the inlet pressure exerts force on the “Regulation Valve (16)” in the opening direction, the outlet pressure exerts pressure in the closing direction. Since the surface areas on which both forces act are equal, the opposite forces cancel each other and the inlet pressure balance of the regulator is provided.

Safety Arrangements: “Shut-off Diaphragm Subsection (20)” is connected to the outlet pressure via the sense line in the Shut-off device. The outlet pressure exerts a force on the “Shut-off Diaphragm (28)”. This pressure is also the controlled pressure. The force of the “OPSO Spring (26)” and “UPSO Spring (27)” acts in the opposite direction to this force. In case of deterioration of the balance of forces due to the changes in the outlet pressure, Shut-off is activated and cuts off the gas passage.



If requested:

- Appropriate connections and / or nipples for measuring pressure or pressure difference (Figure 5)
- Connections and / or nipples (Figure 5) to remove the dangerous gas accumulation from the device

Figure 5.

4. ASSEMBLY

NOTE: Before starting the assembly steps below, carefully read all the information below and fulfill the requirements.

1- Make sure that all valves used before and after the product and providing gas flow to the product are closed and there is no gas passage,

2- Take the product out of the box properly and remove the input-output connection protection plugs on the connection, if any, and the protection plugs of the sense line on the regulation side and the shut-off safety device, if there is any,

3- The arrow on the product body; adjust the flow direction of the product to show the outlet side (ie. the gas flow direction),

4- The product should be placed on the line with a tolerance of ±5 ^{o}C in horizontal or vertical position, in appropriate mounting positions, an example of which is indicated in Figure 6,

5- Inlet and outlet gasket; manually place it properly between the inlet and outlet line connection flanges and the body flanges of the product,

6- Tighten the nuts or bolts in a "cross" pattern with gradually increasing torques using appropriate wrenches without applying excessive load, force or impact (Figure 7).

7- Sense pipes; Connect them to a appropriate distance in the line pipe so that their fronts do not close, bend or deform. Connecting the Sense Line: For the Regulation Sense and the Safety Device (SSD) Sense, use stainless steel or copper tubing with a minimum internal diameter of 8mm. These connections must be at least 5xDN away from the product. Lay the sense lines with a slight slope to prevent condensation from accumulating. The measuring point of the sense lines must be in the same place. Regulator, Monitor Regulator, Separate SSD or Combined SSD are included in this rule.

8- After the assembly process is finished, check and make sure that you have not installed the product backwards, that you comply with the applicable legislation and local regulations, and that all the information in this manual is done.

Before Operation

Installation (regulator, relief-exhaust line, sense line, etc.) must be carried out in accordance with the provisions (laws or standards) in application at the installation site. Approvals should be obtained if necessary. What is explained in this process should be done by certified, authorized and expert technicians and authorized companies-services-installers who have been approved by gas approval institutions. Definitely the end user should not do these operations. In case it is not properly installed; failure or malfunction of the product may result in property damage, injury and loss of life. Our company is not responsible for applications made without following the manual.

Before assembly, determine and be sure which features of the product should be used. Check and compare the technical and general information written on the label on the product and in this manual, and make sure that the right choice is made, in particular, carefully examine the label information because it symbolizes the product. If there is a conflict between the information, please contact the authorities without taking any action.

Check the auxiliary parts that may be on the product and in the box (input-output gaskets, discharge plastic cover, shut-off protection cover (for ERG-H6 Series), pressure adjustment seals, if any, protection plugs on the connections, if any etc.) and check the necessary documents (guide, warning card if any, label, certificate if any, etc.). If there are missing parts or a faulty situation, please contact the authorities without taking any action.

Examine the line to be installed, as well as the compatibility of the line with the product features, and make the necessary verifications and ensure that it is appropriate. (operating pressure range, fluid, flow, environmental conditions, line and fluid being clean, mutual connection type and diameter selections, no axial misalignment, line aligned, line and product dimensions suitability, even gas velocity to be formed, etc.). In particular, the label on the product should be carefully checked and confirmed whether it is suitable for the application. Inlet and outlet pipes must be at the same level and be able to support the weight of the product. If necessary, in the pipeline; use braces near the connecting flanges. Do not attach the brackets directly to the product. If there are missing parts, faulty or suspicious situation, please contact the authorities without taking any action. It should be checked and made sure that there is no damage to the product, that the product to be installed is suitable for the system to be used, that the pressure does not exceed the maximum pressure level on the label on the product, that the product's dimensional dimensions and line compatibility are correct, that the mounting location is not affected by sparks and electric currents that may arise from flammable materials and devices, and that it is at a distance and in protection. Install manual gas shut-off devices (e.g. ball valves, etc.) on the front and rear of the product to avoid any piping leaks.

Check and make sure that the inlet and outlet pipelines are aligned and that there is no misalignment in the line to which the product will be connected. Confirm that the assembly has started in accordance with the applicable technical rules and laws. When mounting with adjacent elements, care must be taken not to create a pressing force on the body, and the mounting elements (bolts, o-rings, sliders) must be suitable for the geometry and operating conditions of the equipment. No modifications should be made on the product (drilling, grinding, soldering, etc.). If necessary; to avoid exceeding the usage limits (PS, TS), make sure that the input side is protected with an appropriate device.

The product should not be exposed to fire and lightning strikes. It should be installed in a non-seismic area or in a place where necessary precautions are taken for seismic situations. For outdoor installations, the product should be away from vehicle traffic and external elements, and should be positioned so that it is not affected by water, ice and other foreign matter and does not enter the spring case through the vent. Avoid placing the regulator under eaves or downpipes. Control the risk of explosive mixture in the pipeline. Make sure the product is above the possible snow level.

Make sure that the joining components to be used during assembly comply with the legislation. Only install the product in accordance with applicable legislation and local regulations, obtaining essential approvals if necessary. Install the product in an enclosure, do not install in the outdoor environment without taking the necessary protective measures. The lifting equipment used must be suitable for the loads to be lifted. Necessary gaps and spaces should be left around the product, taking into account the external dimensions of the product, so that its components can be accessed, and necessary operations can be performed and tested.

Adequate buffer volumes should be left at the line outlet before and after the assembly. Confirm the correctness of the buffer volume on the outlet side. The product outlet line (buffer volume) should be flat, in diameter to provide the desired gas velocity on the outlet side and without reduction. A buffer volume of 1/500 of the nominal flow is recommended for products with outlet pressures up to 300 mbar, and 1/1000 of the nominal flow for outlet pressures above 300 mbar. The maximum flow velocity in the pipeline on the product outlet side should be ≤25 m/sec.

The gas velocity on the outlet side should not exceed the following values. When choosing the nominal diameter of the outlet pipe, the relevant velocity calculation should be made.
25 m/s for Vmax = 1.5 < Pd < 4 bar
20 m/s for Vmax = 0.5 < Pd ≤ 1.5 bar
15 m/s for Vmax = Pd ≤ 0.5 bar

Sense lines through which the gas passes; Necessary measures should be taken to be resistant to thermal, chemical and mechanical stress, long-lasting and resistant to deformation and rupture. Sense lines should be closable. The condensation materials forming in the line should not reach the product. At the installation division sections of the “Regulation Adjustment Spring (5)” and in ERG-H6 product the “OPSO Spring (26)” and the “UPSO Spring (27)” should not be filled with flammable gas or air - flammable gas compositions. The necessary precautions should be taken. Regulation Sense Line and Shutoff Sense line should be installed at the manometer at a distance of at least “5xDN” from the product output. The ball open-close valves, filters, mechanical valves, solenoid valves, flange connections and all other valves in the line should be configured via taking the default gas speed into consideration. The line should be selected as to provide the fluid speed in all operational conditions. Always install a safety device (e.g. Safety pressure valve and/or safety discharge valve) on the line. The product is not a safety valve. If needed, an overpressure protection conforming to the site should be established at the facility section. It is recommended that the sense line is connected in an incline towards downstream against condensation. The sense connections between the product and the main pipe should be constructed via using stainless steel or copper pipes. The measuring point of the sense lines on the product must be at the same location Regulator, Monitor Regulator, Separate SSD or Combined SSD are included in this rule.

There should be a intake and output closing valve before and after the product on the line of installation. Before and during installation, ensure that there is no compressed pressured gas in the installation line and also between the line and the product, the gas feed is closed and prevented from reopening. Before installation, check that the line pressure is within the input pressure range indicated on the label of the product and the product capacity shall not be exceeded throughout the use. The necessary precautions should be taken to prevent noise and vibration caused by the line. There should be no axis mismatch on the line of installation. For humid gases, necessary precautions should be taken to prevent freezing at the water entry and possibly later on the line. Before installation, in order to decrease the bending and twisting loads at the line intake and output due to pipes and tremors, take the proper measures via methods like cuffing etc. at the line side. The limitations related to counter force and torques due to pipes and connections should be taken into account. Ensure that there are no diameter narrowing or expansion on the line within short distances of the product intake and output. At the location of product installation; considering the testing, maintenance, dismantling etc. actions, taking the outer dimensions of the product as reference, make sure that the necessary dimensions and spaces are provided for, and chose an installation site that will permit easy access to the product even after the entire facility is completed. In all cases check that the product intake pressure is and shall be higher than the product output pressure. While the product is not connected to the line yet, clean the inside of the pipes of the entire pipeline where intake and output shall be connected with pressurized air, remove dust, dirt, sawdust, welding particles, contamination and similar foreign materials, take the precautions to prevent these lines to be contaminated again. Ensure that an external filter is installed to filter the gas before the product. Select the aperture size of this filter as not to cause pressure and flow rate loss. Conduct the general pressure and impermeability controls of the line and system. The regulator and SSD should be away from direct sunlight and corrosive atmospheric effects. Start the mounting process taking the necessary precautions to prevent the product from being exposed to environment, external corrosion and wearing conditions (sun, rain, snow, humidity, external chemicals etc.) and possible external damage and impacts (Inside the protective box etc.). In order to prevent the uncontrolled overpressure, ensure that a proper overpressure protection is established at the facility section. Do not install outdoors without taking the necessary protective measures considering every risk variation. The necessary ventilation and relief lines should be constructed according to the applicable rules and laws. Impermeable surfaces should be clean and always a gasket should be used. Ensure that no particles (dust, dirt, sawdust etc. foreign particles) are left at any point of the line.

Make sure that the connection components to be used during installation (gasket, screw etc.) comply with the legislations. In the pipe installation, prevent the explosive gas-air mixture possibility (using gas concentration gauges to check continuously the air of the room etc.) For maintenance and checking processes, pressure limiting systems conforming to the assembly should be establish to discharge the pressure and fluid contained in the facility and discharge and drainage systems appropriate to the facility should be provided. Take precautions to prevent formation of ignitable sparks and sparks form contact voltage in the product. Provide the electricity conducting bridging.

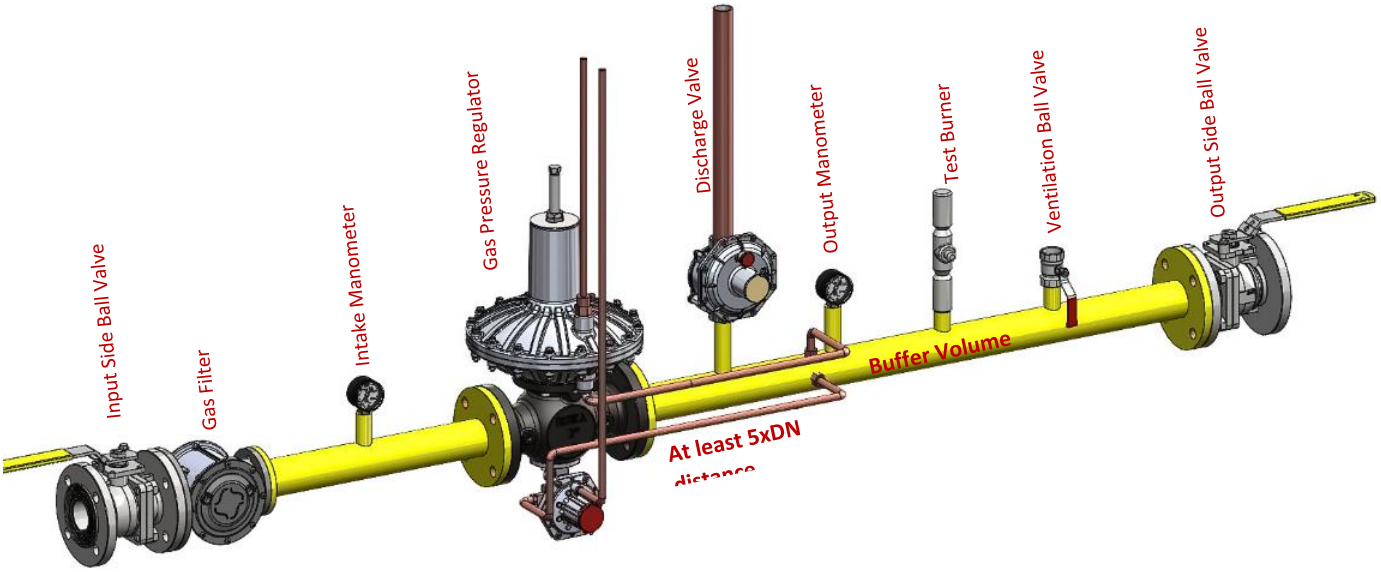
These products can not used in new type applications. Products with proper external surface coating should be used on the line, if there is a discharge section of the product, proper measures should be taken to prevent entries like dust, dirt, contamination, liquid etc., also it should be provided that the products are not used as merged completely or partially to water, earth or liquids. When necessary, an exhaust line should be connected to the vent line of the product. This connection should have at least DN10 screw teeth. Screw teeth adaptor that may be required for this connection should be requested and used. The products with discharge system should not be installed and used in closed spaces without the necessary precautions (for example carrying and mixing the gas to be discharged to external atmospheric conditions within at least a DN10 pipe etc.) are taken in order for the gas to be discharged to be transferred to the safe zone.

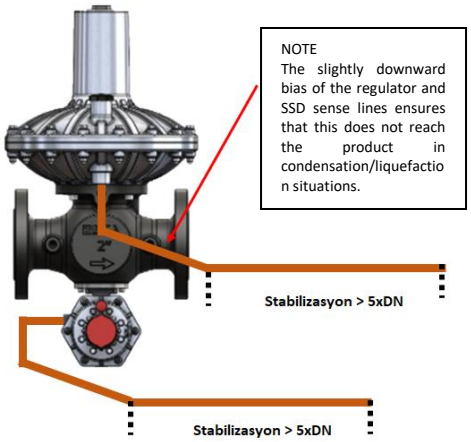
Due to incorrect fitted handling equipment damages may occur on the product. Do not connect the handling equipment to product installation parts (for example regulation lid)

Mount any pipe connector that may cause turbulence in the flow sufficiently distant from the control line connection. In applications where the gas can liquify, condensation can occur in the control line and damage the product. Therefore take the necessary precautions.

During Application

Do not use substances like paste, special liquids etc. to provide impermeability on the connections. The gaskets to be used for the installation should be conforming and approved gaskets, should be clean and at proper hardness and always new gaskets should be used. It must be made sure that gaskets do not have any flaws to disrupt the impermeability property. Ensure the measures against meddling of the product by unauthorized persons, and for protection against impact or accidental contact (for example, keeping in a box etc.). Make sure that there is no liquid in the line and the product (for example condensed water inside the product). If needed, clean the connectors with pressurized air. The gasket surfaces of the flanges should be flawless and clean. The ventilation lines of the regulator, combined safety device and the discharge valve should open separately to the external environment.





Check the product for shipment damages, ensure that no flammable gas in the line, if necessary empty the explosive air/gas mixture from the line and the product and take precautions, it should be placed on the line at installation positions and without applying manual excessive load, force or impact, as not to block the output sense line of the product and without exposure to mechanical stress, in flanged connection, in order to prevent unnecessary mechanical stress on the product body, see that the intake and output flanges of the product body are same with the line connection flanges, ensure that it is perfectly coaxial and parallel. Tighten the bolts or nuts as not to let external leak.

NOTE: Tighten each nut one by one and tighten them once again clockwise direction at least one time until maximum torque is achieved. In addition, calculate the space needed to place the impermeability gasket and center the gaskets properly on the connection. If there is gap between the line and the product, do not try to close the gap by tightening the bolts more than required. In flanged products, follow Figure 7 in mounting torques for bolts, during connections do not use any portion of the product as an apparatus to aid the connection. After tightening, check whether the connections are fitted perfectly and no cracks etc. are present on the connection and the product, that there is no mechanical problems, or mechanical stress on the product due to line, pipes and connections, that the load of the pipe line is not affecting the product. There can be leaks and damages on the product due to excess or too law tightening torques. Excessive tightened torques cause parts to wear faster. Parts with loose tightening torques may cause leaks. Abide by the indicated torques while tightening the product components. Ask the torques you do not know to the manufacturer.

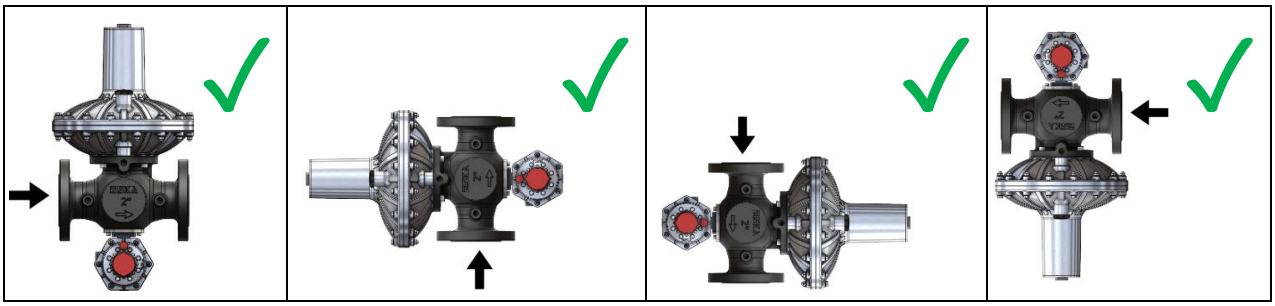


Figure 6.

Table 2: tightening torques for flange bolts (EN 13611)

DN	6	8	10	15	20	25	32	40	50	65	80	100	125	≥150
Torque Nm	20	20	30	30	30	30	50	50	50	50	50	80	160	160

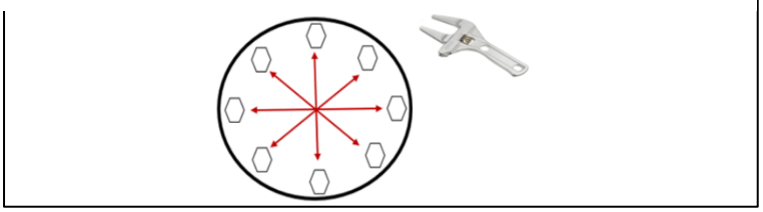


Figure 7.

After the Application

Confirm that the assembly has performed in accordance with the applicable technical rules and laws. After the mounting is completed, check and make sure that the product is not mounted in reverse.

5. INSTALLATION, COMMISSIONING, OPERATION

NOTE: Before starting the assembly steps below, carefully read all the information below and fulfill the requirements.

In ERG-H6 Series Products:

1-Before starting installation, turn off the main gas feeds intake and output valves. Make sure that the slam-shut valve is closed.

2- Turn on slowly and gradually for a small amount the intake valve (gas feed) on the line, check that there is a proper intake pressure conforming to the product label on the intake manometer. The product can be damaged due to processes applied fast.

3- Turn on the Ventilation Ball Valve for a small amount. This shall provide a artificial use flow rate.

4- Pull down for a little amount the “Shutoff Cocking Lever (30)” that is transparent in color, slowly. This will provide gas passage to the output side like a leak. Continue this situation for several seconds (at least 6). Later on very slowly and gradually pull down the “Shutoff Cocking Lever (30)”all the way and wait few seconds than remove your hand. Verify that the lever stays down and observe that there is gas passage to the output, install the shut off section (Figure 8) (pull without applying excessive force, load and impact)

5- Check that there is output pressure conforming to the product label (within tolerances) at the output manometer.

6- Turn on the output valve on the line slowly for a small amount and turn off the Ventilation Ball Valve gradually to a full close.

7- Await for all the pipes on the line to be filled with gas.

8- Turn on slowly and gradually to a full open the intake valve (gas feed) on the line, check that there is a proper intake pressure conforming to the product label on the intake manometer.

9- Turn on slowly and gradually to a full open the output valve on the line, check that there is a proper output pressure conforming to the product label on the intake manometer (within tolerances).

10- Apply proper tests on the product to ensure correct operation, these test include external leak, output pressure, capacity value, shutoff pressure, internal leak, discharge pressure if any, overpressure shutoff, under-pressure shutoff and discharged gas mixing with atmosphere.

11- When the product and the line are ready for use, notify the gas user regarding the gas usage.

NOTE: If the process cannot be realized, repeat it, during these processes in case of hardship in pulling “Shutoff Cocking Lever (30)” or
Shutting off of the “Shutoff Cocking Lever (30)” as the output pressure reaches the safety setting pressure; primarily open Ventilation Ball Valve a little more, if not remedied and you are sure that the intake pressure value is at the desired values, check the sense line and make the necessary adjustments, if no correction is reached, the probability of a problem on the product is high. Therefore do not continue any processes and contact authorities.

NOTE: If you pull the lever suddenly all the way down, high output pressure values shall be observed.

***Important: ''SSV group should not be dismantled to change direction. "If it is necessary to disassemble it, it should be done with the apparatus in accordance with the picture specified in the manual, and the SSV shaft should not be warped." ***

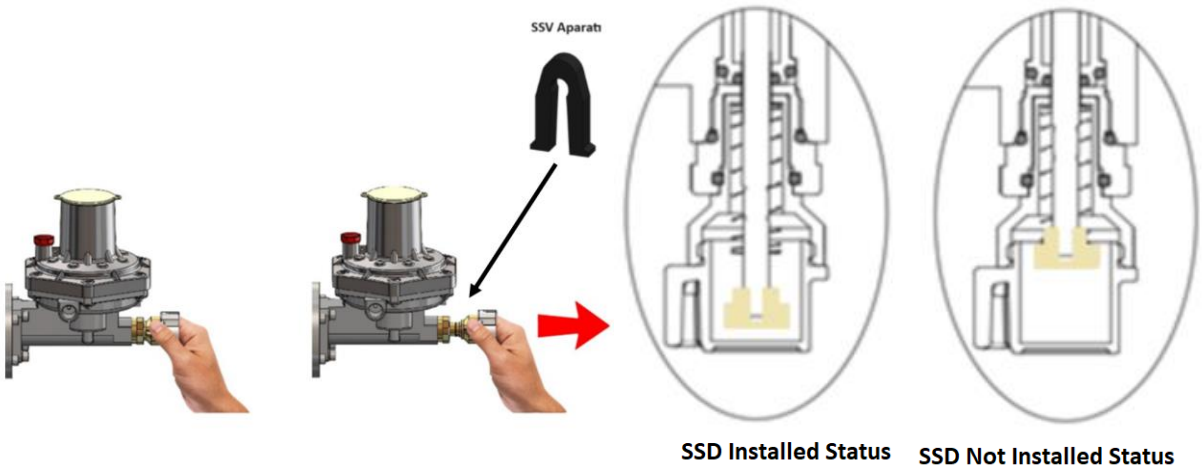


Figure 8: Safety Device

***To prevent the SSV shaft from warping, the apparatus mentioned above should be attached to the crown while the SSV is in the installed position, and the direction change should be made after the apparatus is installed. Otherwise, the shaft may warp. ***

ERG-HZ6 Series Products:

1-Before starting installation, turn off the main gas feeds intake and output valves.

2- Turn on the Ventilation Ball Valve for a small amount. This shall provide a artificial use flow rate.

3- Turn on slowly and gradually for a small amount the intake valve (gas feed) on the line, check that there is a proper intake pressure conforming to the product label on the intake manometer. The product can be damaged due to processes applied fast.

4- When the intake valve feeding the product is on, automatic gas passage to the output shall begin, wait several seconds (at least 5 seconds), verify the gas passage to the output side, so the product shall be installed. If installation cannot be completed contact the authorities.

5- Check that there is output pressure conforming to the product label (within tolerances) at the output manometer.

6- Turn on the output valve on the line slowly for a small amount and turn off the Ventilation Ball Valve gradually to a full close.

7- Await for all the pipes on the line to be filled with gas.

8- Turn on slowly and gradually to a full open the intake valve (gas feed) on the line, check that there is a proper intake pressure conforming to the product label on the intake manometer.

9- Turn on slowly and gradually to a full open the output valve on the line, check that there is a proper output pressure conforming to the product label on the intake manometer (within tolerances).

10- Apply proper tests on the product to ensure correct operation, these test include external leak, output pressure, capacity value, shutoff pressure, internal leak, discharge pressure if any, overpressure shutoff, under-pressure shutoff and discharged gas mixing with atmosphere.

11- When the product and the line are ready for use, notify the gas user regarding the gas usage.

Before Application

Before installation, carefully examine the instructions on this guide and the information on the label on the product, keep them close and abide by completely. In case you think there is missing, faultyor doubtful information, do not perform any applications and contact authorities. Check and ensure that no end-users and persons on the output side perform usage. Do not change factory settings. Factory settings are configured according to the values requested on the order specifications and indicated on the label. Setting fittings can be sealed if requested on the order specifications. Sealing is recommended by the manufacturer. Ensure that the product is installed on the line correctly. Unauthorized personnel must absolutely be kept away and limited access zone should be marked properly (signs, barriers etc.). The possible risk variation during commissioning should be assessed (for example discharge of flammable or hazardous gasses to atmosphere, formation of explosive air/gas mixture etc.) and precautions should be taken. Ensure that none of the vent and/or exhaust lines on the product are blocked. Later on, take the necessary precautions to prevent blocking of these lines. Do not place covers like blind caps on these lines that will prevent gas discharge. Take permanent precautions to prevent entry of particles like dirt, rust, dust etc. that may occur during commissioning to the product.

Not removing the residues shall cause damages or faulty performance on the product. Make sure the filters on the line, if any, are clean and free off deformations. Before starting the gas flow, perform the pipe line impermeability checks and ensure that it is impermeable. Do not install the product at places where excessive water accumulation or ice formation can occur. In some installations like in regions where intense snowing occurs, a cap or a conservation may be needed for protecting the product from snow load and to prevent the freezing of air discharge. Necessary precautions should be taken considering such conditions. Perform the pressure value control with a calibrated manometer mounted at least to a 5xDN distance to the pipeline downstream of the product.

During Application

Start the product only after all the protective fittings, if any, are operational. If there is an angled line an/or pipe line supports are insufficient, never load the line weight on the product in any conditions due to this reason. Take the necessary precautions for this condition.

After the Application

If during operation the installation process is not realized for any reason or if it is turned off, the intake and output valves should be turned off, the problem should be determined and it should be reinstalled according to the rules above. If the product is exposed to greater effects than the limits indicated on the product label, it should be checked whether the product operates accurately. Ensure that there are no excessive noise or vibration problems on the product.

In closed environments or inside, leaked gas may accumulate and cause explosion risk. Therefore, ventilation hole (on product and safety device) should be connected as piped from product to outside (atmosphere).

In ERG-H6 series products, during operation the output pressure may increase due to gas not being clean and internal leak occurring based on foreign substances in the line, and the overpressure shutoff system of the product may shutoff and cut the gas. Safety shutoff position is observed on the “Shutoff Cocking Lever (30)” as on Figure 8. In that case the installation should be repeated. During operation, if the output pressure of the product drops excessively due to various reasons and reaches the configured shutoff pressure, the under-pressure shutoff system kicks in and the gas passage can be shut. In that case the installation should be repeated.

During installation or at seasonal transitions, due to the temperature difference, there can be sudden gas discharges at the discharge section of the product and this condition is normal. It is important that the said gas discharge do not continue, if it continues the product can be considered as malfunctioning. In such a case, the product usage should be seized and authorities should be contacted promptly.

In products with safety device (ERG-H6), in no stage in this guide and throughout the product life, do not try to dismantle the “Shut-off Lever (30)” of the product, do not let it be exposed to mechanical damage, do not move it around unnecessarily and do not apply excessive force. If the product is exposed to excessive pressure condition, it should be checked regarding any possible damage. If the excessive pressure shall be high enough to damage the product, some kind of an external pressure protection should be provided.

If installation could not be completed or different problems are faced afterwards, contact the authorities without conducting any applications.

TESTS / PERIODIC INSPECTION

After installation the output pressure, capacity, shutoff pressure and internal leak, discharge pressure, over and/or under pressure shutoff pressures and internal impermeability and external impermeability should be checked. During these processes, take necessary precautions for the possible discharge gas from the product or an external leak not to create a dangerous atmosphere, and do not operate in closed spaces.

Note: In no cases transactions that may cause pressure more that PS bar on the product label to the intake connection mouth or body of the product and over 8 bars to the conservations of the product where the output pressure adjustment are made, to arrive or pass through should be conducted and such a condition should be prevented.

Perform the pressure value control with a calibrated manometer mounted at least to a 5xDN distance to the pipeline downstream of the product.

- OUTPUT PRESSRE, CAPACITY, LOCKDOWN PRESSURE, INTERNAL IMPERMEABILITY, DISCHARGE PRESSURE, OPSO, UPSO, EXTERNAL LEAK TEST

1-Before starting installation, turn off the main gas feeds intake and output valves completely.

2- Connect impermeably the artificial pressure formation device to the output pipe side at a proper distance.

3- Turn on to a small amount the intake valve gradually and very slowly, and set the determined test pressure (Pumax). Observe Pumax value on the intake manometer.

4- Turn on partially the Ventilation Ball Valve at the output side, and set this opening to be approximately 0,5xQmax flow rate.

5- Install the regulators as explained in this guide.

6- Check that there is output pressure conforming to the product label (within tolerances) at the output manometer.

7- Turn of completely the Ventilation Ball Valve (Q=0 m3/h) and wait 5 minutes, and check if the output pressure (shutoff pressure - SG) is at balance and the value is within the tolerances, observe that the fluctuations at the output pressure is at minimal level, if these conditions are met it means that no leaks are present in the product.

8- Continue the complete turn off condition of the Ventilation Ball Valve, increase the pressure at the output side gradually using the pressure formation device, so the output pressure of the product shall increase up to discharge pressure. Observe the value on the manometer and verify the discharge pressure value (within tolerances) declared on the product, gas discharge is the indicator that the discharge valve is triggered.

9- Continue to gradually increase the output pressure, and slowly reach the overpressure shutoff set value (including tolerances). At the declared OPSO value of the product, check that the “Shutoff Cocking Lever (30)” is off and OPSO value is within tolerances (AG), after the OPSO mechanism is turned off, check that the output pressure value does not change for 5 minutes, if the output pressure does not increase in that way it means that there is no internal leaks on the product.

10- Later on turn on the Ventilation Ball Valve gradually for a small amount, install the product again, turn off the Ventilation Ball Valve gradually to a full close. Turn off the intake valve completely. Then, turn on the Ventilation Ball Valve gradually and decrease the pressure. In this way, under-pressure shutoff set value (including tolerances) shall be reached slowly. At the declared UPSO value of the product, check that the “Shutoff Cocking Lever (30)” is off and UPSO value is within tolerances (AG), after the UPSO mechanism is turned off, check that the output pressure value does not change for 5 minutes, if the output pressure does not increase in that way it means that there is no internal leaks on the product.

11- Turn on the intake valve gradually to reach Pumax x 1,1 bars pressure, turn on the Ventilation Ball Valve for a small amount, install the products conforming to this guide, spray every part of the product with the leak detection spray, if there is bubble formation anywhere around the product then there is an external leak.

12- Dismantle the pressure formation device, turn off the test valves, check that no external leaks are present on the line and the product, reinstall the product following the rules in these instructions.

6. SETTING

Regulator and other devices (discharge, safety device and monitor regulator) are provided by the manufacturer as preset for the normally desired output set pressure. Within the values permitted by the springs used, it is possible for the set value to be disrupted for various reasons (for example vibrations during transport). In such cases setting correction can be performed within the frame of the information in the guide. The settings should not be modified more than ±10% and the limitations on the label should not be exceeded. If you observe non-conformity on the springs (wrong spring, corrosion etc.) do not perform any actions and contact authorities.

The springs on the product are regulation spring, discharge spring (if customer requested discharge system), overpressure shutoff spring (for ERG-H6 series), under-pressure shutoff valve (for ERG-H6 series). The spring used in the products is designed to provide the desired output pressure within requested pressure ranges. For the values outside the indicated range, a spring change shall be needed. These springs should be procured from the manufacturer.

Before Application

Primarily ensure that the current springs are the ones that can provide the desired values. If you have a doubt contact the manufacturer.

During Application

When pressure settings are configured, the setting mechanism and springs should not be over compressed, bent or forced.

OUTPUT PRESSURE SETTING - FOR LP HEAD

1-Before starting installation, turn off the main gas feeds intake and output valves completely.

2- Remove the seals, if any, from the related setting parts of the product.

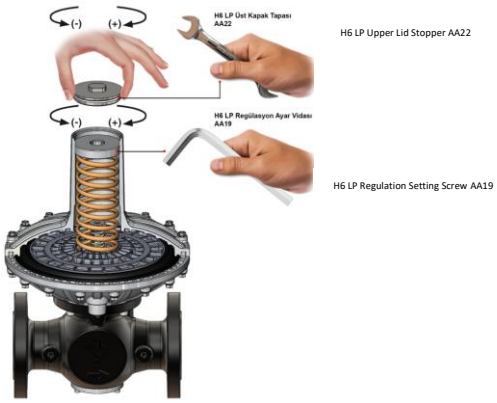
3- Remove the “Upper Lid Stopper (2)” using a AA22 Wrench and turning towards the minus (-) direction.

4- Set the “Regulation Setting Screw (3)” to the desired value using a AA19 Wrench.
(In order to increase the output pressure turn towards plus (+) and to decrease it turn toward minus (-) direction, if you turn too much the product setting shall be disrupted thus be careful.

5- Mark the performed set pressure.

6- After the process place back the “Upper Lid Stopper (2)” to its previous position.

7- After the setting, ensure that the settings is accurate via performing the “periodic inspection tests” explained in the installation section of this guide.



H6 LP Upper Lid Stopper AA22

H6 LP Regulation Setting Screw AA19

LP HEAD

OUTPUT PRESSURE SETTING - FOR LP HEAD

1-Before starting installation, turn off the main gas feeds intake and output valves completely.

2- Remove the seals, if any, from the related setting parts of the product.

3- 1st condition Increasing Output Pressure:

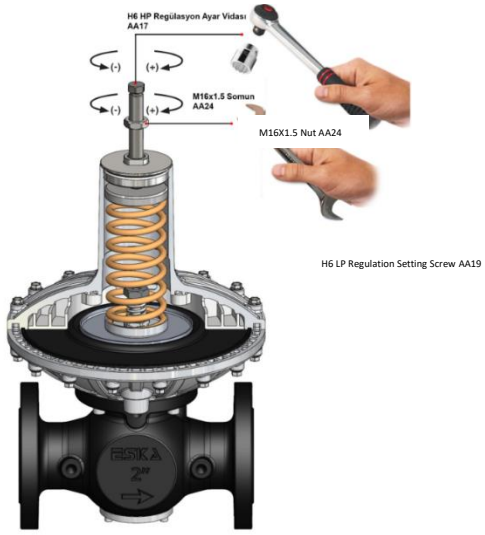
a) Loosen the “Upper Lid Nut (33)” via turning towards minus (-) direction with a AA24 Wrench.
b) Tighten the “Regulation Setting Screw Nut (31)” via turning towards plus (+) direction with a AA17 Wrench, thus the spring is compressed and the output pressure is increased.
c) When the desired output pressure setting is reached, tighten fully the “Upper Lid Nut (33)” via turning towards plus (+) direction with a AA24 Wrench.
d) If you turn too much the product setting shall be disrupted thus be careful.
e) After the setting, ensure that the settings is accurate via performing the “periodic inspection tests” explained in the installation section of this guide.

4- 2nd condition Decreasing Output Pressure:

a) Loosen the “Upper Lid Nut (33)” via turning towards minus (-) direction with a AA24 Wrench.
b) Loosen the “Regulation Setting Screw Nut (31)” via turning towards minus (-) direction with a AA17 Wrench, thus the spring is loosened and the output pressure is decreased.

H6 LP Regulation Setting Screw AA17

c) When the desired output pressure setting is reached, tighten fully the “Upper Lid Nut (33)” via turning towards plus (+) direction with a AA24 Wrench.
d) If you turn too much the product setting shall be disrupted thus be careful.
e) After the setting, ensure that the settings is accurate via performing the “periodic inspection tests” explained in the installation section of this guide.



HP HEAD

NOTE: when output pressures (Pds) are increased, also the shutoff pressures should be increased. When output pressures are decreased, also the shutoff pressures should be decreased.

DISCHARGE PRESSURE SETTING

No adjustment should be tries for the discharge spring in any condition.

OVERPRESSURE SHUTOFF PRESSURE SETTING:

1-Before starting installation, turn off the main gas feeds intake and output valves completely.

2- Remove the seals, if any, from the related setting parts of the product.

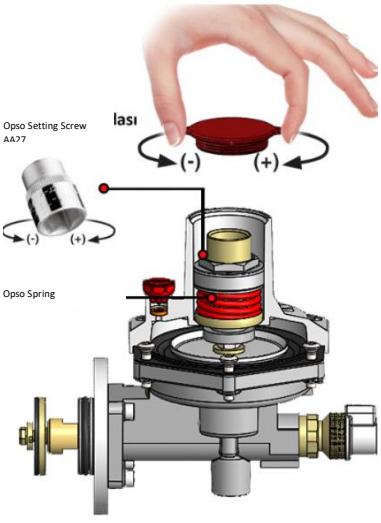
3- Remove the “Shutoff Protection Stopper (21)” via turning towards minus (-) direction manually.

4- It the “OPSO Setting Screw (24)” to the desired value using an AA27 Wrench (In order to increase the opso pressure turn towards plus (+) and to decrease it turn toward minus (-) direction, if you turn too much the product setting shall be disrupted thus be careful).

5- Mark the performed set pressure.

6- After the process, replace the “Shutoff Protection Stopper (21)” via turning toward plus (+) direction manually.

7- After the setting, ensure that the settings is accurate via performing the “periodic inspection tests” explained in the installation section of this guide.



UNDER PRESSURE SHUTOFF PRESSURE SETTING:

1-Before starting installation, turn off the main gas feeds intake and output valves completely.

2- Remove the seals, if any, from the related setting parts of the product.

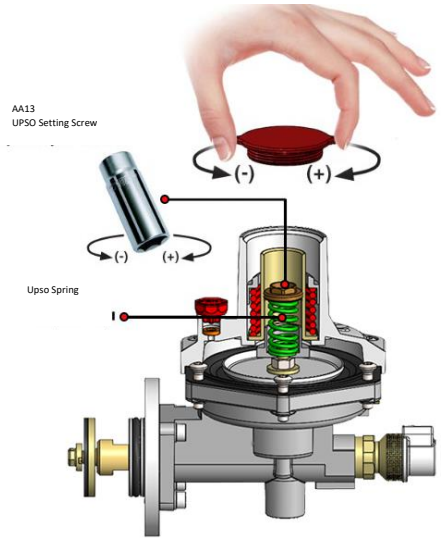
3- Remove the “Shutoff Protection Stopper (21)” via turning towards minus (-) direction manually.

4- Set the “UPSO Setting Screw (24)” to the desired value using an AA13 Wrench (In order to increase the upso pressure turn towards plus (+) and to decrease it turn toward minus (-) direction, if you turn too much the product setting shall be disrupted thus be careful).

5- Mark the performed set pressure.

6- After the process, replace the “Shutoff Protection Stopper (21)” via turning toward plus (+) direction manually.

7- After the setting, ensure that the settings is accurate via performing the “periodic inspection tests” explained in the installation section of this guide.



After the Application

All the periodic inspection tests indicated above should be repeated and the results should be ensured to be conforming. After the configuration modifications performed, check with proper methods that the technical properties and limits given in the guide and on the product are not exceeded. After the related pressure settings are performed or in the products commissioned on the site, in order for the settings not to be modified, it is recommended that the setting fittings shall be sealed. For this process the seal in the box, if any, can be used. If a new set point is configured, indicate this on the product legibly and in a permanent way.

7. PERIODICAL MAINTENANCE and INSPECTION

In all actions the rules in this guide should be followed exactly. This guide should be kept close before, during and after the periodic maintenance-inspection and all the instructions should be abided by. In case you think there is missing or faulty information, do not perform any applications and contact authorities. For the product to operate sound and safe, periodic maintenance and inspection are recommended. Maintenance intervals are dependent on the operation and environment and working conditions specific to the system, the quality of gas transfer, cleanness and protection of the pipe lines, safety decree required by the product and the system etc. The periodic maintenance should not exceed the time intervals determined by the provisions in force and/or by the gas institution. No maintenance of the product shall be performed by the end-user. The parts related to the product shall be maintained under the logic of “CLEAN OR REPLACE”.

Periodic maintenance and inspection processes can be realized after the product is dismantled from the line or while the product is on the line. The parts that can be required to be dismantled for repair on the product can be removed and installed with normal hand tools and they are shaped not to let to be installed incorrectly. If it is required for the product to be removed from the line for periodic maintenance and inspection processes, remove it from the line conforming to the dismantling rules in this guide.

All maintenance and inspection processes should be carried out by the authorized personnel. Users or unauthorized persons should in no case intervene with the line and the product. In any case ensure that there is no pressurized gas in the product before conducting any maintenance processes.

Before Application

In no case perform a sudden discharge in order to clean the line downstream of the product. Before safely discharging the internal pressure that may be left in the product, do not conduct any maintenance action. Use the Ventilation Ball Valve to discharge the gas in the line. Ensure that there is no explosive air/gas mixture. Before starting any inspection and maintenance activity, in order to discharge the pressure and the liquid in the facility, equip the facility with proper discharge or discharge systems. After periodic maintenance and inspection, if a problem occurs, actions can be taken according to the rules explained in the malfunction section.

In order to provide that the system is in working condition we recommend function check once a month and maintenance once a year. In the worst case, function control once a year and maintenance once every 2 years can be preferred. Pressurized equipment regulation (PED) and directive on the total energy efficiency of the buildings stipulate that the heat producers should be checked regularly to ensure the high efficiency and thus low environmental emissions in long term. Maintenance intervals should be determined specific to the system by the operator of the system. Inspection / control and replacement frequency are dependent on the seriousness of the service conditions and to applicable national laws, regulations, standard and directives/recommendations.

Ensure that the connectors on the product (screws and/or bolts-nuts) are removed and fitted with indicated torques. For this, carry and use a calibrated device. Mount the lids using the same screws, without any tension or forcing on the screws and matching the holes, without applying excessive force, via tightening mutually to the exact same locations, ensure that they are not left loose and do not carry mechanical damage. If there is seals like paint-lacquering etc. on the connectors, do not perform any actions and primarily contact the manufacturer. If needed, do not separately dismantle the parts in the dismantled housings, keep the housings with the parts within as a complete set and clean slowly with a clean cloth. No other parts than the ones given by the manufacturers should be used as spare parts. When necessary, only the manufacturer should be contacted to procure spare parts. The necessary spare part kits should be available during the maintenance processes. Proper wrench set should be available for dismantling and fitting processes.

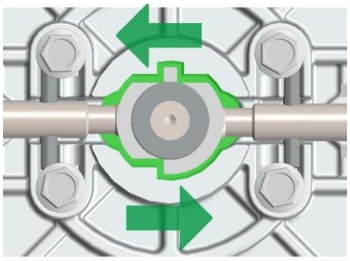
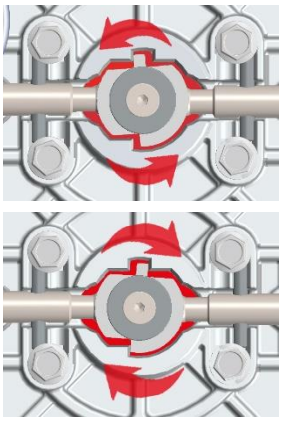
Do not perform cleaning with agents containing alcohol or solvent. After part replacement or transformation, always use new gaskets. Review the precautions taken for the discharge of the flammable or hazardous gasses to the atmosphere. Before conducting any applications, turn of the gas downstream and upstream of the product and make sure of it. Ensure the safety device are off. Especially orifice, clack, and diaphragm are subject to natural wear in time. In order to avoid formation of sparks due to collision of contamination particles in discharge lines, it is recommended that the liquid speed is kept under 5m/sec. It should be noted that o-rings and mechanical sliding parts should be lubricated with a thin silicon grease layer before reassembly.

During Application

1		- Dismantle the connection between the regulator and the sense providing the output pressure, then remove the upper lid stopper of the regulator.	**2**		- Remove the setting screw in the upper lid via turning with an AA19 allen wrench.
3		Remove manually the setting screw and setting spring from inside the regulation upper lid.	**4**		- Fix the screw nut on the regulation mid lid with an AA10 wrench and remove the M6 long screw from upper side via turning with an AA10 socket wrench, repeat the same process for each screw.
5		- Take the regulation upper lid over the regulation mid lid.	**6**		Remove the discharge nut via turning with an AA27 wrench, then remove the discharge spring over the regulation membrane.
7		Remove the main membrane group from the regulation mid lid via slowly pulling upwards, then in order to check whether the product works correctly, hold the lever arms and move up and down, make sure there are no flaws preventing motion.	**8**		Remove the 4 pieces of M8 Inbus screws with an AA8 allen wrench.

9		- Separate the balancing and clack group from the body slowly holding by the regulation mid lid.	**10**		Remove the balancing group by applying mild force towards the channel output direction of the regulation mid lid part.
11		Fix the M8 countersunk screw with an AA5 allen wrench, remove the clack shaft via turning with an AA11 wrench.	**12**		- After removing the shaft, fix the clack with an AA41 wrench, remove the M8 countersunk screw via turning with an AA5 allen wrench.
13		- Clean all the parts of the balancing group, lube with grease the shown clack shaft and the clack buffer with o-ring.	**14**		- Remove the orifice in the body via applying mild force counterclockwise using an AA46 socket wrench, take special care not to damage replaceable orifice.
15		- Remove the silencer part from the regulation upper lid utilizing the special apparatus.	**16**		- In order to reinstall the regulator, you can perform the activities explained for dismantling in the reverse order. Make sure the membranes, o-rings, clacks are placed perfectly.

Faulty Mounting of the Lever Hanger

17		- When installing clack set, the position of the lever hanger within the product should be noted, it should not contact with the mid lid surface, and parallel installation should be performed.	**17.a**		Upper view
17.b		Correct installation	**17.c**		Incorrect installation

FOR SAFETY FITTIN:

1) Ensure the shutoff is at off position.

2) Remove the connection between the shutoff and the sense providing output pressure.

3) Remove the screws compressing shutoff group to the body.

4) Remove the Shutoff Protection Stopper (21) and UPSO Setting Screw (24) and OPSO Setting Screw (23).

5) Then, remove the OPSO Spring (26) and the UPSO spring (27) and the spring supports (Shutoff Buffer, Nut, Pin etc.).

6) Remove the screws connecting the Shutoff Lid and Shutoff Body.

7) Remove the diaphragm fitting from the shutoff body, to separate these remove the membrane pin and tightening nut,

8) Remove the nut on the shutoff body and remove the Shutoff Cocking Lever (30) and take out the inner mechanism.

9) In order to reinstall the safety fitting, you can perform the activities explained for dismantling in the reverse order. Make sure the membranes, o-rings, clacks are placed perfectly.

After the Application

Mount and install the product with completed maintenance according to this guide, then retest it according to the periodic inspection tests in this guide and ensure that it is working correctly. During and after the periodic maintenance and inspection activities, be careful not to let dirt, rust, dust, sawdust and other particle to enter the section with clean gas. Ensure that the flanged or gear connections between the product and the line are accurately fitted. Check and ensure that all the accessories and apparatus are connected on the product. Check that sound and vibration is not present in the product. In all cases, for the conditions where gas emission can occur from the line or the product to atmosphere, ensure that the product is not at a closed space, no dangerous atmosphere is and shall be formed, the necessary lines are opened to atmosphere. After the processes

performed, check with proper methods that the technical properties and limits given in the guide and on the product are not exceeded.

We recommend that you separate according to the recovery or disposal methods the idle parts acquired after maintenance in conformity to the laws and regulations. After periodic maintenance and inspection, if a problem occurs, actions can be taken according to the rules explained in the malfunction section.

8. DECOMMISSIONING, DISMANTLING AND REPLACEMENT

Before, during and after all removal, dismantling and replacement processes, follow all the rules indicated in this guide and perform the necessary actions.

Before dismantling and replacement processes and during the processes, ensure that there is no compressed pressured gas in the installation line and also between the line and the product, the gas feed is closed and prevented from reopening.

1- Turn off the ball turn on / turn off valves at intake and output sides.
2- Discharge the gas compressed between the line and the product safely in accordance with the legislation from the section between the product and the output ball valve (Ventilation Ball Valve) gradually. See that the output pressure is at zero on the output manometer.
3- If needed, let the pipe lien and regulator components to cool down or heat up.
4- Decommission the product.
5- Remove the intake and output flange connections of the product from the line using a proper wrench and without applying excessive loads or force.
6- If a new product replacement is due, mount and install the new product conforming to this guide.

9. DIMENSIONS and CONNECTIONS

Measurements are in mm.

For ERG-H6:

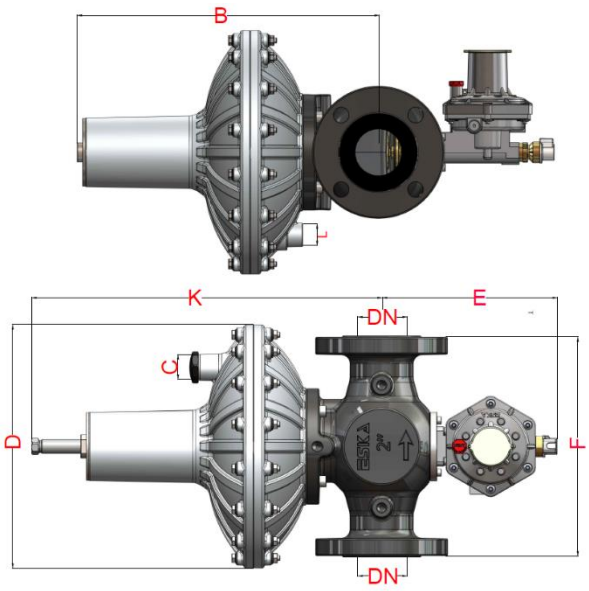
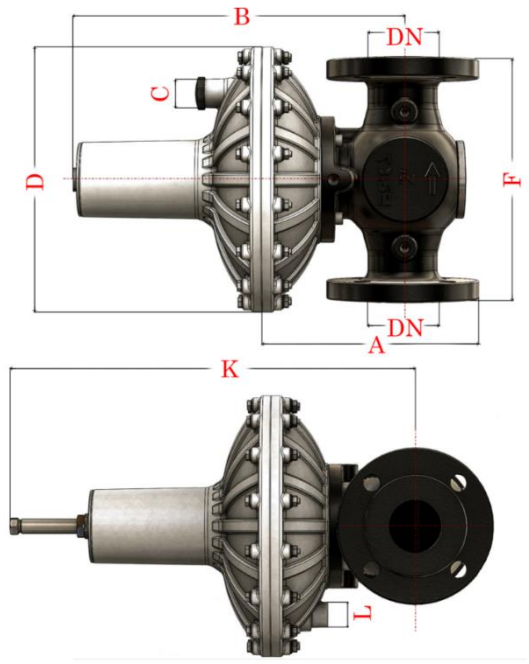


Figure 9.

Model ERG-H6 (1'') - (1 1/4'') - (1 1/2'') - (2'')								
DN	**A**	**B**	**C**	**D**	**E**	**F**	**K**	**L**
40	214	346	G 1/2''	280	215	222	440	G 1/2”'
50	227	346	G 1/2''	280	215	254	440	G 1/2''

For ERG-HZ6:



Model ERG-HZ6 (1") - (1 1/4") - (1 1/2") - (2")								
DN	**A**	**B**	**C**	**D**	**E**	**F**	**K**	**L**
40	214	346	G 1/2''	280	215	222	440	G 1/2''
50	227	346	G 1/2''	280	215	254	440	G 1/2''

Figure 10.

10. CAPACITY TABLE

While selecting the regulator, a sufficient safety factor should always be left in terms of capacity, and a regulator with a capacity at least 10% higher than the maximum capacity of the line should be selected. As the density of the gas increases, the gas velocity which is the flow rate, decreases because the gas becomes heavier.

Standard Conditions for Sakarya/Turkey: It is 25°C and 1.01325 bar.

Normal Conditions in General: It is 273.15 K (0°C) and 1.01325 bar.

The conversion from standard conditions -> to normal conditions is calculated approximately by the formula on the side; N m3/h = 0.94795 x St m3/h

Specific weight of air: 1,293 kg/m^3
Specific gravity of natural gas according to EN 334: 0,8275 kg/m^3
Specific weight of natural gas according to Turkey: 0,78 kg/m^3

Capacity Change Formula According to Gas Type;

For conversion from X gas to →Y gas

Flow rate of Y gas m3/h = X flow rate of gas m3/h x $\sqrt{\frac{X gazının\ özel\ ağırlığı\ kg/m^3}{Y gazının\ özel\ ağırlığı\ kg/m^3}}$

Cg/Kg Formula;

KG; fully opened valve (disc), t=15°C gas inlet temperature, 0.83 kg/m3 special weight natural gas (d = 0.64 density natural gas), inlet pressure: Inlet pressure (pu + 1.013) and outlet pressure as absolute pressure: The inlet pressure as absolute pressure is calculated with the (pd + 1.013) situation.

When calculation is required for the flow and diameter selection of a regulator, the following calculations based on the regulator's cg and kg coefficients are used. These calculations are valid for fully open position and for different operating conditions.

Qn = Flow Rate (S m3/h)
P_u = Inlet pressure bar abs (atmospheric pressure added)
P_d = Outlet pressure bar abs (atmospheric pressure added)
K1 = Body form factor (unitless)
Cg = Flow Coefficient
KG = Flow Coefficient
NOTE: Sin value should be taken in degrees.

1. CONDITION: Knowing the Cg and KG values as well as Pu and Pd, the flow rate is calculated as:

Subcritical conditions : (Pu<2xPd) => $Q = K_G \times \sqrt{Pd \times (Pu-Pd)}$ $Q = 0.526 \times Cg \times Pu \times \text{sen}\left(K1 \times \sqrt{\frac{Pu-Pd}{Pu}}\right)$

Critical conditions : (Pu≥2xPd) $Q = \frac{K_G}{2} \times Pu$ $Q = 0.526 \times Cg \times Pu$

2. CONDITION: Once the Pu, Pd and Q values are known, the Cg and KG and the regulator diameter are calculated by the formula:

Subcritical conditions : (Pu<2xPd) => $K_G = \frac{Q}{\sqrt{Pd \times (Pu-Pd)}}$ $Cg = \frac{Q}{0.526 \times Pu \times \text{sen} \times \left(K1 \times \sqrt{\frac{Pu-Pd}{Pu}}\right)}$

Critical conditions : (Pu≥2xPd) $K_G = \frac{2 \times Q}{Pu}$ $Cg = \frac{Q}{0,526 \times Pu}$

Ø 280 LP (up to 0.3 bar outlet pressure)		
Nominal Çap	**DN40**	**DN50**
	1 1/2”	**2”**
Cg Coefficient	656	789
KG Coefficient	690	830
K1 Coefficient	94	85

Ø 280 HP (up to 4.2 bar outlet pressure)		
Nominal Çap	**DN40**	**DN50**
	1 1/2”	**2”**
Cg Coefficient	703	772
KG Coefficient	740	812
K1 Coefficient	94	85

<u>The following equation should be used to convert the natural gas flow rate to different gas flow rates.</u>

Q natural gas m³/h x K = Q x gas m³/h
In this equation;
Q natural gas m³/h : Natural Gas Flow (Taken from the capacity given in this manual for different inlet and outlet pressures)
K : Correction Factor (Taken from the table below)
Q xgas m³/h : X Gas Flow Rate To Be Found

Example: To convert the natural gas flow to air flow, K:0.78 (from the table below) is taken. To find the equivalent of 128m3/h natural gas flow in air flow
Q natural gas m³/h x 0.78 = Q air m³/h
128 x 0,78 :100 m3/h air

Name of the Gas	Correction Factor K, in 15ºC	Relative Density
Butane	0,55	2,01
Propane	0,63	1,53
Oxygen	0,73	1,14
Air	0,78	1
Nitrogen	0,79	0,97
City gas	1,17	0,44
Hydrogen	2,93	0,07
Carbon dioxide	0,63	1,52
Nitrogen	0,79	0,97

Formula for Finding Gas Velocity at the Outlet:

In order to get the best performance from the product, to avoid premature wear and to limit sound emission, it is recommended that the gas velocity at the outlet flange does not exceed 150 m/s.

$$V = 345{,}92 \text{ x } \frac{Q}{DN^2} \text{x } \frac{1 - 0{,}002\text{xPd}}{1 + Pd}$$

V : Gas Velocity (m/sec)
Q : Flow rate (Stm3/h)
DN : Nominal Diameter of Regulator (mm)
Pds : Output pressure (barg)

Capacity Tables

Head Type	Ø280 (LP-MP) - DN40-1 1/2''				Ø280 (HP) - DN40-1 1/2''				
Inlet Pressure (Bar)	Output Pd (Bar)				Output Pd (Bar)				
	0,021	0,05	0,1	0,3	0,5	1	2	3	4
0,3	300 SCMH	280 SCMH	310 SCMH						
0,5	410 SCMH	400 SCMH	350 SCMH						
1	600 SCMH	590 SCMH	650 SCMH	600 SCMH	530 SCMH				
1,5	800 SCMH	790 SCMH	850 SCMH	800 SCMH	750 SCMH	650 SCMH			
2	900 SCMH	910 SCMH	1000 SCMH	1050 SCMH	950 SCMH	800 SCMH			
2,5	1000 SCMH	1120 SCMH	1050 SCMH	1150 SCMH	1070 SCMH	1000 SCMH			
3	1090 SCMH	1100 SCMH	1100 SCMH	1250 SCMH	1200 SCMH	1150 SCMH	1110 SCMH		
4	1100 SCMH	1150 SCMH	1250 SCMH	1400 SCMH	1400 SCMH	1450 SCMH	1550 SCMH	1450 SCMH	
10				1700 SCMH	1950 SCMH	1850 SCMH	2000 SCMH	1950 SCMH	1850 SCMH
12				1700 SCMH	1950 SCMH	1850 SCMH	2000 SCMH	1950 SCMH	1850 SCMH
19				1700 SCMH	1950 SCMH	1850 SCMH	2000 SCMH	1950 SCMH	1850 SCMH

Values are for Natural Gas

Head Type	Ø280 (LP-MP) - DN50-2''				Ø280 (HP) - DN50-2''				
Inlet Pressure (Bar)	Output Pd (Bar)				Output Pd (Bar)				
	0,021	0,05	0,1	0,3	0,5	1	2	3	4
0,3	360 SCMH	360 SCMH	330 SCMH						
0,5	500 SCMH	480 SCMH	455 SCMH						
1	650 SCMH	650 SCMH	710 SCMH	660 SCMH	640 SCMH				
1,5	850 SCMH	750 SCMH	1010 SCMH	900 SCMH	850 SCMH	650 SCMH			
2	1000 SCMH	850 SCMH	1110 SCMH	1250 SCMH	1150 SCMH	1050 SCMH			
2,5	1100 m³	1000 SCMH	1270 SCMH	1350 SCMH	1250 SCMH	1250 SCMH	1000 SCMH		
3	1200 SCMH	1100 SCMH	1400 SCMH	1550 SCMH	1450 SCMH	1450 SCMH	1050 SCMH		
4	1250 SCMH	1200 SCMH	1820 SCMH	1900 SCMH	1900 SCMH	1900 SCMH	1600 SCMH	1250 SCMH	
10				2500 SCMH	2300 SCMH	2300 SCMH	4000 SCMH	4000 SCMH	4000 SCMH
12				2500 SCMH	2300 SCMH	2300 SCMH	4000 SCMH	4000 SCMH	4000 SCMH
19				2500 SCMH	2300 SCMH	2300 SCMH	4000 SCMH	4000 SCMH	4000 SCMH

Values are for Natural Gas

11. PACKAGING, HANDLING, TRANSPORT AND STORAGE

Our company, in order to prevent damage to the product during transportation and transportation; It is delivered to the customer by putting the products in single special boxes. The following conditions must be considered for all products and spare parts:

- Storage temperature should be between 5°C and 20°C.
- Relative humidity should be below 55%.
- The affect of UV rays and affect of ozone must be eliminated (especially in elastomeric parts.).
- Throwing, excessive shaking, overturning, falling, impact, exposure to excessive load, force and impact, crushing, putting weight on it, damaging its external parts and external protrusions, getting wet and overturning, etc. such situations should not

occur.
- Do not exceed storage times of more than 3 years. We recommend that you regularly check the device and current storage conditions during long storage periods.
- The product should not be exposed to direct sunlight.
- Store in closed, ventilated, shaded, dry and clean conditions.
- Ensure that the products are protected against rain, water, snow, extreme heat and cold, etc. ensure protection from the conditions.
- There should be no direct heat sources in the storage area.
- Ensure that the surfaces where the operations are performed, are flat and clean, not wet and slippery.
- Do not overload or lift during transport.
- Pay special attention to external protrusions and external parts.
- Electrical voltage-free storage should be provided.
- If the product has any surface treatment (sandblasting, coating, painting, etc.), it should not be damaged during transportation-storage-transportation.
- In repackaging, there should not be any internal residue, moisture or wetness in the product.
- All flanges and nozzles should be protected against impact, foreign matter and oxidation.
- The products should be stored in a way that they will not be affected by disasters such as earthquake-flood-fire, and in environments protected from corrosion and abrasion conditions (sun, atmosphere, rain, snow, humidity, water, external chemicals etc.), that are isolated from forces, such as falling-overturning-shock-impact-vibration.
- Equipment and spare parts must be kept in their respective original packaging until installation at the final destination.
- If a tool should be used to transport the product, it should be carried with the help of an apparatus, not by connecting directly to the product.

Product	Piece	Box Dimensions (LxWxH cm)	Unit Product Weight	Unit Box Weight	Total Box Weight	Total Quantity in Pallet	Total Weight in Pallet
ERG-H6	1	60x33x33	Approx. 18,5 kg	Approx. 1,7 kg	20,2 kg	30	Approximately 630 kg
ERG-HZ6	1	60x33x33	Approx. 17,3 kg	Approx. 1,7 kg	19,0 kg	30	Approximately 600 kg

12. LABEL INFORMATION

Any information contained in the labels can be added or removed at the request of the manufacturer. Apart from this information, a new addition can be made. The tags below are examples.

Example; ERG-H6 Tag

ESKA	**ESKA VALVE A.Ş.** **Place: Sakarya/TURKEY** **www.eskavalve.com**		CE 2354 According to the 2014/68/EU PED
Model-Type-Series	.....	bpu	.....
PS / PSD	.....	Wds	.....
TS	.....	Pds	.....
DN	.....	AC / SG / SZ	.....
Strength Type	.....	Wdso	.....
Connection Type	.....	Pdso	.....
Failure Mode Type	.....	Wdsu	.....
Fluid	Naturalgas	Pdsu	.....
Weight / Volume	.....	AG	.....
Test Pressure PT	Pumaxx1,5 bar	Pdo and Tolerance	.....
K1 / KG / Cg	.....	Serial Number:	.....
Qmin-Qmax	.....	Production date (W/Y):	.....

Example; ERG-HZ6 DN32-DN40-DN50 Tag

ESKA	**ESKA VALVE A.Ş.** **Place: Sakarya/TURKEY** **www.eskavalve.com**		CE 2354 According to the 2014/68/EU PED
Model-Type-Series	.....	bpu	.....
PS / PSD	.....	Wds	.....
TS	.....	Pds	.....
DN	.....	AC / SG / SZ	.....
Strength Type	.....	Pdo and Tolerance	.....
Connection Type	.....	Serial Number:	.....
Failure Mode Type	.....	Production date (W/Y):	.....
Fluid	Naturalgas		
Weight / Volume	.....		
Test Pressure PT	Pumaxx1,5 bar		
K1 / KG / Cg	.....		
Qmin-Qmax	.....		

Example; ERG-HZ6 DN25 Tag

ESKA	**ESKA VALVE A.Ş.** **Place: Sakarya/TURKEY** **www.eskavalve.com**		
Model-Type-Series	.....	bpu	.....
PS / PSD	.....	Wds	.....
TS	.....	Pds	.....
DN	.....	AC / SG / SZ	.....
Strength Type	.....	Pdo and Tolerance	.....
Connection Type	.....	Serial Number:	.....
Failure Mode Type	.....	Production date (W/Y):	.....
Fluid	Naturalgas		
Weight / Volume	.....		
Test Pressure PT	Pumaxx1,5 bar		
K1 / KG / Cg	.....		
Qmin-Qmax	.....		

13. POSSIBLE FAULTS, CAUSES AND SOLUTIONS

Repair work on the product should only be carried out by authorized, technically qualified personnel. Before, during and after all fault operations, fully comply with this manual, take the necessary actions, especially inform the end users and take the necessary precautions against the dangers of compressed gas. In case of suspected malfunction, it is recommended to perform the actions indicated in the table below, depending on the type of problem, if you do not want to do these procedures, or if you did not solve the problem or you could not remove the suspicion of a problem; remove the product from the line and send it to the manufacturer, even install a new product, by following the disassembly rules without taking any action (without making additional interventions to the product, trying to open and repair it, etc.). Under no circumstances should any repair, repair or replacement process be made that would interfere with the internal parts of the product. Only use original spare parts.

FAULT TYPE	POSSIBLE CAUSE	SOLUTION
The regulator is not working as desired **or** Wrong interventions	The pressure setting desired to be adjusted in the line may be outside the range of the spring in the regulator.	Replace spring.
	The adjustment of the springs in the regulator may be incorrect.	Adjust the spring.
	Flow capacity in the line may exceed product capacity:	Replace product.
	In Product-Line-Signal Pipe: Signal lines not installed correctly, clogged, bent, leaking or in turbulent area.	Replace the signal line.
	Signal pressure may be out of adjustment range.	Adjust the shut-off pressure or the outlet pressure of the shut-off.
	The movable lever arm may be defective.	Replace the movable lever arm.
	The vent-drain hole may be clogged or restricted.	Clean the vent-drain hole and take precautions.
There is internal leakage at Q=0 in the regulator. **or** The regulator does not close completely **or** The outlet pressure in the regulator is constantly increasing.	Replaceable Orifice nozzle may be damaged.	Replace Orifice
	The Control Valve may be damaged, worn, pitted, etc.	Replace valve
	Shut-off Disc Gasket may be broken.	Replace the Shut-off Disc Gasket.
	The balancing diaphragm may be damaged.	Replace the balancing diaphragm.
	One of the O-rings in the Regulation Valve mechanism-set may be damaged.	Replace the O-rings.
	There could be dirt, burrs, etc. between the regulation flap and the orifice.	Clean it up
	Moving parts may be contaminated with foreign matter.	Clean the moving parts.
	The trigger mechanism may be damaged.	Replace the mechanism.
Moving parts may be contaminated with foreign matter.	The regulation diaphragm may be broken.	Replace the regulation diaphragm.
	The balancing diaphragm may be broken.	Replace the balancing diaphragm.
There is no gas in the regulator	Gas may not be coming into the product.	Check the gas installation before the regulator.
	Shut-off may be turned off.	Unlock the Shut-off.
	There may be no inlet pressure.	Check the inlet pressure.
	There may be icing due to humidity.	Check whether there is freezing in the line or in the water that may enter the product.
	The filter may be clogged	Check the filter, replace the filter cartridge if necessary.
	Shut-off may have turned it off.	Install Shut-off.
Regulator is giving wrong outlet pressure.	It could be the faulty regulation spring.	Replace with the appropriate spring.
	The desired outlet pressure may be outside the product's outlet pressure range.	Replace the regulator model.
	Inlet pressure may be low.	Check the gas installation or choose the correct regulator.
	The use on the line may differ from what is desired.	Measure the usage (flow rate) in the line correctly, compare it with the product, replace the regulator if necessary.
	In Product-Line-Signal Pipe: Signal lines not installed correctly, clogged, bent, leaking or in turbulent area	Replace the signal line.
	Signal pressure may be out of adjustment range.	Adjust the shut-off pressure or the outlet pressure of the shut-off.
When there is no flow in the regulator; outlet pressure is equal to inlet pressure. **Or** While there is flow in the regulator; outlet pressure is equal to inlet pressure **Or** Gas comes out from the regulator bleeder connection.		
	In Product-Line-Signal Pipe: Signal lines may not be installed correctly, closed, clogged, bent, leaking or in turbulent area.	Replace the signal line.
	The regulation diaphragm may be damaged.	Replace the regulation diaphragm.
	The balancing diaphragm may be damaged.	Replace the balancing diaphragm.
	The control plate slot may be damaged.	Replace the control plate slot.
	The movable arm system may be damaged.	Replace the regulator.
	Shut-off's o-rings may be damaged.	Replace the Shut-off's o-rings.
	O-rings on the regulator may be damaged.	Replace the regulator's o-rings.
	O-rings on the regulator may be damaged.	Replace the regulator's o-rings.
	Replaceable Orifice nozzle may be damaged.	Replace Orifice
	The Control Valve may be damaged, worn, pitted, etc.	Replace valve
	Balancing unit may be damaged	Replace the regulator plate.
	O-rings of the balancing axis may be leaking.	Replace the regulator
When the flow rate is increased in the regulator, the output pressure goes out of the accuracy class tolerance. **Or** Low outlet pressure outside the tolerances in the regulator	The desired flow may exceed the performance of the regulator.	Check that the wrong product is not selected for flow and outlet pressure, If necessary, change the regulator model.
	The dimensions of the gas line may be wrong.	Increase the nominal width of the pipeline.
	Gas filter before the regulator may be dirty.	Maintain the gas filter, replace the filter.
	Regulator movable arm system may be damaged.	Replace the regulator.
	The signal line may be off.	Check the signal line.
	Shut-off may be damaged.	Check out Shut-off.
	Inlet pressure may be incorrect.	Check the inlet pressure.
	Output adjustment pressure may be set incorrectly.	Measure outlet set pressure, correct it if necessary.
Shut-off won't open / can't be activated. **Or** Shut-off doesn't kick in / doesn't work.	In Product-Line-Signal Pipe: Signal lines not installed correctly, clogged, bent, leaking or in turbulent area.	Replace the signal line.
	Signal pressure may be out of adjustment range.	Adjust the shut-off pressure or the outlet pressure of the shut-off.
	Adjustment springs may not be suitable.	Replace the adjustment spring.
	Shut-off's adjustment range is outside the outlet pressure.	Replace Shut-off.
	The signal line may not be installed or not made correctly.	Connect/install the signal line.

Shut-off valve does not close.	The signal line may be clogged.	Clear the signal line.
	Signal line may be leaking.	Seal the signal line.
	The signal line may be bent.	Replace the signal line.
	Signal pressure may be out of adjustment range.	Adjust the turning off pressure of the shut-off.
	Adjustment springs may not be suitable.	Replace the adjustment springs.
	It may be due to jams in the mechanism.	Replace Shut-off.
	Shut-off Diaphragm may be defective.	Replace the Shut-off Diaphragm.
Shut-off turns it off, but it internally leaks. **Or** Shut-off does not close completely	Replaceable Orifice nozzle may be damaged.	Replace the orifice.
	The Shut-off Disc may be damaged or worn.	Replace the Shut-off Disc.
	Shut-off Disc Gasket may be broken.	Replace the Shut-off Disc Gasket.
	Shut-off Diaphragm may be defective.	Replace the Shut-off Diaphragm.
	One of the O-rings in the Shut-off Valve mechanism-set may be damaged.	Replace the O-rings.
	Could be dirt, burrs, etc. between the Shut-off Disc and the orifice.	Clean it up
	Moving parts may be contaminated with foreign matter.	Clean the moving parts.
	The trigger mechanism may be damaged.	Replace Shut-off.
There is fluctuation in outlet pressure at the regulator.	There may be friction in the balancing mechanism.	Clean the elements in the balancing mechanism.
	There may be intake below the minimum capacity.	Increase the flow or replace Regulator model.
	The plug of the regulation top cover may not be installed.	Attach the cover.
The outlet pressure is constantly dropping.	There may be an external leak.	Find and seal the leak. Replace the relevant part or contact the Manufacturer.
External leakage in the product	Connections may not be fully tightened.	Check if there are any loose connections or screws, and tighten them according to the rules. (do not process this if there is a seal on the screws)
	The product-line connection may not be complete.	If there is a leak at the outlet connection port, remove the product from the line, remove the outlet gasket manually, put it back if there is no visible problem, reassemble the product on the line.
	The working diaphragm may be damaged.	Replace the working diaphragm.
	Dirt may have gotten into the drain valve.	Clean the relief valve.
High outlet pressure exceeding the tolerances of the regulator.	There may be an error in the line pressure.	Stop the gas intake at the outlet, close the inlet valve, then open it and reactivate the product and check the result.
	Output adjustment pressure may be set incorrectly.	Measure the outlet set pressure and correct if it is wrong.
	The problem may not be detected.	Replace the product with a new one.
Drain system errors in the regulator	The relief adjustment spring may be loose.	Tighten the spring or replace it.
	There may be dirt on the relief gasket.	Replace the relief gasket.
	There might be a mechanical jam.	Replace the product with a new one.
Insufficient flow in regulator	The product choice might be wrong.	Check that the wrong product is not selected for flow and outlet pressure.
	Line and filter might be contaminated.	Take precautions for line cleaning. Replace the filter
	Inlet pressure may be too low.	Measure the inlet pressure and check that it is not below the minimum inlet pressure
	Output set pressure might be set incorrectly.	Measure the outlet set pressure and correct if it is incorrect.
	The problem may not be detected.	Replace the product with a new one.
Missing accessories in the product	Might be missing accessories in the product	Crown plastic, pressure adjustment seals, if any, drain protection plug, if any, relief strainer etc. identify missing parts, request from the manufacturer and install new ones manually.
Sound and vibration in the product	The mounting position may be wrong.	Check if the mounting position is correct.
	Inlet pressure might be fluctuating.	Inlet pressure might be fluctuating.
	There may be diameter defects in the outlet pipeline.	Check if there are any undesirable amount of shrinkage in diameter etc. close to the exit side. Check if the product and line size are the same.
SSD common errors.	The SSD crown may be damaged or defective.	Check the SSD crown for impact marks and bends. Try reinstalling the product. Replace the product with a new one.
	Sudden cessation of use	Check if there might have been a pressure increase due to the sudden stop of the flow at the outlet, such as a central heating boiler, boiler, etc.
	There may be a shrinkage of the diameter in the outlet line.	Check that there is no excessive diameter shrinkage in the outlet line.
	Output set pressure might be set incorrectly.	Measure the outlet set pressure and correct if it is incorrect.
	There might be a diameter shrinkage in the output sense line.	Check that there is no shrinkage in the output sense line.
	SSD set pressure might be set incorrectly.	Measure SSD set pressure and correct if it's incorrect.
	The product might not be installed correctly.	Try reinstalling the product.
	The problem might not be detected.	Replace the product with a new one.

What to Do in Case of Smell of Gas:

If you smell gas on the line where the product is installed, or if the gas alarm devices in the environment where the product is installed give signals and alarms, remain calm and take the following actions.

- Turn off the gas supply from the main gas valve,
- Turn off the gas valves starting from the closest one,

- Ventilate the environment to increase ventilation,
- Do not use substances that may cause combustion (cigarettes, lighters, matches, etc.), extinguish all open fires and smoky substances, sources that may cause sparks and fire, do not make them work again,
- Do not touch, turn off or turn on any electrical equipment, do not play with the plugs,
- Do not use mobile phones and transmitters against the risk of sparks,

Detect gas leaks with the necessary authorized units and take security measures and take other necessary actions. After the necessary repairs are made, take all necessary measures to ensure safe gas use by the device and users before and after the line before gassing again.

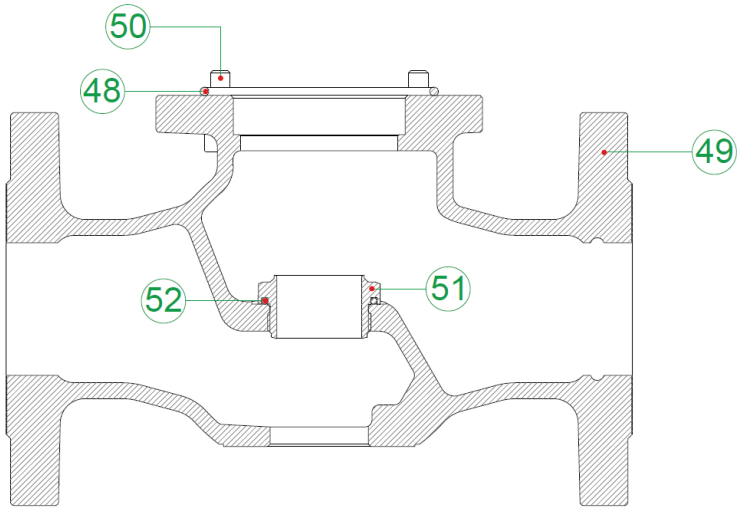
14. SERVICE LIFE

The service life of the product is 5-10 years.
The service life is valid if every operation and situation performed on the product is carried out in accordance with this manual.
Replace the product when the service life has expired.

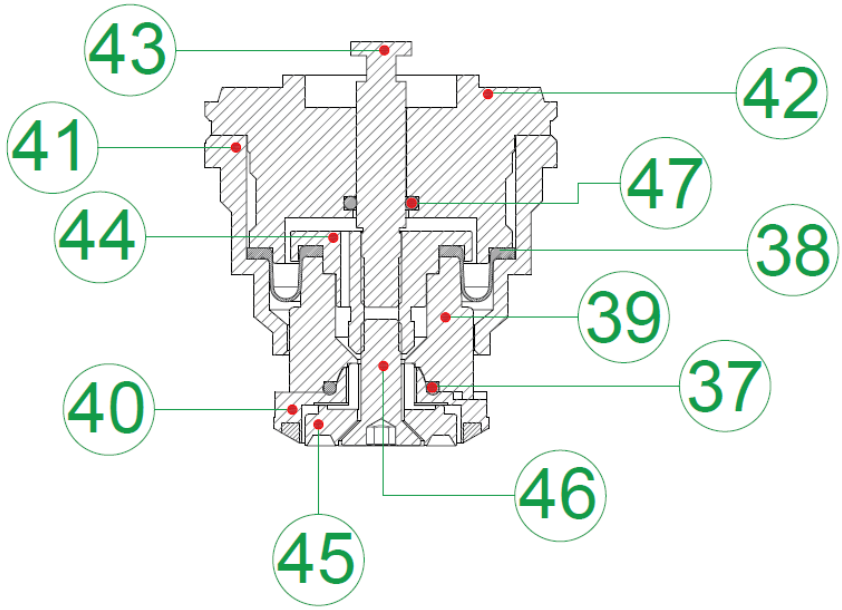
15. LIST OF PARTS

The parts lists and related codes specified here should only be used when requesting spare parts from the manufacturer. For other operations (assembly, initial setup, tests, spring replacement, adjustment, periodic maintenance, etc.), the operations are explained using the codes specified in Figure 4.

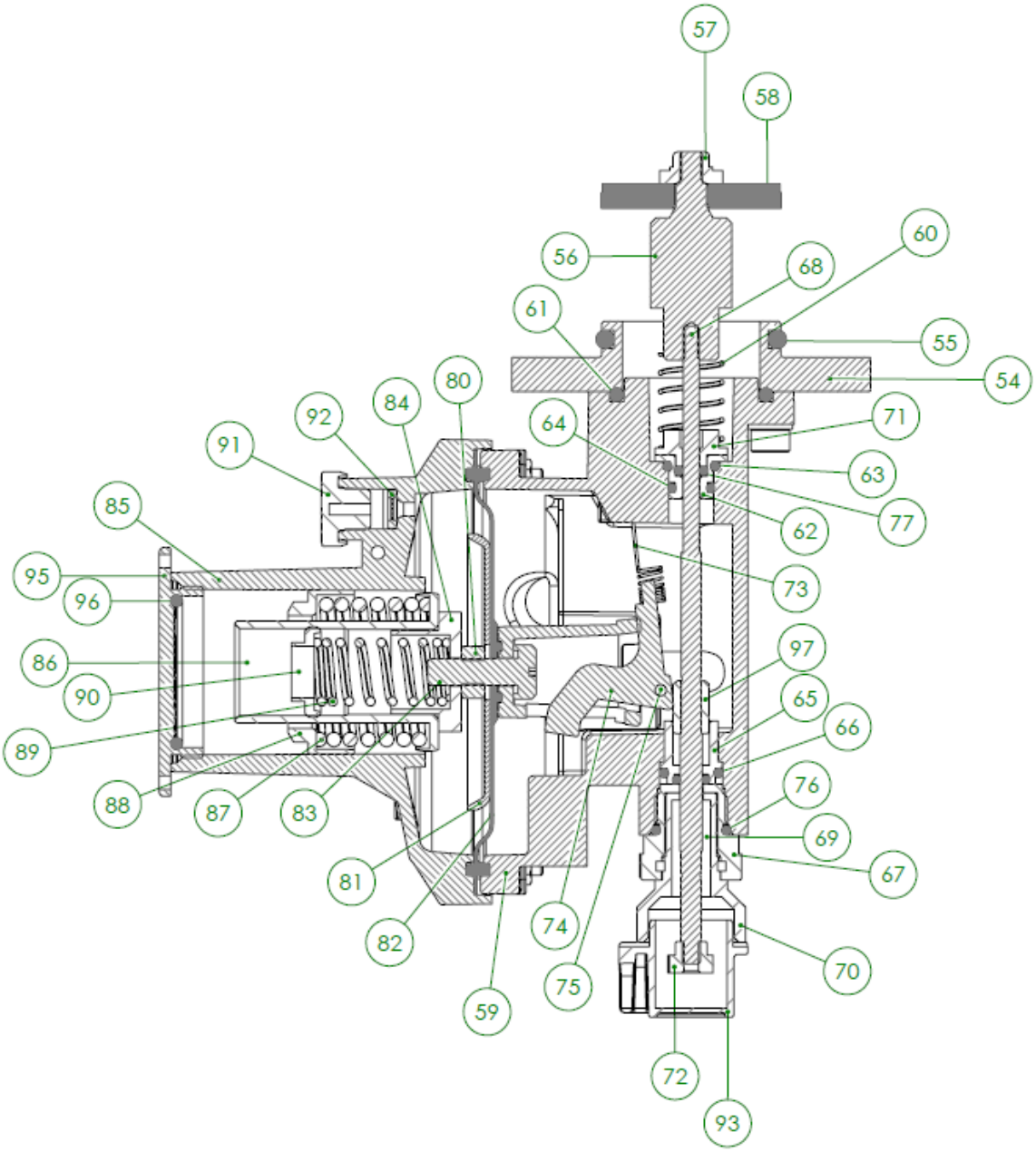
Body Group:



Valve Group:

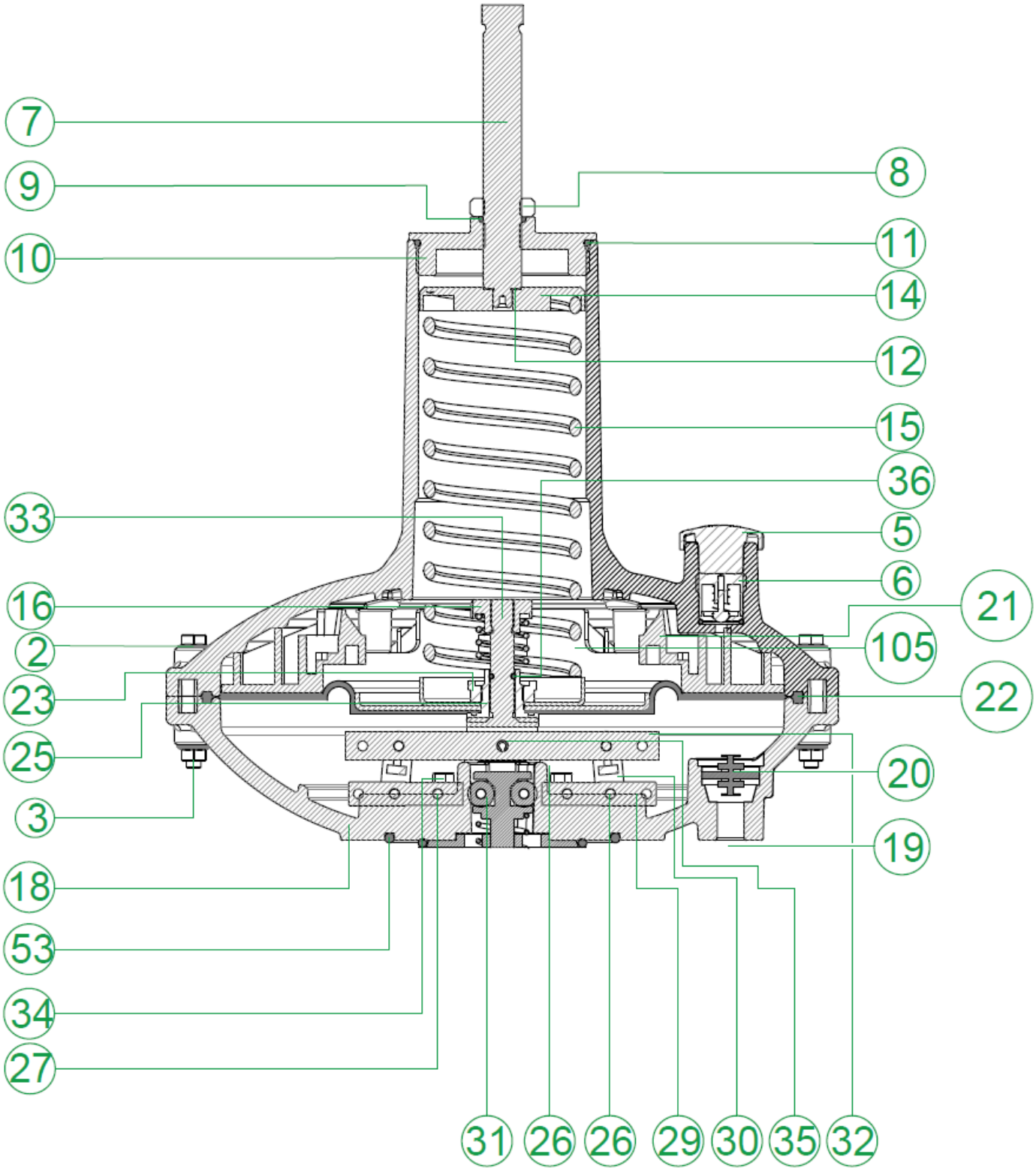


Shut-off Group:

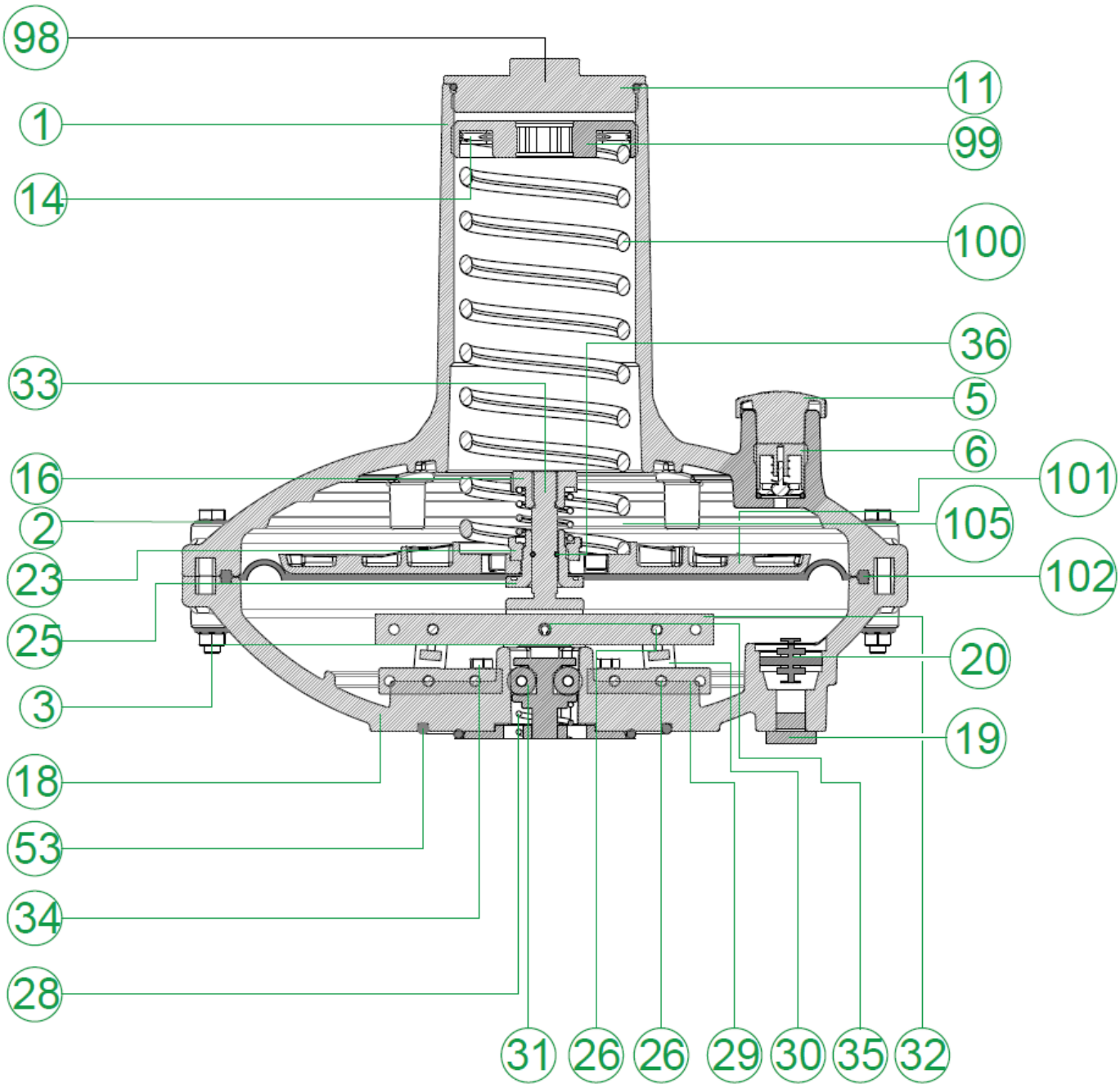


Regulation Group:

HP Head



LP Head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ŞEMATİK KOD	PARÇA ADI
1	H6 Upper Lid (Processing)
2	M6 Cap Head Screw
3	M6 Cap Nut
4	H6 Upper Lid Tampon
5	H6 Drain Plug
6	**Discharger Limiter Tools**
	H6 Discharger Limiter Spring
	H6 Discharger Limiter Pin
	H6 Discharger Limiter Stack
	H6 Discharger Limiter Lid
	H6 Discharger Limiter Washer
	O-Ring 016x02
	H6 HP Setting Group
7	H6 HP Regulation Setting Screw
8	H6 M16xI,5 Nut
9	O-Ring Ø13,94xØ2,62
10	H6 HP Upper Lid Stopper
11	O-Ring Ø67,95xØ2,62
12	08,2x 015,5zI,5 Waher
13	H6 HP Spring Top Washer
14	H6 Spring Top Washer
15	H6 HP Regulation Spring
16	H6 TAV Nut
17	H6 300mbar TAV Spring
98	H6 LP Upper Lid Stopper
99	H6 LP Regulation Setting Screw
100	H6 LP Regulation Spring
105	H6 Bloke TAV Spring

	Mid Lid Tools
18	H6 Reg. Mid Lid (processing)
19	H1 1/4" Stopper
20	**Vent Regulator Tools**
	H6 Vent Regulator Pin
	H6 Vent Regulator Valve
	H6 Vent Regulator Body
	H6 Vent Regulator Pored Pim
	H6 Vent Regulator Spring
	Main Membrane Tools
21	H6 HP Reg Tampon
22	H6 HP Reg membrane
23	H6 Reg. Tampon Nut
24	H6 Underspring Sheet
25	H6 Drain valve
101	H6 LP Regülation Membrane
102	H6 LP Regülation Membrane
	Crank Lever Tool
26	4x20 pin
27	4x26 pim
28	H6 Suspension Spring
29	H6 Crank Lever
30	H6 Shank
31	H6 Crank Lever Hook
32	H6 Crank Lever Sheet
33	H6 Discharge Shaft
34	M5 cap head screw (use 5x12)
35	4x24 Split Pin
36	O-Ring Ø7,7xØ1,78
103	07,5x017,5x3 magnet
104	M4 magnet screw

	Valve Tools
37	O-Ring Ø17,86xØ2,62
38	H6 equilibrium diaphragm
39	H6 equilibrium diaphragm tampon
40	H6 Valve
41	H6 Valve Body
42	H6 Valve Centering
43	H6 damper shaff
44	H6 Valve Nut
45	H6 Valve Tampon
46	H6 Valve Screw (M8 countersunk)
47	O-Ring Ø9,55xØ2,62/ Ø9,2xØ2,62
48	O-Ring Ø63,95xØ2,62
	H6 Body Tool
49	H6 Body 2"
50	H6 Body Screw (M8 İmbus)
51	H6 Orifice
52	O-Ring Ø41,75xØ2,62
53	O-Ring Ø90xØ3,53
	H6 Opso Side
	H6 Opso Stopper
54	H6 Opso clutch flange
55	O-Ring Ø34xØ4
56	H6 Opso Valve Stopper
57	H6 Opso Valve Screw
58	H6 Opso Valve
59	H6 Opso Body
60	H5 Opso Valve Spring
61	O-Ring Ø30x3

	Opso Tools
62	Opso Input Bearing
63	O-Ring Ø8,5xØ2
64	O-Ring Ø6,75xØ1,78
65	Opso Trigger Bearing
66	O-Ring Ø10xØ2
67	Opso Rear Shaft
68	Opso Lance
69	Opso cocking spring
70	Opso assemble lever
71	Input Opso Stress Spring Stamp
72	Opso Mile Reset Button
	Opso Centering Tools
73	Opso Bearing
74	Opso Trigger
75	Bobbin Ball 02,5x23,8
76	O-Ring Ø13,5xØ2
77	O-Ring Ø90xØ3,53
78	O-Ring Ø3,5xØ2
79	M4xI2 TSB Akıllı Vida
	Opso LP Diaphragm Tool
80	M6 Nut
81	H1 LP Regulation Tampon
82	H1 LP Regulation Diaphragm
83	M6 Stainless Screw
84	Opso Min. Bearing

	Opso Lid Tools
85	H5 Opso Lid
86	H1 Max. Spring Tampon
87	H Opso Spring
88	SR Regulation Setting Screw
89	H1 Opso Min. Setting Screw
90	H1 Opso Min. Setting Screw
91	SR Ventilator
92	SR Ventilator Filter
93	SR Opso Safety Cap
94	M5xI6 Cylindrical Head Inox Imbus
95	SR Upper Lid Stopper
96	O-Ring Ø29xØ2,62
97	Trigger Shaft

CE

ESKA

EU DECLARATION OF CONFORMITY

AB UYGUNLUK BEYANI

According to Pressure Equipment Directive (2014/68/EU)

Basınçlı Ekipmanlar Yönetmeliği'ne Göre (2014/68/AB)

Declaration Number *(Deklarasyon No)*	DEC_016_R00
Manufacturer and Owner Of Certificate *(Üretici ve Sertifika Sahibi Adı)*	ESKA VALVE A.Ş.
Trade Mark *(Ticari Marka)*	ESKA VALVE / ESKA
Manufacturer Adress and Place *(Üretici Adresi ve Üretici Yeri)*	Sakarya 1. Organize Sanayi Bölgesi Mahallesi, 11. Cadde, No:6-8, Arifiye/Sakarya/Türkiye
Product Description *(Ürün Tanımı)*	Gas Pressure Regulator With Safety Shutoff Valve *Emniyet Kapatmalı Gaz Basınç Regülatörü* Versions: (*Versiyonlar:)* - Shut-off device and regulator (*Kapatma cihazı ve regülatör)* - Monitor regulator and active regulator (*Monitör regülatör ve aktif regülatör)* Note: Monitor regulator is a safety accesorie.*(Monitör regülatörü bir güvenlik aksesuarıdır.)*
Product Model / Type / Serie *(Ürün Modeli / Tipi / Seri)*	ERG-H6 Series and Versions (LP, HP) *ERG-H6 Serisi ve Versiyonları (LP, HP)*
Product Information *(Ürün Bilgileri)*	PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Class 1) or -20;60°C (Class 2) on request with -30;60°C or -40;60°C, DN25-DN40-DN50 Flanged Connection PN16/PN20 or Class150, AC 5/10, SG 10/20/30, AG 5/10/20/30, IS or DS Type (PSD:8), Fail to Open,1.,2.,3. Family Gases *PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Sınıf 1) yada -20;60°C (Sınıf 2) istek üzerine -30;60°C yada -40;60°C, DN25-DN40-DN50 Flanşlı Bağlantı PN16/PN20 yada Class 150,AC 5/10, SG 10/20/30, AG 5/10/20/30, IS yada DS Tip (PSD:8), Arıza Durumunda Açan, 1.,2.,3. Aile Gazlar*
Serial Number of the Product *(Ürünün Seri Numarası)*	……
Referance Standards *(Referans Standartlar)*	EN 334 and EN 14382
Declaration Issue Date *(Deklarasyon Yayın Tarihi)*	16.05.2024
The name of the Notified Body and No *(Onaylanmış Kuruluşun Adı ve Numarası)*	TÜV NORD Turkey Teknik Kontrol ve Belgelendirme Incorporated Company – NB 2354 *Şehit Mehmet Fatih Ongün Sokak, No:5, Kat:4 Odak Plaza, Kozyatağı, 34742 İstanbul Türkiye*
EU Conformity Assessment Method *(AB Uygunluk Değerlendirme Yöntemi)*	2014/68/EU PED Category IV, Modul B+D
Modul B Certificate No / Valid Until	CR-PED-TUVNORD-24/0894-R00 / 16.05.2034
Modul D Certificate No / Valid Until	CR-PED-TUVNORD-23/2508-R01 / 10.08.2026
Declaration *(Deklarasyon)*	Up defined in our products, we declare that meets the essential safety requirements of the directives to in this document. This declaration of conformity has been published under the responsibility of Eska Valve A.Ş. *Yukarı da tanımlanan üzerinde seri no olan ürünlerimizin, bu belgede belirtilen yönetmeliklerin temel güvenlik gerekliliklerini karşıladığını beyan ederiz. Bu uygunluk beyanı Eska Valve A.Ş. nin sorumluluğu altında yayınlanmıştır.*
Note *(Not)*	The compliance with Directives applies only to the product if the product is integrated in a system or combined with other units .The system manufacturer is responsible fort he compliance of the complete system with Directives. By altering the device without approval the declaration would invalidate. *Ürünün bir sistemle entegre olarak ya da diğer bir birimle birleştirilerek kullanıldığı durumlarda direktiflerle uyumluluk yalnızca ürünü kapsar. Sistem üreticisi sistemin tamamının direktiflere uyumluluğundan sorumludur. Onayımız alınmadan cihaz üzerinde değişiklik yapıldığında bu beyan geçerli değildir.*

Manufacturers Authorized Signature
(Üretici İmza Yetkilisi)
Erhan SARDAL
General Manager *(Genel Müdür)*
Sakarya/Türkiye, 16.05.2024

ESKA
VALVE ANONİM ŞİRKETİ
Sakarya 1. Organize San. Bölg. Mah.
11. Cad. No: 6/8 Arifiye-SAKARYA
Alifuat Cebesoy V.D. 380 110 2771
Mersis No: 0380-1102-7710-0001

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EU DECLARATION OF CONFORMITY

AB UYGUNLUK BEYANI

According to Pressure Equipment Directive (2014/68/EU)

Basınçlı Ekipmanlar Yönetmeliği'ne Göre (2014/68/AB)

Declaration Number *(Deklarasyon No)*	DEC_017_R00
Manufacturer and Owner Of Certificate *(Üretici ve Sertifika Sahibi Adı)*	ESKA VALVE A.Ş.
Trade Mark *(Ticari Marka)*	ESKA VALVE / ESKA
Manufacturer Adress and Place *(Üretici Adresi ve Üretici Yeri)*	Sakarya 1. Organize Sanayi Bölgesi Mahallesi, 11. Cadde, No:6-8, Arifiye/Sakarya/Türkiye
Product Description *(Ürün Tanımı)*	Gas Pressure Regulator Without Safety Shutoff Valve *Emniyet Kapatmasız Gaz Basınç Regülatörü* Versions: (*Versiyonlar:)* - Monitor regulator and active regulator (*Monitör regülatör ve aktif regülatör)* Note: Monitor regulator is a safety accesorie.*(Monitör regülatörü bir güvenlik aksesuarıdır.)*
Product Model / Type / Serie *(Ürün Modeli / Tipi / Seri)*	ERG-HZ6 Series and Versions (LP, HP) *ERG-HZ6 Serisi ve Versiyonları (LP, HP)*
Product Information *(Ürün Bilgileri)*	PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Class 1) or -20;60°C (Class 2) on request with -30;60°C or -40;60°C, DN40-DN50 Flanged Connection PN16/PN20 or Class150, AC 5/10, SG 10/20/30, IS or DS Type (PSD:8), Fail to Open,1.,2.,3. Family Gases *PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Sınıf 1) yada -20;60°C (Sınıf 2) istek üzerine -30;60°C yada -40;60°C, DN40-DN50 Flanşlı Bağlantı PN16/PN20 yada Class 150,AC 5/10, SG 10/20/30, IS yada DS Tip (PSD:8), Arıza Durumunda Açan, 1.,2.,3. Aile Gazlar*
Serial Number of the Product *(Ürünün Seri Numarası)*	…….
Referance Standards *(Referans Standartlar)*	EN 334
Declaration Issue Date *(Deklarasyon Yayın Tarihi)*	19.08.2022
The name of the Notified Body and No *(Onaylanmış Kuruluşun Adı ve Numarası)*	TÜV NORD Turkey Teknik Kontrol ve Belgelendirme Incorporated Company – NB 2354 *Şehit Mehmet Fatih Ongün Sokak, No:5, Kat:4 Odak Plaza, Kozyatağı, 34742 İstanbul Türkiye*
EU Conformity Assessment Method *(AB Uygunluk Değerlendirme Yöntemi)*	2014/68/EU PED Category II, Modul A2
Modul A2 Certificate No / Valid Until	2354/202/C/00981/22/PE/000(00) / 17.08.2025
Declaration *(Deklarasyon)*	Up defined in our products, we declare that meets the essential safety requirements of the directives to in this document. This declaration of conformity has been published under the responsibility of Eska Valve A.Ş. *Yukarı da tanımlanan üzerinde seri no olan ürünlerimizin, bu belgede belirtilen yönetmeliklerin temel güvenlik gerekliliklerini karşıladığını beyan ederiz. Bu uygunluk beyanı Eska Valve A.Ş. nin sorumluluğu altında yayınlanmıştır.*
Note *(Not)*	The compliance with Directives applies only to the product if the product is integrated in a system or combined with other units .The system manufacturer is responsible fort he compliance of the complete system with Directives. By altering the device without approval the declaration would invalidate. *Ürünün bir sistemle entegre olarak ya da diğer bir birimle birleştirilerek kullanıldığı durumlarda direktiflerle uyumluluk yalnızca ürünü kapsar. Sistem üreticisi sistemin tamamının direktiflere uyumluluğundan sorumludur. Onayımız alınmadan cihaz üzerinde değişiklik yapıldığında bu beyan geçerli değildir.*

Manufacturers Authorized Signature
(Üretici İmza Yetkilisi)
Erhan SARDAL
General Manager *(Genel Müdür)*
Sakarya/Türkiye, 19.08.2023

ESKA
VALVE ANONİM ŞİRKETİ
Sakarya 1. Organize San. Bölg. Mah.
11. Cad. No: 6/8 Arifiye-SAKARYA
Alifuat Cebesoy V.D. 380 110 2771
Mersis No: 0380-1102-7710-0001

EU DECLARATION OF CONFORMITY

AB UYGUNLUK BEYANI

According to Pressure Equipment Directive (2014/68/EU)

Basınçlı Ekipmanlar Yönetmeliği'ne Göre (2014/68/AB)

Declaration Number *(Deklarasyon No)*	DEC_018_R00
Manufacturer and Owner Of Certificate *(Üretici ve Sertifika Sahibi Adı)*	ESKA VALVE A.Ş.
Trade Mark *(Ticari Marka)*	ESKA VALVE / ESKA
Manufacturer Adress and Place *(Üretici Adresi ve Üretici Yeri)*	Sakarya 1. Organize Sanayi Bölgesi Mahallesi, 11. Cadde, No:6-8, Arifiye/Sakarya/Türkiye
Product Description *(Ürün Tanımı)*	Gas Pressure Regulator Without Safety Shutoff Valve *Emniyet Kapatmasız Gaz Basınç Regülatörü* Versions: (*Versiyonlar:)* - Monitor regulator and active regulator (*Monitör regülatör ve aktif regülatör)* Note: Monitor regulator is a safety accesorie.*(Monitör regülatörü bir güvenlik aksesuarıdır.)*
Product Model / Type / Serie *(Ürün Modeli / Tipi / Seri)*	ERG-HZ6 Series and Versions (LP, HP) *ERG-HZ6 Serisi ve Versiyonları (LP, HP)*
Product Information *(Ürün Bilgileri)*	PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Class 1) or -20;60°C (Class 2) on request with -30;60°C or -40;60°C, DN40 DN25 Flanged Connection PN16/PN20 or Class150, AC 5/10, SG 10/20/30, IS or DS Type (PSD:8), Fail to Open,1.,2.,3. Family Gases *PS4, PS6, PS10, PS16, PS20, TS: -10;60°C (Sınıf 1) yada -20;60°C (Sınıf 2) istek üzerine -30;60°C yada -40;60°C, DN25 Flanşlı Bağlantı PN16/PN20 yada Class 150,AC 5/10, SG 10/20/30, IS yada DS Tip (PSD:8), Arıza Durumunda Açan, 1.,2.,3. Aile Gazlar*
Serial Number of the Product *(Ürünün Seri Numarası)*	…….
Referance Standards *(Referans Standartlar)*	EN 334
Declaration Issue Date *(Deklarasyon Yayın Tarihi)*	25.12.2020
EU Conformity Assessment Method *(AB Uygunluk Değerlendirme Yöntemi)*	2014/68/EU PED, Sound Engineering Practice (SEP)
Declaration *(Deklarasyon)*	We declare that our products with a serial number as defined above meet the requirements 2014/68/EU PED- Pressure Equipment Directive Article 4 item 3 . These equipments designed and manufactured in accordance with the sound engineering practice (SEP) of a Member State in order to ensure safe use. However, These equipments should not bear the CE mark in accordance with Article 4 item 3. *Yukarı da tanımlanan üzerinde seri no olan ürünlerimizin, 2014/68/AT-Basinçli Ekipmanlar Direktifi Madde 7 (3) uyarınca güvenli kullanımı sağlamak için geçerli genel kabul görmüş mühendislik uygulamasına (SEP) uygun olarak tasarımlanmış ve imal edilmiştir. Bununla birlikte 2014/68/AT-Basinçli Ekipmanlar Direktifi Madde 7 (3) gereği bu ekipmanlara CE işareti taşımaması gerektiğini beyan ederiz.*
Note *(Not)*	The compliance with Directives applies only to the product if the product is integrated in a system or combined with other units .The system manufacturer is responsible fort he compliance of the complete system with Directives. By altering the device without approval the declaration would invalidate. *Ürünün bir sistemle entegre olarak ya da diğer bir birimle birleştirilerek kullanıldığı durumlarda direktiflerle uyumluluk yalnızca ürünü kapsar. Sistem üreticisi sistemin tamamının direktiflere uyumluluğundan sorumludur. Onayımız alınmadan cihaz üzerinde değişiklik yapıldığında bu beyan geçerli değildir.*

Manufacturers Authorized Signature
(Üretici İmza Yetkilisi)
Erhan SARDAL
General Manager *(Genel Müdür)*
Sakarya/Türkiye, 25.12.2020

ESKA
VALVE ANONİM ŞİRKETİ
Sakarya 1. Organize San. Bölg. Mah.
11. Cad. No: 6/8 Arifiye-SAKARYA
Alifuat Cebesoy V.D. 380 110 2771
Mersis No: 0380-1102-7710-0001

WARRANTY CERTIFICATE

MANUFACTURER or IMPORTER COMPANY;

Title: ESKA VALVE A.Ş.
Address: Sakarya 1. Organize Sanayi Bölgesi Mahallesi, 11. Cadde, No:6-8, Arifiye/Sakarya/Türkiye
Telephone: +90 (264) 502 54 34-35-83
Fax: +90 (264) 502 54 84
E-mail: info@eskavalve.com
Authorized Signature:
Official's Stamp:

SELLER COMPANY'S;

Title:
Address:
Telephone:
Fax:
E-mail:
Authorized Signature:
Official's Stamp:

THE PRODUCTS;

Type: Gas Pressure Regulator
Brand: ESKA / ESKA VALVE
Model: ERG-H6 or ERG-HZ6 Series
Banderole Number:
Serial Number:
Warranty Period: 2 years
Maximum Repair Time: 20 working days
Delivery Date to Consumer:
Place of Delivery to Consumer:
Invoice date:
Number of Invoices:

WARRANTY CONDITIONS

1) The warranty period starts from the delivery date of the goods and is 2 years.

2) The entire product, including all parts, is under warranty.

3) In the event that the replacement of the goods with a non-defective one will cause disproportionate difficulties for the seller, the consumer may use one of the rights to withdraw from the contract or discount the price at the rate of the defect. In the determination of the disproportion, the issues such as the value of the goods without a fault, the importance of the defect and whether it will pose a problem for the consumer to apply for other optional rights are taken into account. In cases where the consumer chooses the right to withdraw from the contract or reduce the defect rate, the seller must immediately return the entire price of the goods or the discount amount to the consumer. In case the consumer chooses the right to replace the product with a non-defective product, the seller, manufacturer or importer must comply with this request within a maximum of thirty working days following the notification of the request for replacement of the product with a non-defective product.

4) If the consumer chooses the right to free repair from these rights, the seller; is obliged to make or have the goods repaired without any charge under any other name, such as labor cost, replacement part cost or any other name. The consumer can also use the right of free repair against the manufacturer or importer. The seller, the manufacturer and the importer are jointly and severally responsible for the use of this right by the consumer.

5) If the consumer uses his right to free repair, the goods; If it fails again within the warranty period, - If the maximum time required for repair is exceeded, - In cases where it is determined by a report by the authorized service station, the seller, the manufacturer or the importer that the repair is not possible; the consumer may request from the seller a refund of the price of the goods, a reduction in the amount of the defect or, if possible, replacement of the goods with a non-defective one. The seller cannot refuse the consumer's request. If this request is not fulfilled, the seller, the manufacturer and the importer are jointly and severally liable.

6) The repair period of the goods is a maximum of 20 working days. This period starts from the date of notification of the defect related to the goods to the service station or the seller within the warranty period, and from the date of delivery of the goods to the service station outside the warranty period. In case of malfunction of the product within the warranty period, the time spent in the repair is added to the warranty period. In case of malfunctions, whether there is a usage error or not, service stations, if the service station is not available, respectively; it is obligatory to determine with the report prepared by the seller, importer or manufacturer of the product within the maximum repair period regarding the product, and a copy of this report must be given to the consumer. The warranty period of the goods replaced during the warranty application is limited to the remaining warranty period of the purchased goods.

7) The use of the product contrary to the points in the user manual or the malfunctions caused by usage errors are not covered by the warranty.

8) The consumer may apply to the Consumer Arbitration Committee or the Consumer Court in the place of residence or the consumer transaction, in case of disputes that may arise regarding the use of their rights arising from the warranty.