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GASTOP

# MAINTENANCE AND SERVICE

# EN ENGLISH

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# MAINTENANCE AND SERVICE

To maintain durability, life and look of the device's and its features (e.g. housing, electromechanical system, electrical system), it is necessary to perform the following maintenance works, inspections and actions periodically:

# MAINTENANCE AND SERVICE OF ELECTROMECHANISM

| Frequency | Description of an action | Person authorised |
|---|---|---|
| After each plugging and unplugging from the power supply. | Checking whether all functions of the device work properly (including a case when the device has not been used for more than one month or was maintained, repaired or installed). | A trained person e.g. user, operator |
| Periodically, at least once every one to six months | Checking correctness of photoelectric sensors operation (in the case of systems at places where sensors are subject to excessive settling of contaminants; applies to devices equipped in movements sensors). | A trained person e.g. user, operator |
| Periodically, at least once a year | Inspection (checking whether all functions of the device work properly) and refilling lubrication of mechanic parts, bearings, lubricated friction elements, removing contaminations from sensors, if necessary (in the case of systems at places where sensors are subject to excessive dust settling or other contaminants that may influence sensors' work). | Authorised repairer<br>(service paid, contact the Sales Department to order the service) |
| After each plugging and unplugging from the controller and at least once a year | Cleaning all electrical contacts using isopropanol alcohol of an agent for electrical contacts cleaning. | A trained person e.g. user, operator |
| Immediately after signs of malfunctioning have been noticed | In cases of the device's malfunction, unplug the power supply, secure from personal access and contact GASTOP service. | Authorised repairer |

# MAINTENANCE AND CARE OF THE DEVICE'S HOUSING AND FRAME

## MAINTENANCE OF STAINLESS STEEL ELEMENTS

To maintain good appearance and corrosive resistance of stainless steel elements, the surface must be cleaned. Corrosive resistance of stainless steel, results from an effect called the 'autogenous passivation'. Pollutants accumulation on the surface caused by the lack of or improper maintenance of the surface may lead to a sudden increase in corrosive compounds concentration, that will eventually break the passive layer down. Cleaning of stainless steel is necessary to maintain steel's self-healing mechanism, that prevents accumulation of critical concentration of pollutants such as sulphur dioxide, chlorides and pollutants created by iron.

Surface of stainless steel elements is not resistant to scratching, thus it requires surface tending from time to time to maintain the original appearance and protect it against occurrence of changes on the surface.

To reduce cleaning time and labour consumption, as well as to reduce the risk of leaving markings on the surface and its appearance, cleaning the surface shall be performed before pollutant accumulation is visible.

Stainless steel can be subject to a variety of potentially more aggressive environment impacts as a result of contact with the following factors:

1. Marine environment,
2. Environment loaded with a great industrial pollutants load,
3. Spray of salt used for defrosting roads,
4. Atmospheric and traffic dirt.

# AGENTS FOR MAINTENANCE AND CARE OF STAINLESS STEEL ELEMENTS

| Contamination | Cleaning agents |
|---|---|
| Cement and mortar | Solution containing a small amount of tetraoxophosphoric acid, and then pure water (best if demineralised) |
| Iron particles coming from tools | At an early stage - mechanically; if pits are observed - etching and passivation creams |
| Paints | Agents for removing paint coating, based on alkaline compounds or solvents |
| Calcareous deposit | Solution of ¼ vinegar and ¾ water |
| Oils and lubricants | Agents based on alcohol (including methylated spirit and isopropyl alcohol), solvents e.g. acetone, agents for cleaning chromium elements |

| Contamination | Cleaning agents |
|---|---|
| Fingerprints | Water with soap or a detergent, agents for cleaning glass not containing chlorides |
| Other | Agents for cleaning stainless steel produced by BERNER, WÜRTH or 3M manufacturers |

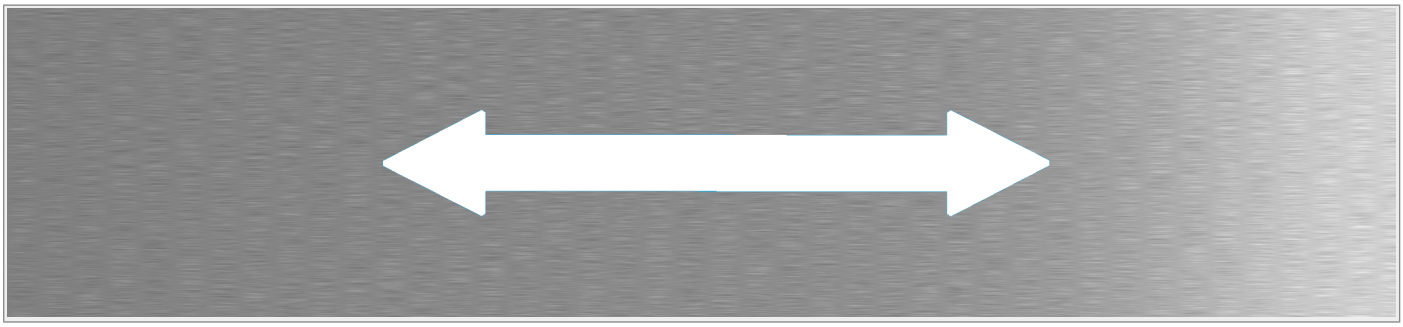
Note: for cleaning of inox steel the following must not be used: products neither for removing mortar nor diluted hydrochloric acid, whiteners, agents for cleaning silver, abrasive materials or agents (e.g. wire brushes made of carbon steel, cleaning wool, steel pads for scrubbing). Fabrics such as chamois leather or nylon sponge shall be used for cleaning.

## FREQUENCY OF STAINLESS STEEL MAINTENANCE WORKS

Depending on a stainless steel surface contamination type, performing a periodical stainless steel surface maintenance works are necessary. Time intervals required for stainless steel surface maintenance works are given in a table below:

| Frequency of cleaning | Type of contamination |
|---|---|
| Immediately after contamination | Cleaning chemical contaminations hard to remove. |
| Once - twice a month by contamination degree | Cleaning contaminations resulting from the device's function (e.g. fingerprints etc.) |
| Twice - four times a month by contamination degree | Cleaning contaminations (in locations where aggressive environment occurs, e.g. construction works site) |

Note: Dust and contaminants found on a facility's building site while construction works are at progress is harmful to the device. Devices shall be stored and installed on a site and at a time that no risk of dust contamination occurs or of any other factors that may have impact on materials' structure and device's mechanism. If there is a possibility of occurrence of the abovementioned contaminants and dust, all devices must be secured.
A direction for cleaning stainless steel should be compliant with a direction of its grinding. Drawing below shows what is being meant. While cleaning stainless steel surfaces, circular motions should not be made.



Note: Inflammatory focuses (rusty layer) can appear on stainless steel surfaces due to an improper maintenance. Those inflammatory focuses (rusty layer) are not a material defect but only a lack of proper maintenance of the surface. Those inflammatory focuses (rusty layer) shall be removed with the abovementioned agents.

## MAINTENANCE OF POWDER COATED STEEL ELEMENTS

If a part or an element is powder coated, it requires surface tending from time to time to maintain the original appearance and protect it against occurrence of changes on the surface.

### WHY POWDER VARNISHED SURFACES SHOULD BE MAINTAINED

The reason for powder varnished surfaces maintenance is to protect those surfaces against the environment impacts and to correct defects such as pits, scratches, varnish oxidation marks and finishing the surface to obtain polish effect. Polishing of the varnish allows to restore its original depth in cases of some bigger defects as well.

### AGENTS FOR MAINTENANCE OF POWDER VARNISHED SURFACES

Depending on a type of the varnished surface contamination, a relevant agent for its maintenance should be used, with regard to its manufacturer's guidelines. Main agents for maintenance of powder varnished surfaces are the following:
- water, polishing milk, polishing wax, varnishing cream.

### WAYS AND FREQUENCY FOR MAINTENANCE OF POWDER VARNISHED SURFACES

First cleaning of the surface should be performed within 2 to 4 weeks from the device's purchase. No chemical agents must be used, just

pure water. Wipe the device's surface with a damp cloth gently. Average time of the successive maintenance works may change due to the frequency of the device's operation. In extreme conditions the device may need to be cleaned from 2 to 6 times a month, not less than twice a month, though. Once every three months all devices shall be protected with protective agents. To do this, a varnishing cream or polishing wax can be used. Thanks to performing those works, neither dust nor dirt shall settle on the varnished surface too intensely, and the surface shall maintain polish required.

## MAINTENANCE OF ZINC COATED ELEMENTS

With time zinc coating undergoes oxidation, that may lead to damages or to decay of the pure zinc coating, and in consequence to exposure of zinc and iron alloy layer. Evidently, alloy layer also provides protection against corrosion for it contains zinc as well. Durability of the zinc coating depends on a so called corrosive load of environment mostly, where zinc plated elements are used. Zinc coats do not require any special maintenance works apart from washing the atmospheric contaminations off using water with widely available washing agents and a soft brush, from time to time.

If any damages to zinc surfaces shall occur, repairing of the really damaged zinc coating, as EN ISO 1461 Standard recommends, can be done using a method of thermal spraying with zinc (EN 22063) or by proper painting using a paint rich in zinc.

All bigger surface damages must be fixed immediately using the abovementioned techniques in order to prevent corrosive processes to appear.

| | |
|---|---|
| ⚠ | Note: Zinc coated surface does not provide protection against scratches or mechanical damages of the surface. |

| | |
|---|---|
| ⚠ | Note: Zinc oxide, zinc carbonate and zinc hydroxide can appear on zinced surfaces, what is visible as a white coating. Although this coating affects visual value of the element, it does not influence the anticorrosive value of steel. After a few months, patina is formed on the zinced surface which protects the surface from zinc oxidation. The white coating is removed by precipitation. |

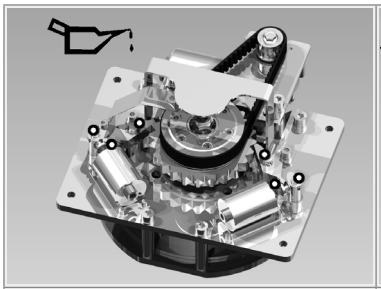
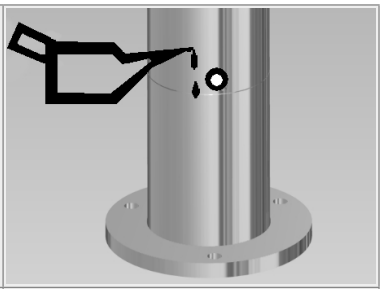
## MAINTENANCE OF GLASS AND LAMINATED ELEMENTS

Maintenance of glass and laminated surfaces includes a periodical, at least once every fortnight, dusting the surface and removing contaminations resulting from standard operation. To do this, warm water with cleaning agents can be used. Use a soft cloth for washing. If there are stains difficult to remove, try to remove them using one of agents available on the market (e.g. Platinum Sparkling Glass Clean). Aggressive whiteners, agents with acetone additive and other chemical agents react with glass or laminate must not be used in any case.

## MAINTENANCE OF JOINT ELEMENTS

Maintenance of joint elements shall be performed in accordance with the abovementioned guidelines due to a type of material that a joint elements is made of.

## POINTS OF PERIODICAL LUBRICATION REFILL

| | |
|---|---|
|  |  |
| Points of the electromechanism periodical lubrication refill (BA3, BR2). | Points of periodical lubrication refill of a bearing in the rotor's leg in BA3 gates (grease nipple). |

## DEVICE DIAGNOSTICS

The electronic circuit turns the device operating mode off after a series of 10 to 100 thousand cycles, depending on the device, and turns the diagnostic mode on to verify and confirm the device operating parameters by an authorised service person. In order to turn the device operating mode, the parameters must be confirmed and an a diagnostic code must be entered. If the device operating parameters that have been read out exceed the correct operation range, it is advised to contact a service department and exclude the device from operation until a relevant confirmation from the service department is received.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