



WAGATE® SLUICE GATES
INSTALLATION MAINTENANCE
& PRODUCT GUARANTEE

PLEASE NOTE SERIAL/ORDERNUMBER HERE:

THANK YOU FOR PURCHASING A WAPRO PRODUCT.
FOR FURTHER PRODUCT INFORMATION PLEASE REFER
TO WAPRO.COM

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OPERATION INSTRUCTIONS

WAGATE SLUICE GATES – MTV, SPS-TL, SPS-TG, SPK-TG, SPM-P-TG, SPM-S-TG

SAFETY INSTRUCTIONS

This manual should be read and properly understood before product commissioning. All personnel working with the device must be familiar with the safety and warning instructions in this document.

STANDARDS/DIRECTIVES

Our products are designed and manufactured in compliance to recognized standards and directives. This is certified in the Declaration of Conformity.

COMMISSIONING

Before commissioning the user need to check that the product is free of any damages obtained during transport or storage.

Prior to first use, the user needs to make sure that the steps described in the commissioning part of the manual has been followed precisely. If the device is fitted with a third-party actuator, either supplied by the manufacturer or a third party, the user needs to make sure that the setup and commissioning for that product is carried out following that device's own specific operation instructions.

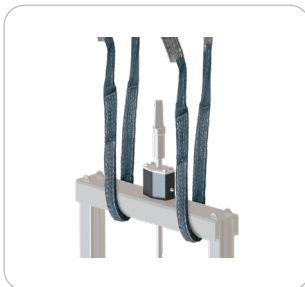
Please note that any actuator supplied by the manufacturer will not have been completely commissioned before shipping, as the setup of electrical connection and communication interface can only be performed on site. We recommend using a trained technician with knowledge of the chosen type of actuator for this task. Commissioning is the sole responsibility of the user. The manufacturer cannot be held liable for any consequential damage.

TRANSPORT AND STORAGE

TRANSPORT

The device should be kept on its original packaging during the entire transport. The shipment pallet must be kept level and securely fastened down. It is not allowed to stack other products on top of the device during transport.

The device can only be moved on its original shipment pallet or using at least two of the lifting points on the outside of the device (Only applicable to sluice gates too large to be handled by hand).



Lifting the product using any other method could result in damage to personnel or the device itself.

STORAGE

The product must be stored in a dry, well-ventilated environment, away from direct sunlight. Temperatures in storage must be between -30°C and 40°C. The surface temperature of the plastics can't exceed 80°C.

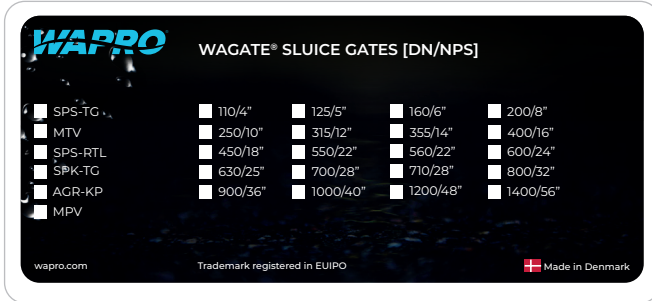
The device must not be flooded or otherwise submerged in water during storage.

If the device is stored outside for longer durations, it is advisable to cover up the sluice gate to keep dirt and debris out, as well as keeping wildlife from inhabiting the sluice gate.

In areas with high humidity or with big fluctuations in temperature, the transportation wrapping must be removed to avoid buildup of condensation. If the device has an electric actuator it is advised to hook the actuator up to mains power to allow the internal heater to keep condensation from damaging the circuit boards.

IDENTIFICATION

Do not remove the label. If purchasing spare parts, state the size and type of sluice gate.



SLUICE GATE APPLICATIONS

The following table shows the applicable uses of each sluice gate type, as well as which types of operation is available. If a sluice gate is used outside its intended application, proper function can't be ensured, contact Wapro for advice.

| MODEL | USE | | | PRESSURE | | MANUAL OPERATION | | AUTOMATIC OPERATION | | | |
|----------|-------------|----------------------------------|--------------|------------------------|----------------------------|------------------|---------|---------------------|--------------|--------------------|--------------------|
| | Waste water | Clean water (not drinking water) | Fish farming | One-sided (On-seating) | Two-sided (On/Off-seating) | Push/pull | Spindle | Link actuator | Air actuator | Hydraulic cylinder | Pneumatic cylinder |
| MTV | ✓ | ✓ | ✓ | ✓ | | ✓ | | * | | | |
| SPS-TL | ✓ | ✓ | ✓ | ✓ | | ✓ | | * | | * | * |
| SPS-TG | ✓ | ✓ | ✓ | ✓ | | | ✓ | * | ✓ | * | * |
| SPK-TG | ✓ | ✓ | ✓ | | ✓ | | ✓ | * | ✓ | * | * |
| SPM-P-TG | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | * | * |
| SPM-S-TG | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | |

✓ = Recommended solution

* = Possible solution

[] = Is not recommended

*As for further information and measurements, we refer to our product specifications

MOUNTING

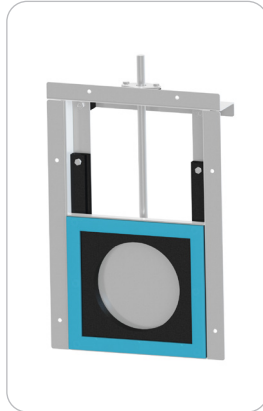
Make sure to bolt through all mounting holes

MOUNTING SURFACE DIRECTION

Before mounting of the sluice gate, make sure that the mounting surface is flat and smooth (max. $\pm 3\text{mm/m}$)

MOUNTING SURFACE GASKET

All sluice gates are supplied with a mounting gasket for sealing against the mounting surface. Make sure that this gasket is correctly mounted and has not been damaged during transport.



ON/OFF SEATING

For sluice gates only suitable for on-seating pressure, (see sluice gate applications table), on-seat pressure is defined as pressure coming from the mounting side of the sluice gate, see figure.



MOUNTING HARDWARE

The MTV and SPS-TL models can be mounted using dowels. All other models of sluice gates must be mounted using either wall anchors or chemical anchors. Hardware size can be found on the model specific datasheets. Wapro can supply complete mounting kits for all sluice gate models.

MOUNTING SEQUENCE

1. Check the sluice gate for any damage sustained.
2. Check that the mounting surface gasket is mounted and undamaged.
3. Place the sluice gate against the wall in its final position.
4. Use the mounting holes as a drilling guide.
5. Mount the anchors or dowels in the wall.
6. Loosely screw in the fasteners. Make sure that all bolts thread easily without applying force to the sluice gate.
7. Tighten the fasteners evenly using a spiral tightening sequence. Torque the fasteners to the torque specified for fastener type.

MOUNTING ORIENTATION

Sluice gates have no specified mounting orientation. In cases where the sluice gate is not mounted vertically, care must be taken to ensure that debris cannot accumulate around the mechanical parts of the sluice gate. Contact Wapro for advice.

SERVICE ACCESS

To be able to perform proper repair and servicing of the sluice gate, the sluice gate must be accessible from the front and the top of the sluice gate.

MOUNTING ON CURVED WALL

Sluice gates can be manufactured for mounting directly on curved walls. Contact Wapro for advice.



OPERATING DEVICES

All Wapro sluice gates are available with a diverse range of operating devices. Both for direct mounting on the sluice gate as well as to extend the operation of the sluice gate. Lengths are made to order. Note that as standard the sluice gate comes without any operating device. Handwheel, extensions or other operating devices can always be ordered after initial delivery. Contact Wapro and provide sluice gate type and size.

If an operation extension is used, it is necessary to use wall brackets to eliminate excessive flexing. The brackets should not be placed more than 1,5m apart.

gate with handweel



gate with a keytop



gate with a bracket



gate with an extension



AMBIENT CONDITIONS

The device is rated for use in temperatures between -25°C & 40°C. If the device is used below freezing temperatures, the water around the gate can freeze, locking the gate in place. Do not attempt to use mechanical force to move a frozen gate, as this can lead to permanent damage.

RETROFITTING AN ACTUATOR

If the user wishes to retrofit an actuator, we recommend contacting Wapro for technical information on torque requirements and interface measurements. If an actuator adapter is mounted, the interface on the device follows ISO 5211.

COMMISSIONING

These steps must be followed closely before first use.

MECHANICAL SETUP

After mounting is completed, slowly move the sluice gate from open to closed. Make sure that there is no sudden resistance to the movement which would indicate a problem. To prolong the life of the sluice gate, apply a water-resistant grease to the spindle when commissioning. (I.e. Chesterton 629)

ELECTRICAL ACTUATOR

The device can be equipped with different types of electrical actuators, most commonly from the manufacturer AUMA. The connection diagram for the actuator differs between different specifications of the actuator. Therefore, a connection diagram and complete manual is supplied physically with each actuator. If these documents are lost, complete documentation can be downloaded from the following website: <https://www.auma.com/en/service-support/wiring-diagrams>. The order reference for downloading can be found on the nameplate on the side of the actuator. See pos. 2 on figure 8.1

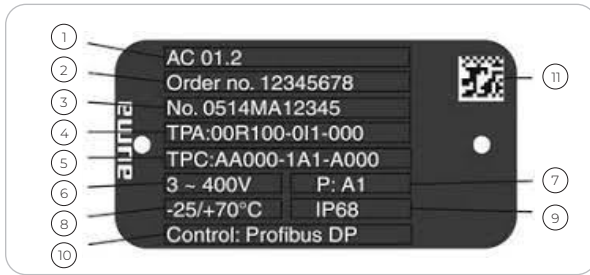


Fig. 8.1

To complete commissioning the complete commissioning step in the operation manual specific to the actuator must be completed.

GENERAL OPERATION

MTV & SPS-TL

To close the gate push gently on the gate handle until a natural resistance is met. The gate opening is fully closed slightly before reaching the end of the gates travel. Pressing hard on the handle will not improve gate performance and can lead to permanent damage.

To open the gate, pull on the gate handle. The water pressure pressing on the gate can give a reasonable amount of resistance to initial movement, but this is completely normal behavior. The gate is fully open when a resistance is met.

Never use heavy equipment to move the gate, as excessive force can permanently damage the gate.



SPS-TG, SPK-TG, SPM-P-TG, SPM-S-TG

To close the sluice gate, turn the operating device clockwise until a natural resistance is met. The sluice gate opening is fully closed slightly before reaching the end of the sluice gates travel. Applying high torque on the handle will not improve sluice gate performance and can lead to permanent damage.

To open the sluice gate, turn the operating device anti-clockwise until a natural resistance is met. The water pressure pressing on the sluice gate can give a reasonable amount of resistance to initial movement, but this is completely normal behavior. The sluice gate is fully open when a resistance is met.



MAXIMUM ALLOWABLE TORQUE IN NM, WHEN OPENING/CLOSING THE SLUICE GATE:

| | DN/NPS 200/8 | DN/NPS 250/10 | DN/NPS 300/12 | DN/NPS 400/16 | DN/NPS 500/20 | DN/NPS 600/24 |
|----------|-----------------|------------------|------------------|------------------|------------------|------------------|
| SPS-TG | 5 | 8 | 12 | 18 | 30 | 32 |
| SPK-TG | 8 | 12 | 18 | 24 | 36 | 44 |
| SPM-P-TG | - | - | - | - | - | - |
| SPM-S-TG | - | - | - | - | - | - |

| | DN/NPS 700/28 | DN/NPS 800/32 | DN/NPS 900/36 | DN/NPS 1000/40 | DN/NPS 1200/48 | DN/NPS 1400/56 |
|----------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| SPS-TG | - | - | - | - | - | - |
| SPK-TG | 50 | 65 | - | - | - | - |
| SPM-P-TG | - | 72 | 72 | 113 | 144 | 227 |
| SPM-S-TG | - | 72 | 72 | 113 | 144 | 227 |

ELECTRIC OPERATION AUMA ACTUATOR, IF SUPPLIED

COMMISSIONING

Note that sluice gates supplied with AUMA actuator will not be set up from the factory. To commission the sluice gate either follow the commissioning steps in the AUMA specific manual supplied with the actuator or get the local branch of AUMA to carry out the commissioning. Contact Wapro for further advice.

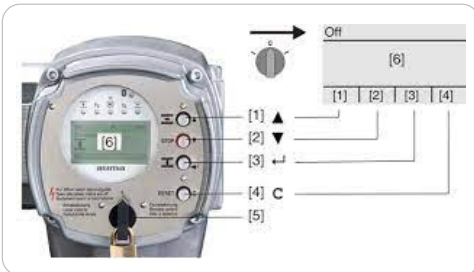
LOCAL ELECTRIC OPERATION

To operate the sluice gate, the selector switch [5] is moved into the "Local" position. Then, depending on the current position, either button [1] or [3] is pressed to make the actuator move to the desired position automatically. The actuator will stop when it has reached its programmed end stop. The movement of the sluice gate can be stopped at any time by using button [2]. At all times the current position of the sluice gate can be seen on the display [6] as well as observing the mechanical position indicators.

REMOTE ELECTRIC OPERATION

To operate the sluice gate remotely the selector switch [5] is moved into the "remote" position. The actuator will no longer react to the local controls and is controlled by the signals sent to it via its connection interface. The precise details of these depend on the configuration of the actuator.

For more information on the connectivity and functionality of the actuator, we refer to the specific operation instructions on the AUMA supplied along with the actuator.



MANUAL OVERRIDE OPERATION

To activate manual override, press the blue button at the center of the handwheel to engage motion. The handwheel is rotated to move the sluice gate. The handwheel is marked, showing which direction opens and closes the sluice gate. The handwheel is rotated until a natural resistance is felt. Reactivating the electrical movement automatically disengages the manual override.

COMMISSIONING

The gate with actuator and controller is delivered ready to use with the basic setup already carried out. For more advanced options, including remote control, some setup is required. See the specific controller documentation for setup procedures. The documentation can be found here: <https://www.linakthirdparty.com/products/motor-controllers-and-drivers/wcu/#/brochuresmanualsandbussetupfiles>

MAINTENANCE

The following maintenance must be performed for the product to operate as intended. Failing to do so voids the warranty.

MAINTENANCE PLAN

Every twelve months:

- To check for proper function, a full open/close operation must be performed. Long periods without use can cause the gaskets to get stuck in place. The gate should operate smoothly and without sudden resistance. Jerking motion is a sign of sticking gaskets.
- Refill the bearing housing with bearing grease using the grease nipple. SKF LGWA 2/0.4 or similar is recommended for 0-40°C. For temperatures below freezing a lower viscosity grease is recommended. (Only applies to SPS-TG, SPK-TG, SPM-P-TG, SPM-S-TG)
- Reapply a water-resistant grease to the spindle (I.e. Chesterton 629)
- Clean the gate of any growths or buildup filth.
- Inspect the gaskets for any signs of cracks or wear.
- Retighten the bolts and screws.
- Inspect the gate for visual signs of damage. If any significant damage is found, please contact Wapro for advice.

A sluice gate that hasn't been used very often, is recommend being opened and closed every 3 months if possible.

WARRANTY

WAPRO A/S WARRANTY

Wapro will remedy defects in material and/or workmanship in any new Wapro valve for a period of two (2) years from the documented date of purchase so long as the valve has been used in accordance with Wapro's instructions and recommendations and under normal operating conditions. The warranty does not cover damage to the valve caused by external mechanical forces, such as interference from humans, animals or machines, nor is the warranty valid if the valve has been modified or altered in any way post-production. Furthermore, the warranty is not valid (a) if the valve is damaged due to exposure to high concentrations of chemical substances, (b) if the valve is damaged because of pressure spikes, water hammering or vacuums exceeding the rated limits, (c) the warranty is invalid if flow velocity exceeds what is recommended, and (d) if malfunctions are caused by other equipment.

To request warranty service, the buyer should contact the WaGate dealer where the valve was purchased within a reasonable time after discovering any defects. The valve serial number or order number must be quoted in the case of a warranty claim. Wapro's liability is limited to the replacement or repair of the defective valve. Wapro will not assume costs incurred for removal of defective valves or subsequent installation of replacement valves. Furthermore, Wapro will not assume transportation costs of damaged valves or replacement valves. Wapro warrants that repaired or replaced valves are covered for the greater of either the remainder of the original valve warranty or 90 days. THE WARRANTY EXPRESSED ABOVE SHALL BE IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT WHICH ARE EXPRESSLY DISCLAIMED, AND IS IN LIEU OF ANY AND ALL OTHER OBLIGATIONS OR LIABILITY ON WAPRO PART. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, UNDER NO CIRCUMSTANCES WILL WAPRO BE LIABLE TO BUYER FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING ANY DAMAGE FOR LOSS OF REVENUE OR PROFIT), OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH FURNISHING OF THE VALVES, PARTS OR SERVICE HEREUNDER, OR THE PERFORMANCE, USE OF, OR INABILITY TO USE ANY OF THE VALVES, PARTS OR SERVICE, OR OTHERWISE, WHETHER BASED IN CONTRACT, WARRANTY, TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE OR ANY OTHER LEGAL OR EQUITABLE THEORY. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY SHALL APPLY EVEN IF SUCH REMEDIES FAIL THEIR ESSENTIAL PURPOSE. FOR THE AVOIDANCE OF DOUBT, NO EMPLOYEE, AGENT OR OTHER REPRESENTATIVE OF WAPRO IS AUTHORIZED TO EXTEND OR OTHERWISE MODIFY THE WARRANTY SPECIFIED HEREIN.

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