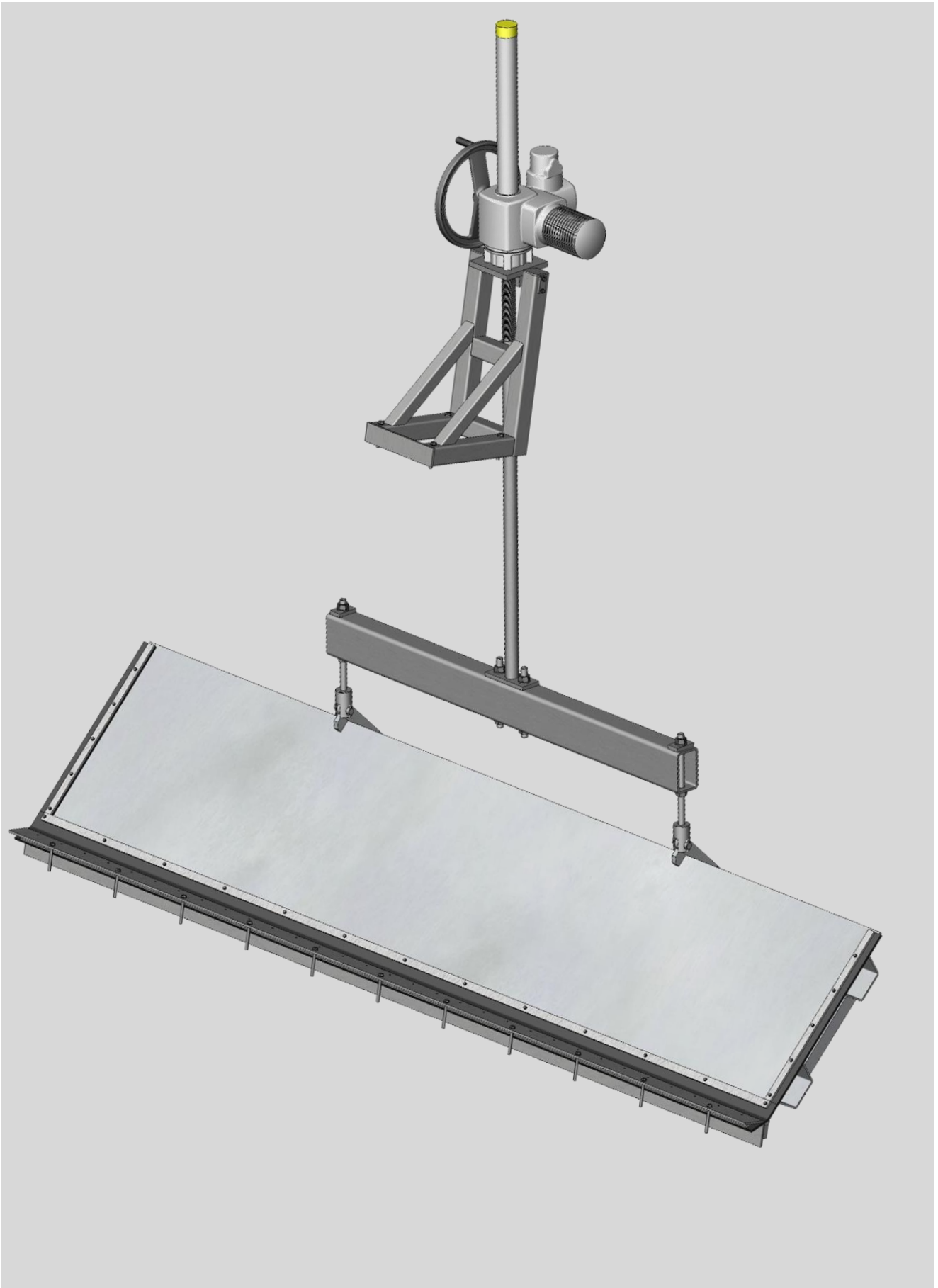


WEY RADIAL WEIR GATE TYPE 6.5

Operating and assembly instructions



3.30.18



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Original document as provided for in 2006/42/EG

1 General

1.1 Safety

Before use, it is imperative to observe this operating and assembly instructions and are intended to ensure the proper functioning of our products.

Changes to our products require our written consent. We decline any responsibility whatsoever for consequential damages in case of non-compliance with these instruction.



This symbol indicates safety and hazard information. Follow all these instructions to avoid personal injury and property damage.

Assembly must be carried out in accordance with recognized technical regulations and may only be performed by qualified personnel.

Project-related data of the valve, such as dimensions, materials and area of application, can be found in the corresponding documentation..

1.2 Intended use

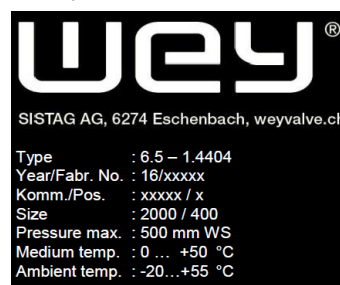
The Wey radial weir gate (also known as Tilting Flap Spillway) is a valve designed for installation in basins of sewage systems and retention basins. The radial weir gate is suitable for regulating water levels in basins for water and wastewater. The technical application limits of the corresponding project-related documentation and these operating instructions must be taken into account. If Wey radial weir gates are installed in Ex zones, both the valve as "non-electrical equipment" and any attached "electrical equipment" must comply with the zone (Directive 94/9/EC, ATEX).

1.3 Labelling

Manufacturer
 Type / Material
 Year of manufacture/factory no.
 Commission / Position
 Size
 max. pressure
 Medium Temp.
 Ambient Temp.
 Control pressure ¹⁾

¹⁾ if applicable

Example



2 Transport, Storage

2.1 Transport

The transport of adjustable tubes must be carried out carefully. Lifting gear must not be hooked onto the spindle or the drive element. The valve must be protected against external influences such as dirt and damage.

2.2 Storage

If possible, radial weirs gate should be stored in dry, well-ventilated rooms until final installation. All functionally essential parts must be covered as required to protect them against moisture, dust or other dirt.

During longer storage period or unfavourable storage conditions which may impair the subsequent function, all bare metal parts, e.g. spindle, piston rod, must be effectively protected by suitable long-term corrosion protection agents.

The corrosion protection applied at the factory must be checked for possible transport damage and, if necessary, repaired properly and professionally.

For attached components such as electric actuators, limit switches, valves, etc., the respective storage instructions of the manufacturer apply primarily.

3 Assembling

The following description of the assembly procedure is documented using an example with electric rotary drive and a rising spindle. The procedure may differ slightly depending on the project if other drive variants are selected

3.1 Preliminary checks / preparatory work

The buildings, recesses and masonry must be checked for condition, surface finish, offset, verticality, flatness, etc. in good time before starting assembly.

The dimensions of the recesses must be in accordance with the manufacturer's plans and must be checked.

The walls must be checked with a plumb line for verticality (fixing of the guide rail and possibly the drive elements) and horizontally as well as vertically of flatness with a jointing rule (spirit level).

Major deviations must be corrected before starting assembly as follows:

- a) by grinding, sharpening, levelling of flatness;
- b) by applying a mortar plaster that meets the requirements (tightness, strength).

3.2 Facility

In the case of construction inaccuracies, plastic or stainless steel plates in various thicknesses are suitable for backing and aligning wall bearings and drive elements. This allows minor construction inaccuracies to be compensated. The corresponding parts thus have the best possible contact surface on the wall and cannot be distorted when the screws are tightened.

Paste-like, medium-resistant sealing compounds are suitable for sealing the assembly parts against the masonry.

When using sealing compound, it is essential to observe the manufacturer's technical data sheet.

3.3 Assembling the side plates

Procedure fig.1:

- Pre-position the side plates (1) in recess or on masonry
- Drill holes for the threaded rods through the holes provided in the side plates in the masonry
- Set threaded rods and fasten side plates (1) with nuts only provisionally. For the time being, the side plates can be fixed at a distance of approx. 25 mm from the wall. The side plates will later be used to apply pressure to the side seal.

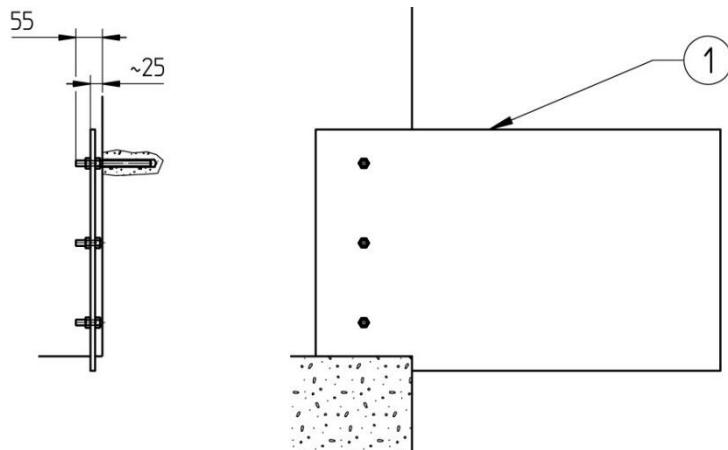


Fig. 1

3.4 Damper assembly

Procedure fig.2:

- The fully assembled flap is placed and aligned in the middle of the recess on the wall projection
- Set the dowels in the intended positions
- Screw the flap.

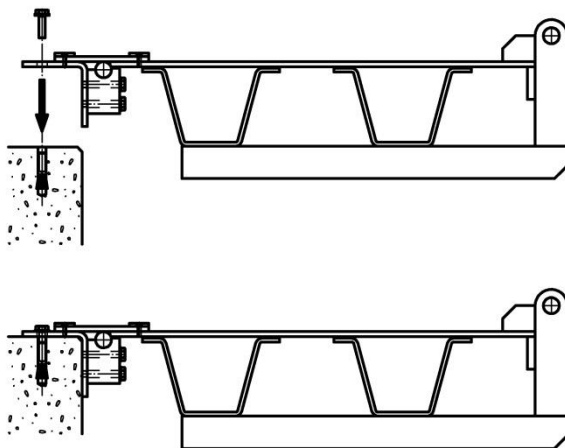


Fig. 2

3.5 Assembly of driving belts

Fig.5

First position the driving belt (4) with drive (6) in the appropriate position on the building and fix it.

In case of electric drive: Screw the spindle with the extension pipe (5) sufficiently far into the drive (approx. 45 mm for the lowest position). Connect the fork head with damper to the flap.

For pneumatic or hydraulic cylinders, the extension must be connected to the piston rod.

This makes it easier to align the position of the driving belts and the vertical position of the spindle in both axes. Control with plumb line and spirit level.

Place dowel and tighten.

3.6 Setting the side plates

Fig.3

Now the side plates can be brought into the correct position with the nuts of the threaded rods. The metal sheets must be screwed towards the centre of the recess until they touch the side seal of the flap. To ensure the correct position of the side plates in the front area of the flap, the struts (3) must be drilled into the masonry in the corresponding position. When the struts are mounted, the pressure of the side plates on the damper seal can definitely be adjusted. The seal should be pressed approx. 3-5mm.

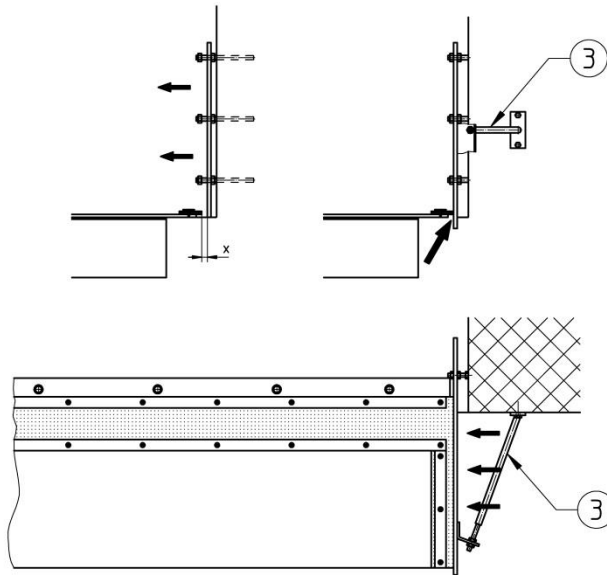


Fig. 3

Once the pressure on the damper seal has been set, the gap between the side plate and the masonry can be fixed with appropriate mortar.

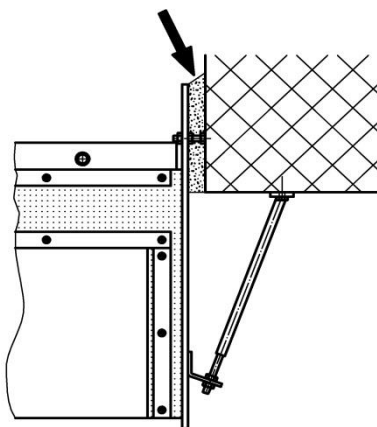


Fig.4

It must not be vibrated under any circumstances during the filling of the recess! The contact surface for the seal must be free of concrete and dirt.

3.7 Setting the stroke

The exact position of the damper in the lower or upper position must be set with the limit switches of the motor. (See point 3.8). If fine adjustment should be necessary as a result of construction tolerances, this can be done with the thread on the fork head. Fig.5.

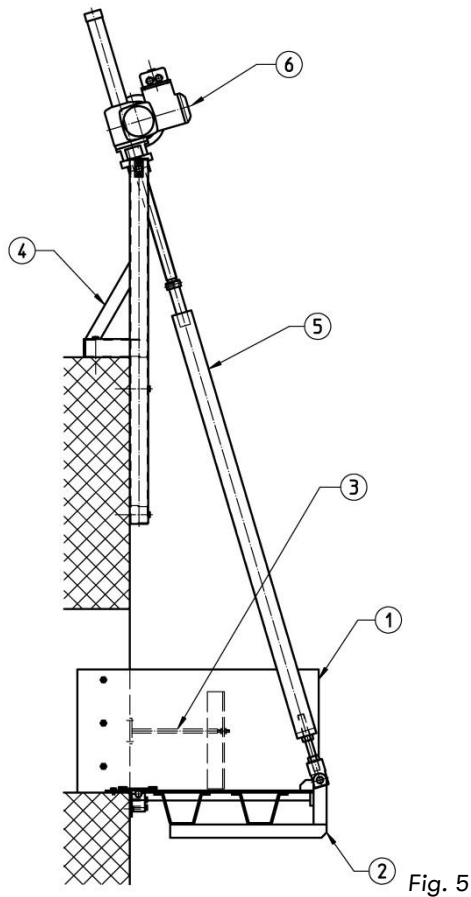


Fig. 5

4 Startup procedure

4.1 General measures

Before starting the knife gate valves, all functionally essential components (spindle, piston rod, pipes, side guides, seals) must be carefully cleaned of any kind of contamination.

The components are sufficiently lubricated at the factory for transport and storage, but they must be lubricated again depending on the operating conditions before starting assembly.

Lubrication must be carried out according to the lubrication schedules prepared by the manufacturer. A water-repellent, temperature-resistant and durable grease must be used. (Consult the manufacturer for grease recommendations).

4.2 Safety measures

The moving parts of automated valves must not be freely accessible. If necessary, they must be protected by suitable reinforcement or coverings. Unprotected valves must not be put into operation.



Special attention should be paid to subsequent attachments (e.g. gratings). You can create new pinch points with the moving pipe.

However, the operating elements of the drives must be safely accessible at all times.

Airborne acoustical noise emissions:

Electrical actuation	< 70 dB (A)
Pneumatic actuation	< 85 dB (A)
(Control valve with sound dampers fitted to the drive)	



It must be ensured that external faults in control circuits cannot cause the valve to start unintentionally.

4.3 Functional check

Before starting assembly, a functional test must be carried out. For this purpose, the radial weir gate should be opened and closed at least once.

4.4 Manually operated radial weir gate

Check whether the valve can be moved to both end positions with adequate force. Furthermore, the setting of the limit switches must be carried out (if available).

4.5 Pneumatically operated radial weir gate



Take appropriate measures to ensure that the maximum working pressure cannot be exceeded even in the event of a fault

Operate the drive with dry, filtered air of class 4/5 ISO 8573-1

max. dirt particle size	40 µm
max. dirt particle content	10 mg/m ³
max. residual oil content	5 mg/m ³
Pressure dew point	below minimum ambient temperature



Air ducts, in particular plastic pipes, must be secured in such a way that they cannot be unintentionally interrupted or torn off. To keep a valve in the same position, the pressure must be maintained on both sides of the piston.

Control valves should be installed as close as possible to the cylinder.

The cross-section of the compressed air lines must be adapted to the air volume.

Air ducts installed on site must be blown out before connection.

4.6 Hydraulically operated radial weir gate

Before starting assembly, it is imperative that all control lines installed on site are thoroughly cleaned. The provisions of the supplier must be observed.

4.7 Electrically operated radial weir gate



Observe the relevant regulations, standards and ordinances for the electrical installation. Also observe the regulations and guidelines for the installation and operation of Ex systems if you are located in an Ex zone.

Check whether the electrical device meets the safety requirements at the installation site. The proper grounding after installation must be verified. For a trouble-free installation of electric drives, we recommend you to request our specially trained service engineer. The on-site electrical installations must be carried out in accordance with the specified connection diagram. In addition, the special operating instructions of the respective drive supplier must be observed. Before the first electrical actuation, the radial weir gate must be moved to the middle position with the manual override and only then actuated electrically. When connecting the power supply, the direction of rotation must be observed



If the direction of rotation is incorrect, the limit and torque switches are ineffective.

The shutdown must be carried out according to our specifications/schemes, i.e.:

- Switching off before driving the upper and lower stop is done via travel limit switches.
- The existing torque switch serves as overload protection

5 Maintenance

5.1 Operating interval

At least four actuations should be carried out annually, whereby the functional efficiency of all components must be checked. In extreme operating conditions, these functional checks must be performed more frequently.

5.2 Cleaning / Lubrication

Pipe guides as well as spindles, spindle nuts and pull or piston rods must be free of dirt and always well greased.

Lubrication points on the handwheel bearing must be greased again at regular intervals depending on the operating and usage conditions, but at least quarterly.

Pneumatic cylinders with cushioning have a self-lubricating rod seal as standard.

A water-repellent, temperature-resistant and durable grease must be used. (Consult the manufacturer for grease recommendations).

For electric actuators, pay special attention to the lubrication point at the output drive. (Version with rising spindle).

The respective operating and maintenance instructions of the actuator manufacturers are binding.

6 Expansion



Do not enter the area of the stroke until it has been ensured that the drive is disconnected from the mains.



Drives must not be removed as long as the system is under pressure. Electrical drives must be de-energized or disconnected from the mains before being removed. Pneumatic and hydraulic drives must be depressurized and the supply lines disconnected from the drive.

7 Disposal

It should be noted that residues adhering to the valve, as well as auxiliary materials and greases, may pose a risk to people and the environment. Therefore, appropriate precautionary measures must be taken.

After use, the valve must be disposed of it properly and in an environmentally friendly manner.

8 Conclusion

The information provided corresponds to the current state of our knowledge and, in conjunction with our technical documentation, is intended to provide information about our products and their possible applications.

It does not, therefore, act as a guarantee of specific properties of the products or their suitability for a particular application.

We guarantee perfect quality within the framework of our general terms and conditions of sale.

Our customer service department will be pleased to provide you with further information at any time.

Subject to change