

MODEL

ACCESSORIES



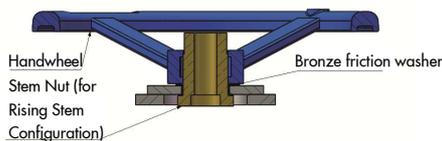
OPERATORS

HANDWHEEL

As standard, all ORBINOX gates include a manual operator. For smaller sizes, gates can be operated with a direct drive handwheel.

ORBINOX has different handwheel diameters: 8" (225mm), 12" (310mm), 17" (450mm) and 26" (650mm).

Depending on the model and size, they are made of cast iron or aluminum.



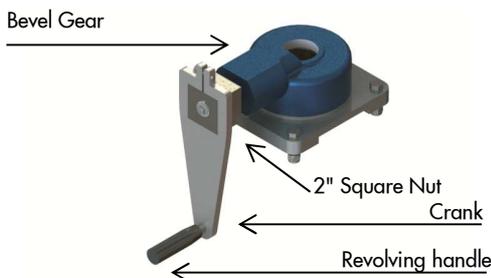
BEVEL GEAR WITH HANDWHEEL OR CRANK

For bigger sizes, a bevel gear is needed in order to meet AWWA Standard and not exceed the maximum required effort to operate a gate (operating effort cannot exceed 40-lb or 178-N).

The bevel gear can be operated with a handwheel or a crank. There are different handwheel and crank diameters for the required lifting requirements.

The crank is designed to fit a 2" square nut and bar, it is removable, so the gear box can also be operated with a portable electric operator. The crank comes with a revolving handle to ease operation.

All gears have the painted cast iron body.

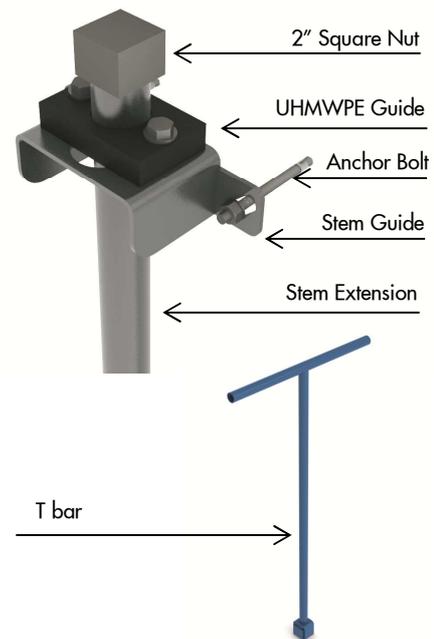


Bevel gear operated gate with a 2" square nut and a crank

2" SQUARE NUT AND T BAR

Non-rising stem gates can be operated with a 2" square nut. The 2" square nut can be made of carbon steel, 304 or 316 stainless steel. A "T" bar or a portable electric operator can be used to operate the nut.

Typically, the 2" square nut is placed approximately 4" (100mm) below the operating floor level. ORBINOX can supply the "T" Bar if requested and it can be made of painted carbon steel, 304 or 316 stainless steel. The total typical height of the "T" bar is 32" (800mm).



ELECTRIC MOTOR ACTUATOR

Gates can also be automated with electric motors. This allows faster operation as well as remote control of the gates. For more information, please contact an ORBINOX representative.

PNEUMATIC AND HYDRAULIC ACTUATOR

Gates can also be automated with pneumatic or hydraulic actuators if required. For more detailed information, please contact an ORBINOX representative.



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Rev.1

ACCESSORIES_1

OPERATORS

CHAIN-WHEEL

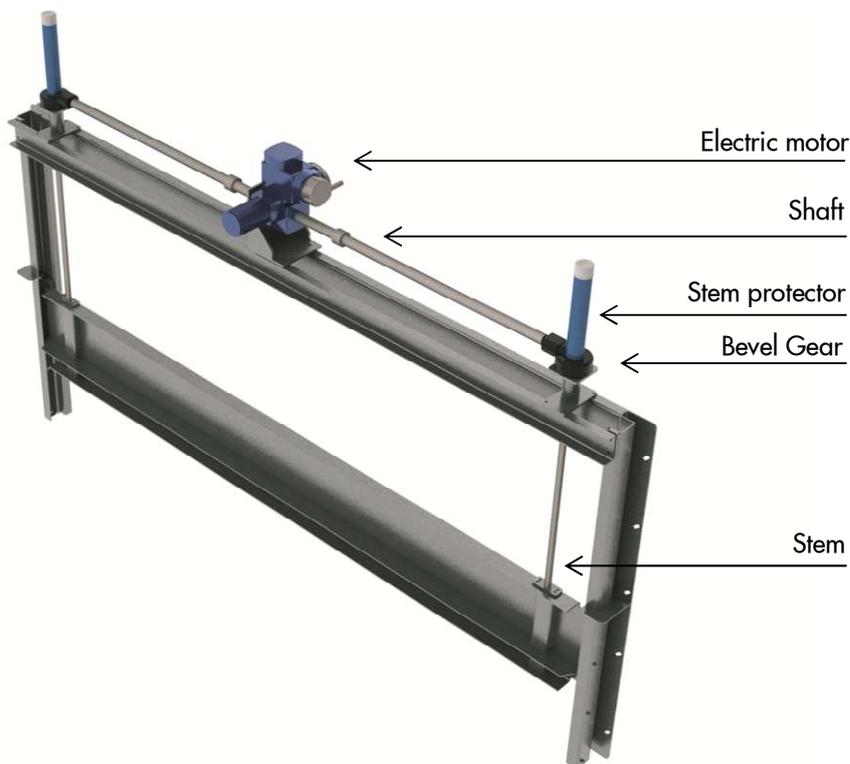
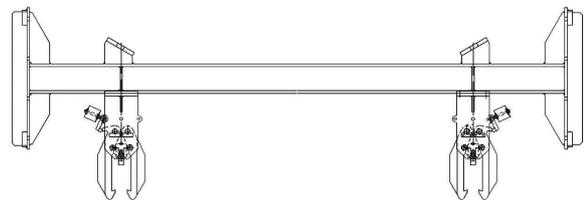
When the operator is too high to reach easily, a chain-wheel can be mounted on to the handwheel of a bevel gear. It is a very economical solution for this type of installations.

LIFTING DEVICE FOR AG AND SL MODELS

When required, a stainless steel lifting device can be supplied. The lifting device fits into the frame and hooks and releases the gate (or the logs) automatically using a spring mechanism.

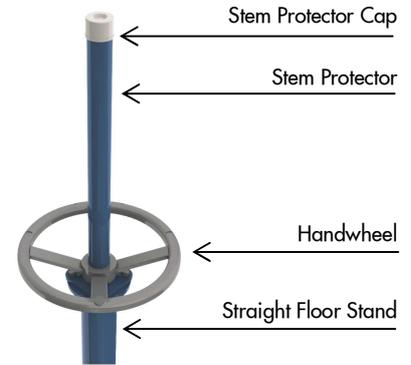
DUAL STEM OPERATOR

ORBINOX can supply dual-stem operated gates. As a general rule, when the gate's width is more than twice its height, the gate should incorporate a dual-stem system in order to avoid binding effects when operating the gate.



STEM PROTECTOR

For rising stem configurations, a stem protector is included. As standard, the stem protector is made of carbon steel, but other materials are available upon request (304 or 316 stainless steel, clear polycarbonate). A clear polycarbonate stem protector is supplied when stem position indication is desired (see next section, "Position Indicators").



POSITION INDICATORS

Position Indication Label (Mylar tape)

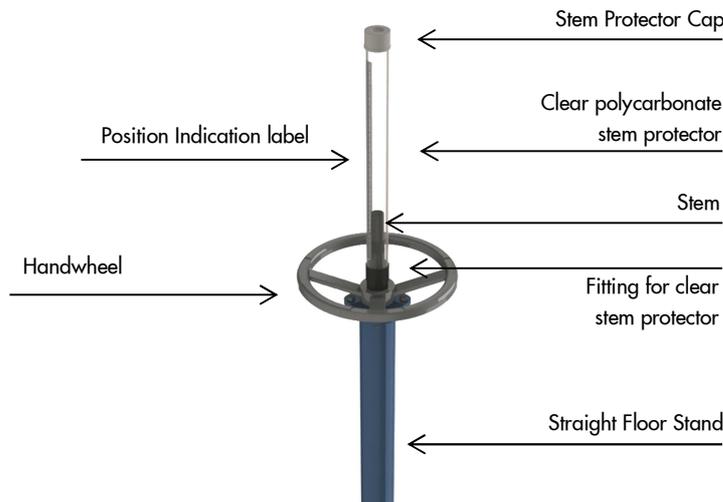
If required, ORBINOX can offer a clear stem protector with a position indication label in order to show the exact position of the rising stem when the gate is operated. The clear stem protector is made of clear polycarbonate and is highly resistant.

Position Indication for NRS configurations

ORBINOX can design and manufacture special arrangements for indicating the position of the slide for non-rising stem configurations. For more information, please contact an ORBINOX representative.

Limit and Proximity Switch

ORBINOX can install limit switches or proximity switches for rising-stem configurations in order to remotely monitor the slide position (open or close position).



Clear stem protector with position indication label

FLOOR STANDS

The gate operator is typically installed on the yoke of the gate or on a floor stand. ORBINOX floor stands are designed to withstand the forces during gate operation. They are suitable for different gate sizes as well as for rising stem and non rising stem configurations.

ORBINOX has two floor stand models: Straight Floor Stand (FS-S) and Inclined Floor Stand (FS-I). The inclined floor stand is very appropriate for installations where there is no structure to support the straight floor stand. This unique inclined design prevents the need of a wall bracket to support the floor stand.

The overall height of the floor stand is 32", so the operator (handwheel, bevel gear, etc.) is at waist level (36" approximately).

The floor stands can be manufactured in carbon steel or stainless steel types 304L or 316L.

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In order to offer an economical solution that meets our customers' needs, ORBINOX has developed different versions of each model. For the rising stem configuration, larger slide gates generate bigger operating forces, and therefore need stronger floor stands. In consequence, ORBINOX offers 3 different types of floor stands for each model (Type K02, Type K05 and Type K10):

Model	Max. Pull Out Force
FS-S-K02 and FS-I-K02	5,500lbs (2,500 Kg)
FS-S-K05 and FS-I-K05	11,000lbs (5,000 Kg)
FS-S-K10 and FS-I-K10	22,000lbs (10,000 Kg)

Special Designs

ORBINOX can also design custom made floor stands, where standard designs can't be used due to space or other restrictions. For more information please contact an ORBINOX representative.

Floor Stand Installation

ORBINOX Floor Stands are installed by means of anchor bolts. The chart below shows the type, size and quantity of anchor bolts needed for installation of each type of floor stand. The minimum concrete strength shall be 3,000psi (20.7 MPa). The tolerance (flatness, levelness and plumbness) of the concrete construction shall be according to ACI-117-10).



Straight Floor Stand



Inclined Floor Stand



Special Design Floor Stand

Floor Stand	Anchor Bolt Type	Anchor Bolt Size	Qty	Recommended (Hilti or equivalent)
Straight FS K2.5 (for RS* and NRS*)	Mechanical	1/2" x 5"	4	Hilti Kwik 3
Straight FS K05 (for RS and NRS)	Mechanical	3/8" x 4 1/2"	4	Hilti HSL
Straight FS K10 (for RS and NRS)	Mechanical	3/4" x 6"	4	Hilti HSL
Inclined FS K2.5 (for RS)	Chemical	3/8" x 5"	5	Hilti HVU and HAS
Inclined FS K05 (for RS)	Chemical	3/4" x 6,5"	5	Hilti HVU and HAS
Inclined FS K10 (for RS)	Chemical	1" x 6,5"	5	Hilti HVU and HAS
Inclined FS c100 (for NRS)	Mechanical	1/2" x 5"	5	Hilti Kwik 3
Inclined FS c150 (for NRS)	Mechanical	1/2" x 5"	5	Hilti Kwik 3

Note: this data is for information only. Do not use for installation or submittal purposes

*RS=Rising Stem, *NRS=Non Rising Stem

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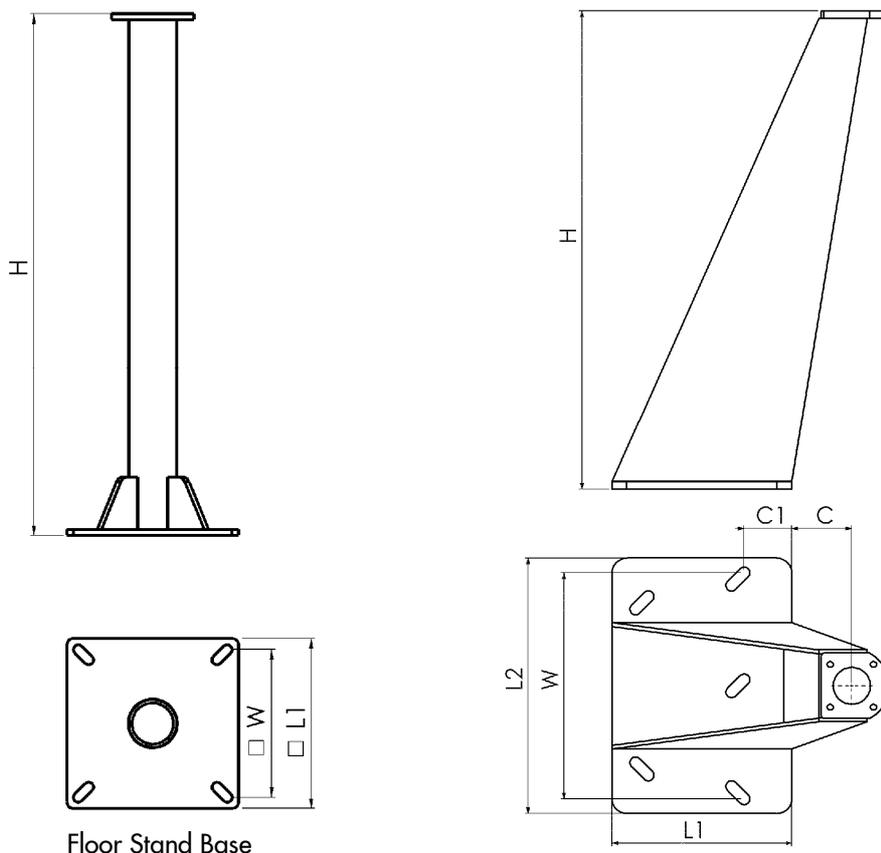
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ACCESSORIES_4

FLOOR STANDS - DIMENSIONS



Floor Stand Base

MODEL	L1	L2	H	W	C	C1
Straight fs K2.5 (for RS* and NRS*)	10 ¼	-	31 ½	8 ¼	-	-
Straight fs K05 (for RS and NRS)	10 ¼	-	31 ½	8 ¼	-	-
Straight fs K05 (for RS and NRS)	13 ¾	-	31 ½	11	-	-
Inclined FS K2.5 (for RS)	11 ¾	17	31 ½	14 ¼	4	3 ½
Inclined FS K05 (for RS)	11 ¾	22 ½	31 ½	19 ¾	6	4 ¼
Inclined FS K10 (for RS)	13 ¾	40	31 ½	36	6	5
Inclined FS c100 (for NRS)	9	13 ¾	31 ½	11 ¾	4	3 ½
Inclined FS c150 (for NRS)	11 ¾	18 ½	31 ½	15 ¾	6	4 ¼

Note: for dimensions other than above, please contact an ORBINOX representative
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*RS=Rising Stem, *NRS=Non Rising Stem

STEM GUIDES

A stem guide is a wall bracket that is used to guide the stem extension of gates and limit its “unsupported” length in order to avoid stem buckling.

As a general rule, ORBINOX stem guides should be installed for every 6 ½ ft (2 meters) of stem extension for rising stem configurations, and for every 9 ¾ ft (3 meters) for non rising stem configurations.

The wall bracket has a UHMWPE guide to reduce friction between the wall bracket and the extension. The UHMWPE guide is field adjustable (offset from the wall) in order to obtain a proper alignment of the extension.

The stem guides can be manufactured in carbon steel or stainless steel types 304L or 316L.

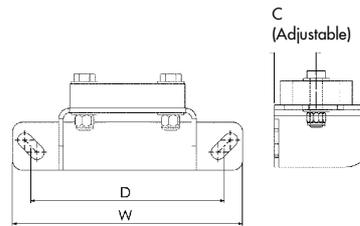


Steam Guide - Dimensions

ORBINOX has two stem guide models (SG-c50 and SG-c135) that suit different slide gate sizes that require specific offset distances from the wall.

ORBINOX can also design and manufacture bigger stem guides or special designs to fit other type of installations such as round manholes.

Model	W	D	C Min.	C Max.
SG-c50	9 ½	8	1 ¾	2 ¾
SG-c135	7	5	2 ¾	8



Note: for dimensions other than above, please contact an ORBINOX representative. These dimensions are for information only. Do not use for installation or submittal purposes.

WALL THIMBLES

A wall thimble is a stainless steel fabricated structure that is installed embedded in concrete. It is used to assure perfect installation conditions for critical process areas.

ORBINOX offers different wall thimble configurations (“E” type and “F” type) and shapes (square flange to square opening, square flange to round opening, etc). For more information, please contact an ORBINOX representative.



36" x 36" "F" type Wall Thimble

