

MODEL

RB

GENERAL DESCRIPTION

The Orbinox model RB Weir Gate is designed for downward opening applications where a more accurate flow control is required. The water flows over the top of the slide permitting a constant upstream water elevation. The RB model weir gate is available from sizes 150mm x 150mm up to 6000mm x 2500mm.

The sealing system is incorporated on 3 sides (both laterals and bottom), resulting in a substantially watertight seal without the need of wedges on the gate. This unique design achieves bidirectional performance (seating and unseating pressure conditions). Additionally, a 4 side sealing system is available.

The leakage rate on the model RB is lower than the maximum allowable recommended by DIN 19569-4 (class 5) and AWWA C-561 under normal conditions. Orbinox also designs and manufactures the RB Weir Gate in larger sizes, for more demanding service conditions and maintains a leakage rate below the allowable standard from AWWA. For more information please contact an Orbinox representative.



CONSTRUCTION DESIGN

The RB Weir Gate is manufactured in general accordance to DIN 19569. Other standards such as AWWA C561 and BS 7775 also available.

The standard RB model is manufactured in stainless steel which has a higher corrosion resistance in many applications which results into a longer life cycle with little or no maintenance. Other materials of construction are available upon request, such as AISI 904L, Duplex stainless, etc.

DESIGN FEATURES

- Modular design allows for both Open Frame and Self Contained configurations
- Option of Rising or Non-Rising Stem configurations
- Option of 3 side or 4 side sealing configurations
- Suitable for actuation with manual, electric, pneumatic or hydraulic actuators
- Self adjusting seal design
- Orbinox Weir Gates are completely factory assembled and tested eliminating the need for on site adjustment

Allowable Leakage:

The leakage rate on the model RB model is lower than the maximum allowable defined by different standards under normal conditions:

- DIN 19569-4 (class 5): 1,20 l/min per meter.
- AWWA C-561: 1.24 l/min per meter.

Seating and Unseating Design Head:

The RB model is designed to withstand a water pressure equal to the height of the slide and can withstand seating and unseating pressure conditions (bidirectional). Additionally, Orbinox offers a 4 side sealing system for applications having higher water head pressures.

Seal design:

The RB model has a unique self-adjusting seal design, ensuring a substantially watertight performance. The HMWPE guides ensure no metal-to-metal contact reducing the friction during operation and extends seal life.

Seating / Unseating Design Head:

Model	Seating Head Pressure	Unseating Head Pressure
3 Side Sealing 150mm x 150mm – 1200mm x 1200mm	Slide Height	Slide Height
3 Side Sealing 1300mm x 1300mm – 1500mm x 2000mm	Slide Height	Slide Height
4 Side Sealing 150mm x 150mm – 1200mm x 1200mm	150x150 - 1000x1000 10 mwc 1100x1100 -1200x1200 6 mwc	150x150 - 1000x1000 10 mwc 1100x1100 -1200x1200 6 mwc
4 Side Sealing 1100mm x 1100mm – 1500mm x 2000mm	6 meters of water column	4 meters of water column

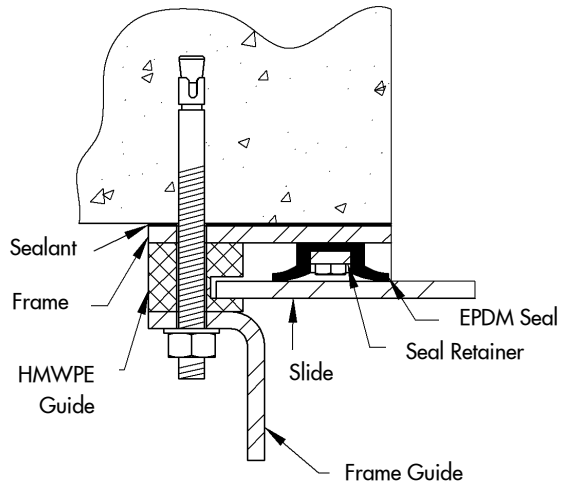
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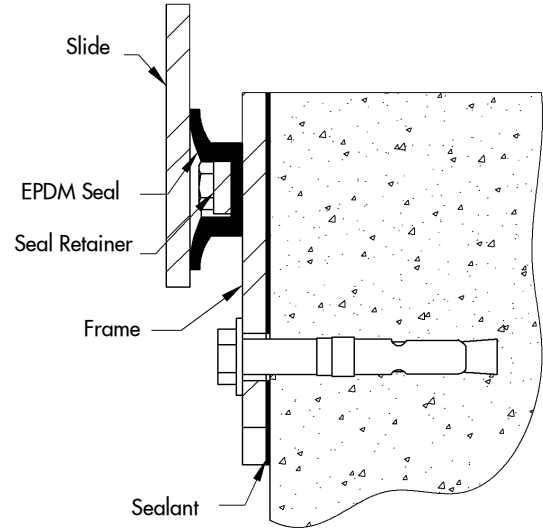
3 Side Sealing

Seal Design: sizes 150mm x 150mm to 1200mm x 1200mm

SIDE SEAL

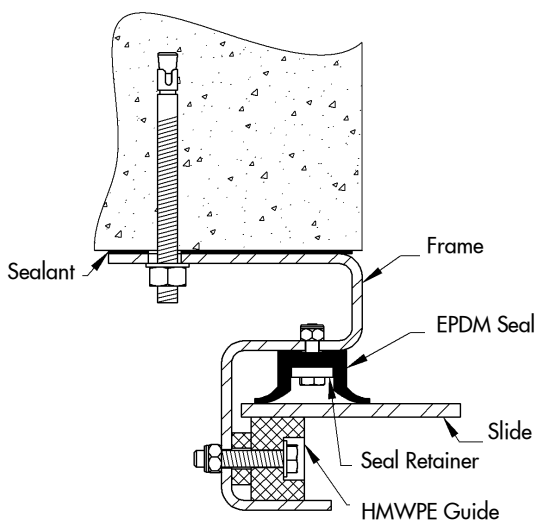


BOTTOM SEAL

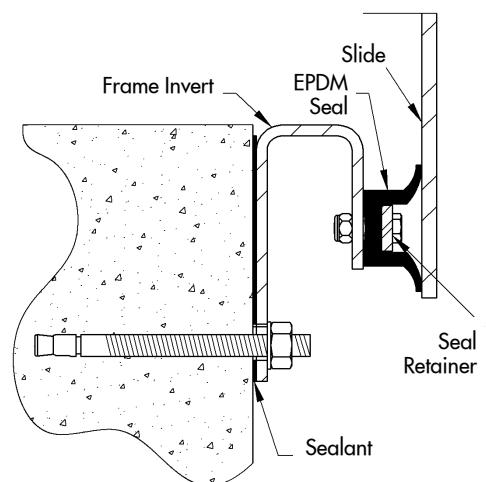


Seal Design: sizes 1300mm x 1300mm to 1500mm x 2000mm

SIDE SEAL



BOTTOM SEAL



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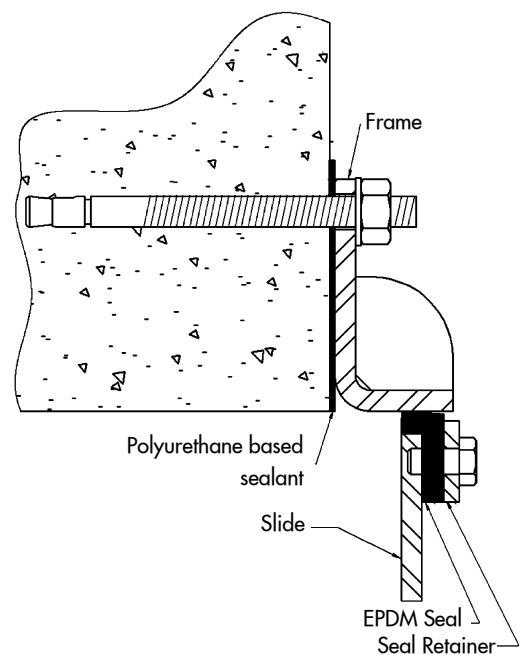
RB

4 Side Sealing

Seal Design: sizes 150mm x 150mm to 1500mm x 2000mm

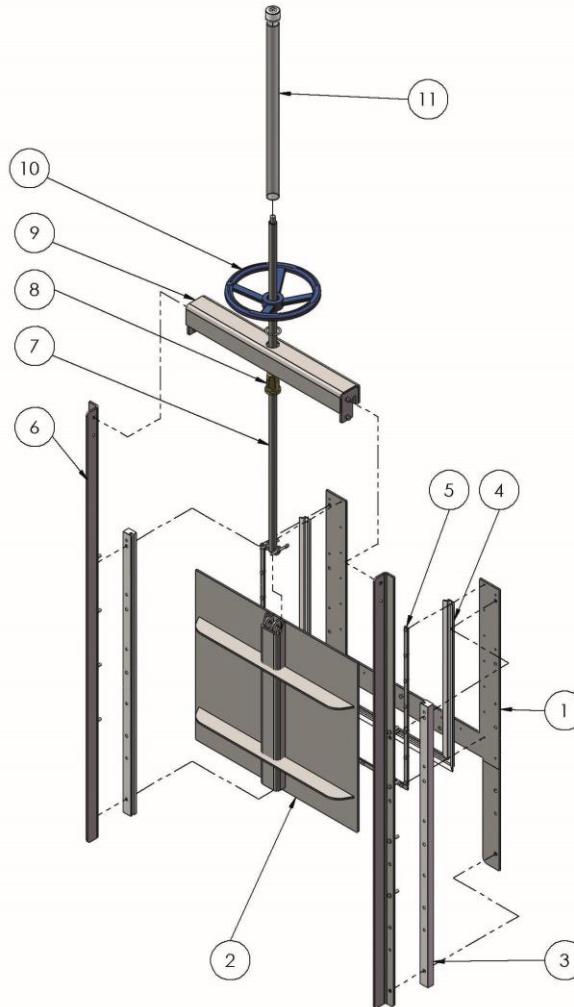
The side and bottom seal configuration for the RB-4 side sealing model is the same as for the RB 3 Side Sealing model up to 1200mm x 1200mm.

TOP SEAL



STANDARD MATERIALS OF CONSTRUCTION

Sizes 150mm x 150mm to 1200mm x 1200mm

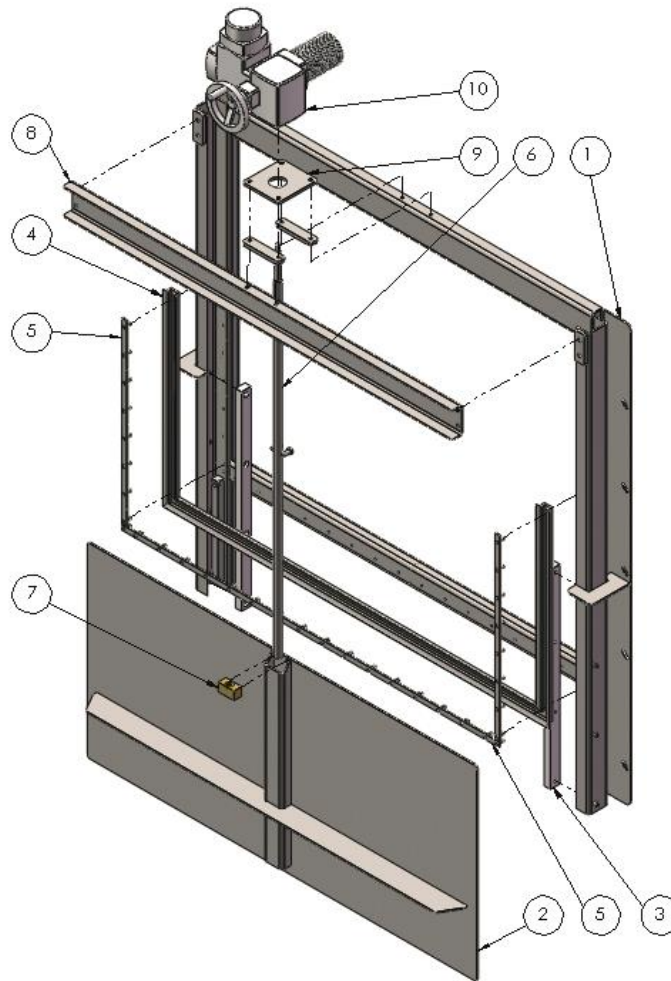


ITEM	DESCRIPTION	MATERIAL
1	Frame	Stainless Steel Type 304L or 316L (14306 or 14404)
2	Slide	Stainless Steel Type 304L or 316L (14306 or 14404)
3	Guides	High Molecular Weight Polyethylene (HMWPE)
4	Seal	EPDM
5	Seal Retainer	Stainless Steel Type 304L or 316L (14306 or 14404)
6	Frame Guide	Stainless Steel Type 304L or 316L (14306 or 14404)
7	Stem	Stainless Steel
8	Stem Nut	Bronze
9	Yoke	Stainless Steel Type 304L or 316L (14306 or 14404)
10	Handwheel	Cast Iron
11	Stem Protector	Carbon Steel/Methacrylate (Plexiglas)

Note: For materials other than the above, please consult an Orbinox representative.

STANDARD MATERIALS OF CONSTRUCTION

Sizes 1300mm x 1300mm to 1500mm x 2000mm



ITEM	DESCRIPTION	MATERIAL (standard)
1	Frame	Stainless Steel Type 304L or 316L (14306 or 14404)
2	Slide	Stainless Steel Type 304L or 316L (14306 or 14404)
3	Guides	High Molecular Weight Polyethylene (HMWPE)
4	Seal	EPDM
5	Seal Retainer	Stainless Steel Type 304L or 316L (14306 or 14404)
6	Stem	Stainless Steel
7	Stem Nut	Bronze
8	Yoke	Stainless Steel Type 304L or 316L (14306 or 14404)
9	Stem Coupling	Stainless Steel Type 304L or 316L (14306 or 14404)
10	Motor*	

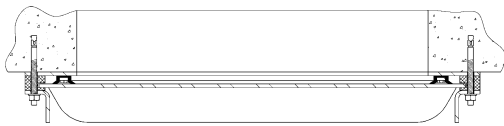
Note: As standard, Orbinox Weir Gates include a manual operator (handwheel or bevel gear).

MOUNTING OPTIONS

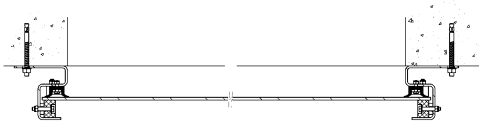
The following drawings show the most common mounting options for RB Weir Gates. For other mounting options, please consult an Orbinox representative

WALL MOUNT

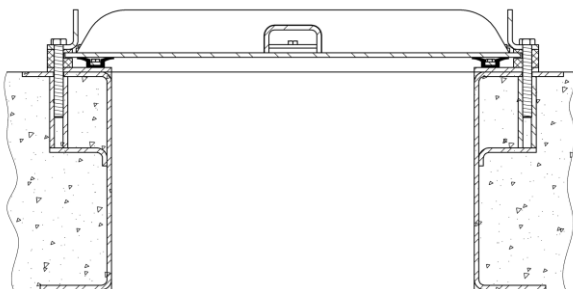
**From 150mm x 150mm
to 1200mm x 1200mm**



**From 1300mm x 1300mm
to 1500mm x 2000mm**

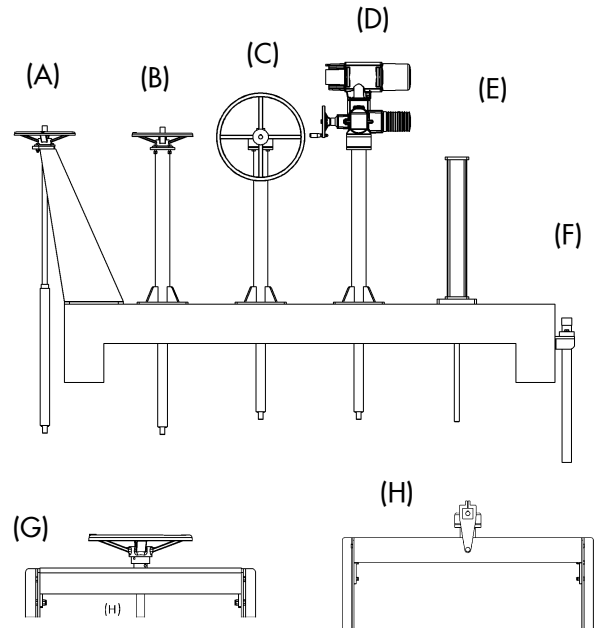


THIMBLE MOUNT



ACTUATORS

All Orbinox actuators can be yoke or pedestal mounted, below are some examples of the most common types.



**Various types of actuators
as shown above:**

- (A) Handwheel on inclined floor stand
- (B) Handwheel on straight floor stand
- (C) Gear operator on straight floor stand
- (D) Electric actuator on straight floor stand
- (E) Hydraulic or pneumatic actuator
- (F) Square Nut ISO 5211 (For Non-Rising stem)
- (G) Yoke mounted handwheel
- (H) Yoke mounted gear and crank

Accessories:

- Mechanical stops
- Actuator manual overrides
- Locking devices
- Solenoid valves
- Positioners
- Limit / Proximity switches

INSTALLATION, OPERATION AND MAINTENANCE (IOM)

This section briefly describes the installation, operation and maintenance of RB Weir gates. For more detailed information please refer to the "Installation, operation and maintenance manual (IOM)".

Installation:

Orbinox RB Weir Gates are installed by means of anchor bolts. Depending on the size and working conditions they shall be either of the mechanical or chemical type. For detailed information about the type, size and quantity of the required anchor bolts for installation, please refer to the notes on the "General Arrangement Drawing".

In order to avoid leakage between the concrete wall and the frame, Orbinox recommends the use of construction sealant equivalent to Sikaflex 11FC (200ml per meter of opening perimeter).

The minimum concrete strength shall be 20.7 MPa. The tolerance of the concrete construction (flatness, levelness and plumbness) shall be in accordance to DIN 18202 standard.

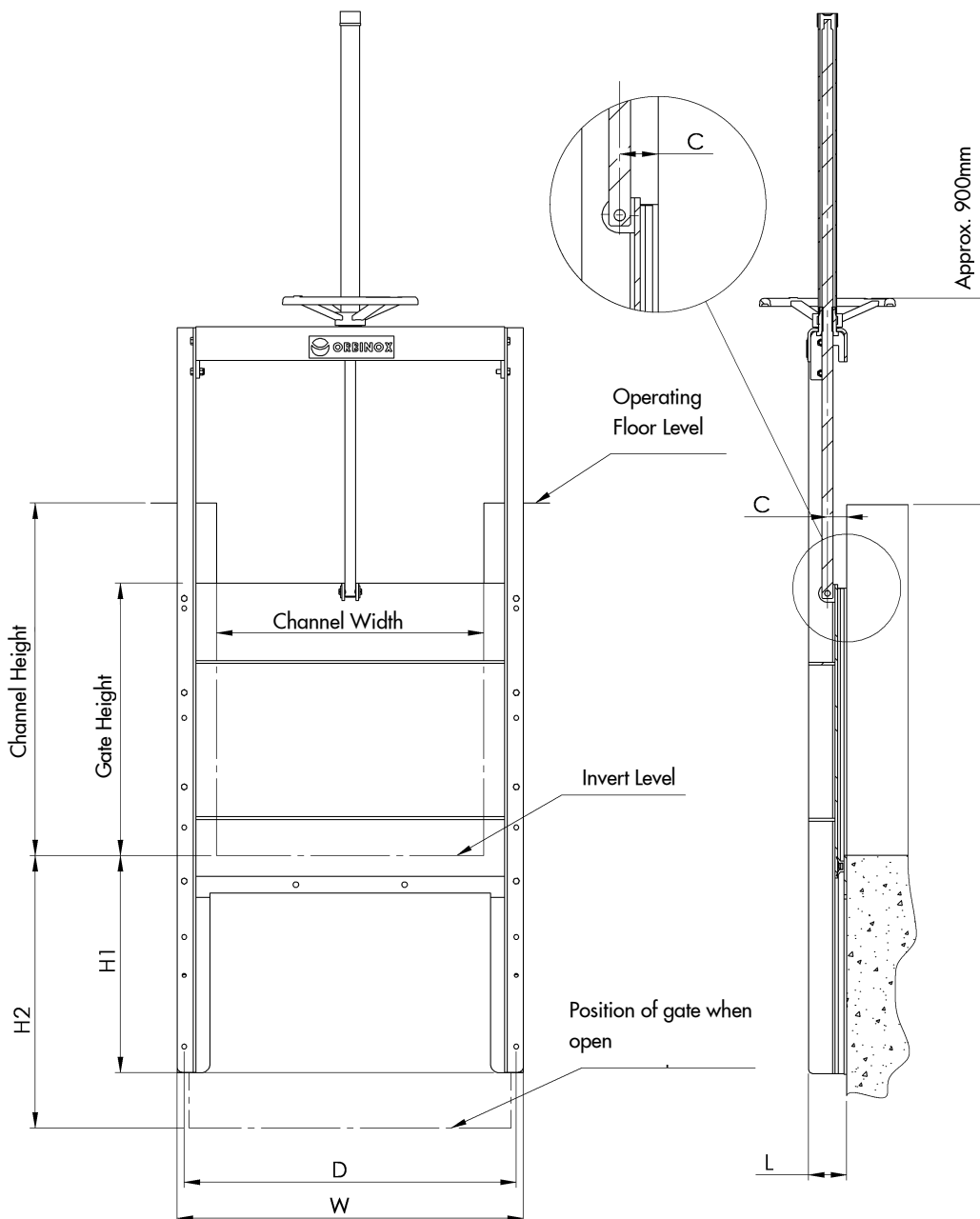
Maintenance and Operation:

The Orbinox RB Weir Gates need practically no maintenance. The stem should be kept lubricated and seals should be replaced if damaged. The RB Weir Gate is closed by applying a clockwise rotation.

RB - RISING STEM - SELF CONTAINED - DIMENSIONS

The following drawings show the most common frame and stem configurations and their dimensional chart. Note that any frame (Open and Self Contained), stem (Rising and Non Rising) and actuator combination can be manufactured for RB Weir Gates.

SIZES: 150mm x 150mm to 1200mm x 1200mm

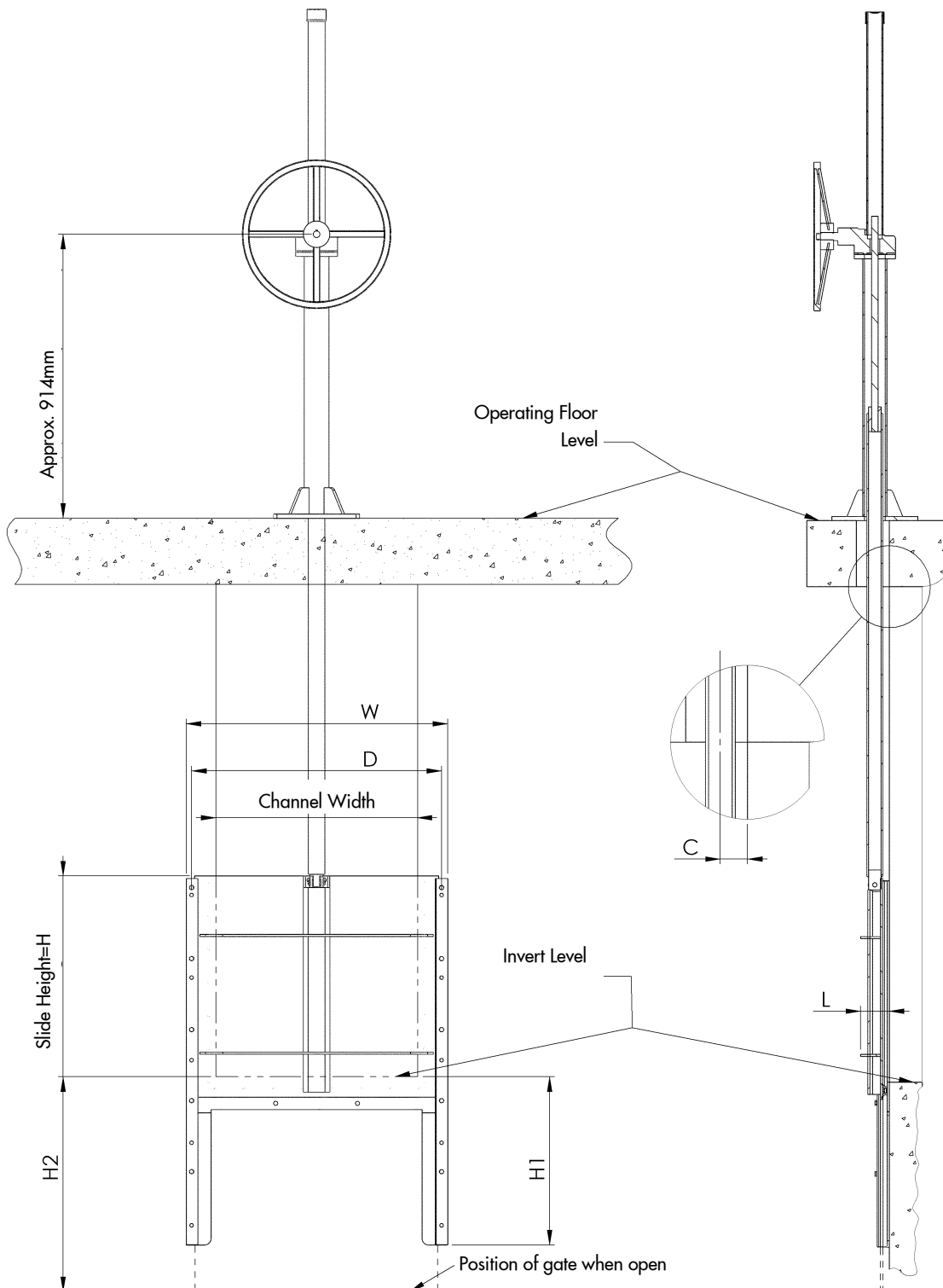


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RB - RISING STEM - OPEN FRAME - DIMENSIONS

SIZES: 150mm x 150mm to 1200mm x 1200mm

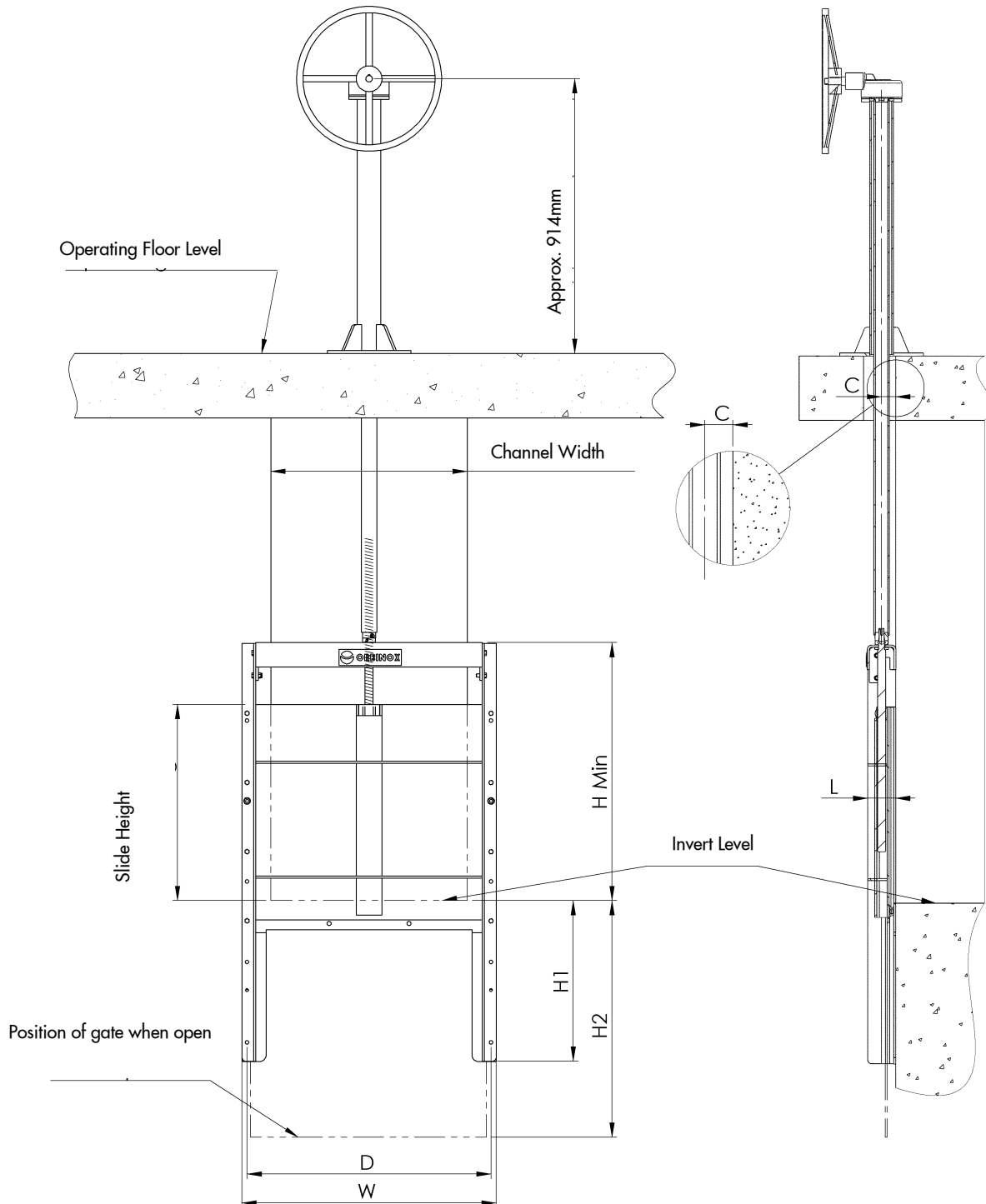


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RB - NON RISING STEM - SELF CONTAINED - DIMENSIONS

SIZES: 150mm x 150mm to 1200mm x 1200mm



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RB - DIMENSIONAL CHART (3 Side Sealing)

SIZES: 150mm x 150mm to 1200mm x 1200mm

SIZE (Channel Width x Slide Travel)	W	H Min (Self- contained)	H (Open Frame)	H1	H2	D	L	C
150 x 150	330	300	150	150	210	298	59	43
200 x 200	380	350	200	200	260	348	87	43
250 x 250	430	400	250	250	310	398	87	43
300 x 300	480	450	300	300	360	448	87	43
350 x 350	530	500	350	350	410	498	87	43
400 x 400	580	550	400	400	460	548	87	43
450 x 450	630	600	450	450	510	598	87	43
500 x 500	680	650	500	500	560	648	87	43
600 x 600	780	750	600	400	660	748	87	43
700 x 700	880	850	700	450	760	848	87	43
750 x 750	930	900	750	475	810	898	87	43
800 x 800	980	950	800	500	860	948	87	43
900 x 900	1080	1050	900	550	960	1048	147	60
1000 x 1000	1200	1150	1000	600	1060	1168	147	60
1050 x 1050	1250	1200	1050	625	1110	1218	147	60
1100 x 1100	1300	1250	1100	650	1160	1268	147	60
1200 x 1200	1400	1350	1200	700	1260	1368	147	60

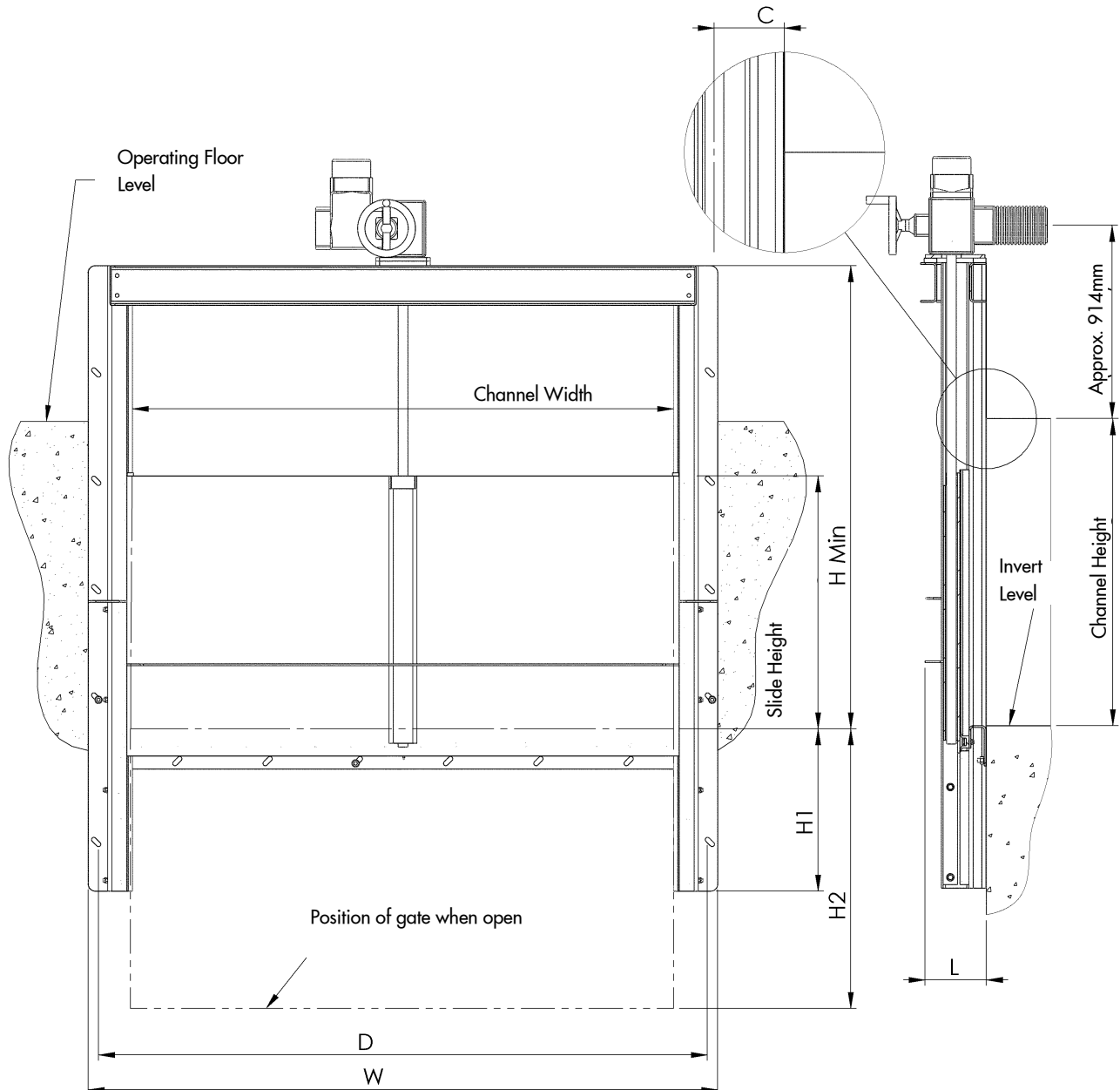
For dimensions other than above, please contact an Orbinox representative.
 These dimensions are for information only. Do not use for installation or submittal purposes.

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RB - NON RISING STEM -SELF CONTAINED- DIMENSIONS

SIZES: 1300mm x1300mm to 1500mm x 2000mm

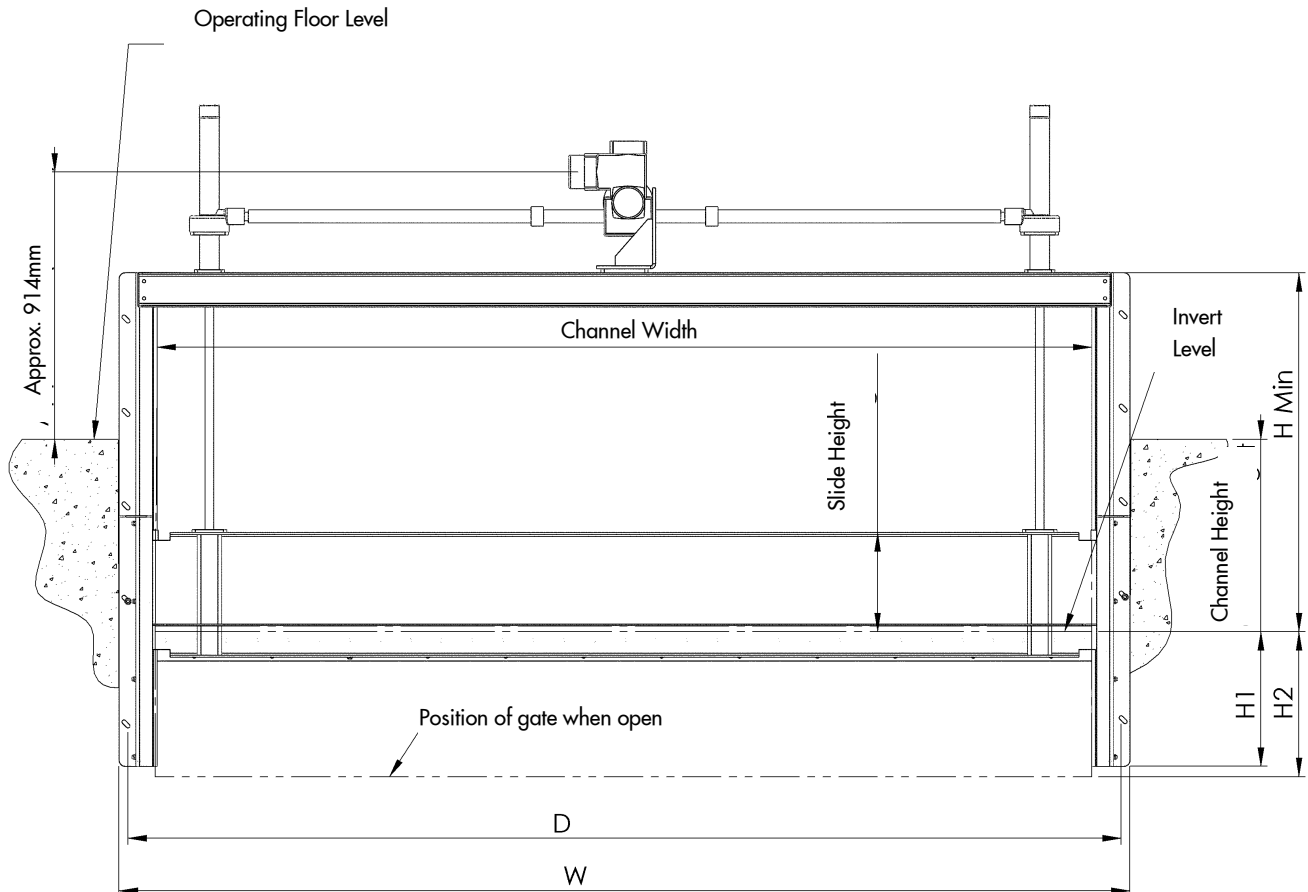


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RB - DUAL STEM - RISING STEM - SELF CONTAINED - DIMENSIONS

SIZES: 1300mm x1300mm to 1500mm x 2000mm



MODEL**RB**

RB - DIMENSIONAL CHART (3 Side Sealing)

SIZES: 1300mm x1300mm to 1500mm x 2000mm

SIZE (Channel Width x Slide Travel)	W	H Min (Self- contained)	H (Open Frame)	H1	H2	D	L	C
1300 x 1300	1630	1500	1300	750	1370	1564	235	87
1400 x 1400	1730	1600	1400	800	1470	1664	235	87
1500 x 1500	1830	1700	1500	850	1570	1764	235	87
1500 x 1600	1830	1800	1600	900	1690	1764	235	87
1500 x 1700	1830	1900	1700	950	1790	1764	235	87
1500 x 1800	1830	2000	1800	1000	1890	1764	235	87
1500 x 1900	1830	2100	1900	1050	1990	1764	235	87
1500 x 2000	1830	2200	2000	1100	2090	1764	235	87

For dimensions other than above, please contact an Orbinox representative.

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RB WEIR GATE SELECTION FORM

Customer: _____ Tag No.: _____ Date: _____
 Order Number: _____ Qty.: _____

WEIR GATE DESIGN (Size= Channel Width x Slide Height)

Units: mm 3 Side Sealing
 inch 4 Side Sealing

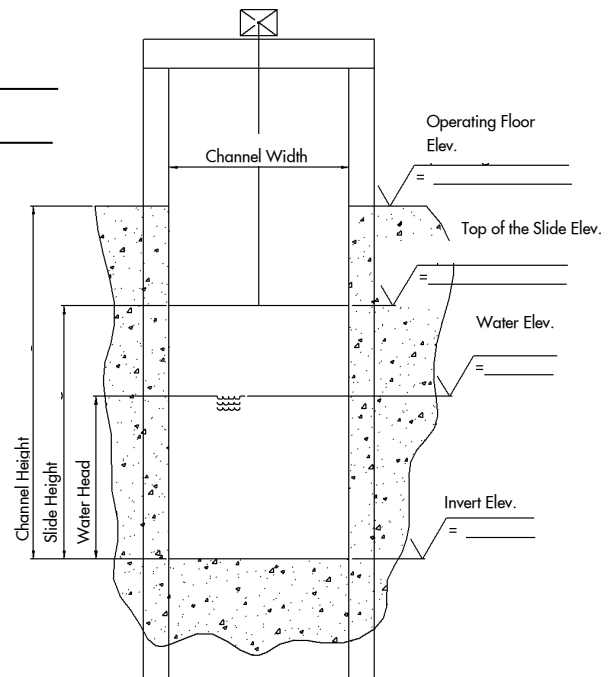
Channel Width: _____ Channel Height: _____

Slide Height: _____

Slide Travel: _____

Seating Water Head: _____

Unseating Water Head: _____



FRAME AND STEM CONFIGURATION

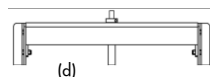
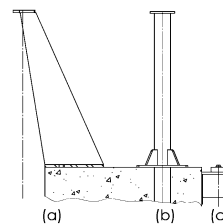
- Non Rising Stem (NRS)
- Rising Stem (RS)
- Open Frame + Extension
- Closed frame + Extension
- Closed Frame (with extended frame)

ACTUATORS

- Handwheel
- Crank (w/ B.Gear and Sqr. Nut)
- Square Nut ISO 5211 (NRS Only)
- Bevel Gear
- Electric Motor
- Pneumatic Cylinder
- Hydraulic Cylinder

Actuator Mounting:

- Inclined Floor Stand (a)
- Straight Floor Stand (b)
- Wall Bracket (for Sqr.Nut) (c)
- Frame Mounted (d)



Position Indicator:

(For RS Only)

- Mylar Tape
- Limit Switch
- Proximity Switch

MATERIALS

- | | | | |
|---------------|---------------------------------------|------------------------------------|--------------|
| Frame & Slide | <input type="checkbox"/> 304L SS | <input type="checkbox"/> 316L SS | Other: _____ |
| Stem | <input type="checkbox"/> 303 SS | <input type="checkbox"/> 316 SS | Other: _____ |
| Extension | <input type="checkbox"/> 304L SS | <input type="checkbox"/> 316L SS | Other: _____ |
| Floor Stand | <input type="checkbox"/> Carbon Steel | <input type="checkbox"/> 304L SS | Other: _____ |
| Seal | <input type="checkbox"/> EPDM | | Other: _____ |
| Stem Cover | <input type="checkbox"/> Carbon Steel | <input type="checkbox"/> Plexiglas | |

REMARKS

Name: _____ Signature: _____