MODEL SL

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GENERAL DESCRIPTION

The ORBINOX model SL Stop Log is designed for open channel installations in waste treatment plants, irrigation, hydraulic works and hydro-electric power plants.

The slide is formed by several logs that fit on top of each other in the frame. By adding or removing logs, the SL model allows the user to control the flow in a channel. The sealing system is incorporated on both laterals and bottom area of each log, resulting in a substantially watertight seal. From sizes 150mm x 150mm to 2000mm x 2000mm, the SL model has a unique "lip" type seal design.

The frame of the SL model is typically embedded in concrete, but can also be designed to be wall mounted or face mounted in an existing channel.

ORBINOX can also design and manufacture the SL model Stop Log in larger dimensions and for higher service conditions while maintaining a low leakage rate. For more information, please contact an ORBINOX representative.

CONSTRUCTION DESIGN

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

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DESIGN FEATURES

General design features:

- Stainless steel fabricated modular design
- Mounting options: Embedded In Concrete, Wall Mount and Face Mount In Existing Channel
- ORBINOX Stop Logs are completely factory assembled and tested eliminating the need for on site adjustment
- All fasteners are stainless steel
- The SL model is designed to wisthstand a water pressure equal to the total height of the logs

Leakage Allowance:

The leakage rate on the model SL is lower than the maximum allowable defined by DIN 19569-4 (class 1).

Log design:

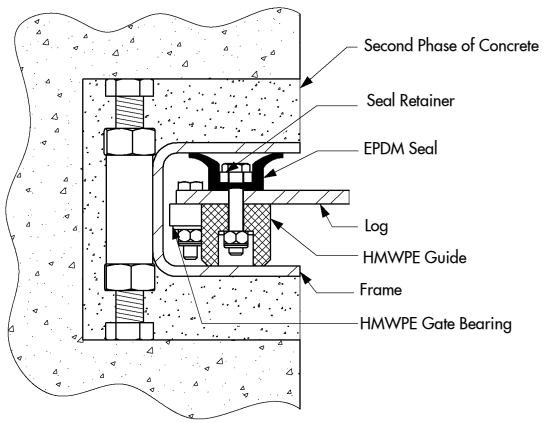
- Interchangeable log design
- The HMWPE guides in the logs ensure no metal-to-metal contact between the frame and the log which reduces the friction during operation and extends seal life
- The log is designed to seal at the bottom due to its weight

Seal design:

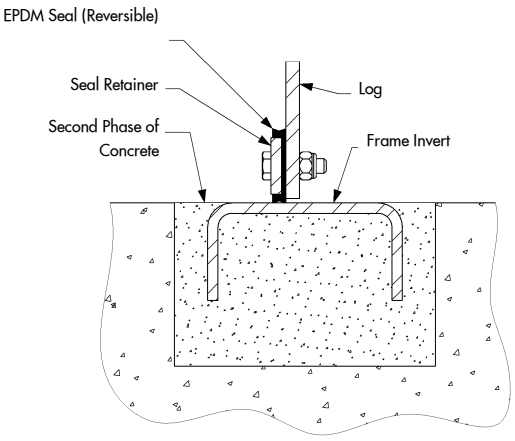
- Bidirectional self adjusting seal to control flow in either direction.
- Vertical seals and also horizontal seals (to prevent leak between logs) are placed on each log. This design allows easy access to the seals, resulting in a cost savings in maintenance time.

Seal Design: SL Bi-Directional and Embedded In Concrete

SIDE SEAL



BOTTOM SEAL



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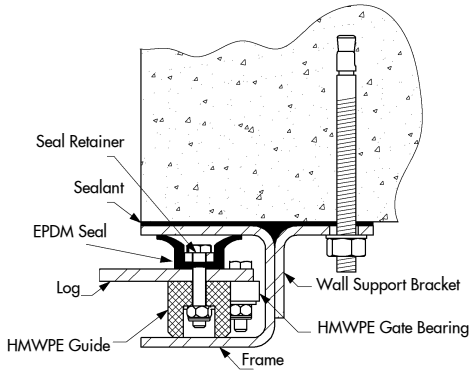
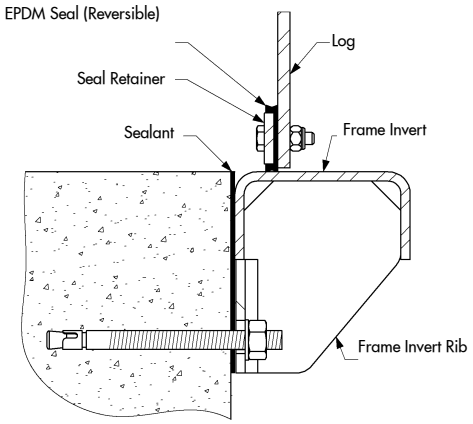
DESIGN FEATURES

Seal Design: SL Bi-Directional and Wall Mounted

SIDE SEAL

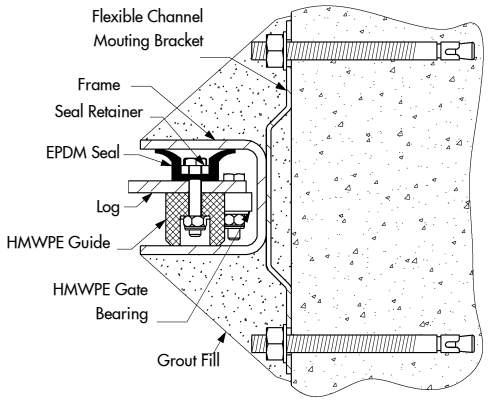


BOTTOM SEAL

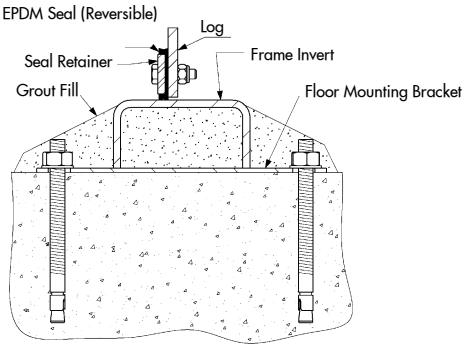


Seal Design: SL BI-Directional and Face Mounted

SIDE SEAL

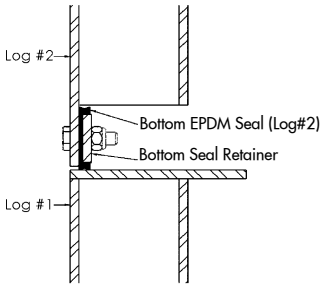


BOTTOM SEAL



Seal Design between Logs

Each log has a rib on the top, creating a flat surface for the bottom seal of the log on top of it, ensuring a substantially watertight performance.



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MODEL SL

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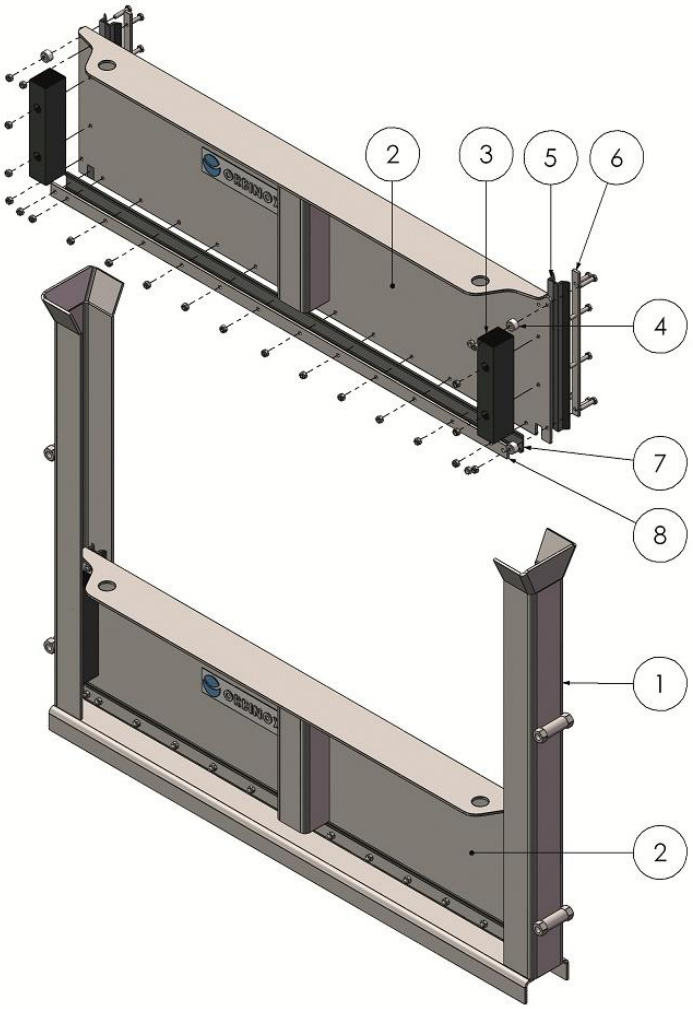
STANDARD MATERIALS OF CONSTRUCTION



ITEM	DESCRIPTION	MATERIAL (standard)
1	Frame	Stainless Steel Type 304L or 316L (1.4306 or 1.4404)
2	Log	Stainless Steel Type 304L or 316L (1.4306 or 1.4404)
3	Guides	High Molecular Weight Polyethylene (HMWPE)
4	Gate Bearings	High Molecular Weight Polyethylene (HMWPE)
5	Seals	EPDM
6	Seal Retainer	Stainless Steel Type 304L or 316L (1.4306 or 1.4404)
7	Bottom Seal	EPDM
8	Bottom Seal Retainer	Stainless Steel Type 304L or 316L (1.4306 or 1.4404)

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

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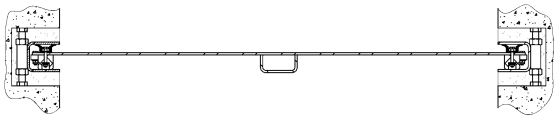
MODEL SL

MOUNTING OPTIONS

The following drawings show the most common mounting options. For other mounting options please contact an ORBINOX representative.

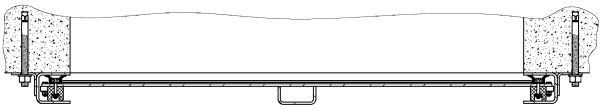
EMBEDDED IN CONCRETE (EC)

Model: SL-EC



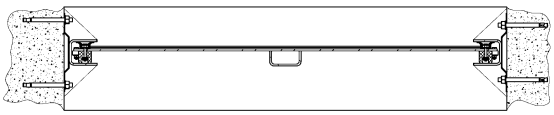
WALL MOUNTED (WM)

Model: SL-WM



FACE MOUNTED IN EXISTING CHANNEL (FM)

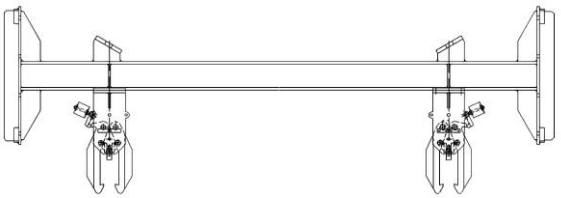
Model: SL-FM



ACTUATORS

ORBINOX offers different lifting solutions to safely and effectively handle the logs. When the weight of the log is lower than 25kg, it can be handled with a lifting pole. The lifting pole fits in the frame guide and it is guided to easily hook the log.

For heavier logs, or when access is difficult, ORBINOX offers a lifting device. The lifting device, which is connected to a crane, fits into both lateral frame guides and hooks and releases the logs (via lifting pins) remotely and semi-automatically.



Pull Out Force

The necessary force to pull out the log can be calculated approximately with the following formula:

POF=[(W x H) x WC x 0.001] x f + [(W x H x t) x D]

Where:

- POF: Pull Out Force (kg)
- W: Log Width (mm)
- H: Log Height (mm)
- WC: water column (m.w.c)
- f=0.3 (friction factor)
- t= Log thickness (thickness, mm)
- D=8.10-6 kg/mm3 for SS

MODEL **SL**

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INSTALLATION, OPERATION AND MAINTENANCE

This section briefly describes the installation, operation and maintenance of SL Stop Logs. For more detailed information please refer to the IOM Manual.

Installation:

A) Embedded in Concrete (EC): The gate frame is centered in the recess prior to embedding it in concrete. Optionally, the gate frame includes leveling fittings and brackets to simplify the installation process.
B) Wall Mount (WM): The SL Stop Log is installed by means of mechanical anchor bolts and construction sealant (Sikaflex or equivalent).
C) Face Mounted in Existing Channel (FM): The SL Stop Log is installed by means of mechanical anchor bolts. All the gaps shall be grout filled afterwards and shaped in order to assure a smooth transition.

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.
For detailed information about the type, size and quantity of the required anchor bolts or other installation materials, please refer to the notes on the "General Arrangement Drawing".

Maintenance and Operation:

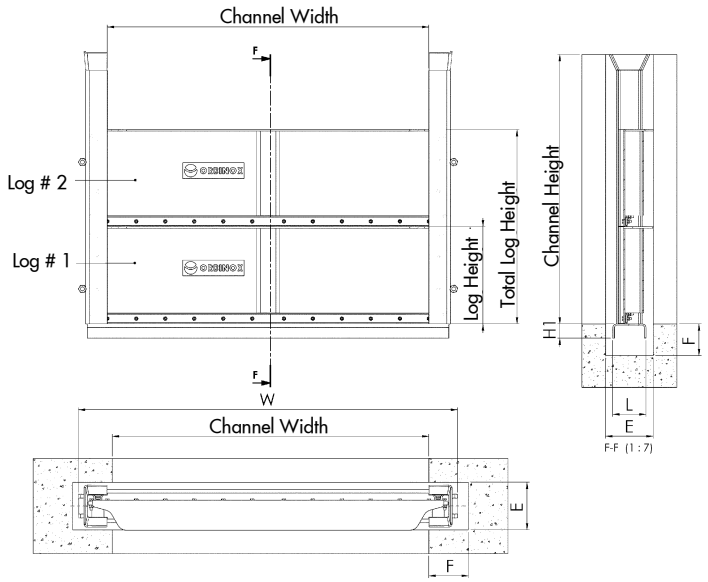
The ORBINOX SL Stop Logs need practically no maintenance. Seals should be replaced in case of damaged.

MODEL **SL**

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

SL-EC • BI-DIRECTIONAL • DIMENSIONS

SIZES: 150mm x 150mm to 2000mm x 2000mm



SIZE (mm) Channel Width	SIZE (mm) Slide Height	W	L	H1	E x F
150	150	321	80	30	120 x 100
200	200	371	80	30	120 x 100
300	300	471	80	30	120 x 100
400	400	571	80	30	120 x 100
500	500	671	80	30	120 x 100
600	600	776	90	45	120 x 100
700	700	876	90	45	120 x 100
800	800	976	90	45	120 x 100
900	900	1076	90	45	120 x 100
1000	1000	1176	90	45	120 x 100
1100	1100	1276	110	60	250 x 125
1200	1200	1376	110	60	250 x 125
1300	1300	1476	110	60	250 x 125
1400	1400	1576	110	60	250 x 125
1500	1500	1576	110	60	250 x 125
1600	1600	1814	215	90	250 x 125
1700	1700	1914	215	90	250 x 125
1800	1800	2014	215	90	250 x 125
1900	1900	2114	215	90	250 x 125
2000	2000	2214	215	90	250 x 125

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.

MODEL **SL**

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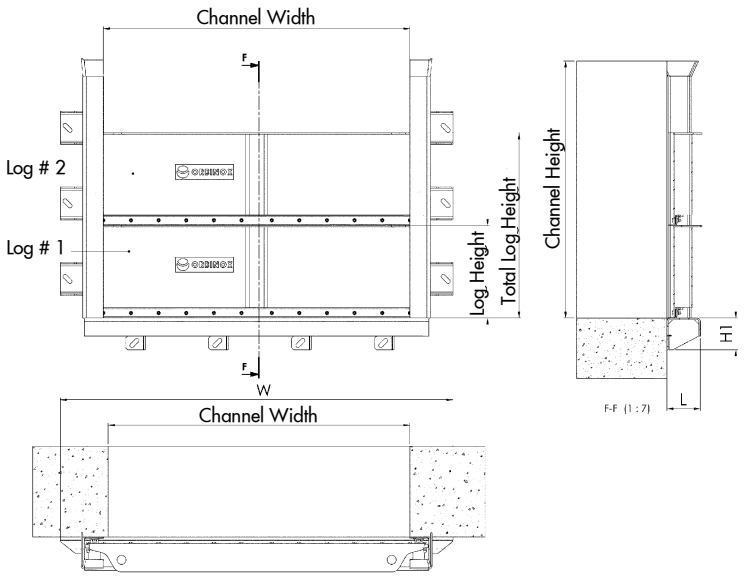
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

SL-WM· BI-DIRECTIONAL · DIMENSIONS

SIZES: 150mm x 150mm to 2000mm x 2000mm



SIZE (mm) Channel Width	SIZE (mm) Slide Height	W	D	L	H1
150	150	384	344	80	80
200	200	434	394	80	80
300	300	534	494	80	80
400	400	634	594	80	80
500	500	734	694	80	80
600	600	836	796	90	95
700	700	936	896	90	95
800	800	1036	996	90	95
900	900	1136	1096	90	95
1000	1000	1236	1196	90	115
1100	1100	1356	1306	112	115
1200	1200	1456	1406	112	115
1300	1300	1556	1506	112	115
1400	1400	1656	1600	112	115
1500	1500	1756	1706	112	115
1600	1600	1804	1754	112	115
1700	1700	1904	1854	112	115
1800	1800	2004	1954	112	115
1900	1900	2104	2054	112	115
2000	2000	2204	2154	112	115

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MODEL SL

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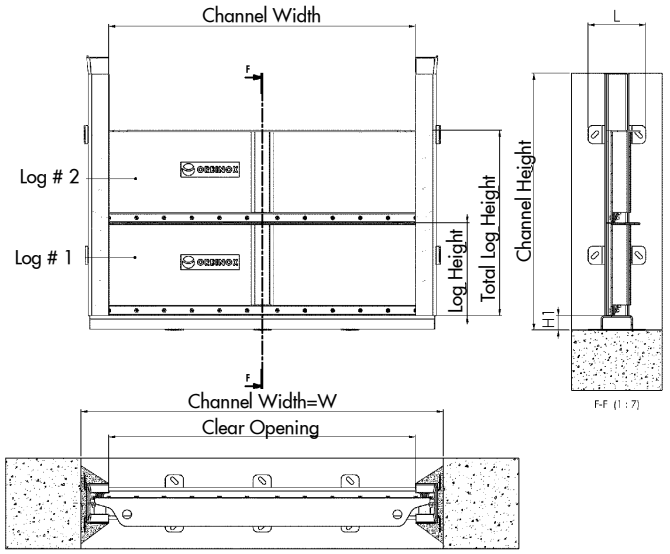
SL-FM • BI-DIRECTIONAL • DIMENSIONS

SIZES: 150mm x 150mm to 2000mm x 2000mm



SIZE (mm) Channel Width	SIZE (mm) Slide Height	W	Clear Opening	L	H1
150	150	150	-	190	30
200	200	200	38	190	30
300	300	300	138	190	30
400	400	400	238	190	30
500	500	500	338	190	45
600	600	600	438	190	45
700	700	700	538	190	45
800	800	800	638	190	45
900	900	900	738	190	45
1000	1000	1000	938	190	45
1100	1100	1100	1038	190	60
1200	1200	1200	1138	190	60
1300	1300	1300	1238	190	60
1400	1400	1400	1338	190	60
1500	1500	1500	1438	190	60
1600	1600	1600	1400	240	80
1700	1700	1700	1500	240	80
1800	1800	1800	1600	240	80
1900	1900	1900	1700	240	80
2000	2000	2000	1800	240	80

Note: For dimensions other than above, please contact an ORBINOX representative.
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SL STOP LOG SELECTION FORM

Customer: _____ Tag No.: _____ Date: _____

Order Number: _____ Qty.: _____

STOP LOG DESIGN (Size= Channel Width x Slide Height)

Units: mm ☐ inch ☐

Channel Width: _____ Channel Height: _____

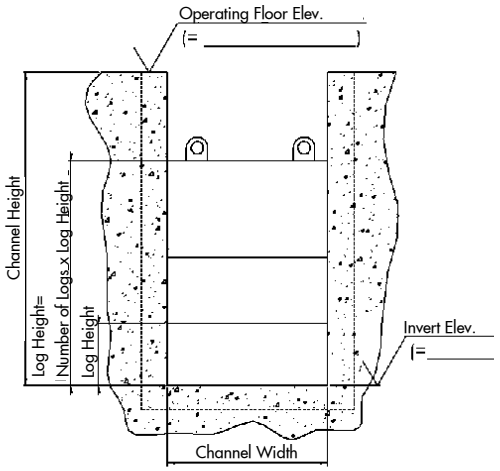
Total Logs Height: (=Number of Logs x Log Height) _____

Number of Logs: _____

Height of each log: _____

Max. Seating Water Head: _____

Max. Unseating Water Head: _____

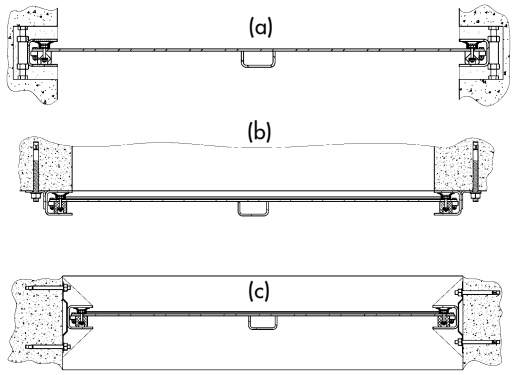


STOP GATE MOUNTING

☐ Embedded in Concrete (a)

☐ Wall Mounted (b)

☐ Face Mounted In Existing Channel (c)



Frame Invert Mounting:

☐ Embedded in Concrete

☐ Wall Mounted

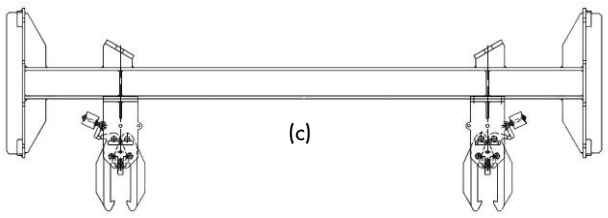
☐ Face Mounted In Existing Channel

LIFTING MECHANISM

☐ Hand pull

☐ Prepared for external crane

☐ Lifting device (c)



MATERIALS

Frame&Slide: ☐ 304L SS ☐ 316L SS ☐ Other:

Seal: ☐ EPDM ☐ Other:

REMARKS

Name: Signature: