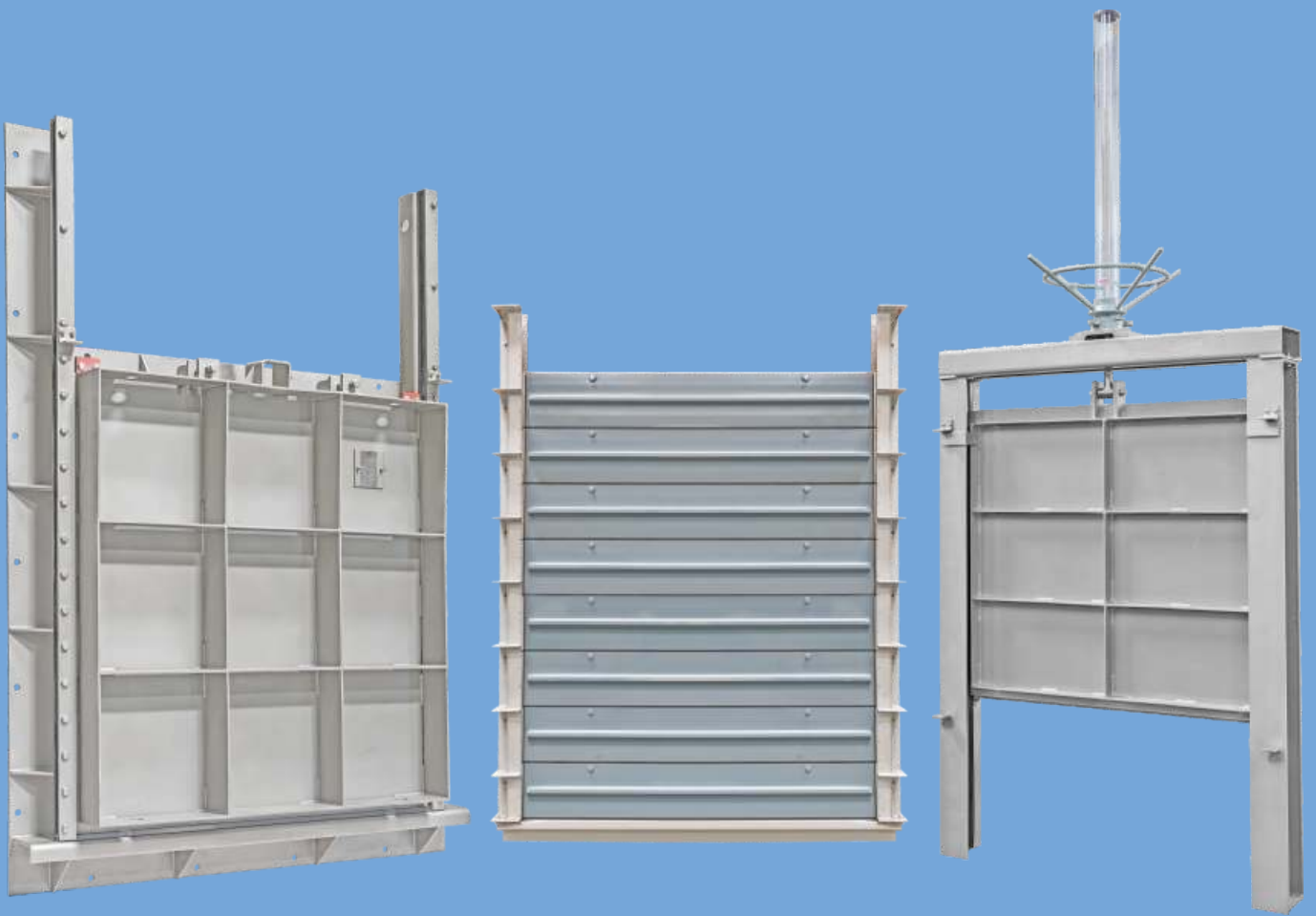




SINCE 1948

WATER & SEWAGE CONTROL EQUIPMENT



**STAINLESS STEEL & ALUMINUM
FABRICATED SLIDE GATES & STOPLOGS**



3200 x 13420 mm Bulkhead Gate with Integral Slide Gate
for Newtown Creek, NY, USA

ENGINEERING EXCELLENCE AND EXPERIENCE

Since 1948, the engineering team at Jash has pioneered safe and reliable flow control systems in thousands of installations in India and around the world. In 2016, Jash acquired Rodney Hunt, a company with 177 years of experience in manufacturing of flow control products and having a leadership position in North America. Together, we bring more than 250 years of experience in designing customized solutions to meet the needs of the most challenging applications worldwide.

SUPERIOR QUALITY

We bring exceptional quality to every project using application based solutions, proven designs, manufacturing flexibility and rigorous testing procedures. We offer one of the most flexible and comprehensive cast, metal fabrication, machining, assembly and testing operations at our inhouse facilities in India (ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007 Certified) and USA. This allows us to monitor and ensure quality in all aspects of production and to provide consistent reliable and superior products.

COMPREHENSIVE PRODUCT OFFERING

Our product offering is unrivalled in the flow control marketplace. From all types and sizes of cast and fabricated gates, in a wide variety of material options encompassing metals and plastics, to custom valve and actuation options, we bring a total solution to every project. The breadth of our product offering enables us to bring an unequalled impressive range of expertise to your planning and decision making process.

RESPONSIVE SERVICE

We pride ourselves on providing professional responsiveness to your needs throughout the design, manufacturing and installation processes. Our engineering team is available for consultation during all phases of your project. Dedicated project managers serve as a single point of contact once the order is in-house and our knowledgeable field service team is always ready to provide on-site support.

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2000 x 2800 mm
Stainless Steel Slide Gates
at Punggol Serangoon PS,
Singapore

01 SERIES: A-111 STAINLESS STEEL SLIDE GATES

- Size range: 100 x 100 mm to 1200 x 1200 mm
- Head range: Seating 6 m & Unseating 6 m
- Sealing: SELF-SECURE™ Resilient sealing system
- Mounting: Face wall mounted

02 SERIES: A-112 STAINLESS STEEL SLIDE GATES

- Size range: 100 x 100 mm to 1200 x 1200 mm
- Head range: Seating 6 m & Unseating 6 m
- Sealing: HARSA™ Rigid sealing system
- Mounting: Face wall mounted

03 SERIES: A-113 STAINLESS STEEL SLIDE GATES

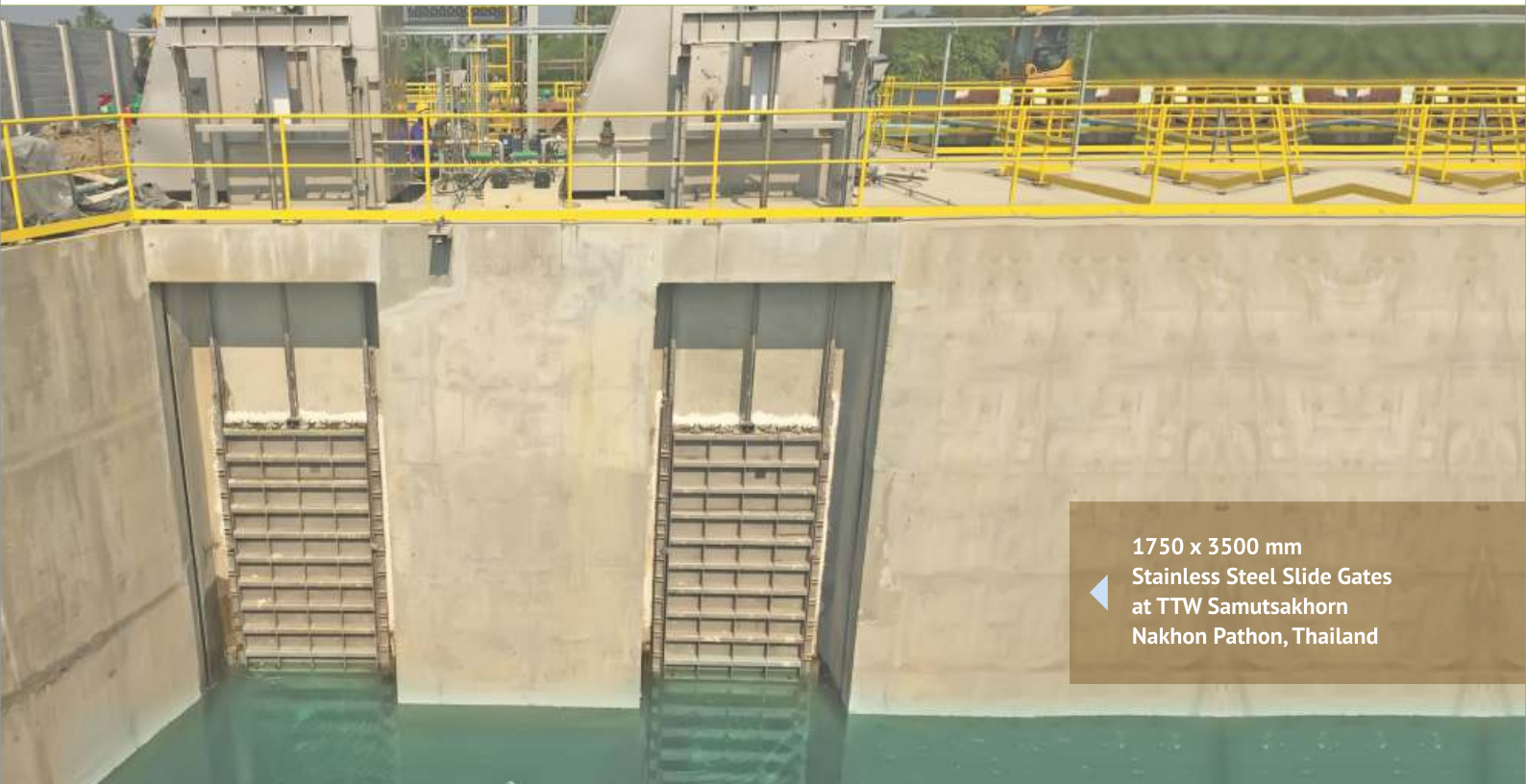
- Size range: 500 x 500 mm to 3000 x 3000 mm higher sizes on request
- Head range: Seating 10 m & Unseating 6 m or as required
- Sealing: HARSA™ Rigid sealing system
- Mounting: Face wall mounted / Wall thimble mounted / Pipe flange mounted

04 SERIES: A-114 STAINLESS STEEL SLIDE GATES

- Size range: 500 x 500 mm to 3000 x 3000 mm higher sizes on request
- Head range: As per customer requirement, Upto 18 m possible
- Sealing: PRESS-ON™ Resilient sealing system
- Mounting: Face wall mounted / Wall thimble mounted / Pipe flange mounted

05 SERIES: A-211 / 212 / 213 STAINLESS STEEL OPEN CHANNEL SLIDE GATES

- Size range: 300 x 300 mm to 4500 x 4500 mm higher sizes on request
- Head range: Open channel flow to height of slide
- Sealing: HARSA™ Rigid sealing system / EASY-SLIDE™ Resilient sealing system
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored



1750 x 3500 mm
Stainless Steel Slide Gates
at TTW Samutsakhorn
Nakhon Pathon, Thailand

06 **SERIES: A - 311**
STAINLESS STEEL WEIR GATES

- Size range: 300 x 300 mm to 3000 x 5000 mm higher sizes on request
- Head range: Unseating head equal to the height of gate due to 3 sides sealing arrangement
- Sealing: HARSA™ Rigid sealing system / PRESS-ON™ Resilient sealing system
- Mounting: Face wall mounted

07 **SERIES: A-411 / 412 / 413**
STAINLESS STEEL SECTIONAL STOPLOGS

- Size range: 300 x 300 mm to 3000 x 5000 mm, higher sizes on request
- Head range: Unseating head equal to the height of assembled stoplogs due to 3 sides sealing arrangement
- Sealing: HARSA™ Rigid sealing system / LIP-GLIDE™ Resilient sealing system
- Side Seal mounting: On Frame guide / Stoplogs
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored

08 **SERIES: A -415 / 416 / 417**
STAINLESS STEEL HANDSTOP / STOP GATES

- Size range: 100 x 100 mm to 750 x 750 mm higher sizes on request
- Head range: Unseating head equal to the height of stop gates due to 3 sides sealing arrangement
- Sealing: HARSA™ Rigid sealing system / Resilient sealing system
- Side Seal mounting: On Frame guide / On Slide
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored

Jash has the capability to design and manufacture gates for heads and sizes larger than those stated above. Jash can also offer custom designed gates to suit any specific application of the client.

STAINLESS STEEL WATER CONTROL PRODUCTS

SYSTEM FOLLOWED TO ENSURE SUPERIOR PRODUCTS



HEATLESS CUTTING



CONTINUOUS WELDING



100% DYE PENETRANT TESTING

NSF 61 FOR DRINKING WATER APPLICATION

All materials used in manufacturing of slide gates are NSF 61 certified and the manufacturing processes and systems followed ensure that the final product is in full compliance to NSF 61 requirements for drinking water application.

SEGREGATED MANUFACTURING FOR STAINLESS STEEL PRODUCTS

Manufacturing practices at our plant are aimed to avoid contamination and maintain surface integrity of stainless steel material being processed. All processing activities for stainless steel are separated from those of carbon steel right from the stage of storage to subsequent handling, fabrication, assembly and dispatch.

HEATLESS CUTTING

We extensively rely on heatless cutting of stainless steel to limit the possibility of change in corrosion resistance properties of stainless steel due to exposure to heat. To ensure this we use CNC Water jet cutting machines which can cut stainless steel plates as thick as 75 mm at 240 bar.

WELDING USING QUALIFIED WELDERS & PROCESSES

We use qualified processes for welding & approved qualified welders in conformance with AWS D1.6 / ASME Section IX as per AWWA and BS EN 15614 as per BS7775. The welder qualification process is witnessed & approved by Bureau Veritas for welding Stainless Steel grades like 304, 304L, 316, 316L, Duplex & Super Duplex.

CONTINUOUS WELDING

To prevent crevice corrosion and ensure long life of stainless steel welded products, we promote use of continuous welding on our products. We carry out continuous welding in two forms ie (i) full welding on both sides of metal joints which are in continuous close contact with each other. This increases the length of weld joint but allows for straight line cutting of contact edges, or (ii) full welding on both sides of metal joints which are in intermittent contact with each other. This reduces the length of weld joint but necessitates profiled cutting of contact edges.

100% DYE PENETRANT TESTING

To verify the quality of welding we conduct dye penetrant testing of all weld joints using qualified inspectors. This is integral to our quality system for fabricated products and is done whether the client demands for this or not.



GLASS BEAD BLASTING

GLASS BEAD BLASTING

Stainless steel parts may get exposed to free iron particles or iron dust inspite of all the care taken during manufacturing. When these embedded iron particles or iron dust settle on the surface of stainless steel and exposed to moist air, they leave rusty patches or spots which may initiate corrosion in underlying stainless steel when conditions are severe. To mechanically remove this contamination all fabricated stainless steel gates are glass bead blasted in an environmentally safe condition post welding.

BATH PICKLING

To achieve a better outcome in removing possible contamination, the process of mechanical removal by glass bead blasting is supplemented by bath pickling. The process of bath pickling removes few microns from the surface layer of stainless steel together with all foreign matters and the oxides formed during welding and the layer of metal depleted by oxidation. Our plant employs an environmentally safe and health compliant bath pickling tank of 7.6 x 2 x 2.5 m (L x B x H) size equipped with a fume extraction system to pickle finished stainless steel products.



BATH PICKLING

PASSIVATION

Pickling leaves a clean surface that immediately starts to react with the atmosphere. The process of passivation is rinsing of this clean surface using demineralized water. In this process, the oxygen in the rinsing water reacts with the pickled surface to reform the uniform chromium oxide layer that gives stainless steel its corrosion resistance. After passivation, stainless steel products are covered by a film of plastic to prevent any further contamination at the plant or at the site.

To prevent contamination from ferrous dust from cutting, grinding and welding at site, clients should essentially keep stainless steel products covered / wrapped / isolated and use non-metallic slings to handle these products at the time of shifting and installation. Even after installation, stainless steel products should be suitably covered to avoid ferrous contamination from subsequent construction / fabrication / installation activities being carried out at site. Covers should be unwrapped only when all such activities are over and the plant is to be commissioned.

STAINLESS STEEL SLIDE GATES

SERIES: A - 111

SELF CONTAINED SLIDE GATE



NON SELF CONTAINED SLIDE GATE



SPECIFICATION:

These slide gates are made as per AWWA C561 / BS7775 for general purpose use.

APPLICATION:

These slide gates are directly mounted on the face of the wall and are used to isolate flow in and out of a conduit. They are suitable for 6 m seating and unseating head upto 900 x 900 mm size and 6 m seating and 3 m unseating head for higher sizes upto 1200 x 1200 mm.

FEATURES:

- Frame suitable for direct mounting on face of the wall using anchor fasteners and secondary grout between wall and frame.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless steel frame and slide during operation.
- Full length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is full open.
- Material thickness for frame and slide selected to suit applicable head.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with SELF-SECURE™ resilient sealing system having seal separate from the seat to offer leakage limits substantially lesser than that stated in AWWA C561.
- SELF-SECURE™ resilient sealing system comprises of replaceable resilient seal in forced contact with plain face of stainless steel slide.
- Resilient seal fitment ensures that the slide gate need not be removed from its location for future replacement.
- Identical sealing arrangement for conventional as well as flush bottom slide gates.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Travel stop mounted on frame to limit over travel of slide while opening.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Oversized frame opening for slide gates to be mounted in front of a concrete pipe terminating at the face of the wall.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non-rising stem.
- Electric / Pneumatic / Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.

MATERIAL OF CONSTRUCTION:

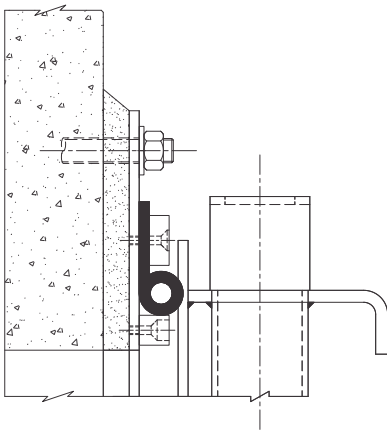
Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.33.

SHOPTESTING:

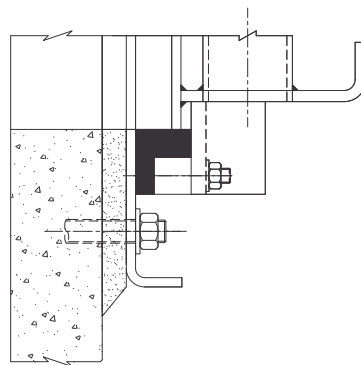
- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance meeting leakage requirement as specified or as per AWWA C561 / BS7775.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

For getting similar leakage result at site ensure that there is no frame distortion during the process of slide gate installation on wall.

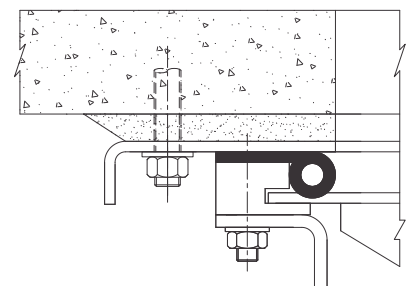
SELF- SECURE™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT

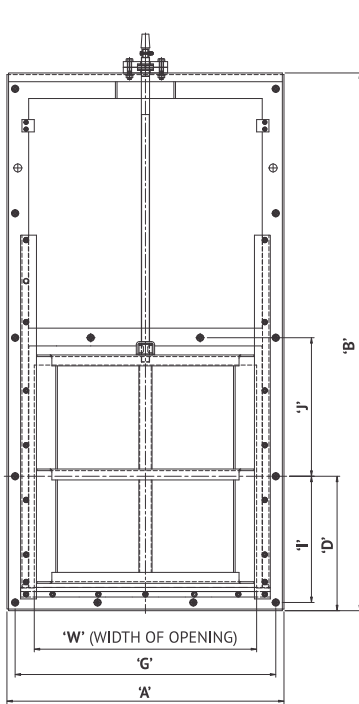


SIDE SEALING ARRANGEMENT

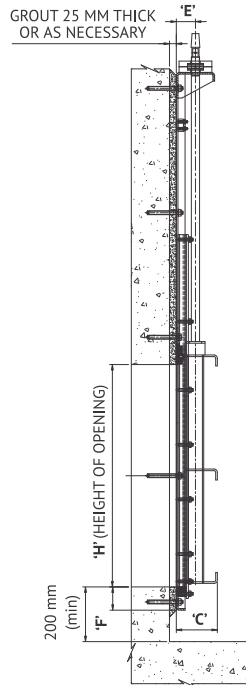
STAINLESS STEEL SLIDE GATES

SERIES: A - 111 - DRAWINGS

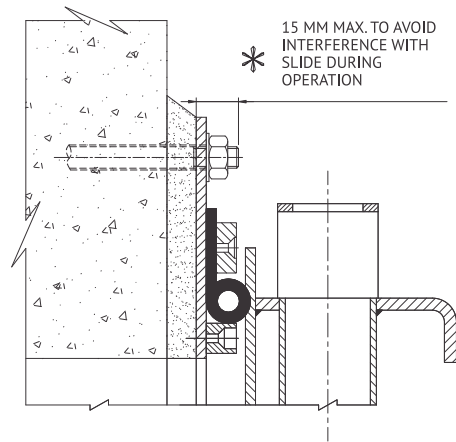
SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW

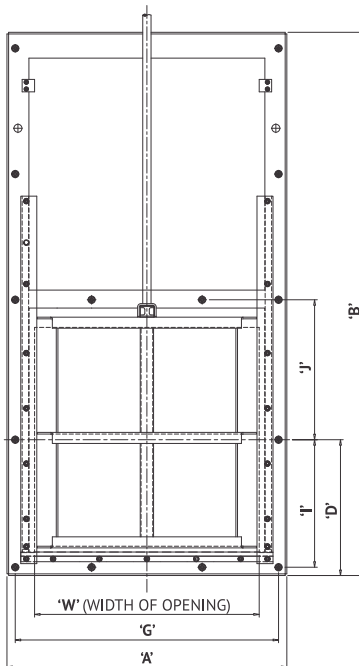


SIDE VIEW

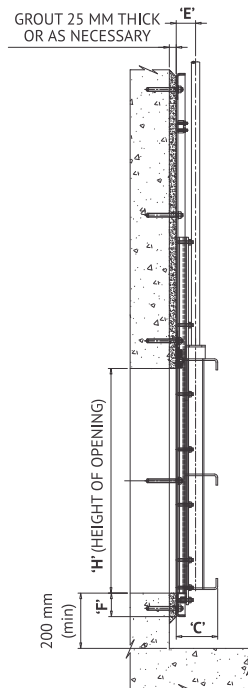


PROJECTION OF TOP
ANCHOR FASTENERS

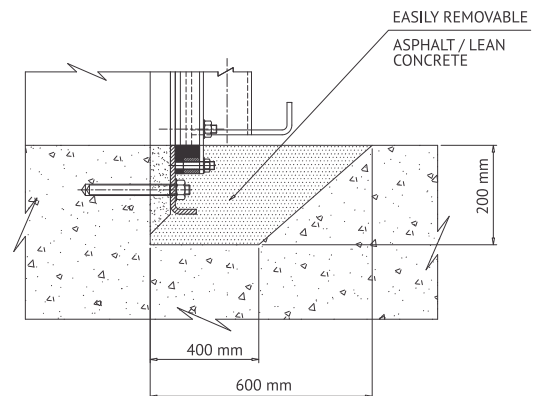
NON SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW



SIDE VIEW



FLUSH BOTTOM CLOSURE
CIVIL DETAILS

SERIES: A - 111 - DATASHEET



W	H	A	B	C	D	E	F	G	I	J
150	150	370	615	135	160	70	85	311	130	-
200	200	420	720	135	190	70	85	362	155	-
250	250	475	820	145	215	70	85	413	181	-
300	300	525	920	145	240	70	85	464	209	-
350	350	575	1020	145	265	70	85	514	228	-
400	400	625	1125	150	290	70	85	565	257	-
450	450	675	1225	160	315	70	85	616	279	-
500	500	725	1365	160	340	73	85	667	308	356
550	550	780	1470	180	365	73	85	718	336	381
600	600	830	1570	180	390	73	85	768	362	406
700	700	930	1810	180	440	73	85	870	409	457
750	750	980	1910	185	465	76	85	921	435	483
800	800	1030	2010	185	490	76	85	972	460	508
900	900	1135	2215	185	545	76	85	1073	511	533
1000	1000	1235	2420	185	595	76	85	1175	562	559
1050	1050	1285	2520	190	620	76	85	1225	587	635
1200	1200	1440	2825	190	695	79	85	1378	663	711

NOTES:

- All dimensions are in mm.
- Dimensions of rectangular & other sizes on request.

STAINLESS STEEL SLIDE GATES

SERIES: A - 112

SELF CONTAINED SLIDE GATE



NON SELF CONTAINED SLIDE GATE



SPECIFICATION:

These slide gates are made in compliance with AWWA C561 / BS7775.

APPLICATION:

These slide gates are directly mounted on the face of the wall to isolate flow in and out of a conduit and are suitable for 6 m seating and 3 m unseating head.

FEATURES:

- Frame suitable for direct mounting on face of the wall using anchor fasteners and secondary grout between wall and frame.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless frame and stainless steel frame and slide during operation.
- Full length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is full open.
- Material thickness for frame and slide selected to suit applicable head.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with HARSA™ rigid sealing system on sides and top. This unique integral seal / seat system is certified for 25,000 cycle operation in abrasive condition and reduces the possibility of future seal change. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSA™ rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE fitted on frame with compression resilient cord seals to ensure forced contact between seal and face of slide.
- Flush bottom slide gates provided with bottom sealing comprising of flexible rubber seal flush with the opening.
- Sealing system in compliance with requirements of AWWA C561/BS7775.
- Identical sealing arrangement for conventional as well as flush bottom slide gates.
- Unique AUTO-FLUSH™ arrangement at guide bottom to force out accumulated grit particles and ensure full closure of the slide.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.

- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Travel stop mounted on frame to limit over travel of slide while opening.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Oversized frame opening for slide gates to be mounted in front of a concrete pipe terminating at the face of the wall.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non-rising stem.
- Electric/Pneumatic/Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.
- NSF 61 certified for drinking water application.

MATERIAL OF CONSTRUCTION:

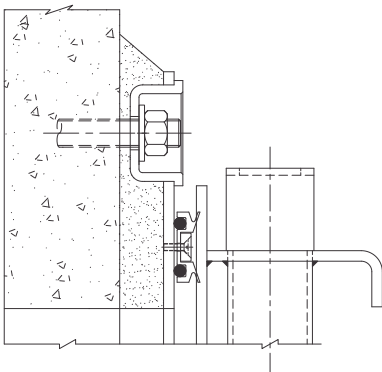
Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.33.

SHOPTESTING:

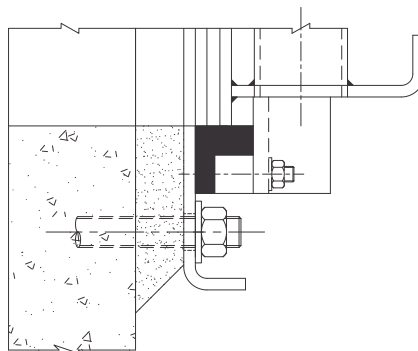
- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance meeting leakage requirement as specified or as per AWWA C561 / BS7775.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated gates.

For getting similar leakage result at site ensure that there is no frame distortion during the process of slide gate installation on wall.

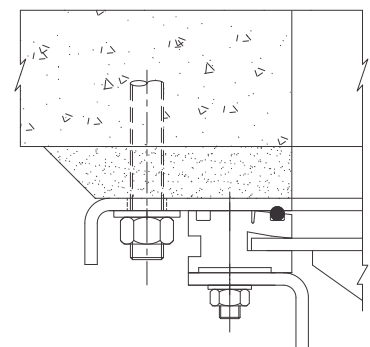
HARSA™ RIGID SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT

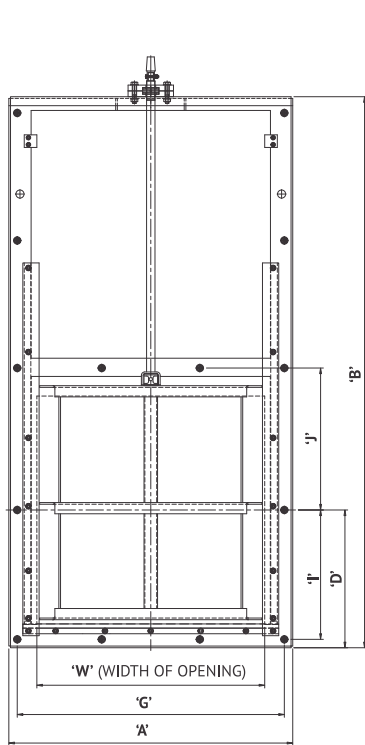


SIDE SEALING ARRANGEMENT

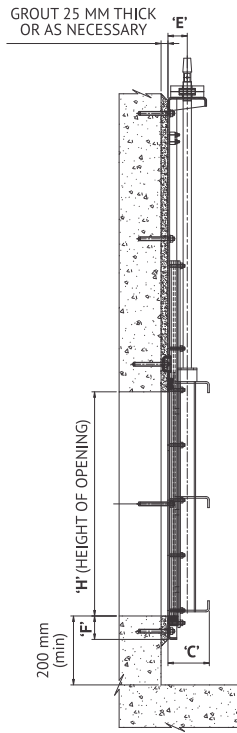
STAINLESS STEEL SLIDE GATES

SERIES: A - 112 - DRAWINGS

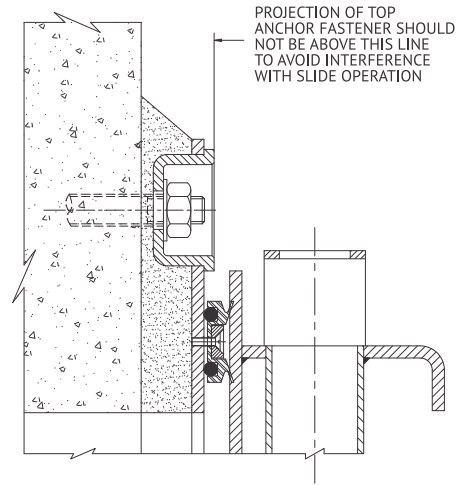
SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW

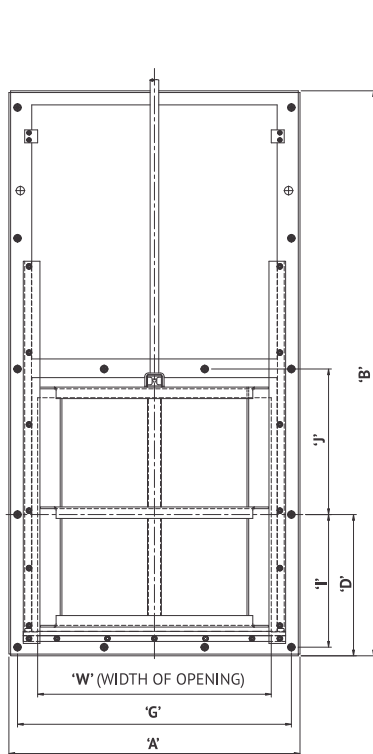


SIDE VIEW

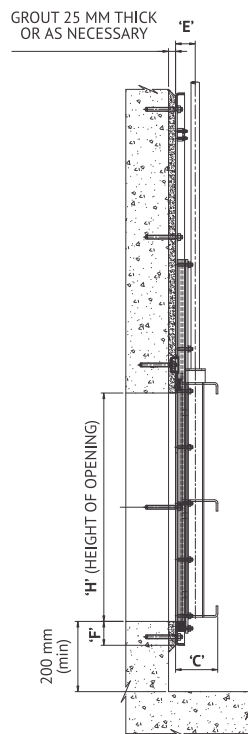


* PROJECTION OF TOP ANCHOR FASTENERS

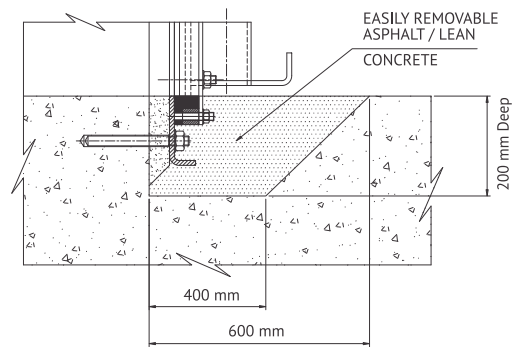
NON SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW



SIDE VIEW



FLUSH BOTTOM CLOSURE
CIVIL DETAILS

SERIES: A - 112 - DATASHEET



W	H	A	B	C	D	E	F	G	I	J
150	150	345	540	130	130	64	50	292	76	-
200	200	395	650	130	150	64	50	343	101	-
250	250	445	750	130	180	64	50	394	127	-
300	300	495	850	135	205	64	50	445	152	-
350	350	545	950	140	230	64	50	495	178	-
400	400	600	1050	150	255	67	50	546	203	-
450	450	655	1255	150	315	67	85	597	282	-
500	500	710	1355	155	340	67	85	648	308	355
550	550	760	1455	171	365	67	85	698	333	381
600	600	810	1560	171	390	67	85	749	362	406
700	700	910	1760	171	440	67	85	851	409	457
750	750	960	1865	175	470	70	85	902	435	483
800	800	1010	1965	180	490	70	85	952	460	508
900	900	1115	2170	180	545	70	85	1054	511	559
1000	1000	1215	2370	180	595	76	85	1156	562	609
1200	1200	1420	2780	180	695	76	85	1359	664	711

NOTES:

- All dimensions are in mm.
- Dimensions of rectangular & other sizes on request.

STAINLESS STEEL SLIDE GATES

SERIES: A - 113

NON SELF CONTAINED FRAME RISING STEM



NON SELF CONTAINED FRAME NON RISING STEM



SPECIFICATION:

These slide gates are made in compliance with AWWA C561 / BS7775.

APPLICATION:

These slide gates are directly mounted on the face of the wall or on wall thimble and are used to isolate flow in and out of a conduit. These slide gates are suitable for 10 m seating and 6 m unseating head or as required.

FEATURES:

- Rigid flange back frame suitable for direct mounting on face of the wall using anchor fasteners and secondary grout between wall and frame or for mounting directly on a wall thimble.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless steel frame and slide during operation.
- Short length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is full open.
- Material thickness for frame and slide selected to suit applicable head.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with HARSA™ rigid sealing system on sides and top. This unique integral seal / seat system is certified for 25,000 cycle operation in abrasive condition and reduces the possibility of future seal change. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSA™ rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE fitted on frame with compression resilient cord seals to ensure forced contact between seal and face of slide.
- Flush bottom slide gates provided with bottom sealing comprises of flexible rubber seal flush with the opening.
- Sealing system in compliance with requirements of AWWA C561 / BS7775.
- Identical sealing arrangement for conventional as well as flush bottom slide gates.
- Unique AUTO-FLUSH™ arrangement at guide bottom to force out accumulated grit particles and ensure full closure of the slide.

- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Square / Rectangular / Circular (Diameter) shaped wall thimble having section F or E as required.
- Oversized frame opening for slide gates to be mounted in front of a concrete pipe terminating at the face of the wall.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non-rising stem.
- Electric / Pneumatic / Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.
- NSF 61 certified for drinking water application.

MATERIAL OF CONSTRUCTION:

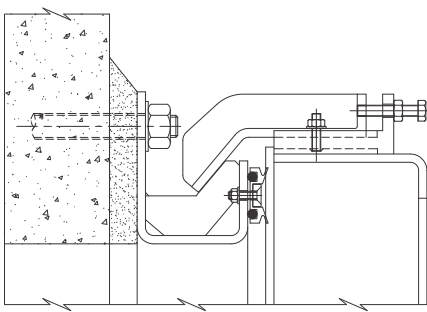
Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.33.

SHOP TESTING:

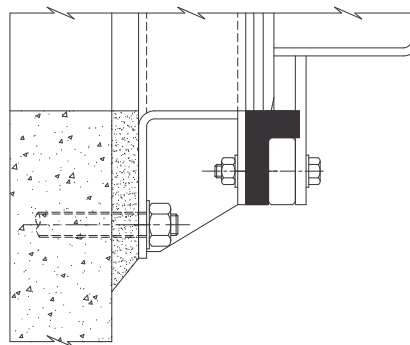
- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance meeting leakage requirement as specified or as per AWWA C561 / BS7775.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

For getting similar leakage result at site ensure that there is no frame distortion during the process of slide gate installation on wall.

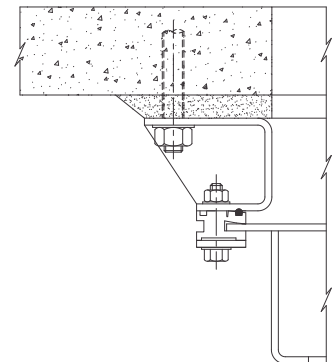
HARSA™ RIGID SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT

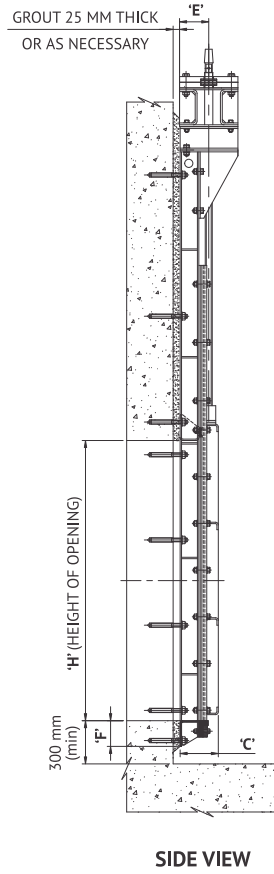
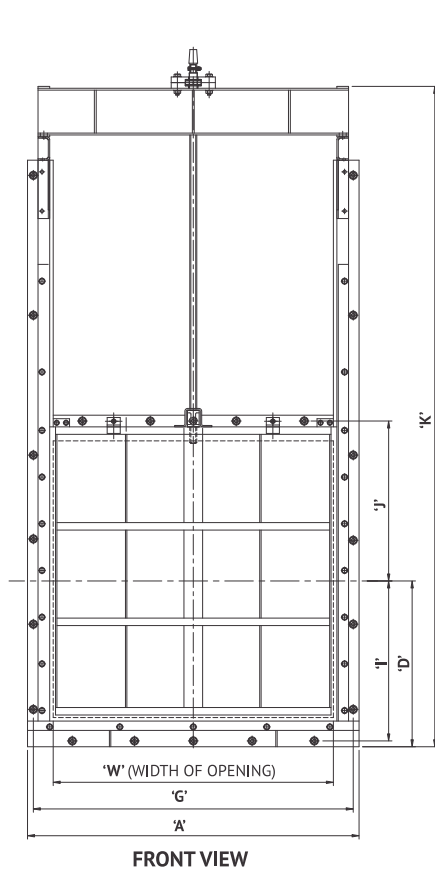


SIDE SEALING ARRANGEMENT

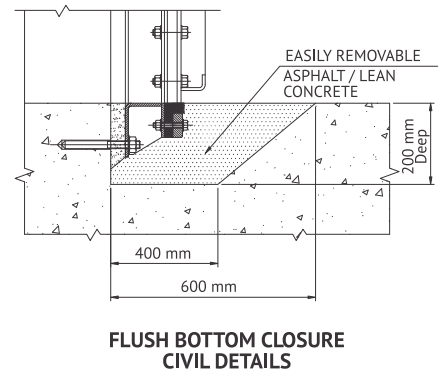
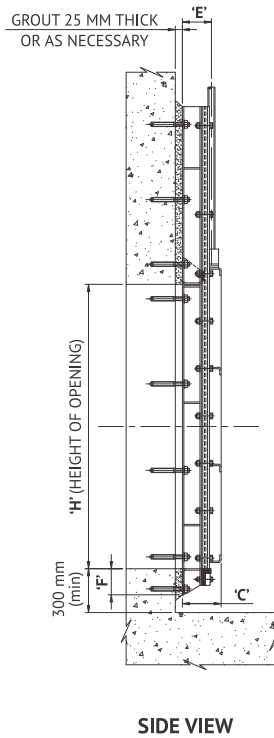
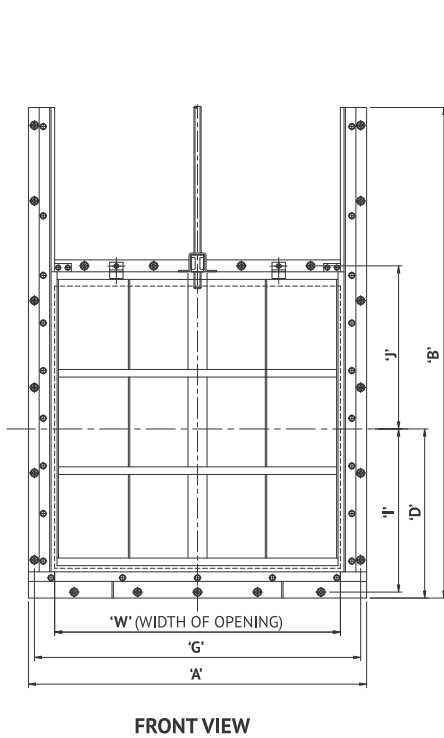
STAINLESS STEEL SLIDE GATES

SERIES: A - 113 - DRAWINGS

SELF CONTAINED CONVENTIONAL CLOSURE



NON SELF CONTAINED CONVENTIONAL CLOSURE



SERIES: A - 113 - DATASHEET



W	H	A	B	C	D	E	F	G	I	J	K
500	500	730	970	150	365	130	110	679	339	339	1795
550	550	780	1050	150	390	130	110	730	365	365	1895
600	600	830	1125	160	415	130	110	781	390	390	1995
700	700	930	1300	175	465	130	110	882	440	440	2200
750	750	980	1380	175	490	130	110	933	465	465	2300
800	800	1035	1450	180	515	130	110	984	491	491	2400
900	900	1135	1615	180	570	130	110	1085	542	542	2605
1000	1000	1235	1780	190	620	130	110	1187	593	593	2810
1050	1050	1285	1860	195	650	135	110	1238	619	619	2910
1200	1200	1440	2100	220	720	135	110	1390	695	695	3215
1350	1350	1590	2350	220	795	135	110	1542	771	771	3520
1500	1500	1745	2565	250	870	135	110	1695	847	847	3825
1650	1650	1895	2835	275	950	135	110	1846	923	923	4130
1800	1800	2050	3080	275	1025	135	110	1999	1000	1000	4435
1950	1950	2200	3325	280	1100	140	110	2151	1075	1075	4740
2000	2000	2250	3400	300	1125	140	110	2202	1101	1101	4840
2100	2100	2355	3565	325	1180	140	110	2304	1152	1152	5045

NOTES:

- All dimensions are in mm.
- Dimensions of rectangular & other sizes on request.

STAINLESS STEEL SLIDE GATES

SERIES: A - 114

NON SELF CONTAINED SLIDE GATE



SPECIFICATION:

These slide gates are made in compliance with AWWA C561 / BS7775.

APPLICATION:

These slide gates are directly mounted on the face of the wall or on wall thimble and are used to isolate flow in and out of a conduit. These slide gates are suitable for high seating and unseating heads or to meet near zero leakage requirement where specified.

FEATURES:

- Rigid flange back frame suitable for direct mounting on face of the wall using anchor fasteners and secondary grout between wall and frame or for mounting directly on a wall thimble.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless steel frame and slide during operation.
- Full length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is full open.
- Material thickness for frame and slide selected to suit applicable head.

- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with PRESS-ON™ resilient sealing system having seal separate from the seat to offer leakage limits substantially lesser than that stated in AWWA C561 / BS7775.
- PRESS-ON™ resilient sealing system comprises of replaceable resilient seal in forced contact with separate UHMWPE seat mounted on face of slide and provided with flow deflectors to restrict direct exposure of sealing arrangement to hazardous solid materials coming with flow.
- Flush bottom slide gates provided with bottom sealing comprising of resilient rubber seal flush with the opening.
- Sealing system in compliance with requirements of AWWA C561/BS7775.
- Resilient seal fitment ensures that the slide gate need not be removed from its location for future replacement.
- Slide gates are provided with taper wedges to avoid continuous forced contact between seal and seat during the full opening movement for reduced seal wear and increase longevity of sealing system.
- Special pressure adjustable guides in case of near zero leakage application.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Square / Rectangular / Circular (Diameter) shaped wall thimble having section F or E as required.
- Oversized frame opening for slide gates to be mounted in front of a concrete pipe terminating at the face of the wall.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non-rising stem.

- Electric/Pneumatic/Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.

MATERIAL OF CONSTRUCTION:

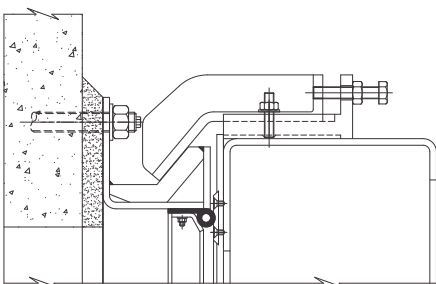
Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.33.

SHOP TESTING:

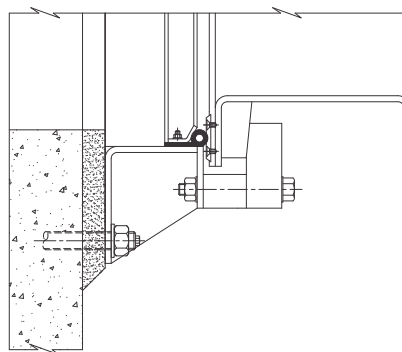
- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance meeting leakage requirement as specified or as per AWWA C561 / BS7775.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

For getting similar leakage result at site ensure that there is absolutely no frame distortion during the process of slide gate installation on wall, especially if the requirement calls for near zero leakage.

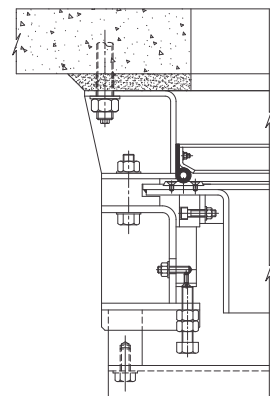
PRESS-ON™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT

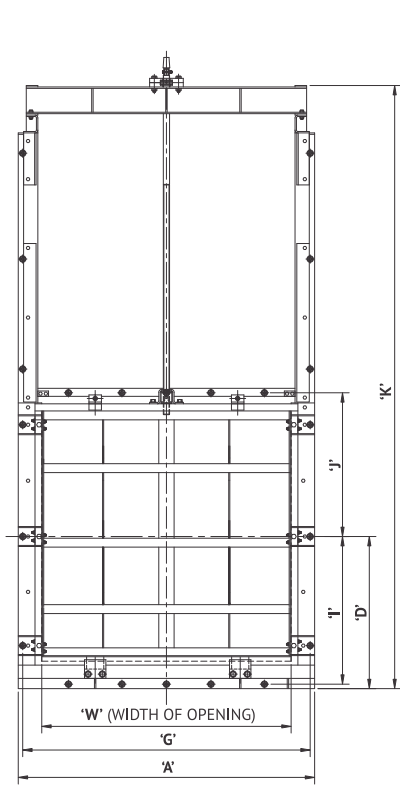


SIDE SEALING ARRANGEMENT

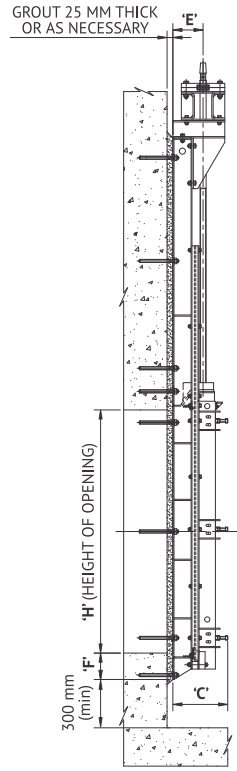
STAINLESS STEEL SLIDE GATES

SERIES: A - 114 - DRAWINGS

SELF CONTAINED CONVENTIONAL CLOSURE

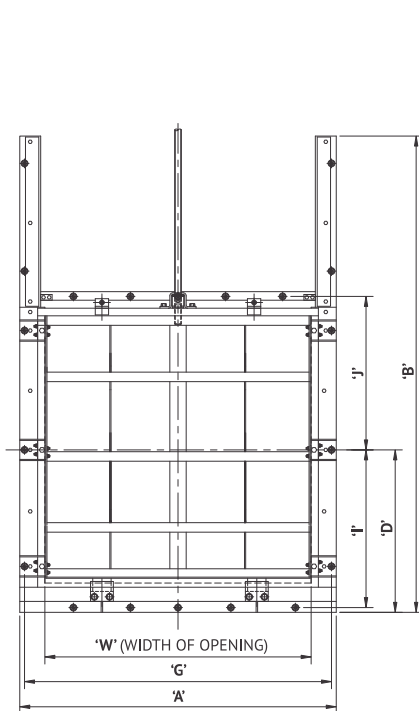


FRONT VIEW

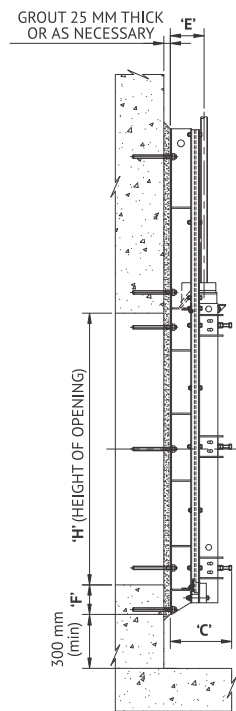


SIDE VIEW

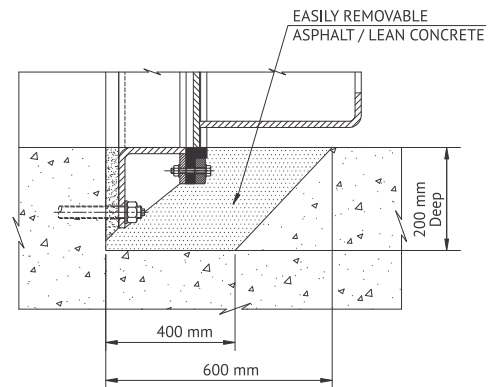
NON SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW



SIDE VIEW



FLUSH BOTTOM CLOSURE
CIVIL DETAILS

SERIES: A - 114 - DATASHEET



W	H	A	B	C	D	E	F	G	I	J	K
500	500	770	1073	315	387	140	115	725	340	340	1790
550	550	820	1149	315	413	140	115	775	365	365	1895
600	600	875	1226	315	438	140	115	825	390	390	1995
700	700	975	1353	320	489	140	115	925	440	440	2190
750	750	1025	1480	320	514	140	115	975	465	465	2330
800	800	1075	1581	320	540	140	115	1025	490	490	2400
900	900	1180	1708	320	591	140	115	1130	545	545	2605
1000	1000	1280	1911	320	641	140	115	1230	595	595	2840
1050	1050	1330	1988	320	667	140	115	1285	620	620	2880
1200	1200	1485	2140	370	743	165	115	1435	695	695	3250
1350	1350	1635	2267	370	819	165	115	1590	770	770	3550
1500	1500	1790	2623	385	895	165	115	1740	850	850	3880
1650	1650	1940	2826	385	972	170	115	1895	925	925	4160
1800	1800	2090	2927	385	1048	170	115	2045	1025	1025	4465
1950	1950	2245	3359	400	1124	185	115	2195	1075	1075	4770
2000	2000	2295	3435	400	1149	185	115	2250	1100	1100	4895
2100	2100	2398	3537	400	1200	185	115	2350	1155	1155	5200

NOTES:

- All dimensions are in mm.
- Dimensions of rectangular & other sizes on request.

STAINLESS STEEL OPEN CHANNEL SLIDE GATES

SERIES: A - 211 / 212 / 213

SELF CONTAINED OPEN CHANNEL SLIDE GATE



SPECIFICATION:

These open channel slide gates are made in compliance with AWWA C561 / BS7775.

APPLICATION:

These open channel slide gates are used to isolate flow within as well as in and out of an open channel. These are suitable for seating water head and are provided with sealing arrangement on 3 sides only and not on top side and so the height of water should always be less than the height of slide.

FEATURES:

- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless steel frame and slide during operation.
- Gate frame provided with full length extension guides sufficient to engage full height of slide over the water height when the gate is open.
- Self-contained gate frame with lift mechanism mounted directly on yoke provided across the top of gate frame.
- Material thickness for frame and slide selected to suit applicable head.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with EASY-SLIDE™ resilient sealing system having seal separate from the seat to offer leakage limits substantially lesser than that stated in AWWA C561 / BS7775 and having low operating torque.
- EASY-SLIDE™ resilient sealing system comprises of replaceable resilient seal in forced contact with low friction, high abrasion resistant seat to ensure reduced seal wear.
- Flush bottom slide gates provided with slide mounted bottom resilient seal in forced contact with bottom invert flush with the opening.
- Resilient seal fitment ensures that no dismantling of slide gate from its location is to be done for future replacement.
- Rising stem with yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Bi-directional resilient sealing for seating as well as un-seating water head.
- HARSA™ rigid integral seal / seat system comprising of low friction, high abrasion resistant self-adjusting seals of UHMWPE fitted on frame with compression resilient cord seals to ensure forced contact between seal & face of slide.
- Extended side guides in case operating thrust is to be taken on frame for gates where operating arrangement is located at more than 2.5 times the height of slide.
- Chain and sprocket arrangement to lower the handwheel / crank centerline to an elevation of 900 mm from the top of operating floor in case where manual operating arrangement is located more than 1500 mm distance from the operating floor. (Refer sketch below)
- Non self-contained gate frame with extended stem, couplings and stem guide brackets, as required, to connect the slide to the gate operating arrangement mounted on a remote operating floor.
- Non-rising stem.
- Electric/Pneumatic/Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.
- NSF 61 certified for drinking water application.

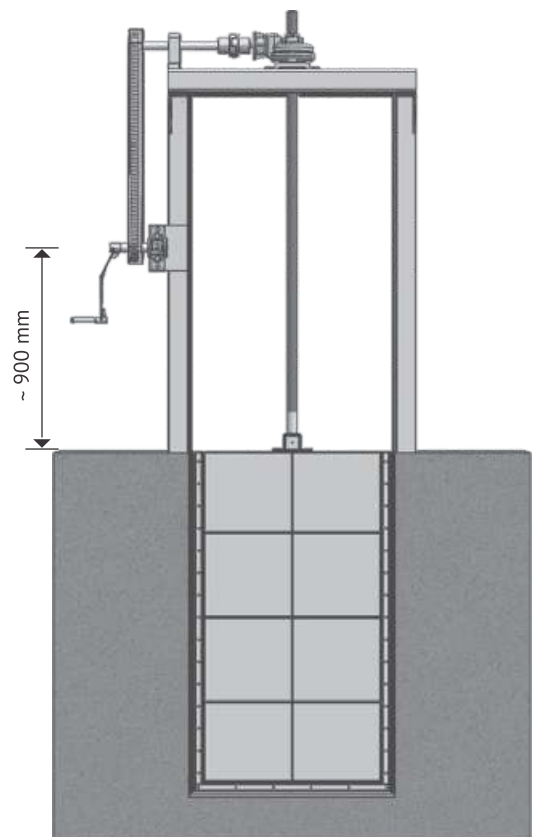
MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.33.

SHOPTESTING:

- Leakage testing of slide gate at plant with water filled till top of slide to verify slide gate leakage performance.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

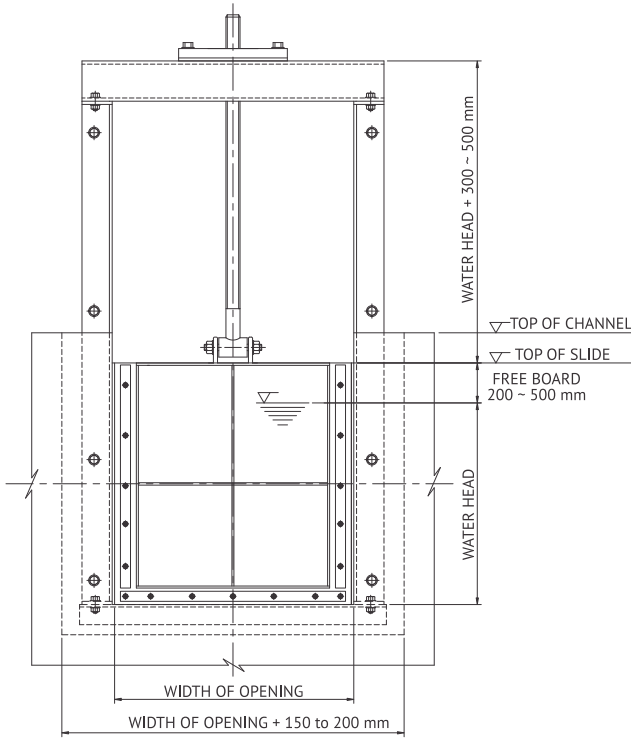
Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specifications.



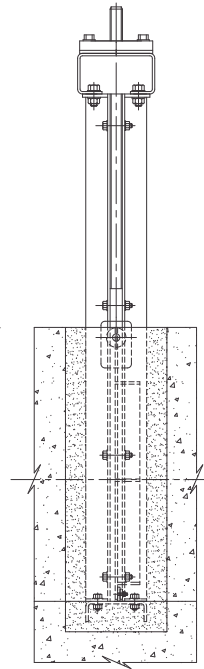
STAINLESS STEEL OPEN CHANNEL SLIDE GATES

SERIES: A - 211 / 212 - DRAWINGS

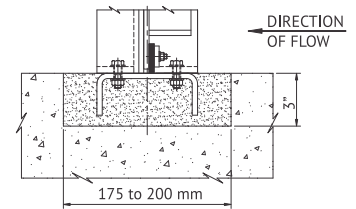
SERIES: A-211 - SIDE WALL EMBEDDED



FRONT VIEW

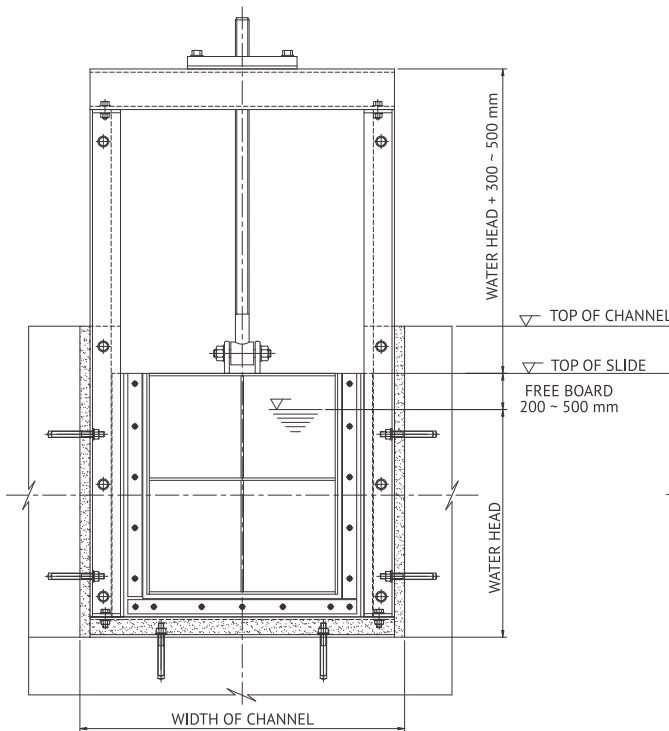


SIDE VIEW

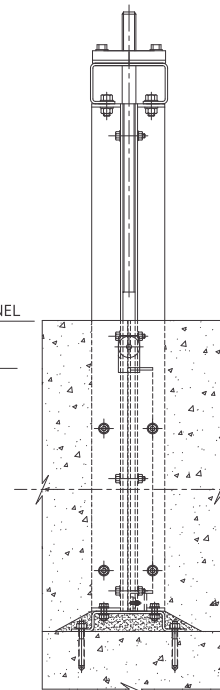


CIVIL DETAILS

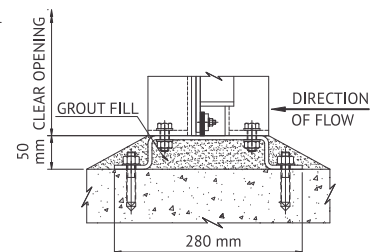
SERIES: A-212 - SIDE WALL ANCHORED



FRONT VIEW



SIDE VIEW

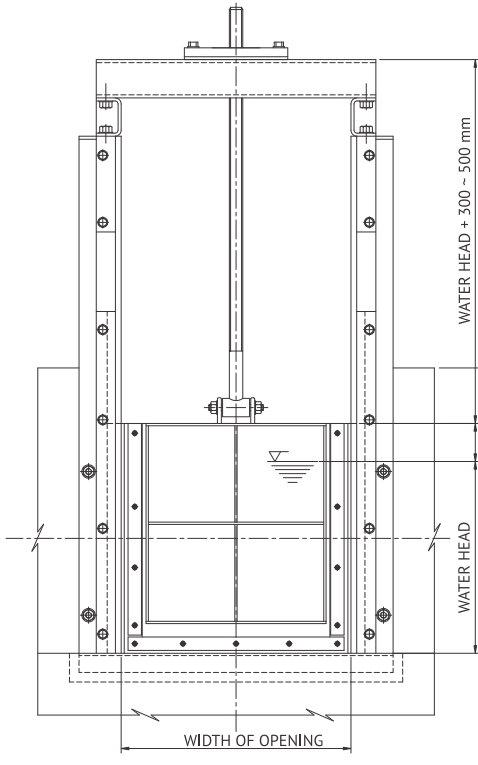


CIVIL DETAILS

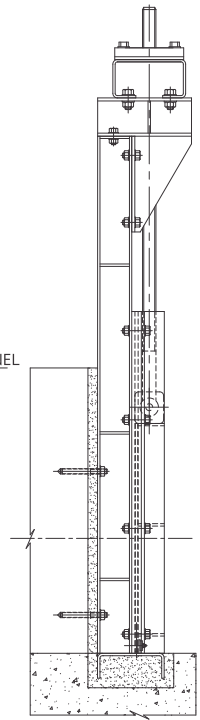
SERIES: A - 213 - DRAWINGS



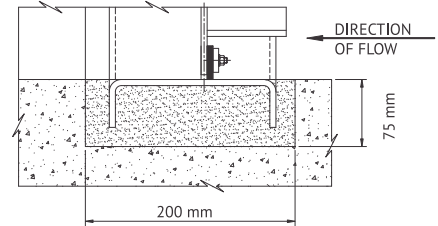
SERIES: A-213 - FACE WALL ANCHORED



FRONT VIEW

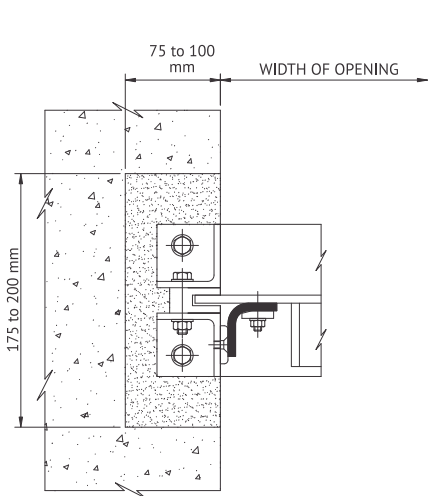


SIDE VIEW



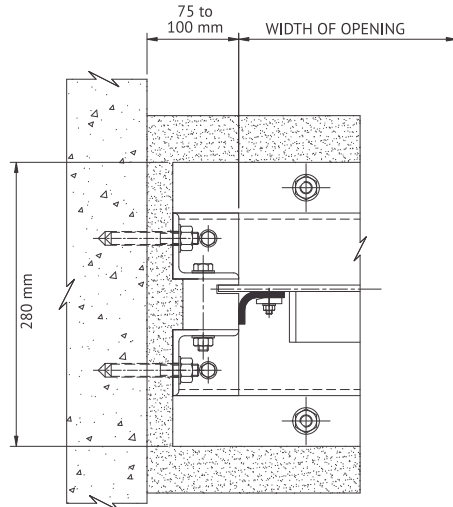
CIVIL DETAILS

EASY SLIDE™ RESILIENT SIDE SEALING ARRANGEMENT



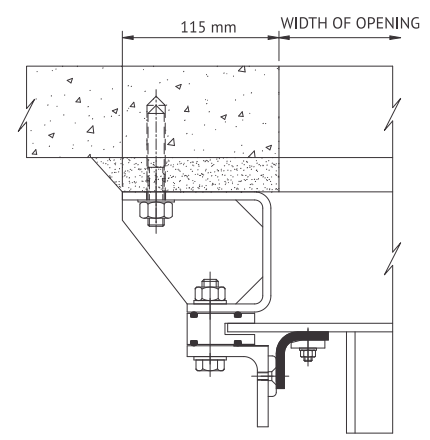
↑ DIRECTION OF FLOW

SERIES: A-211



↑ DIRECTION OF FLOW

SERIES: A-212



↑ DIRECTION OF FLOW

SERIES: A-213

STAINLESS STEEL WEIR GATES

SERIES: A - 311

NON SELF CONTAINED WEIR GATE



SPECIFICATION:

These weir gates are made in compliance with AWWA C561 / BS7775.

APPLICATION:

These are downward opening overflow weir gates (not downward opening slide gates) mounted on the face of a wall and are provided with sealing arrangement which ensures continuous sealing on 3 sides (sides and bottom) at any extent of gate opening, allowing water to overflow only from the top side. These are used either for (i) decanting of a reservoir or a tank, or (ii) maintaining precise level control in a reservoir or a tank, or (iii) to isolate the flow as well as maintain precise level control by providing optional 4th side (top side) sealing arrangement.

FEATURES:

- Rigid flange back frame suitable for direct mounting on face of the wall using anchor fasteners and secondary grout between wall and frame.
- Gate frame provided with low friction UHMWPE guides to prevent galling between stainless steel frame and slide during operation.
- Frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is fully open.
- Material thickness for frame and slide selected to suit applicable head.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with either HARSATM rigid sealing system having integral seal / seat or PRESS-ONTM resilient sealing system having seal separate from the seat. Type of sealing system offered depends upon client requirement and application.
- HARSATM unique integral seal / seat system is certified for 25,000 cycle operation in abrasive condition and reduces the possibility of future seal change. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSATM rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE fitted on frame with compression resilient cord seals to ensure forced contact between seal and face of slide
- GRIT-DEFLECTTM arrangement provided at bottom to prevent embedment of grit in bottom sealing area and thereby avoid scouring of slide face.
- PRESS-ONTM resilient sealing system to offer leakage limits substantially lesser than AWWA C561 / BS7775 even for large sized weir gates.
- PRESS-ONTM resilient sealing system comprises of replaceable resilient seal in forced contact with face of slide and provided with flow deflectors to restrict direct exposure of sealing arrangement to hazardous solid materials coming with flow.
- Seal fitment in case of PRESS-ONTM resilient sealing system ensures that no dismantling of gate from its location is to be done for future seal replacement.
- Travel stop mounted on frame to limit over travel of slide while opening downwards.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the weir gate with less than 18 kgs effort on the crank or handwheel.

- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height or where decanting requires a precise level weir elevation.
- Anchor bolts with nuts and washer for frame, stem guide brackets and pedestal of lift mechanism

OPTIONAL FEATURES:

- Square / Rectangular shaped wall thimble having section F or E as required.
- Top sealing arrangement for isolation requirement.
- Stems positioned outside the width of opening so that they are not in the path of incoming flow.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non rising stem.
- Electric/Pneumatic/Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of weir gate from the alternatives stated on page no 33.

SHOPTESTING:

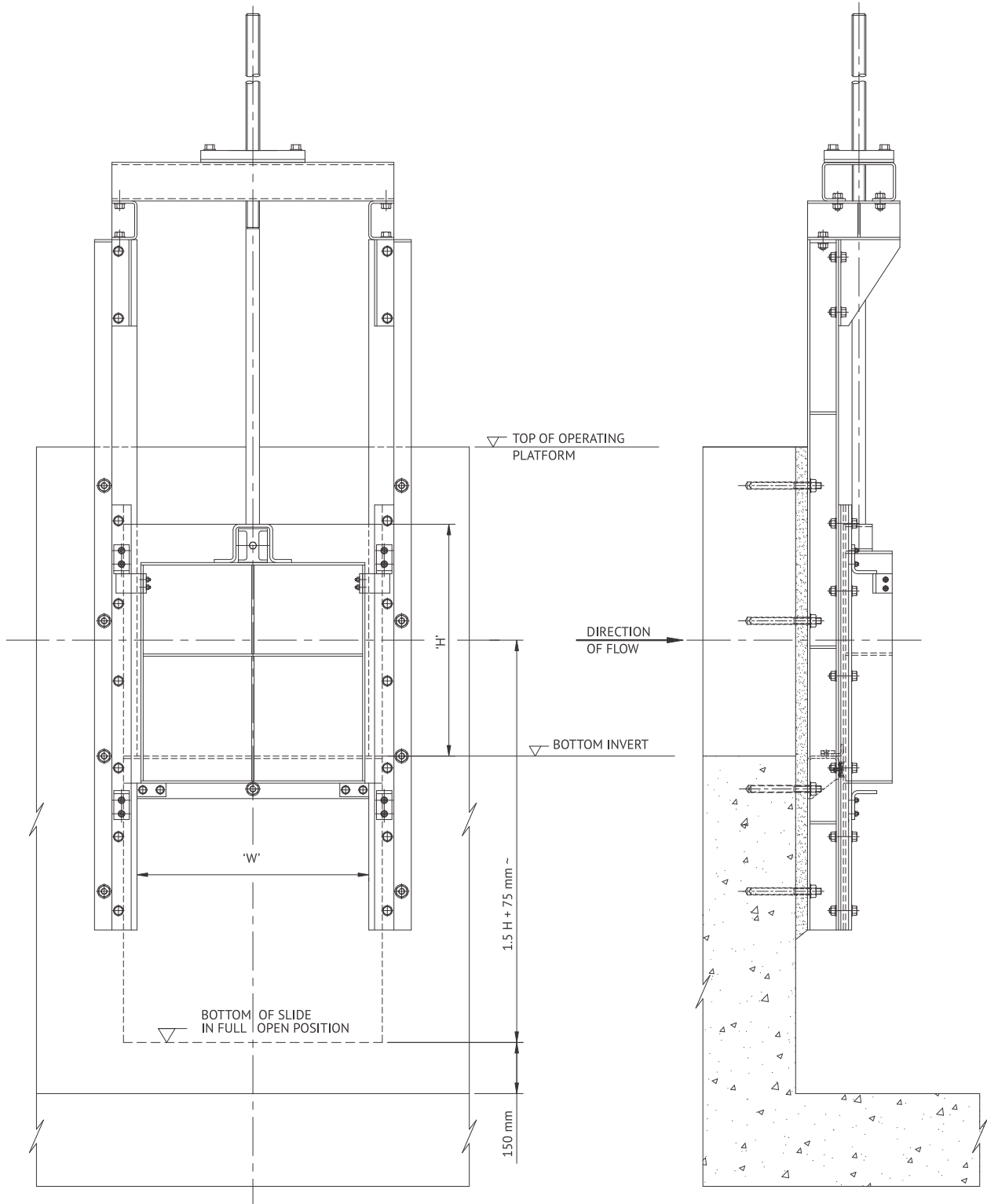
- Leakage testing of weir gate at plant with water filled till top of slide to verify weir gate leakage performance.#
- Seat clearance check of each weir gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated weir gates.

Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specifications.

DUAL OR TANDEM STEM OPERATING ARRANGEMENT



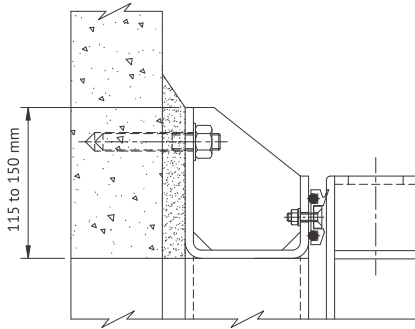
SELF CONTAINED WEIR GATE



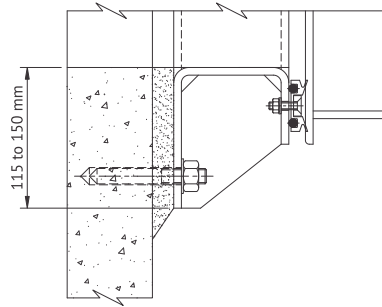
FRONT VIEW

SIDE VIEW

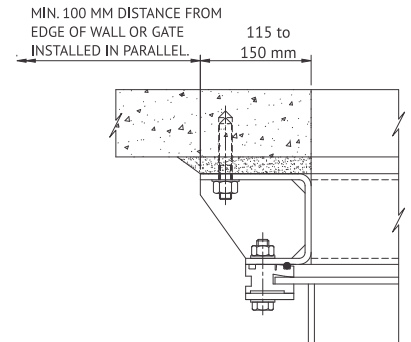
HARSA™ RIGID SEALING SYSTEM



TOP SEALING ARRANGEMENT (OPTIONAL)

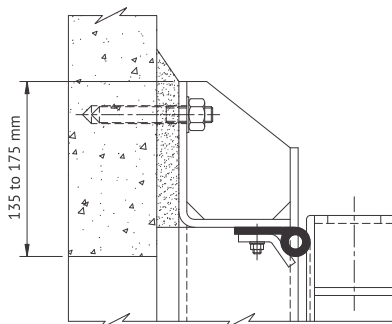


BOTTOM SEALING ARRANGEMENT

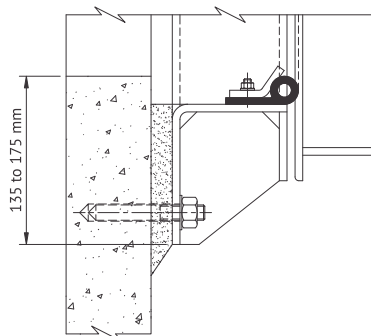


SIDE SEALING ARRANGEMENT

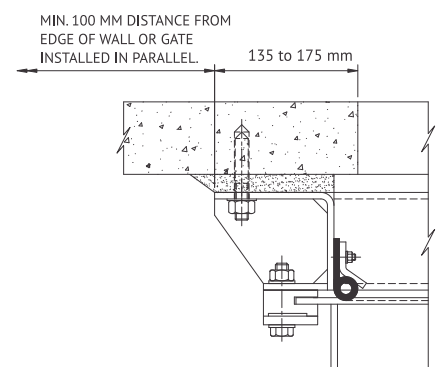
PRESS-ON™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT (OPTIONAL)



BOTTOM SEALING ARRANGEMENT



SIDE SEALING ARRANGEMENT

STAINLESS STEEL SECTIONAL STOPLOGS

SERIES: A - 411 / 412 / 413

SECTIONAL STOPLOGS



SPECIFICATION:

These stoplogs are made per Jash design.

APPLICATION:

Multi-piece sectional stoplogs are used instead of single piece stoplogs when there are weight and height restrictions in handling. These stoplogs are used for isolation application in open channel where (i) immediate closure or isolation of waterway opening in a short time is not required, (ii) isolation requirement is infrequent (iii) more than one person is available for operation. These stoplogs are also suitable for insertion in multiple frames installed at different locations provided the stoplog and the frame are of same width.

Standard sectional logs are available in 150 mm and 300 mm height and are suitable to withstand 6 m water head upto 3 m width.

Sectional logs can be provide for higher sizes and heads than that stated above and also custom designed for specific application.

FEATURES:

- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.

- Offered with either frame mounted sealing system or log mounted sealing system for vertical sealing between frame and stoplogs. Type of sealing system offered depends upon client requirement and application.
- Frame mounted sealing system offers joint-less vertical sealing with the gliding face of stoplogs to ensure improved seal leakage performance. This sealing arrangement is replaceable only during plant shut down.
- Log mounted sealing system comprises of non -continuous interrupted sealing with the frame face thereby increasing the possibility of higher leakage through joints in the vertical sealing. This sealing arrangement is replaceable without resorting to plant shutdown.
- Vertical sealing system provided on the upstream as well as downstream sides at both ends.
- Frame mounted LIP-GLIDE™ resilient sealing system comprises of continuous resilient lip seal mechanically fastened on frame and in forced contact with upstream and downstream face of logs.
- Log mounted sealing system comprises of intermittent resilient lip seal mechanically fastened on logs and in forced contact with upstream and downstream face of frame.
- Dual flush bottom seals across the width at the bottom of each log to achieve sealing between logs. Bottom seals are secured by seal retainer flats and are replaceable.
- Each log provided with two stainless steel lifting handles on upstream as well as downstream side.
- Lifting handles spaced apart for easy manual lifting or for lifting using lifting beam.

MATERIAL OF CONSTRUCTION:

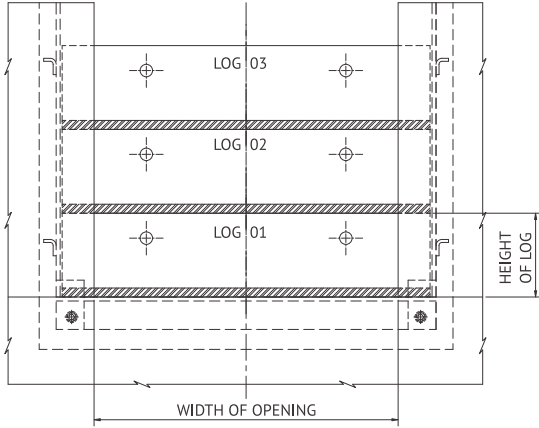
Depending upon application and requirement, client should select and specify the material of construction option for various components of gate from the alternatives stated on page no. 33.

SHOPTESTING:

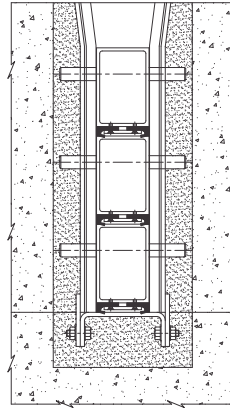
- Leakage testing of stoplogs at plant with water filled till top of logs to verify leakage performance. #
- Seat clearance check of each stoplog assembly for checking clearance between mating sealing faces.
- Movement test for interference free checking movement of logs within frame assembly.

Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specification.

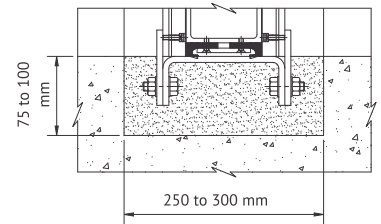
SERIES: A - 411 / 412 / 413 DRAWINGS



FRONT VIEW

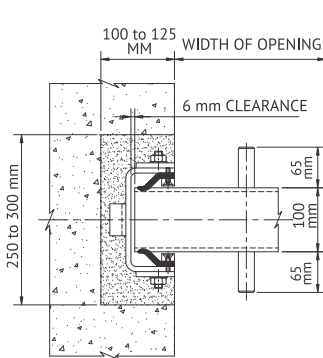


SIDE VIEW

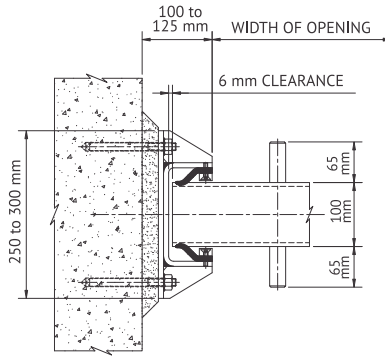


BOTTOM SEALING ARRANGEMENT

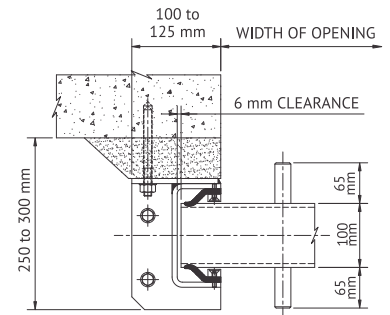
LIP-GLIDE™ FRAME MOUNTED SEALING ARRANGEMENT



SERIES: A-411

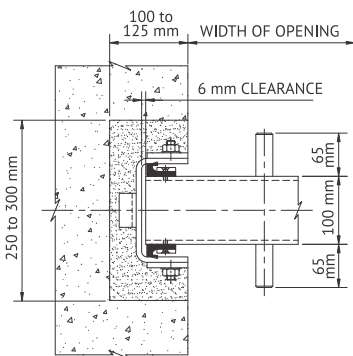


SERIES: A-412

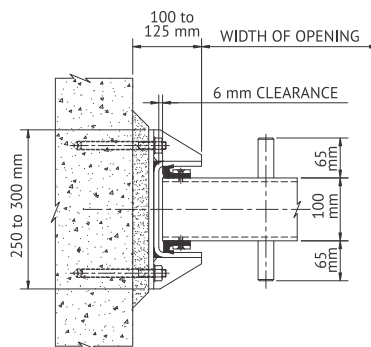


SERIES: A-413

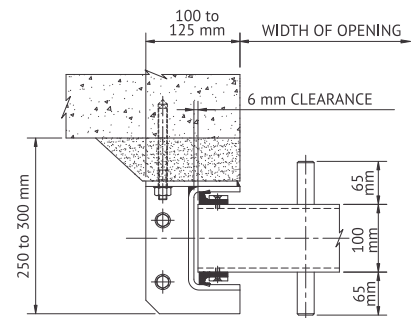
LOG MOUNTED SEALING ARRANGEMENT



SERIES: A-411



SERIES: A-412



SERIES: A-413

STAINLESS STEEL HANDSTOP / STOP GATES

SERIES: A - 415 / 416 / 417

HANDSTOP / STOP GATES



SPECIFICATION:

Handstops / stop gates are made per Jash design.

APPLICATION:

Handstops / stop gates are used for isolation application in small open channel openings where one person can manually carry out its operation.

Handstops / stop gates are also suitable for insertion in multiple frames installed at different locations provided the handstop and the frame are of same width.

FEATURES:

- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Offered with either frame mounted HARSA™ rigid sealing system having integral seal / seat or frame mounted resilient sealing system.
- Frame mounted resilient flush bottom seal across the width at the bottom of invert to achieve sealing with handstop.
- Provided with stainless steel lifting handle for manual operation.

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of gate from the alternatives stated on page no. 33.

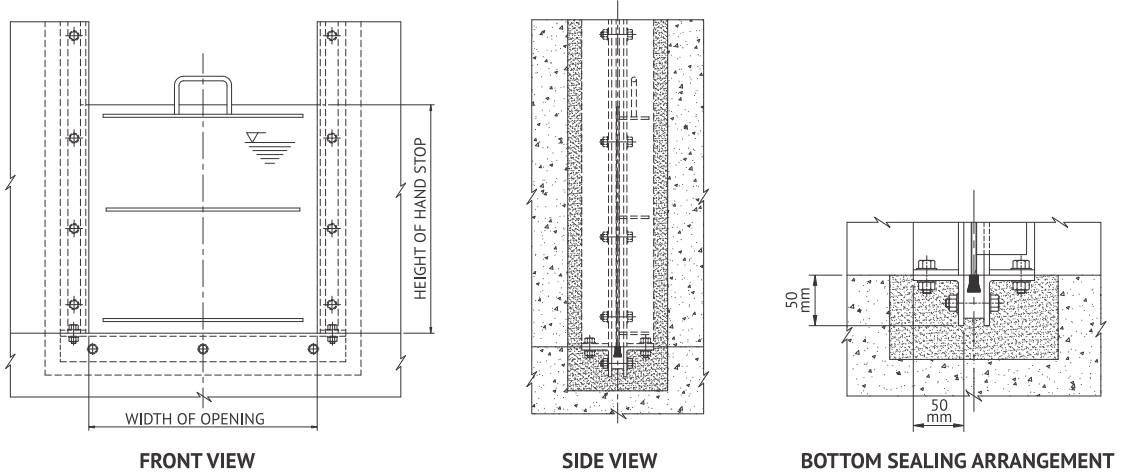
SHOPTESTING:

- Seat clearance check of each handstop assembly for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of handstop within frame assembly.

HANDSTOP / STOP GATES



**SERIES: A - 415 / 416 / 417 -
DRAWINGS**

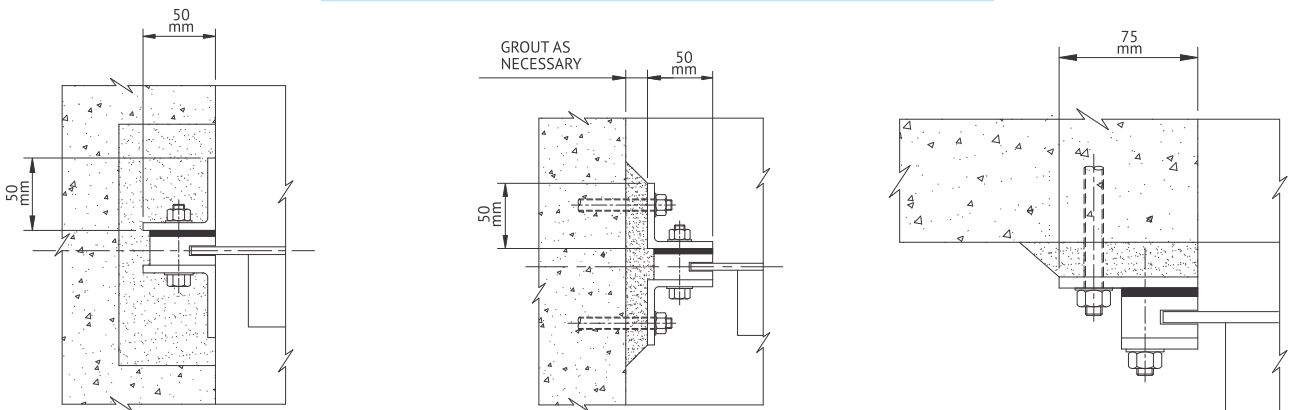


FRONT VIEW

SIDE VIEW

BOTTOM SEALING ARRANGEMENT

RIGID SIDE SEALING ARRANGEMENT

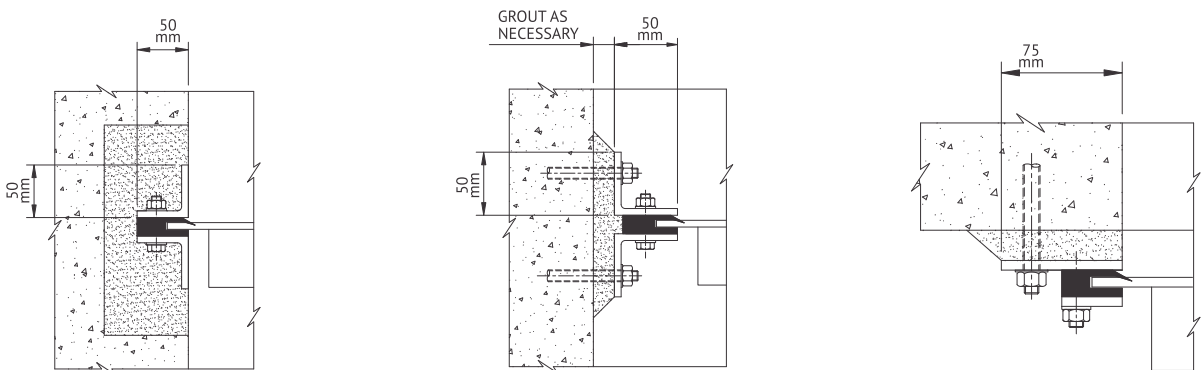


SERIES: A-415

SERIES: A-416

SERIES: A-417

RESILIENT SIDE SEALING ARRANGEMENT



SERIES: A-415

SERIES: A-416

SERIES: A-417

STAINLESS STEEL WATER CONTROL PRODUCTS

STANDARD AND OPTIONAL MATERIALS

The client to select and specify materials of construction of various components from the following alternatives based on the application and requirement. If required, materials of construction other than that specified below can also be offered upon specific request.

S. NO.	COMPONENTS	MATERIALS	SPECIFICATIONS	GRADES / TYPES
1.	Gate Frame, Guide, Slide, Yoke, Thimble	Stainless Steel	ASTM A240	304, 304L, 316, 316L, Duplex (31803 / 32205), Super Duplex (32750 / 32760)
2.	Guide Liner, Seats	UHMWPE HDPE	ASTM D4020 ASTM D4020	
3.	Resilient Rubber Seal	EPDM Rubber Neoprene Rubber	ASTM D2000 ASTM D2000 BS EN 681	
4.	Rubber Seal Retainer Bar	Stainless Steel	ASTM A240	304, 304L, 316, 316L, Duplex (31803 / 32205), Super Duplex (32750 / 32760)
5.	Connecting Block / Stem Block / Thrust Nut	Stainless Steel Bronze Gun Metal	ASTM A276 ASTM B584 BS EN 1982	304, 316, CF8, CF8M, Duplex (31803 / 32205), Super Duplex (32750 / 32760) CA 863, 865, CA 873 LG2
6.	Stem & Coupling	Stainless Steel	ASTM A276	304, 316, 17-4 PH, Duplex (31803 / 32205), Super Duplex (32750 / 32760)
7.	Operating Nut / Stem Nut	Bronze Aluminum Bronze Phosphorus Bronze	ASTM B584 BS EN 1982 BS EN 12167	CA 863, 865, CA 873
8.	Fasteners, Nuts and Bolts	Stainless Steel	ASTM A276, ASTM F593 & F594 BS EN 3506	304, 316, Duplex (31803 / 32205), Super Duplex (32750 / 32760), AL - 6XN
9.	Pedestal, Stem Guide Bracket, Foot Wall Bracket	Cast Iron Stainless Steel	ASTM A126 BS EN 1561 ASTM A240	Class B Grade 200, 250 304, 304L, 316, 316L
10.	Stem Cover	Polycarbonate Galvanised Iron		

All standard stainless steel material can also be given as per BS EN 10088 in grade 1.4301, 1.4307, 1.4401, 1.4404, 1.4307 etc.

PHOTOGRAPHS



3000 x 2400 mm Stainless Steel Sluice Gates
at Changi Retention Pond, Singapore



3000 x 2000 mm Stainless Steel Weir Gates
at Happy Valley, Hong Kong



3500 x 3500 mm Stainless Steel Slide Gate
for Suez-Bhandup WTP, India



5000 x 1900 mm Stainless Steel Weir Gates
at Stamford Canal, Singapore



Stainless Steel Stoplog for Flushing Bay High Level
Interceptor Regulator Improvements, NY, USA



2700 x 900 mm Stainless Steel Stoplogs with Storage Rack
for Changi Water Reclamation Project, Singapore



1270 x 1000 mm Aluminum Stoplogs with Storage Racks at Kranji Pumping Station, Singapore

01 SERIES: A - 121 ALUMINUM SLIDE GATES

- Size range: 300 x 300 mm to 2000 x 3000 mm, higher sizes on request
- Head range: As per customer requirement, Upto 6 m possible
- Sealing: HARSA™ Rigid sealing system / PRESS-ON™ Resilient sealing system
- Mounting: Face wall mounted

02 SERIES: A - 221 / 222 / 223 ALUMINUM OPEN CHANNEL SLIDE GATES

- Size range: 300 x 300 mm to 2000 x 3000 mm, higher sizes on request
- Head range: Open channel flow to height of slide.
- Sealing: HARSA-DUO™ Rigid sealing system / EASY-SLIDE™ Resilient sealing system
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored

03 SERIES: A - 321 ALUMINUM WEIR GATES

- Size range: 300 x 300 to 2000 x 3000 mm, higher sizes on request
- Head range: Unseating head equal to the height of gate due to 3 sides sealing arrangement
- Sealing: HARSA™ Rigid sealing system / PRESS-ON™ Resilient sealing system
- Mounting: Face wall mounted

04 SERIES: A - 421 / 422 / 423 ALUMINUM SECTIONAL STOPLOGS

- Size range: 300 x 300 mm to 3000 x 5000 mm, higher sizes on request
- Head range: Unseating head equal to the height of assembled stoplogs due to 3 sides sealing arrangement
- Sealing: LIP-GLIDE™ Resilient sealing system
- Side Seal mounting: On frame guide / stoplogs
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored

05 SERIES: A - 425 / 426 / 427 ALUMINUM HANDSTOP / STOP GATES

- Size range: 100 x 100 mm to 750 x 750 mm, higher sizes on request
- Head range: Unseating head equal to the height of stop gates due to 3 sides sealing arrangement
- Sealing: HARSA™ Rigid sealing system / Resilient sealing system
- Side Seal mounting: On Frame guide
- Mounting: Side wall embedded / Side wall anchored / Face wall anchored

Jash has the capability to design and manufacture gates for heads and sizes larger than those stated above. Jash can also offer custom designed gates to suit any specific application of the client.

SYSTEM FOLLOWED TO ENSURE SUPERIOR PRODUCTS



◀ 1270 x 7000 mm Aluminum Stoplogs Under Leakage Testing at Kranji Pumping Station, Singapore

SELECTION OF MATERIAL

We use marine aluminum of grade 6061-T6 for most of our water control products instead of readily available commercial grade aluminum. To ensure that we get the right material, we mostly source our sections directly from the mill.

WELDING USING QUALIFIED WELDERS & PROCESSES

We use qualified processes for welding & approved qualified welders in conformance with AWS D1.6 / ASME Section IX as per AWWA. The welder qualification process is witnessed & approved by Bureau Veritas for welding aluminum material of grade 6061-T6.

100% DYE PENETRANT TESTING

To verify the quality of welding we conduct dye penetrant testing of all weld joints using qualified inspectors. This is integral to our quality system for fabricated products and is done irrespective of whether the client is demanding this or not.

PAINTING

Aluminum material has certain disadvantages such as quick oxidation, rapid wear, easy scratching and galling when rubbed against similar material. It is also susceptible to corrosion especially when exposed to pH levels varying substantially from neutral 7.0 for long periods. The US army corps of engineers guidelines put the usable PH range for unprotected bare aluminum around 4.0 to 8.5. Corrosion can be mitigated by using marine aluminum of grade 6061 but a protective coating still remains a better option especially in waste water applications where pH levels may vary. For this reason Jash prefers to Epoxy prime and paint aluminum surfaces subjected to submergence. Epoxy primer is used to increase the surface energy making the aluminum receptive for subsequent paint adhesion.

ANODIZING / HARD ANODIZING

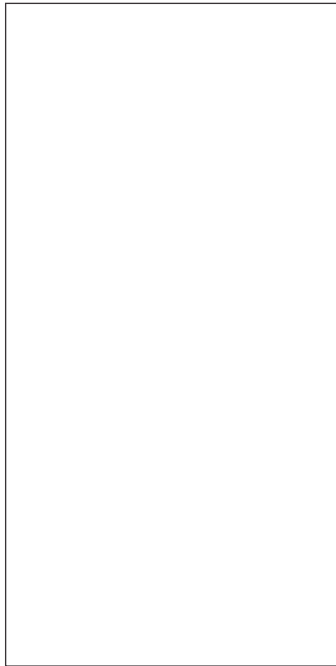
Anodizing is a protective coating process which is superior to painting. In this process the surface of aluminum is artificially oxidized to create a thin protective coating.

If required, even hard anodizing can be done as this not only offers protection from corrosion but at the same time improve wear and scratch resistance. As the process of anodizing involves use of outside facility it results into higher cost and longer lead times.

ALUMINUM SLIDE GATES

SERIES: A - 121

SELF CONTAINED SLIDE GATE



NON SELF CONTAINED SLIDE GATE



SPECIFICATION:

These slide gates are made in compliance with AWWA C562

APPLICATION:

These slide gates are mounted on the face of a wall and are used to isolate flow in and out of a conduit. These are suitable for low seating and unseating heads as required.

FEATURES:

- Extruded / fabricated flange back frame suitable for direct mounting on face of wall using anchor fasteners and secondary grout between wall and frame.
- Gate frame provided with low friction UHMWPE guides to prevent metal to metal rubbing and galling during slide operation.
- Short length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of door when the gate is full open.
- Frame and slide made of minimum 6 mm thick material as stipulated in AWWA C562 .
- Side frame having dual slot design wherein primary slot engages with slide and secondary slot envelops the side reinforcing ribs of the slide.
- Portion of slide engaging in frame guides have minimum 12 mm material thickness and 25 mm engagement depth.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with either HARSATM rigid sealing system on sides and top having integral seal / seat or PRESS-ON™ resilient sealing system having seal separate from the seat. Type of sealing system offered depends upon client requirement and application.
- HARSATM unique integral seal / seat system can withstand 25,000 cycle operation and reduce the possibility of future seal replacement. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSATM rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE on frame with compression resilient cord seals to ensure forced contact between seal and both the faces of slide.

- Flush bottom slide gates with HARSATM rigid sealing system provided with bottom seal comprising of flexible rubber seal flush with the opening and having AUTO-FLUSH™ arrangement at guide bottom to force out accumulated grit particles and ensure full closure of the slide.
- Bigger size slide gates and gates subject to higher unseating head are provided with PRESS-ON™ resilient sealing system to offer leakage limits substantially lesser than that stated in AWWA C562.
- PRESS-ON™ resilient sealing system comprises of replaceable resilient seal in forced contact with face of slide and provided with flow deflectors to restrict direct exposure of sealing arrangement to hazardous solid materials coming with flow.
- Flush bottom slide gates with PRESS-ON™ resilient sealing system provided with bottom seal comprising of flexible rubber seal flush with the opening.
- Seal fitment in case of PRESS-ON™ resilient sealing system ensures that no dismounting of gate from its location is to be done for future seal replacement.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Single piece or multi piece stem to suit the installation depth, coupling to connect stem section with the lowest stem section connecting to the block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non-rising stem.
- Electric / Pneumatic / Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Foot wall bracket for pedestal mounting.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate opening indicating arrangement.
- Hard epoxy painting on aluminum material.

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.53.

SHOP TESTING:

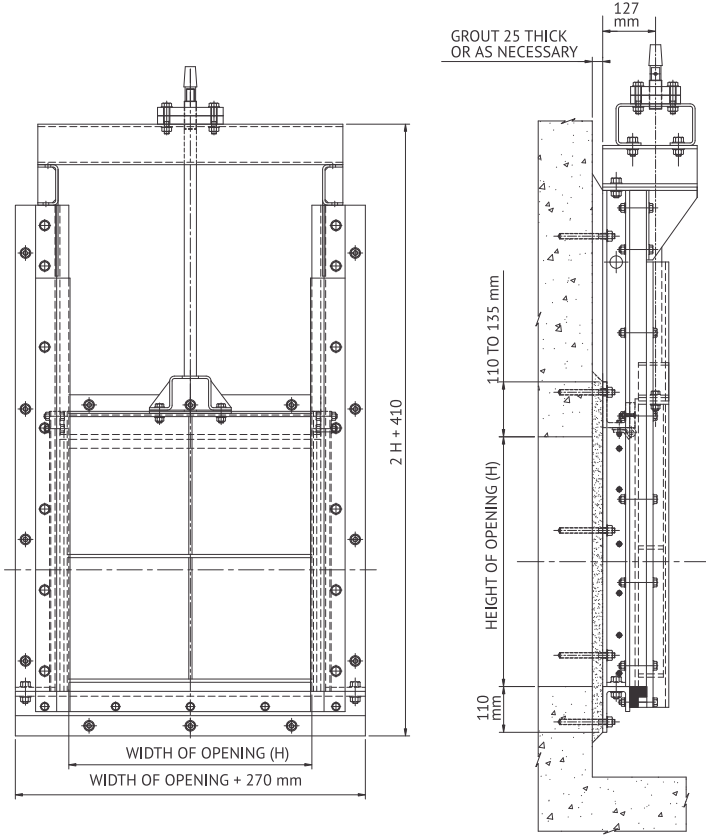
- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance meeting leakage requirement as specified or as per AWWA C562.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

For getting similar leakage result at site ensure that there is no frame distortion during the process of slide gate installation on wall.

ALUMINUM SLIDE GATES

SERIES: A - 121 - DRAWINGS

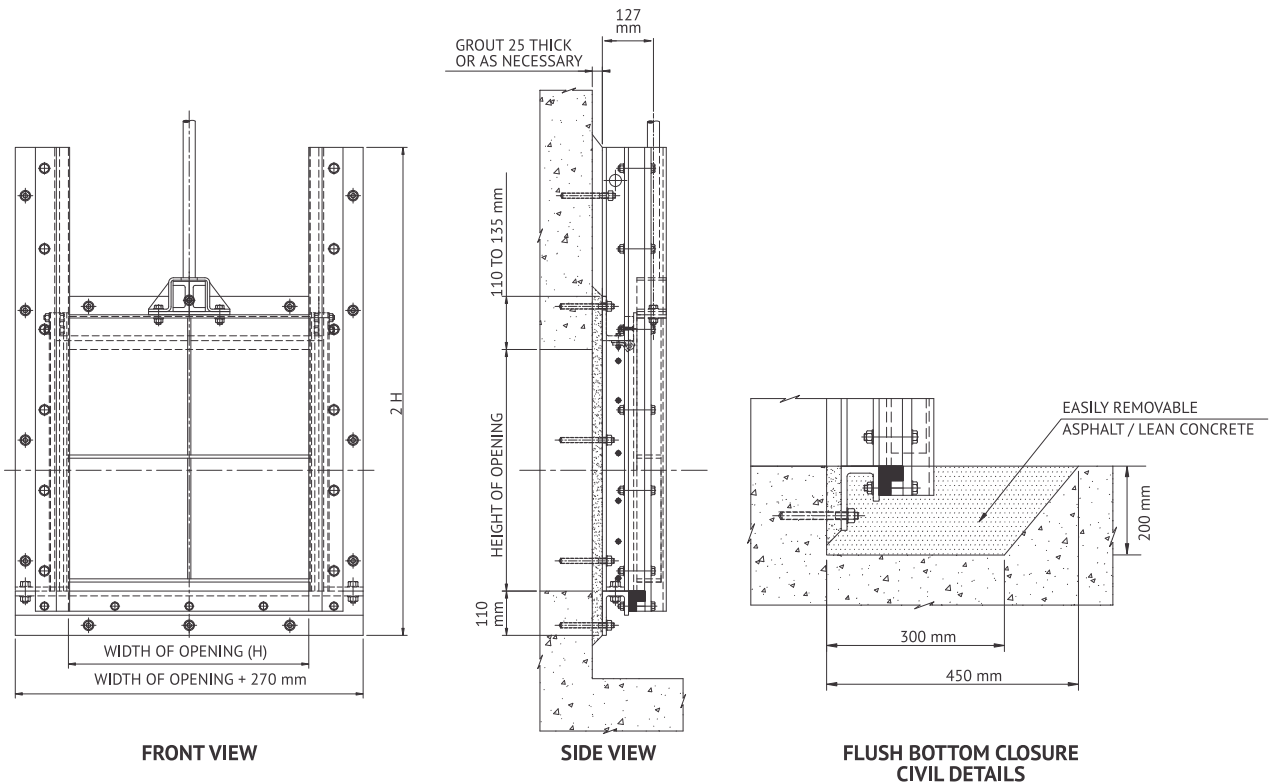
SELF CONTAINED CONVENTIONAL CLOSURE



FRONT VIEW

SIDE VIEW

NON SELF CONTAINED CONVENTIONAL CLOSURE

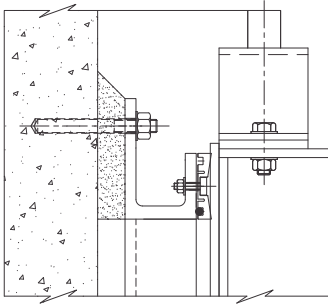


FRONT VIEW

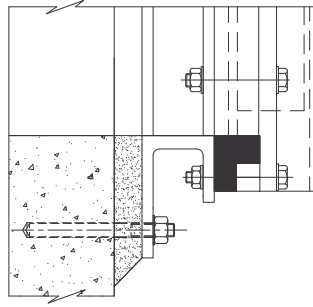
SIDE VIEW

FLUSH BOTTOM CLOSURE
CIVIL DETAILS

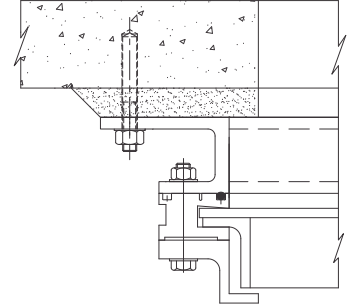
HARSA™ RIGID SEALING SYSTEM



TOP SEALING ARRANGEMENT

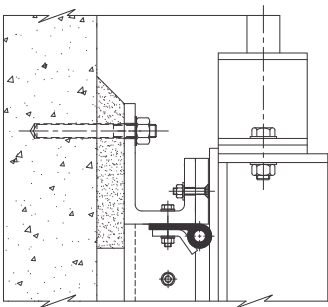


BOTTOM SEALING ARRANGEMENT

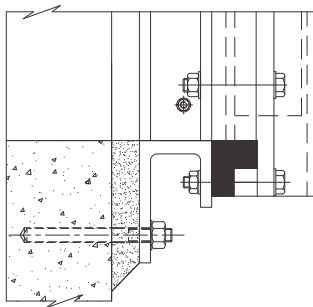


SIDE SEALING ARRANGEMENT

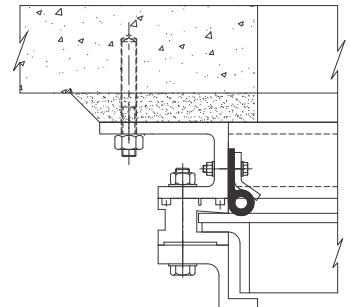
PRESS-ON™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT



SIDE SEALING ARRANGEMENT

ALUMINUM OPEN CHANNEL SLIDE GATES

SERIES: A - 221 / 222 / 223

OPEN CHANNEL SLIDE GATE



SPECIFICATION:

These open channel slide gates are made in compliance with AWWA C562.

APPLICATION:

These open channel slide gates are used to isolate flow within as well as in and out of an open channel. These are suitable for seating water head and are provided with sealing arrangement on 3 sides only and not on top side and so the height of water should always be less than the height of slide.

FEATURES:

- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Rigid extruded aluminum frame provided with low friction UHMWPE guides to prevent metal to metal rubbing and galling during slide operation.

- Gate frame provided with full length extension guides sufficient to engage full height of slide over the water height when the gate is open.
- Self-contained gate frame with lift mechanism mounted directly on yoke provided across the top of gate frame.
- Frame and slide made of 6 mm thick material as stipulated in AWWA C562.
- Side frame having dual slot design wherein primary slot engages with slide and secondary slot envelops the side reinforcing ribs of the slide.
- Portion of slide engaging in frame guides to have minimum 12 mm material thickness and 25 mm engagement depth.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with either HARSA-DUO™ rigid sealing system having integral seal/seat or EASY-SLIDE™ resilient sealing system having seal separate from the seat. Type of sealing system offered depends upon client requirement and application.
- HARSA-DUO™ unique integral seal / seat system can withstand 25,000 cycle operation and reduce the possibility of future seal change. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSA-DUO™ rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE fitted in dovetailed slots of frame with dual compression resilient cord seals to ensure forced contact between seal and both the faces of slide for bi-directional sealing.
- Flush bottom slide gates with HARSA-DUO™ rigid sealing system provided with bottom seal comprising of flexible rubber seal flush with the opening and having AUTO-FLUSH™ arrangement at guide bottom to force out accumulated grit particles and ensure full closure of the slide.
- EASY-SLIDE™ resilient sealing system have seal separate from the seat to ensure low operating torque and offer leakage limits substantially lesser than that stated in AWWA C562.
- EASY-SLIDE™ resilient sealing system comprises of replaceable resilient seal in forced contact with low friction, high abrasion resistant seat of UHMWPE to ensure reduced seal wear with uni-directional sealing.
- Flush bottom slide gates with slide mounted bottom resilient seal in forced contact with bottom invert flush with the opening.
- Seal fitment ensures that no dismantling of slide gate from its location is to be done for future seal replacement.

- Rising stem with yoke mounted manual gate operating mechanism to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height.
- Anchor bolts with nuts and washers for frame suitable for side anchoring or wall mounting.

OPTIONAL FEATURES:

- Bi-directional sealing arrangement in case of EASY-SLIDE™ resilient sealing system.
- Extended side guides in case operating thrust is to be taken on frame for gates where operating arrangement is located at more than 2.5 times the height of slide.
- Chain and sprocket arrangement to lower the handwheel / crank centerline to an elevation of 900 mm from the top of the operating floor in cases where manual operating arrangement is located more than 1500 mm distance from the operating floor. (Refer sketch on page no.22)
- Non self-contained gate frame with extended stem, couplings and stem guide brackets, as required, to connect the slide to the gate operating arrangement mounted on a remote operating floor.
- Non-rising stem.
- Electric/Pneumatic/Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.

- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.
- Hard epoxy painting on aluminum material.

MATERIAL OF CONSTRUCTION:

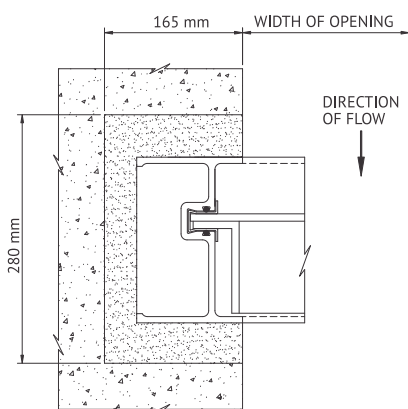
Depending upon application and requirement, client should select and specify the material of construction option for various components of slide gate from the alternatives stated on page no.53.

SHOP TESTING:

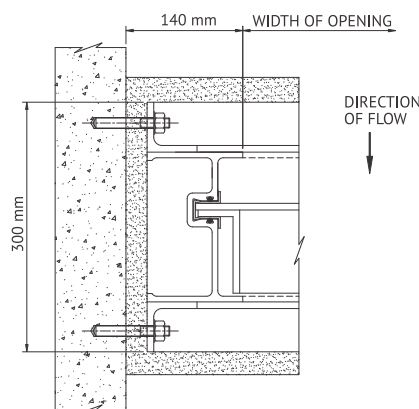
- Leakage testing of slide gate at plant with water filled till top of slide to verify slide gate leakage performance.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated slide gates.

Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specifications.

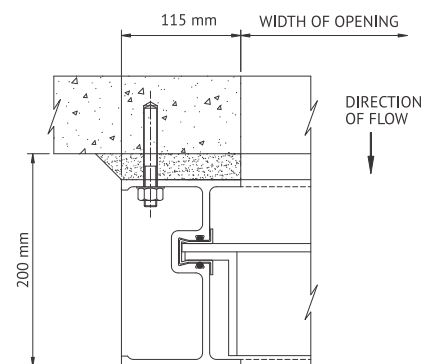
HARSA-DUO™ RIGID SEALING ARRANGEMENT



SERIES: A-221



SERIES: A-222

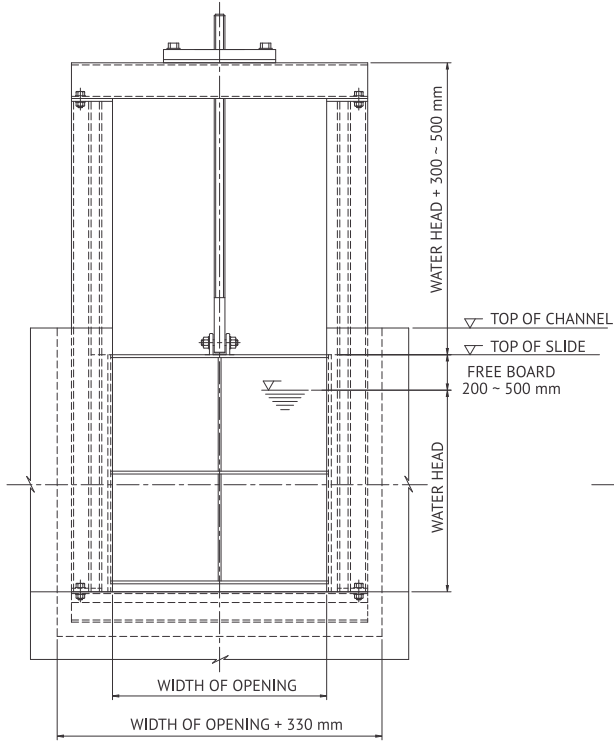


SERIES: A-223

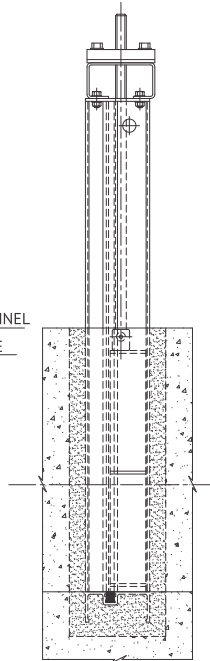
ALUMINUM OPEN CHANNEL SLIDE GATES

SERIES: A - 221 / 222 - DRAWINGS

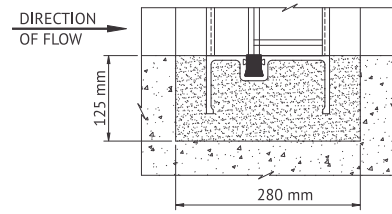
SERIES: A - 221 - SIDE WALL EMBEDDED



FRONT VIEW

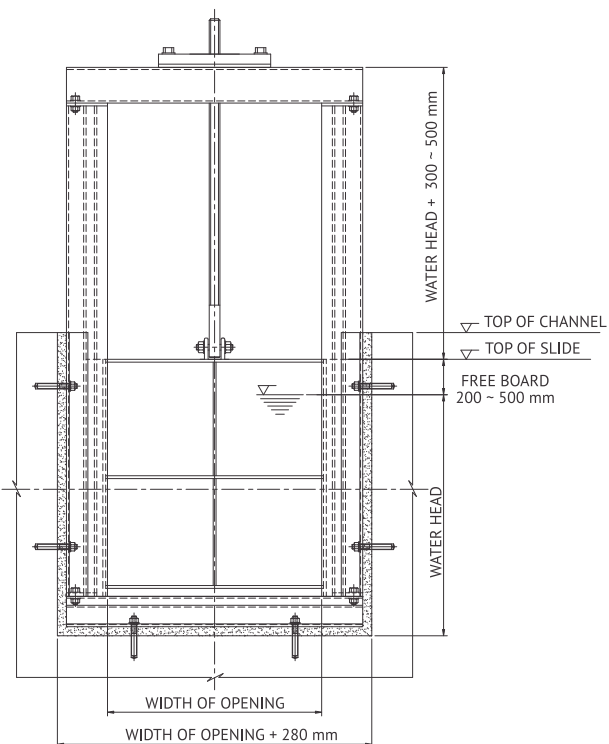


SIDE VIEW

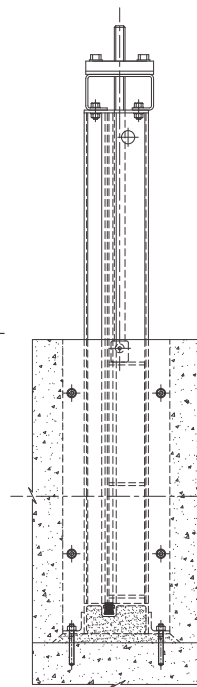


BOTTOM SEALING
CIVIL DETAILS

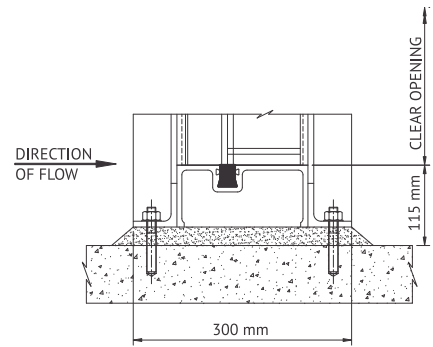
SERIES: A - 222 - SIDE WALL ANCHORED



FRONT VIEW



SIDE VIEW

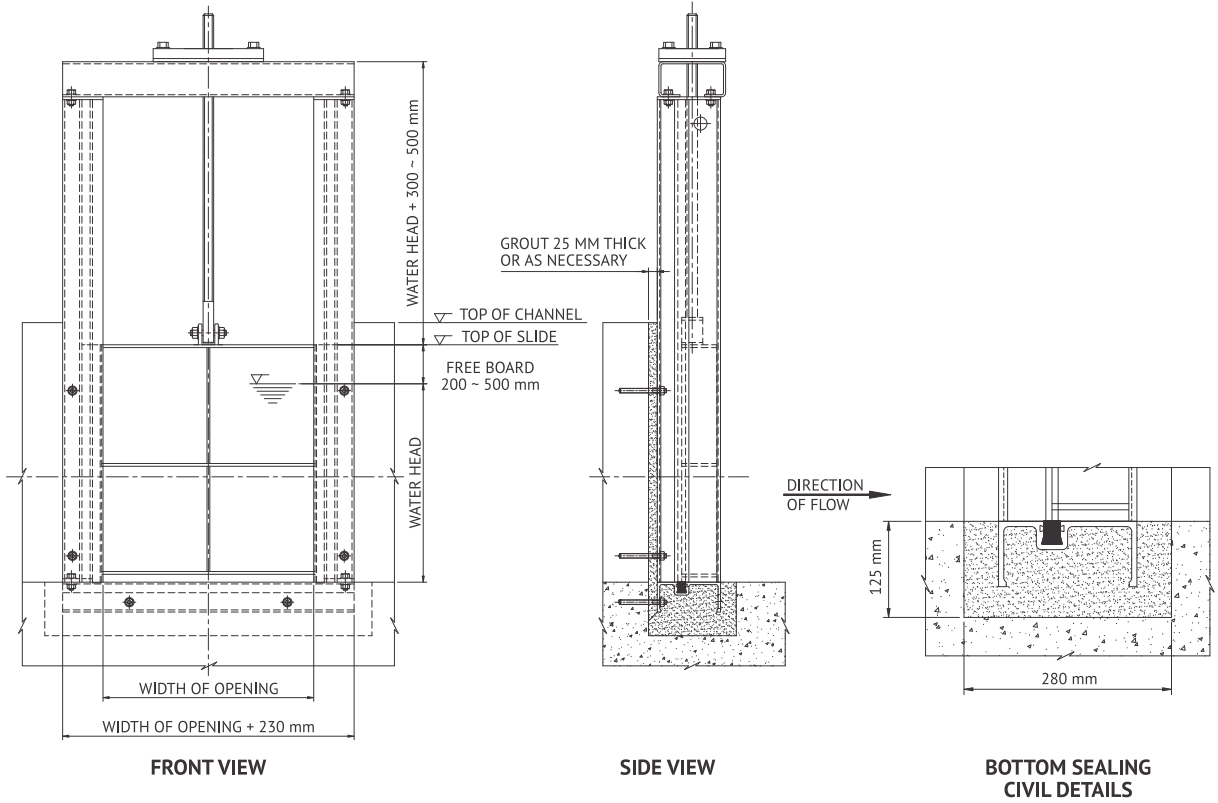


BOTTOM SEALING
CIVIL DETAILS

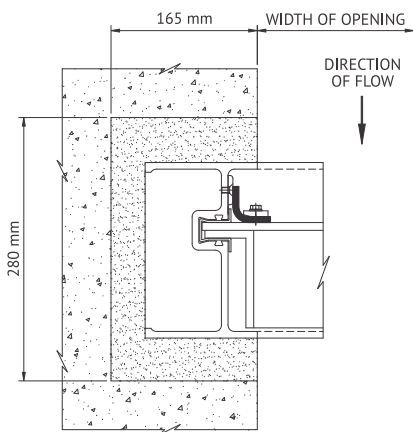
SERIES:A - 223 - DRAWINGS



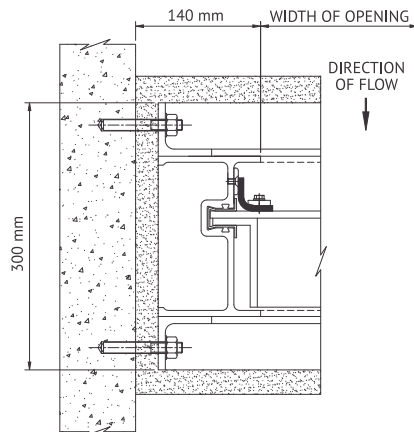
SERIES: A - 223 - FACE WALL ANCHORED



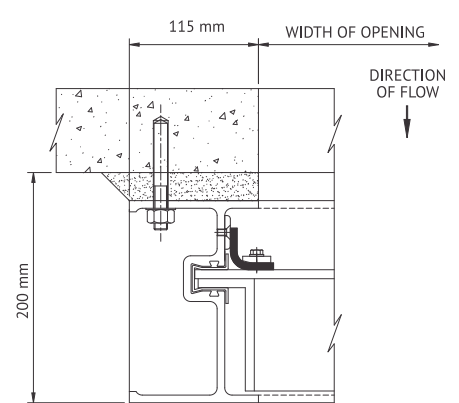
EASY-SLIDE™ RESILIENT SEALING ARRANGEMENT



SERIES: A-221



SERIES: A-222



SERIES: A-223

ALUMINUM WEIR GATES

SERIES: A - 321

SELF CONTAINED WEIR GATE



SPECIFICATION:

These weir gates are made in compliance with AWWA C562.

APPLICATION:

These are downward opening overflow weir gates (not downward opening slide gate) mounted on the face of a wall and are provided with sealing arrangement which ensures continuous sealing on 3 sides (sides and bottom) at any extent of gate opening and allowing water to overflow only from the top side. These are used for (i) decanting of a reservoir or a tank, or (ii) maintaining precise level control in a reservoir or a tank, or (iii) to isolate the flow as well as maintain precise level control by providing 4th side (top side) sealing arrangement.

FEATURES:

- Extruded flange back frame suitable for mounting on face of wall using anchor fasteners and secondary grout between wall and frame.
- Gate frame provided with low friction UHMWPE guides to prevent metal to metal rubbing and galling during slide operation.
- Short length frame provided with short length extension guides sufficient to engage at least half the overall vertical height of slide when the gate is fully open.
- Frame and slide made of minimum 6 mm thick material as stipulated in AWWA C562.
- Side frame having dual slot design wherein primary slot engages with slide and secondary slot envelops the side reinforcing ribs of the slide.
- Portion of slide engaging in frame guides to have minimum 12 mm material thickness and 25 mm engagement depth.
- Slide sufficiently ribbed to ensure that deflection under designated water head does not result into leakage over the specified limit.
- Offered with either HARSATM rigid sealing system on side and top having integral seal/seat or PRESS-ONTM resilient sealing system having seal separate from the seat. Type of sealing system offered depends upon client requirement and application.
- HARSATM unique integral seal / seat system can withstand 25,000 cycle operation and reduce the possibility of future seal change. This sealing system offers longevity and necessitates precision in installation to achieve specified leakage criteria.
- HARSATM rigid sealing system comprises of low friction, high abrasion resistant self-adjusting seals of UHMWPE on frame with compression resilient cord seals to ensure forced contact between seal and both the faces of slide.
- GRIT-DEFLECTTM arrangement provided at bottom to prevent embedment of grit in bottom sealing area and thereby avoid scouring of shutter face.
- PRESS-ONTM resilient sealing system to offer leakage limits substantially lesser than that stated in AWWA C562 even for large sized weir gates.
- PRESS-ONTM resilient sealing system comprises of replaceable resilient seal in forced contact with face of slide and provided with flow deflectors to restrict direct exposure of sealing arrangement to hazardous solid materials coming with flow.

- Seal fitment in case of PRESS-ON™ resilient sealing system ensures that no dismantling of weir gate from its location is to be done for future seal replacement.
- Travel stop mounted on frame to limit over travel of slide when opening downwards.
- Rising stem with pedestal / yoke mounted manual gate operating mechanism to operate the weir gate with less than 18 kgs effort on the crank or handwheel.
- Single piece or multi piece stem with coupling to connect the stem block mounted on slide to the gate operating arrangement.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stem for all gates 1200 mm and wider, and having width greater than twice their height or where decanting requires a precise level weir elevation.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- Top sealing arrangement for isolation requirement.
- Stems positioned outside the width of opening so that they are not in the path of incoming flow.
- Self-contained / closed top gate frame with lift mechanism mounted directly on yoke provided across the top of slide gate frame.
- Non rising stem.
- Electric / Pneumatic / Hydraulic operating arrangement.
- Portable gate operator for manual / electric / hydraulic operating arrangement.
- Stem cover made of galvanized steel or transparent plastic tube.
- Gate position indicating arrangement.
- Hard epoxy painting on aluminum material.

MATERIAL OF CONSTRUCTION:

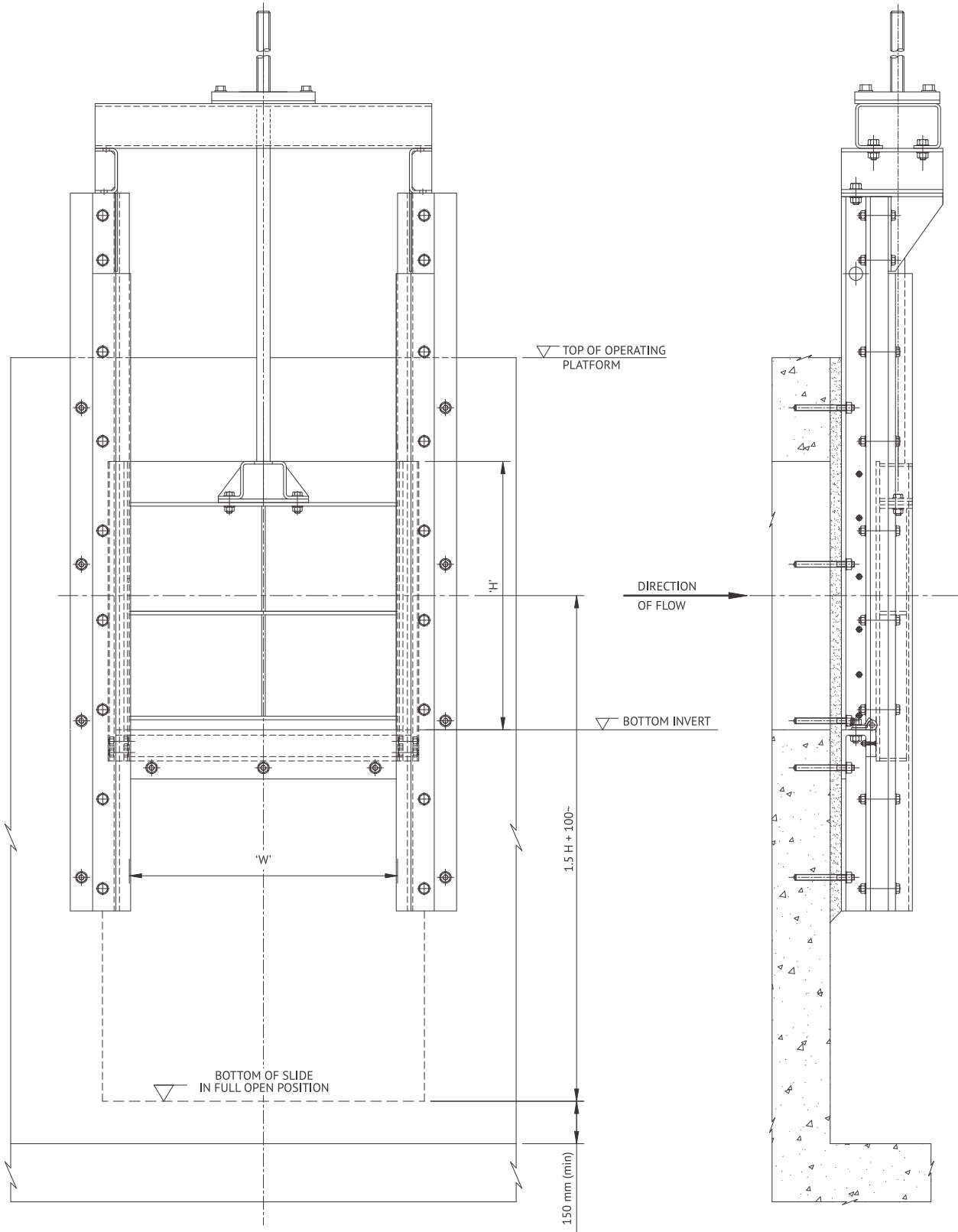
Depending upon application and requirement, client should select and specify the material of construction option for various components of weir gate from the alternatives stated on page no 53.

SHOPTESTING:

- Leakage testing of weir gate at plant with water filled till top of slide to verify weir gate leakage performance.#
- Seat clearance check of each weir gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test to verify gate operating torque for manually operated weir gates.

Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specifications.

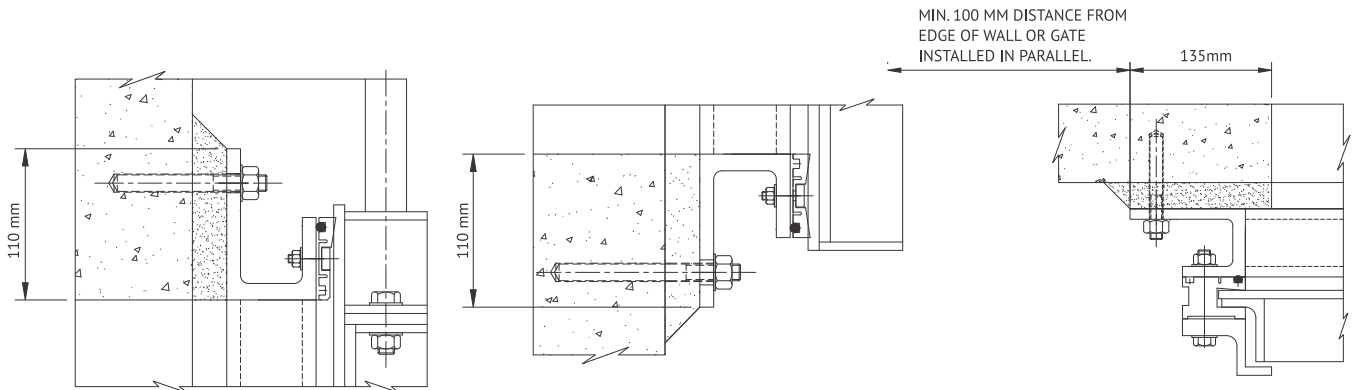
SELF-CONTAINED WEIR GATE



FRONT VIEW

SIDE VIEW

HARSA™ RIGID SEALING SYSTEM

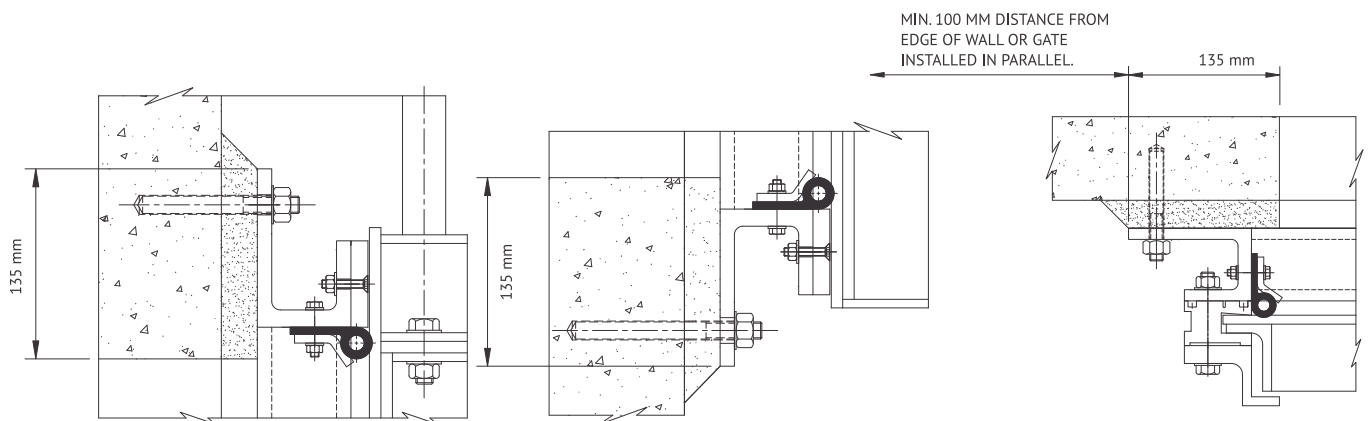


TOP SEALING ARRANGEMENT (OPTIONAL)

BOTTOM SEALING ARRANGEMENT

SIDE SEALING ARRANGEMENT

PRESS-ON™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT (OPTIONAL)

BOTTOM SEALING ARRANGEMENT

SIDE SEALING ARRANGEMENT

ALUMINUM SECTIONAL STOPLOGS

SERIES: A - 421 / 422 / 423

SECTIONAL STOPLOG



SPECIFICATION:

These stoplogs are made per the Jash design.

APPLICATION:

Multi-piece extruded stoplogs are used instead of single piece stoplogs when there is weight and height restriction in handling. These stoplogs are used for isolation application in open channel where (i) immediate closure or isolation of waterway opening in a short time is not required, (ii) isolation requirement is infrequent and (iii) more than one person is available for operation. Stoplogs are also suitable for insertion in multiple frames installed at different locations provided the stoplog and the frame are of same width.

Extruded sectional logs are available in 150, 250, 300 mm height and are suitable to withstand varied water heads depending upon width of logs.

FEATURES:

- Rigid extruded aluminum frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Offered with either frame mounted sealing system or log mounted sealing system for vertical sealing between frame and stoplogs. Type of sealing system offered depends upon client requirement and application.
- Frame mounted sealing system offers joint-less vertical sealing with the gliding face of stoplogs to ensure improved seal leakage performance. This sealing arrangement is replaceable only during plant shut down.
- Log mounted sealing system comprises of non -continuous interrupted sealing with the frame face thereby increasing the possibility of higher leakage through joints in the vertical sealing. This sealing arrangement is replaceable without resorting to plant shutdown.
- Vertical sealing system provided on upstream as well as downstream sides at both ends.
- Frame mounted sealing arrangement offered with LIP-GLIDE™ resilient sealing system having seal separate from the seat. LIP-GLIDE™ resilient sealing system comprises of resilient lip seal mechanically fastened on frame and in forced contact with gliding face of stoplogs.
- Log mounted LIP-GLIDE™ resilient sealing system comprises of resilient lip seal mechanically fastened on logs and in forced contact with face of frame.
- Dual flush bottom seals across the width at the bottom of each log to achieve sealing between logs. Bottom seals are secured in a dovetail groove and are replaceable.
- Each log provided with two lifting handles on upstream as well as downstream side.
- Lifting handles spaced apart for easy manual lifting or for lifting using lifting beam.

OPTIONAL FEATURES:

- Stainless steel frame in lieu of aluminum frame.
- Lowering / raising of stoplogs manually using lifting rods.
- Lowering / raising of stoplogs using automatically engaging lifting beam with manual / electric hoist.
- Individual logs bunched together to offer increased sectional height and reduce number of sectional logs for faster lifting using lifting beam.

- Portable frame for mounting lifting beam.
- Storage rack for safe storage of stoplogs.
- Hard epoxy painting on aluminum material.

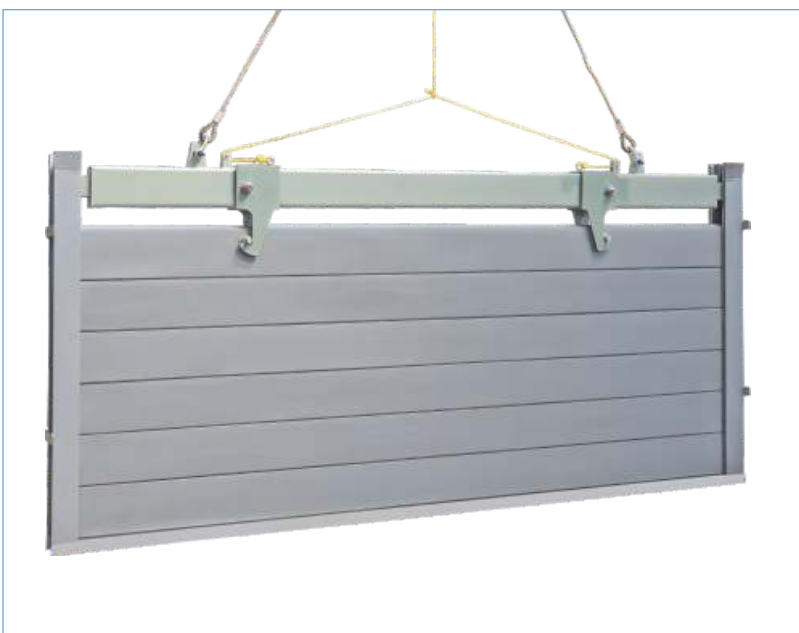
MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of stoplogs from the alternatives stated on page no 53.

SHOP TESTING:

- Leakage testing of stoplogs at plant with water filled till top of logs to verify leakage performance.#
- Seat clearance check of each stoplog assembly for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of logs within frame assembly.

Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specification.



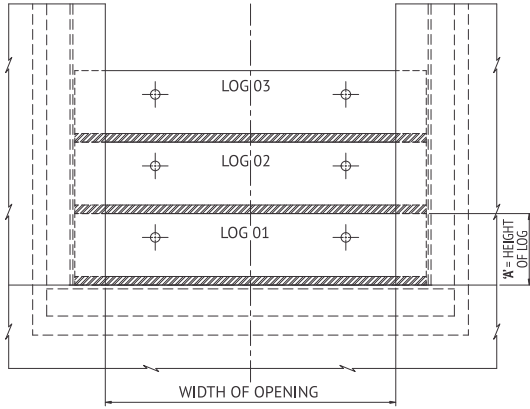
Multipiece 250 mm high stoplogs bolted together to offer one piece 1500 mm high unit stoplog



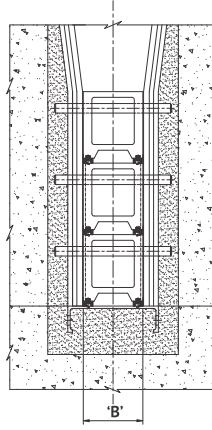
Arrangement to allow lifting of multi-piece logs at a time with low lifting force

ALUMINUM SECTIONAL STOPLOGS

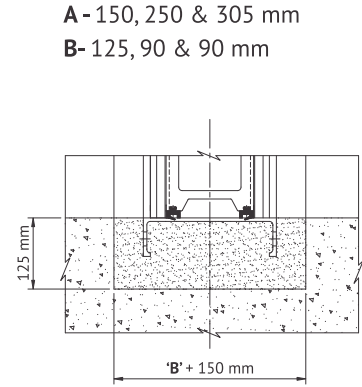
SERIES: A - 421 / 422 / 423 DRAWINGS



FRONT VIEW



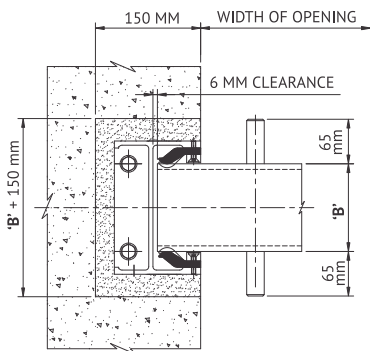
SIDE VIEW



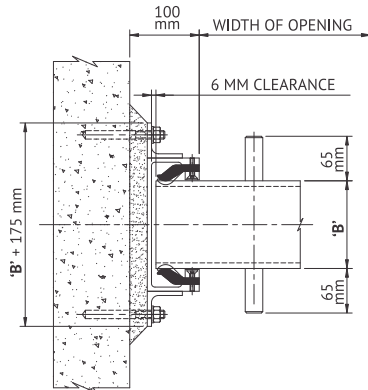
A - 150, 250 & 305 mm
B - 125, 90 & 90 mm

BOTTOM SEALING ARRANGEMENT

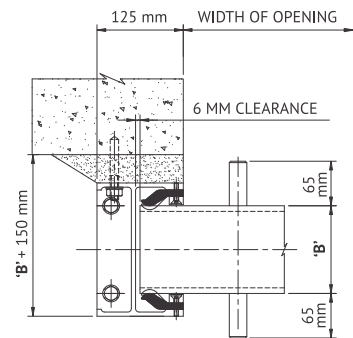
FRAME MOUNTED LIP GLIDE™ SEALING ARRANGEMENT



SERIES: A-421

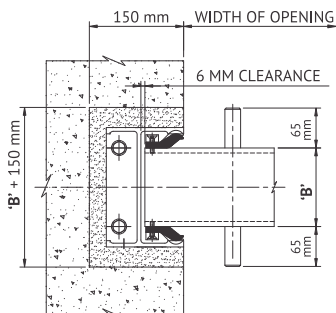


SERIES: A-422

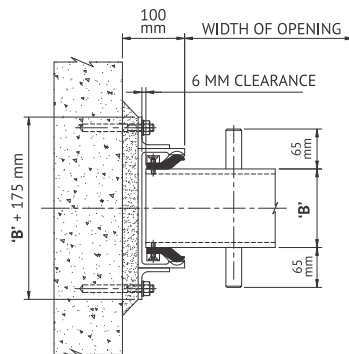


SERIES: A-423

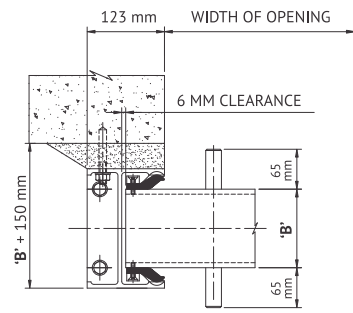
LOG MOUNTED LIP GLIDE™ SEALING ARRANGEMENT



SERIES: A-421



SERIES: A-422



SERIES: A-423

ALUMINUM- HANDSTOP / STOP GATES SERIES: A-425 / 426 / 427



HANDSTOP / STOP GATE



HANDSTOP / STOP GATE



SPECIFICATION:

Handstops / stop gates are made as per Jash design.

APPLICATION:

Handstops / stop gates are used for isolation application in small open channel openings where one person can manually carryout its operation.

Handstops / stop gates are also suitable for insertion in multiple frames installed at different locations provided the handstop and the frame are of same width.

FEATURES:

- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Offered with either frame mounted HARSA™ rigid sealing system having integral seal / seat or frame mounted resilient sealing system.
- Frame mounted resilient flush bottom seal across the width at the bottom of invert to achieve sealing with handstop.
- Provided with stainless steel lifting handle for manual operation.

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client should select and specify the material of construction option for various components of stop gate from the alternatives stated on page no.53.

SHOPTESTING:

- Seat clearance check of each handstop assembly for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of handstop within frame assembly.

For drawing & sealing arrangement please refer to page no. 32

ALUMINUM WATER CONTROL PRODUCTS

STANDARD AND OPTIONAL MATERIALS

The client to select and specify materials of construction of various components from the following alternatives based on the application and requirement. If required, materials of construction other than that specified below can also be offered upon specific request.

S. NO.	COMPONENTS	MATERIALS	SPECIFICATIONS	GRADES / TYPES
1.	Gate Frame, Guide, Slide,	Aluminum	ASTM B209 / ASTM B308	6061-T6
2.	Yoke	Aluminum Stainless Steel	ASTM B209 / ASTM B308 ASTM A240	6061-T6 304, 304L, 316, 316L, Duplex (31803 / 32205) Super Duplex (32750 / 32760)
3.	Guide Liner, Seat	UHMWPE HDPE	ASTM D4020 ASTM D4020	
4.	Resilient Rubber Seal	EPDM Rubber Neoprene Rubber	ASTM D2000 ASTM D2000 BS EN 681	
5.	Rubber Seal Retainer Bar	Stainless Steel	ASTM A240	304, 304L, 316, 316L, Duplex (31803 / 32205) Super Duplex (32750 / 32760)
6.	Connecting Block / Stem Block / Thrust Nut	Stainless Steel Bronze Gun Metal	ASTM A276 ASTM B584 BS EN 1982	304, 316, CF8, CF8M, Duplex (31803 / 32205) Super Duplex (32750 / 32760) CA 863, 865, CA 873 LG2
7.	Stem & Coupling	Stainless Steel	ASTM A276	304, 316, 17-4 PH Duplex (31803 / 32205) Super Duplex (32750 / 32760)
8.	Operating Nut / Stem Nut	Bronze Aluminum Bronze Phosphorus Bronze	ASTM B584 BS EN 1982 BS EN 12167	CA 863, 865, CA 873
9.	Fasteners, Nuts and Bolts	Stainless Steel	ASTM A276, ASTM F593 & F594 BS EN 3506	304, 316, Duplex (31803 / 32205) Super Duplex (32750 / 32760)
10.	Pedestal, Stem Guide Bracket, Foot Wall Bracket	Cast Iron Stainless Steel	ASTM A126 BS EN 1561 ASTM A240/ 276	Class B Grade 200, 250 304, 304L, 316, 316L
11.	Stem Cover	Polycarbonate Galvanised Iron		

All standard Aluminum material can also be given as per BS EN 573 / 575 in grade 6061 - T6

STANDARD ACCESSORIES

All Jash water control gates are supplied with following standard accessories, where required.

MANUAL LIFT MECHANISM / SCREW HOIST: Civil floor mounted manually operated ungeared or geared lift mechanism with pedestal to enable a person to operate the gate in standing position with an effort of not more than 18 kgs. Lift mechanism on self contained gate is generally provided without floor stand / pedestal and is of bench type so that it can be directly mounted on yoke of frame.

Ungeared lift mechanism offers fastest operation and is provided when lifting load is low. Ungeared lift mechanism is provided with a thrust bearing mounted non ferrous threaded stem nut engaging with stem threads. An easily removable type stainless steel handwheel is then mounted on the stem nut and rotation of the handwheel results in gate operation. This arrangement can have provision for locking of the handwheel to prevent unauthorized operation. It is not compatible with portable operators

Geared lift mechanism is provided when lifting load is higher thereby requiring gearing to reduce the effort to within 18 kgs or when portable operators are going to be used. It has thrust bearing mounted non ferrous threaded stem nut engaging with stem threads and this stem nut is connected to a bevel or spiral bevel gear arrangement which when operated through a crank handle, operates the gate. Geared lift mechanism is provided with machined gears completely encased in housing to protect it from dirt, dust, rain and other atmospheric effects and have arrangement for lubrication as well as for locking of removable stainless steel crank handle with the stainless steel floor stand / pedestal after it is removed from the driving shaft.

When the gear ratio required to operate the gate is higher than 1:5 a two speed geared lift mechanism is routinely furnished. This is done with a view to reduce the time required to manually operate the gate. The slower speed with high gear ratio is provided for initial crack opening of gate needing maximum torque. The faster speed with low gear ratio is provided for further opening after the gate is initially crack opened.

Dual or Tandem lift mechanism is provided for gates 1200 mm and wider and having width of opening greater than twice the height of opening. Twin lifting arrangements are connected by tandem shaft with flexible coupling for simultaneous operation. Refer photo on page no. 26 for tandem lift mechanism

STEM: Single piece or multi-piece, as required, to connect the slide with the lift mechanism. The stems are provided with right hand square or acme threads. Maximum length of single piece stem is generally restricted to 5 m.

COUPLINGS: Internally threaded couplings to couple / connect small lengths of stem when stems are to be longer than 4 to 5 m. The couplings are provided with pins passing through engaging stems for locking.

STEM GUIDES: Adequate number of stem guides to limit unsupported length of stem within fiftytimes its diameter.

Adjustable type stem guides are adjustable and comprise of a stainless steel right angled bracket to be secured on the face of wall with anchor bolts and an adjustable HDPE guide which can be secured on the horizontal face of the right angled bracket.



Ungeared
Lift Mechanism



Geared Lift Mechanism



Two Speed Geared
Lift Mechanism



Stem Guide for
Flat Back Frame Gates



Stem Guide for Flange
Back Frame Gates



Coupling

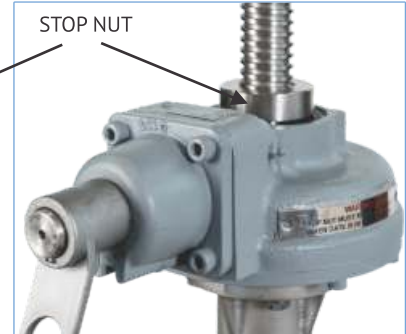
STANDARD AND OPTIONAL ACCESSORIES

STOP NUT: Stainless steel stop nut is provided for rising stem gates to prevent chances of over-closing the gate and thus avoid chances of damage to gate assembly, stem and operating platform. Stop nut has threads to engage with threads of stem and is furnished with a set screw to set it in a fixed position 1 to 3 mm above the lift nut after the gate is installed.

ANCHOR BOLTS / ANCHOR FASTENERS: Either L-shaped anchor bolts or chemical anchor fasteners for gate frame, stem guide brackets and floor stand / pedestal of lift mechanism, as necessary.



Stop Nut for Ungeared Lift Mechanism



Stop Nut for Geared Lift Mechanism

OPTIONAL ACCESSORIES



Stem Cover and Indicating Arrangement for Ungeared Lift Mechanism



Stem Cover and Indicating Arrangement for Geared Lift Mechanism

Wherever necessary, following optional accessories and variations in construction of accessories are offered upon specific request.

STEM COVER: Polycarbonate / acrylic stem cover is provided on lift mechanism of rising stem gates to protect stem threads from dirt, dust and weather. In case of bigger diameter of stems, galvanized steel stem covers are provided.

GATE OPENING INDICATING ARRANGEMENT: Stem cover type gate opening indication arrangement is provided on rising stem gates to indicate "OPEN" or "CLOSE" position of gate and if required the extent of gate opening by providing a scale with 25 mm graduation.

FOOT WALL BRACKET: Foot wall bracket can be provided to support floor stand / pedestal of lift mechanism in cases where civil platform is not available for mounting of floor stand / pedestal. The bracket is secured to the vertical face of the wall using anchor bolts and the floor stand / pedestal is then secured on the horizontal face of bracket using bolts and nuts.



Foot Wall Bracket



Offset Center Floor Stand

OFFSET CENTER FLOOR STAND / PEDESTAL: Offset center floor stand / pedestal can be used in lieu of foot wall bracket in cases where civil platform is not available. The foot of the floor stand / pedestal is secured to the horizontal face of the vertical wall using anchor bolts. The top portion of floor stand / pedestal / has an offset bracket which enables mounting of bench type lift mechanism on it for gate operation.

ELECTRICALLY OPERATED LIFT MECHANISM WITH MANUAL OVERRIDE FACILITY:

Electrically operated lift mechanism comprises of standard electric actuators manufactured by Rotork / Auma / Flowserve / Emerson / Equivalent and mounted on floor stand / pedestal. These actuators enable gate operation between 250-300 mm/minute and are rated for opening or closing of a gate within 15 minute as per the requirement. The actuators are provided with manual override ability to manually operate the gate in event of electric failure or malfunction. Actuator to suit modulating application can also be given.



Electrically Operated Lift Mechanism

PNEUMATICALLY OPERATED LIFT MECHANISM WITH MANUAL OVERRIDE FACILITY:

Pneumatically operated lift mechanisms comprises of double acting pneumatic (air) cylinder which pulls the slide to open and pushes to close. The pneumatic actuating mechanism is designed for operating at air supply pressure of 5 bar. In event of failure in air supply an easily engageable override arrangement is provided to manually operate the gate.



Pneumatically Operated Lift Mechanism

HYDRAULICALLY OPERATED LIFT MECHANISM FOR FAIL SAFE OPERATION:

Hydraulic operated lift mechanisms are generally used for fail safe operation and are comprised of a hydraulic power pack and a double acting hydraulic cylinder which pulls the slide to open and pushes to close. It is generally designed for lifting at hydraulic pressure of 150 bar or less. Depending upon client's requirement provision can be given to operate the slide by manual hand pump during emergency in event of pump failure or the slide can be operated once using accumulators during failure of power supply.

PORTABLE OPERATOR FOR MANUALLY OPERATED GATES:

Portable operators are used for faster opening of manually operated gates having geared lift mechanism. A common portable operator can be used for intermittent operation of a number of gates of different sizes located near each other.

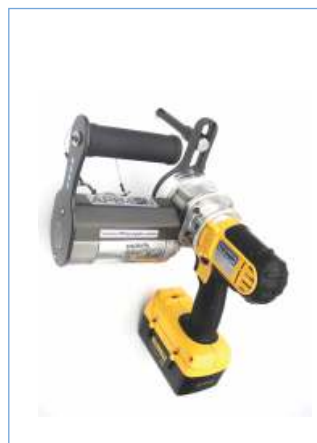
Tripod type electric portable operator, hydraulic portable operator, gasoline engine driven portable operator or battery operated electric portable operator are options available for portable operator.



Tripod Type Portable Operator



Hydraulic Portable Operator



Battery Operated Portable Operator



Hydraulically Operated Lift Mechanism

SHOP INSPECTION TESTS CARRIED OUT FOR JASH FABRICATED GATES

SEAT CLEARANCE CHECK (Applicable for all type of gates):

Clearance, if any, between the mating sealing faces of the gate frame and slide, in gate fully closed position is checked to ensure that 0.1 mm thick feeler gauge does not pass through the mating sealing faces. This check is carried out for each gate.

MOVEMENT TEST (Applicable for all type of gates):

The gate is mounted horizontally on a test plate or vertically mounted on a test plate along with its stem, coupling, stem guides and lift mechanism i.e. complete gate assembly as shown on approved general arrangement drawing and following checks are made by fully opening / closing the gate once.

- Checking the distance from center line of gate opening to base of lift arrangement to verify that the stem length provided is correct.
- Confirming interference free movement of stem by checking that couplings do not foul with stem guides while opening / closing of gate.
- Checking that adequate threaded length is provided on stem for full opening & closing of gate in case of manual / electric operated gates.



Movement Test

In a lot of gates having same gate size, stem length, same number of couplings & stem guides and lift mechanism, this test is carried out on one gate assembly selected at random.

SHOP LEAKAGE TEST UNDER MAXIMUM OPERATING HEAD (Applicable only wherever specifically so agreed):

The gate is mounted on a test bench either vertically or horizontally. A hydraulic pressure equal to the maximum operating head above gate center line is applied from the back using pumps i.e. unseating side of the gate in closed position. Water leaked through the gate under maximum unseating pressure is collected and its volume is measured.

Permissible leakage norms are as under:

(A) AWWA C561 and AWWA C562:

Leakage acceptance norms as per AWWA C561 as well as AWWA C562 requires that under the design seating or unseating head the allowable leakage shall not exceed 0.10 gpm/ft (1.24 Lpm/m) of seating perimeter.



Shop Leakage Test

(B) BS7775 - Gate having Rigid Seating Faces:

1. On-Seating: 1.25 L/min/m of seating perimeter.
2. Off-Seating:
 - (i) For up to & including 6 m: 2.5 L/min/m of seating perimeter.
 - (ii) Above 6 m: $1.25 + 0.21 \times \text{off seating head in meter}$, in L/min/m of seating perimeter

(C) BS7775 -Gate having Resilient Seating Faces:

1. For on or off seating heads up to and including 6 m: 0.5 L/min/m of seat perimeter.
2. For on or off seating heads above 6 m: $0.1 + 0.067 \times$ on or off seating head in meter, in L/min/m of seating perimeter

After carrying out the test satisfactorily as above, the gate is opened slightly and then closed. Leakage test as above is carried out once again. Thus each gate is shop tested for leakage two times and each time leakage, if any, has to be within the respective permissible limits stated above or as agreed with the client.

OPERATING TORQUE TEST AT MAXIMUM OPERATING HEAD (Applicable only for manually operated gates wherever specifically so agreed):

The gate is mounted on a test bench either vertically or horizontally and hydraulic pressure equal to the specified maximum head above gate center line is applied from the back i.e. unseating side of the gate in closed position. The gate is then opened and torque required to operate the gate under above maximum unseating pressure is measured. The acceptance norm requires that the torque should not exceed 70 Nm.

DIMENSIONAL VERIFICATION CHECK (Applicable for all types of gates and stoplogs) :

Actual dimensions are verified with reference to the important dimensions given in our general arrangement drawings furnished against each order. Variation in dimensions, if any, shall be within the permissible limits as per ISO / TS - 8062-2 for castings and extra coarse limits as per ISO-2768 for dimensions without specified tolerances.

REVIEW OF MATERIAL TEST CERTIFICATES (Applicable for all types of gates) :

Material test certificates as agreed for major components like gate frame, slide, wall thimble, guides, seals, stems etc are furnished for review at the time of shop inspection. Also positive material identification check is carried out at the time of shop inspection to verify that materials used in manufacturing of gate are as per the requirement.



NOTES:

1. Shop leakage test cannot be carried out for all types and sizes of gates. Further this test involve extra costs. Purchasers, therefore, should consult the manufacturer before specifying this test especially if the gates are bigger than 3000 mm.
2. While testing of gates for the maximum operating seating head, suitable clamps are used to restrict the deflection of the top and bottom edges of the slide under unseating test head. Such clamps are removed after carrying out the hydraulic pressure tests.
3. A gate can be designed, manufactured and shop tested to produce a very low leakage rate, but installation factors beyond the control of the manufacturer, especially the flatness of the wall where the gates are to be mounted, can seriously affect leakage characteristics. Therefore, Field Leakage Test after installation of the gate is not agreed until gates are erected under manufacturer's supervision.
4. No tests or checks other than those stated above are carried out unless specifically so agreed prior to order placement.

IMPORTANT PARTICULARS TO BE FURNISHED BY THE PURCHASERS WITH THEIR ENQUIRY OF GATES & STOP LOGS

Gates / Stoplogs are customized product with many design and constructional variations offered to suit the application. Non availability of full information about your requirement may lead us to make assumptions resulting in increased cost estimate or offering wrong features. Hence clients should furnish following details to enable us arrive at the most cost economical and technically suitable product for intended use.

A. GATES

1. Type of Application

- Isolate flow in & out of a conduit (4 sides sealing), or
- Modulating flow in & out of a conduit (4 sides sealing), or
- Isolate flow in an open channel (3 sides sealing), or
- Downward opening Weir application (3 sides continuous sealing), or
- Downward opening Weir application with isolation (4th top side sealing + 3 sides continuous sealing)

2. Type of Mounting

- Mounted directly on face of wall, or
- Mounted on front of a concrete pipe terminating on face of wall (requires wider mounting flange of frame), or
- Mounted on flanged end of a pipe (furnish pipe flange and drilling details to allow provide suitable mounting flange of frame), or
- Mounted on wall thimble or
- Embedded between parallel walls of channel, or
- Anchored on parallel walls of channel, or
- Any other special mounting (clarify by sketch)

3. Shape of Gate Opening and Size in mm/m

- Square (Width x Height, in mm/m), or
- Rectangular (Width x Height, the first of the two dimensions is always conventionally reckoned as the Width of opening, in mm/m), or
- Circular (Diameter, in mm/m)

4. Type of Head in meter

- Seating, or
- Unseating (may involve additional costs and so specify this only if actually required) or
- Seating as well as Unseating head. (may involve additional costs and so specify this only if actually required)

5. Operating Head i.e. maximum head against which the gate is to be opened or closed in meter.

6. Distance from Centerline of Gate Opening to top of operating floor in meter.

7. Distance from Gate Invert to Sump Invert in meter.

8. Required Direction of Opening

- Upward opening, or
- Downward opening, or
- Sideways opening.

9. Sealing Configuration (refer various options available for each product)

- Integral seal seat system, or
- Seal separate from seat.

10. Type of Bottom Closure

- Conventional bottom closure, or
- Flush bottom closure

11. Type of Stem

- Rising stem, or
- Non rising stem

12. Thrust Reaction to be Taken on

- Civil floor via floor stand / pedestal mounted directly on top of floor, or
- Civil floor via floor stand / pedestal mounted on steel channels across a gap on top of floor, or
- Civil wall and floor via fabricated right angled foot plate wall bracket, or
- Gate frame by mounting lift mechanism on yoke placed across a standard length frame, or
- Gate frame by mounting lift mechanism on thrust tube resting on yoke placed across a standard length frame, or
- Gate frame by mounting lift mechanism on yoke placed across an extended length frame

13. Type of Actuation of Lifting Mechanism

- Manual operated using T-key, or
- Manual operated using floor box, or
- Manual ungeared or geared operated, or
- Manual with portable actuator, or
- Electrically actuated with manual override, or
- Pneumatically actuated, or
- Pneumatically actuated with manual override, or
- Hydraulic actuated with standby hand pump, or
- Hydraulic actuated with accumulators.

14. Stem Cover or Pipe Hood for Stem, whether required.

15. Gate Opening Indicating Arrangement, whether required.

16. Materials of Construction required for various components of gates. (Refer table of materials of construction for various options).

17. Painting Requirement, if any.

- Stainless Steel gates components are not painted.
- Aluminum gates and components are painted as explained on page 36. Type of paint required should be specified by client or else we shall use our standard paint system.

18. Additional Information required to be furnished:

- Type of fluid to be handled.
- Quantity required for each similar size & type of gate.
- Depth and shape of Wall thimble.
- Wall thickness where the gate is to be installed.

19. Any Special design and/or construction feature required to meet specific operational requirement.

20. Civil Drawing showing the location where the gate is to be fixed.

21. Detailed Tender Specifications.

B. STOP LOGS

1. Type of frame mounting :

- Mounted directly on face of wall, or
- Embedded between parallel walls of channel, or
- Anchored on parallel walls of channel, or
- Any other special mounting (clarify by sketch).

2. Type of Stoplog :

- Single piece, or
- Multi piece (specify maximum height of sectional log or maximum permissible weight of log).

3. Distance from invert of channel to top of water surface in meter.

4. Distance from Invert of channel to the top of operating floor in meter.

5. Sealing Configuration (refer various options available for each product):

- Side sealing on frame, or
- Side sealing on logs.

6. Type of lifting arrangement

- Manual / rod operated, or
- Lifting beam.

7. Materials of Construction required for various components of stoplogs. (Refer table of materials of construction for various options).

8. Painting requirement, if any.

9. Additional information required to be furnished :

- Type of fluid to be handled.
- Quantity of stoplog required for each similar type & size.
- Quantity of stoplog frames required for each similar type and size of stoplog.
- Requirement of portable frame for lifting beam.
- Requirement of Storage rack.

10. Any Special design and/or construction feature required to meet specific operational requirement.

11. Civil Drawing showing the location where the gate is to be fixed.

12. Detailed Tender Specifications.

- *Manufacturer reserves the right to depart from the catalogue specifications and illustrations at any time, with or without notice.*
- *Pictures shown are general, unless specific job names are listed*



Jash also brings to you a wide range of products in cast iron, composite and steel construction so as to meet most of the flow control applications.

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CAST IRON SLIDE GATE



CAST IRON FLAP GATE



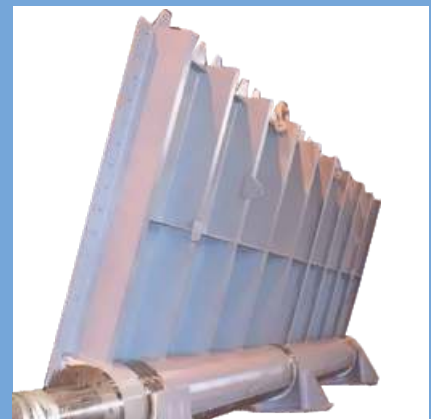
ROLLER GATE



COMPOSITE SLIDE GATE



BUTTERFLY GATE



CREST GATE



JASH ENGINEERING LTD.

31, Sector 'C', Industrial Area, Sanwer Road,
Indore-452 015. (M.P.), INDIA
Ph.: +91-731-6732700, 2720143, 2721143.
E-mail: info@jashindia.com
Website: www.jashindia.com

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