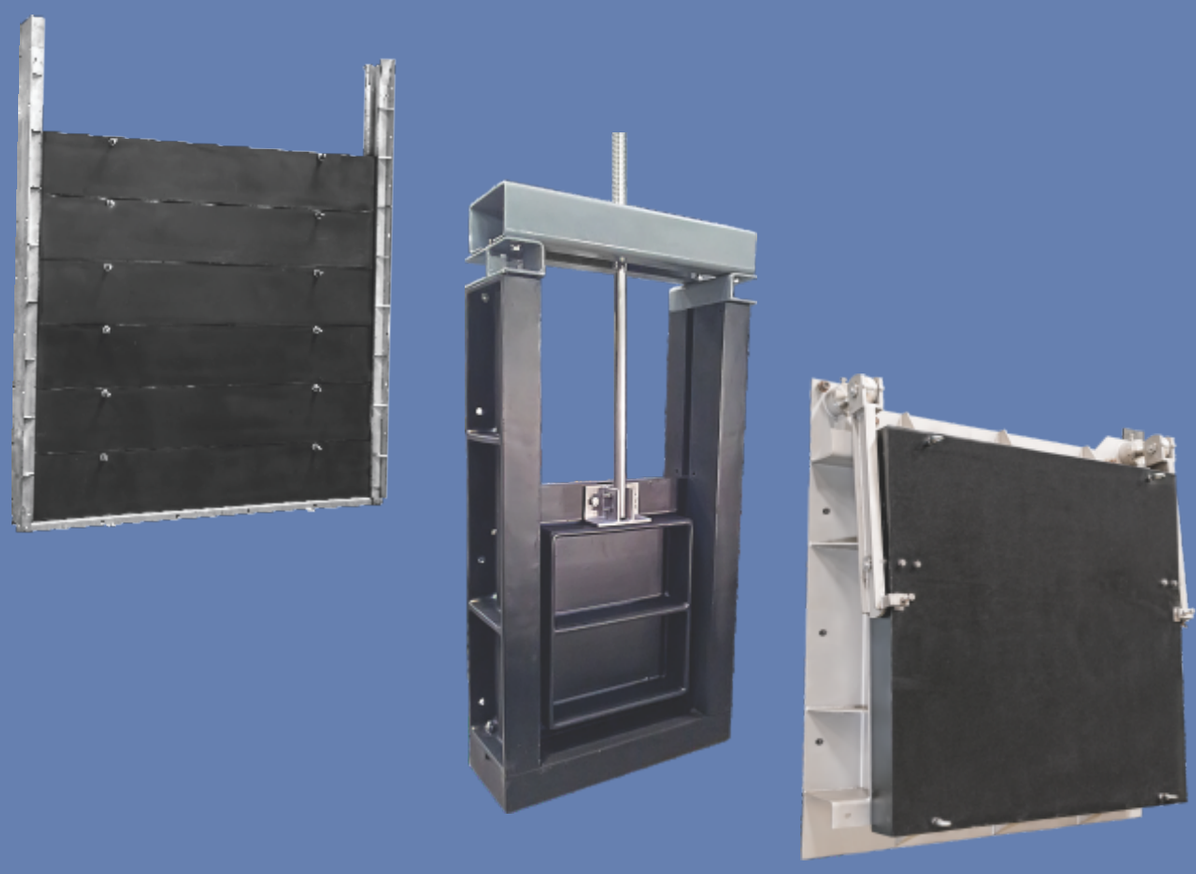
JASH

SINCE 1948

WATER & SEWAGE CONTROL EQUIPMENT



NON-METALLIC GATES, STOPLOGS & FLAP GATES
(COMPOSITE / FRP / HDPE)

ENGINEERING EXCELLENCE AND EXPERIENCE

Since 1948, the engineering team at Jash has pioneered safe and reliable flow control systems in thousands of installation in India and around the world. In 2016, Jash acquired Rodney Hunt, a company with 180 years 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, non-metallic welding and moulding, machining, assembly and testing operations at our inhouse facilities in USA and India. This allows us to monitor & ensure quality in all aspects of production and to provide consistent reliable and superior products.

COMPREHENSIVE PRODUCT OFFERING

Our product offering is unrivaled in the flow control marketplace. From all types and sizes of cast, fabricated & composite 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 unequaled 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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INDEX

COMPOSITE STOPLOGS

NON-METALLIC GATES
WATER CONTROL PRODUCTS

PRODUCT OFFERING

01 SERIES: A - 151
COMPOSITE SLIDE GATES

- Size range: 300 x 300 mm to 3000 x 3000 mm, higher sizes on request
- Head range: Seating 9 m & Unseating 3 m
- Sealing: HARSA-ML™ Rigid sealing system
- Mounting: Face wall mounted

02 SERIES: A - 251 / A-252 / A-253
COMPOSITE OPEN CHANNEL SLIDE GATES

- Size range: 300 x 300 mm to 3000 x 3000 mm, higher sizes on request
- Head range: Open Channel flow to height of slide
- Sealing: HARSA-ML™ Rigid sealing system / WRAP-ON™ Resilient sealing system
- Mounting: Side wall embedded / Side wall anchored / Face wall mounted

03 SERIES: A - 351
COMPOSITE WEIR GATES

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

04 SERIES: A - 451 / A-452 / A-453
COMPOSITE 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 / WRAP-AROUND™ Resilient sealing system
- Mounting: Side wall embedded / Side wall anchored / Face wall mounted.

05 SERIES: A - 161
FRP SLIDE GATES

- Size range : 300 x 300 mm to 1800 x 1800 mm, higher sizes on request
- Head range : Seating 3 m & Unseating 3 m
- Sealing : PRESS-ON™ Resilient sealing system
- Mounting: Face wall mounted

06 SERIES: A - 261 / A - 262 / A - 263
FRP OPEN CHANNEL SLIDE GATES

- Size range: 300 x 300 mm to 1800 x 2700 mm, higher sizes on request
- Head range: Open Channel flow to height of slide
- Sealing: EASY-SLIDE™ Resilient sealing system
- Mounting: Side wall embedded / Side wall anchored / Face wall mounted.

07 SERIES: A - 465 / A - 466 / A - 467
FRP HAND STOP GATE

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

08 SERIES: A - 641 / A - 642
HDPE FLAP GATES

- Size range: 300 x 300 mm to 1500 x 1500 mm, higher sizes on request
- Mounting: Face wall mounted
- Sealing: Resilient sealing system

09 SERIES: A - 652
COMPOSITE FLAP GATES

- Size range: 300 x 300 mm to 2700 x 2700 mm, higher sizes on request
- Mounting : Face wall mounted.
- Sealing: Resilient sealing system

10 SERIES: A - 672
FLEXIBLE FLAP GATES

- Size range: 300 x 300 mm to 1500 x 1500 mm, higher sizes on request
- Mounting: Face wall mounted
- Sealing: Resilient sealing system

NON-METALLIC GATES OPTIONS & ADVANTAGES

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Non-metallic gates / stop logs / flap gates are corrosion resistant and often have a lower cost than a high alloy stainless steel construction. They are generally preferred in applications where aggressive corrosion is an issue and where the only alternatives are costly materials like Duplex, Super duplex or other special alloys. For such applications, non-metallic gates can be an economical solution offering faster delivery possibilities.

Non-metallic gates are available in varied material and construction options as under:

COMPOSITE CONSTRUCTION:

In composite construction, the frame is made of stainless steel and the slide / stoplog is a composite sandwich construction comprising a lightweight rigid cellular polyurethane core within a fully welded steel box matrix. To this inner core, outer skins of jointless rigid composite material are chemically bonded and sealed to prevent ingress of water.

The steel box matrix within the slide / stoplog enables them to withstand heads up to 10 m. Also the size of gate / stoplog with this construction can be bigger than other non-metallic construction options. However for low head applications this construction is heavier and costlier than other non-metallic construction options.

When coupled with a Duplex or Super duplex frame, this construction is ideal for salt and brackish water.

FIBER REINFORCED PLASTIC (FRP) CONSTRUCTION:

In Fiber reinforced plastic construction the frame as well as the slide is made of fiber reinforced plastic without internal metal reinforcement to withstand the water head.

The Fiber reinforced plastic construction offers the most economical option in comparison to all other non-metallic construction options and allows for light weight construction that is easy to handle and economic to install. However as there is no metal reinforcement inside the frame or slide this type of construction cannot withstand high water heads and is also not appropriate for large gate sizes.

This construction can be used in almost any corrosive application, including salt water where applicable heads are below 3 m and gate sizes are compatible with the product profile.

HIGH DENSITY POLY ETHYLENE (HDPE) CONSTRUCTION:

In High density poly ethylene construction the frame as well as slide is either part metallic and part non metallic or fully non metallic depending upon size and applicable head.

Using metallic parts for additional strength and stiffening make the equipment heavier and more costly than fiber reinforced plastic construction but lighter and more economical than composite construction option.

This construction can be used for sea water application but the metallic parts on frame and slide have to be Duplex or Super duplex. However this will make HDPE construction the most expensive option for salt and brackish water and other corrosive applications. For low head applications and for smaller gate sizes, FRP is a better option and for high head or larger gate size composite is a better option.

Technically and commercially HDPE construction is most suitable for Flap gates application only and not for gates.

COMPOSITE SLIDE GATES
SERIES: A-151

COMPOSITE SLIDE GATE

- Slide of composite sandwich construction comprising lightweight rigid cellular core with a fully welded steel box matrix and chemically bonded and sealed with outer skins of "jointless" rigid composite material to prevent ingress of water into the inner core. The outer skin material is non toxic and UV stabilized.
- Offered with HARSA-ML™ rigid sealing system on sides and top having integral seal/seat.
- HARSA-ML™ unique integral seal / seat system can withstand higher cycle operation and reduce the possibility of requiring future seal changes. This sealing system offers longevity but necessitates precision in installation to achieve specified leakage criterion.
- HARSA-ML™ rigid sealing system comprising of slide mounted low friction, high abrasion resistant, multi layered, self-adjusting seals of UHMWPE backed with compression resilient seals to ensure forced contact between the seal and the corresponding seating faces of frame.
- Sealing system in compliance with requirements of AWWA C563.
- Flush bottom slide gates provided with a bottom sealing arrangement comprises of flexible rubber seal flush with the opening.
- Rising stem with pedestal / yoke mounted manual gate operating arrangement 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 the stem sections with the lowest stem section connecting to the stem block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stems for all gates 1200 mm and wider and having widths greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

SPECIFICATION:

These slide gates are made in compliance with AWWA C563.

APPLICATION:

These slide gates are directly mounted on the face of a wall to isolate flow in and out of a conduit and are suitable for 9 m seating and 3 m unseating head or as required.

FEATURES:

- Rigid stainless steel flange back gate frame suitable for direct mounting on face of wall using anchor fasteners and secondary grout between wall and frame.
- Full length frame provided with full length extension guides sufficient to engage full height of slide when the gate is fully open.

OPTIONAL FEATURES:

- Oversized frame opening for slide gates to be mounted in front of a concrete pipe terminating at face of the wall.
- Self-contained / close top gate frame with lifting mechanism mounted directly on the yoke provided across the top of slide gate frame.
- 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.

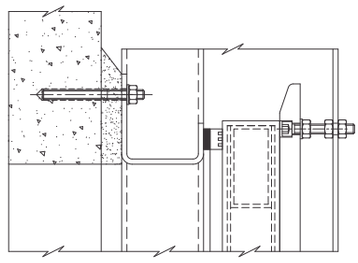
MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client can select and specify the material of construction option for various components of the gate from the alternatives stated on page no. 29.

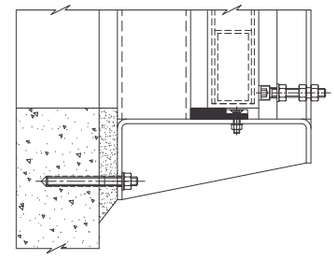
SHOP TESTING:

- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance in line with leakage requirement as specified or as per AWWA C563.
- 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 manual operating slide gate.

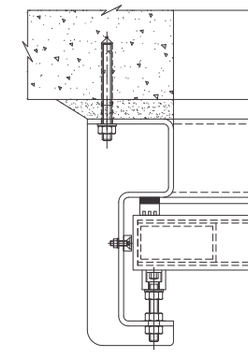
HARSA-ML™ RIGID SEALING SYSTEM



TOP SEALING ARRANGEMENT



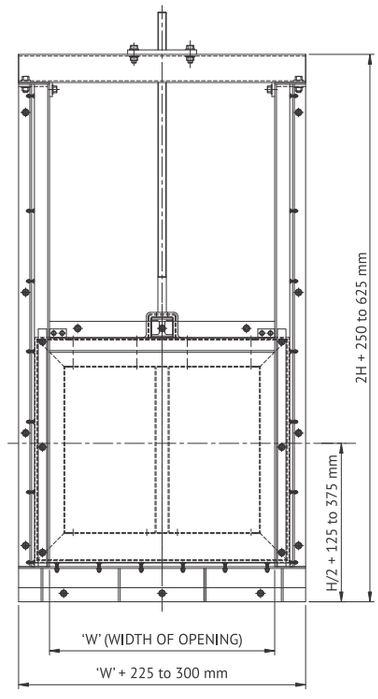
BOTTOM SEALING ARRANGEMENT



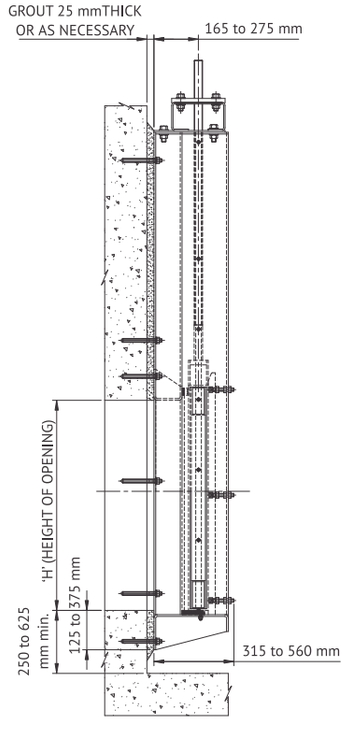
SIDE SEALING ARRANGEMENT

COMPOSITE SLIDE GATES
SERIES: A-151 - DRAWINGS

SELF CONTAINED - CONVENTIONAL CLOSURE

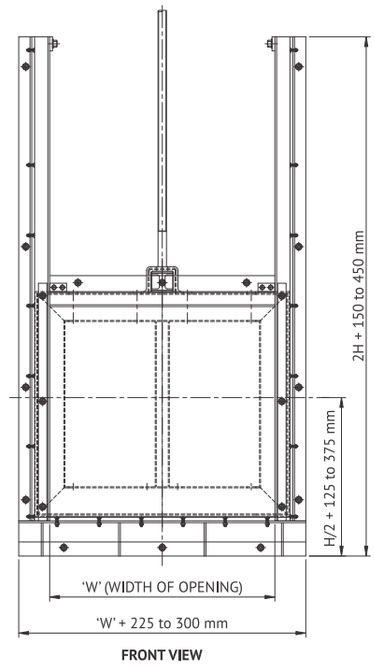


FRONT VIEW

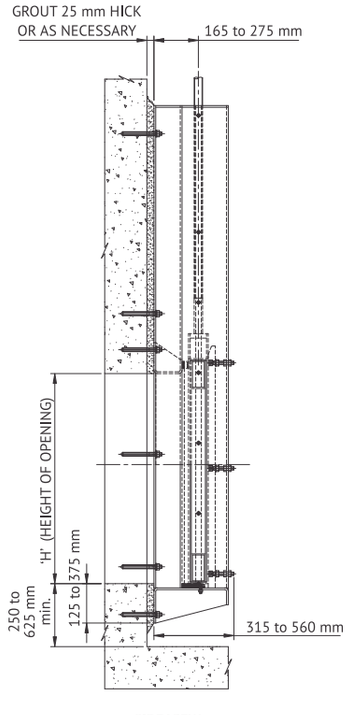


SIDE VIEW

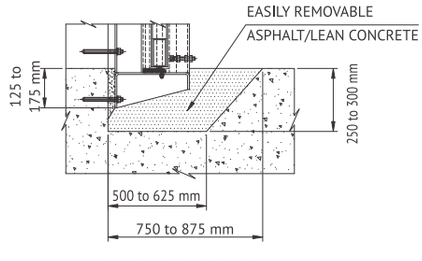
NON SELF CONTAINED - CONVENTIONAL CLOSURE



FRONT VIEW



SIDE VIEW



FLUSH BOTTOM CLOSURE
CIVIL DETAILS

COMPOSITE OPEN CHANNEL GATES
SERIES: A-251 / A-252 / A-253

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COMPOSITE OPEN CHANNEL GATE

SPECIFICATION:

These open channel slide gates are made in compliance with AWWA C563.

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 application and are provided with sealing arrangement on 3 sides only and not on top therefore, 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 stainless steel 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 lifting mechanism mounted directly on the yoke provided across the top of gate frame.
- Slide of composite sandwich construction comprising lightweight rigid cellular core with a fully welded steel box matrix and chemically bonded and sealed with outer skins of "jointless" rigid composite material to prevent ingress of water into the inner core. The outer skin material is non toxic and UV stabilized.
- Offered with either HARSA-ML™ rigid sealing system on sides and top having integral seal/seat or WRAP-ON™ resilient sealing system having seal separate from the seat. Type of sealing system offered depends upon client requirement and application.
- HARSA-ML™ unique integral seal / seat system can withstand higher cycle operation and reduce the possibility of requiring future seal changes. This sealing system offers longevity but necessitates precision in installation to achieve specified leakage criterion.
- HARSA-ML™ rigid sealing system comprising of slide mounted low friction, high abrasion resistant, multi layered self-adjusting seals of UHMWPE backed with compression resilient seals to ensure forced contact between the seal and the corresponding seating faces of frame.
- WRAP-ON™ resilient sealing system to offer leakage limits substantially lesser than that stated in AWWA C563.
- WRAP-ON™ resilient sealing system comprise of replaceable resilient seal in forced contact with face of frame and wrapping around the sides of slide / door to prevent edge contact between stainless steel frame and composite slide.
- Seal fitment ensures the gate does not dislodge from location during future seal replacement.
- Both sealing system in compliance with requirements of AWWA C563.
- Flush bottom slide gates provided with a bottom sealing arrangement comprises of flexible rubber seal flush with the opening.
- Rising stem with pedestal / yoke mounted manual gate operating arrangement to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Dual or tandem stems for all gates 1200 mm and wider, and having widths greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- 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.

COMPOSITE OPEN CHANNEL GATES SERIES: A-251 / A-252 / A-253

- Chain and sprocket arrangement to lower the handwheel / crank centerline to an elevation of 1 m from the top of the operating floor in cases where manual operating arrangement is located more than 1.5 m distance from the operating floor.
- 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.
- 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.

MATERIAL OF CONSTRUCTION:

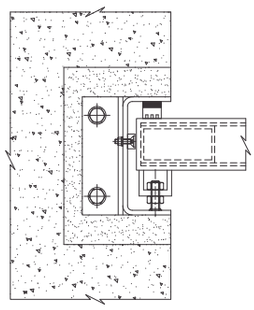
Depending upon application and requirement, client can select and specify the material of construction option for various components of the gate from the alternatives stated on page no. 29 .

SHOP TESTING:

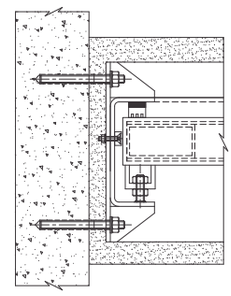
- Leakage testing of slide gate at plant with water filled to the top of slide to verify gate leakage performance.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test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

 # 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.

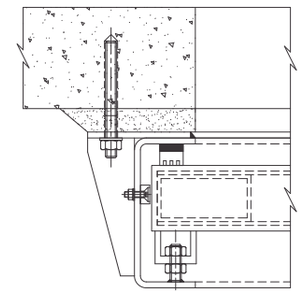
HARSA-ML™ RIGID SEALING SYSTEM



SERIES: A-251



SERIES: A-252



SERIES: A-253

COMPOSITE OPEN CHANNEL GATES
SERIES: A-251 / A-252 - DRAWINGS

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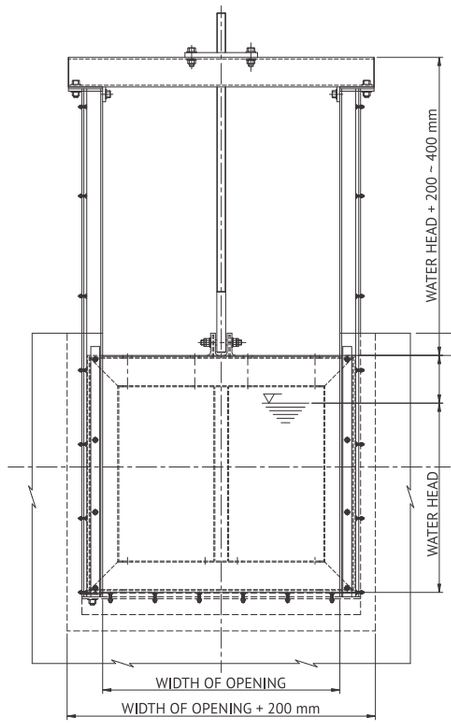
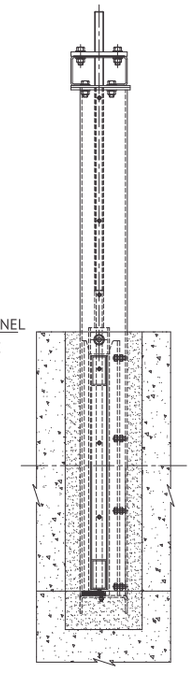
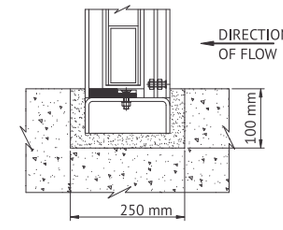
SERIES: A - 251 - SIDE WALL EMBEDDED



FRONT VIEW

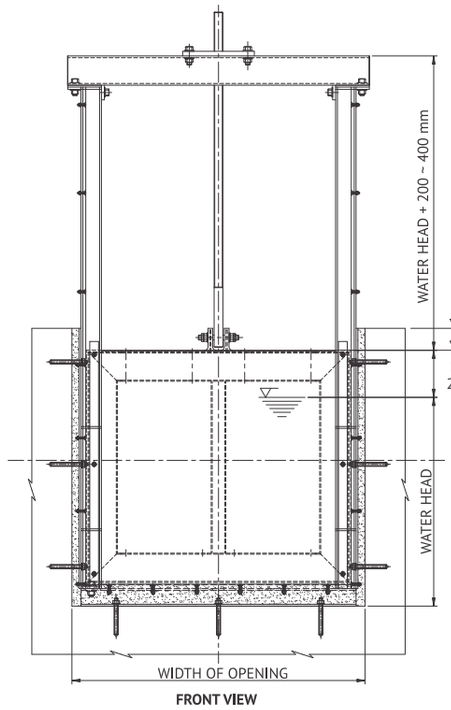


SIDE VIEW

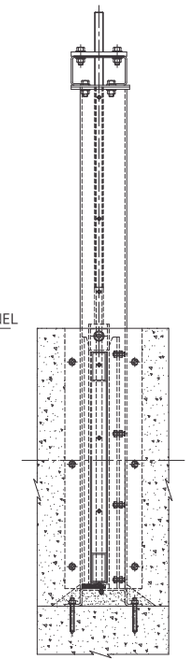


CIVIL DETAILS

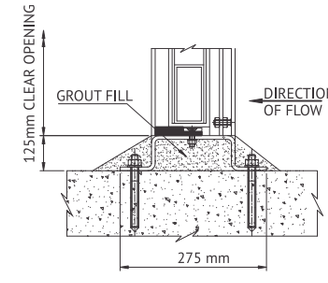
SERIES: A - 252 - SIDE WALL ANCHORED



FRONT VIEW



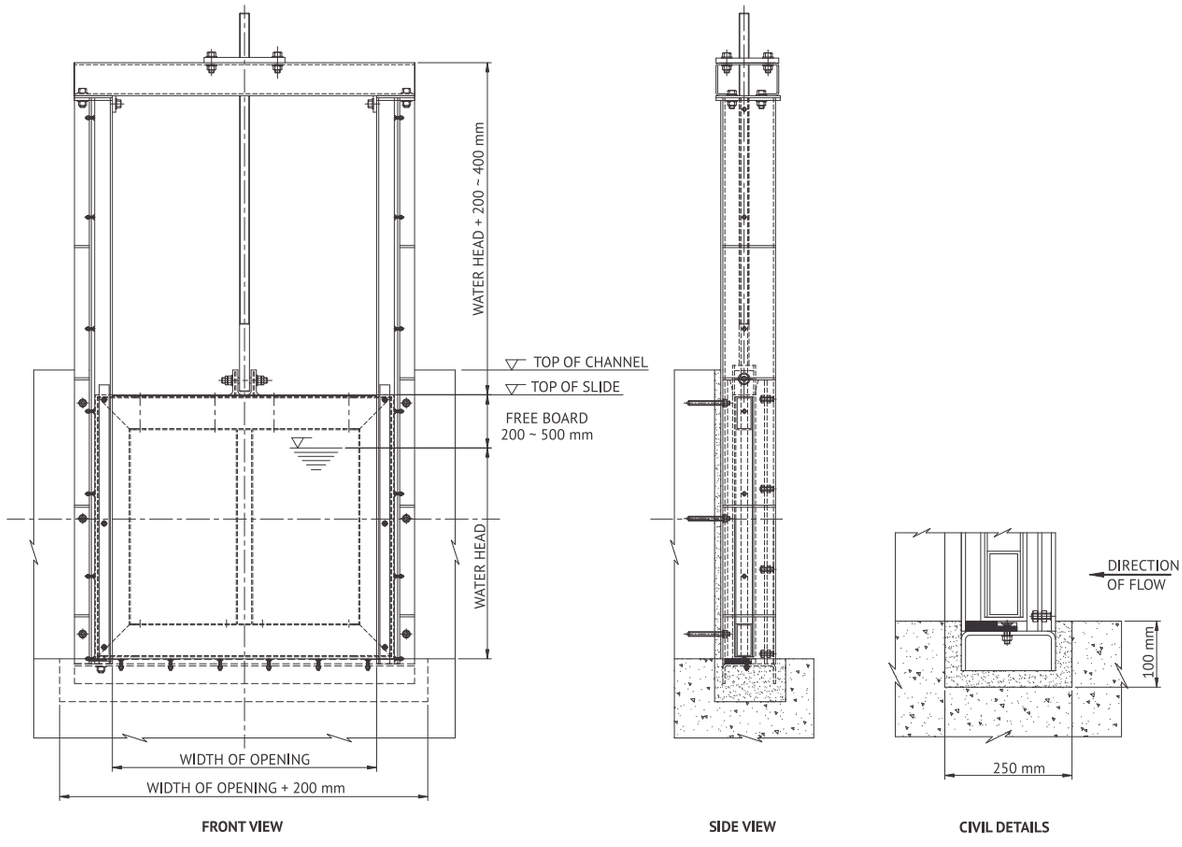
FRONT VIEW



CIVIL DETAILS

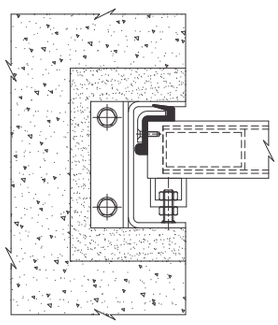
COMPOSITE OPEN CHANNEL GATES
SERIES: A-253 - DRAWINGS

SERIES: A - 253 - FACE WALL ANCHORED

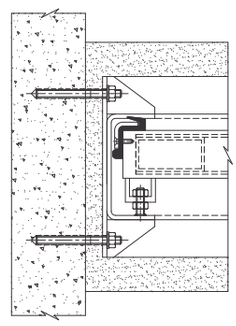


FRONT VIEW **SIDE VIEW** **CIVIL DETAILS**

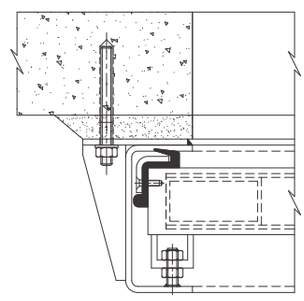
WRAP-ON™ RESILIENT SEALING SYSTEM



SERIES: A-251



SERIES: A-252



SERIES: A-253

COMPOSITE WEIR GATES
SERIES: A-351

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COMPOSITE WEIR GATE

SPECIFICATION :

These slide gates are made in compliance with AWWA C563.

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 (side and bottom) at any extent of gate opening and allows 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 an optional 4th side (top side) sealing arrangement.

FEATURES:

- Rigid stainless steel flange back gate frame suitable for direct mounting on face of wall using anchor fasteners and secondary grout between wall and frame.
- Full length frame provided with full length extension guides sufficient to engage full height of slide when the gate is full open.
- Slide of composite sandwich construction comprising lightweight rigid cellular core with a fully welded steel box matrix and chemically bonded and sealed with outer skins of “jointless” rigid composite material to prevent ingress of water into the inner core. The outer skin material is non toxic and UV stabilized.
- Offered with HARSA-ML^{TM} rigid sealing system on sides and top having integral seal/seat.
- HARSA-ML^{TM} unique integral seal / seat system can withstand higher cycle operation and reduce the possibility of requiring future seal changes. This sealing system offers longevity but necessitates precision in installation to achieve specified leakage criterion.
- HARSA-ML^{TM} rigid sealing system comprising of slide mounted low friction, high abrasion resistant, multi layered, self-adjusting seals of UHMWPE backed with compression resilient seals to ensure forced contact between the seal and the corresponding seating faces of frame.
- Sealing system in compliance with requirements of AWWA C563.
- Flush bottom slide gates provided with a bottom sealing arrangement comprises of flexible rubber seal flush with the opening.
- Rising stem with pedestal / yoke mounted manual gate operating arrangement 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 the stem sections with the lowest stem section connecting to the stem block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stems for all gates 1200 mm and wider and having widths greater than twice their height.
- 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 face of the wall.
- Self-contained / close top gate frame with lifting mechanism mounted directly on the yoke provided across the top of slide gate frame.

COMPOSITE WEIR GATES
SERIES: A-351

- 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:

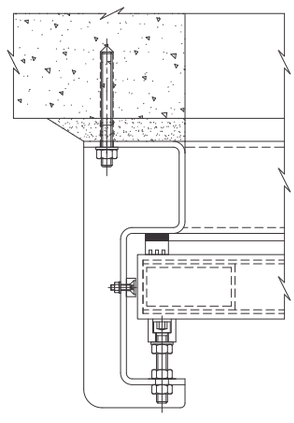
Depending upon application and requirement, client can select and specify the material of construction option for various components of the gate from the alternatives stated on page no. 29 .

SHOP TESTING:

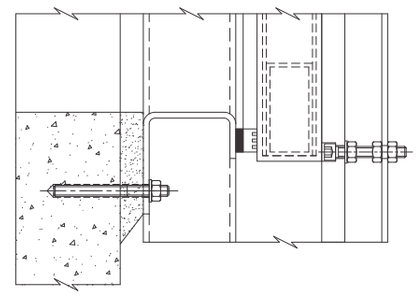
- Leakage testing of weir gate at plant with water filled to the top of slide to verify gate leakage performance.#
- Seat clearance check of each slide gate for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.
- Torque test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

 # 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-ML™ RIGID SEALING SYSTEM



SIDE SEALING ARRANGEMENT

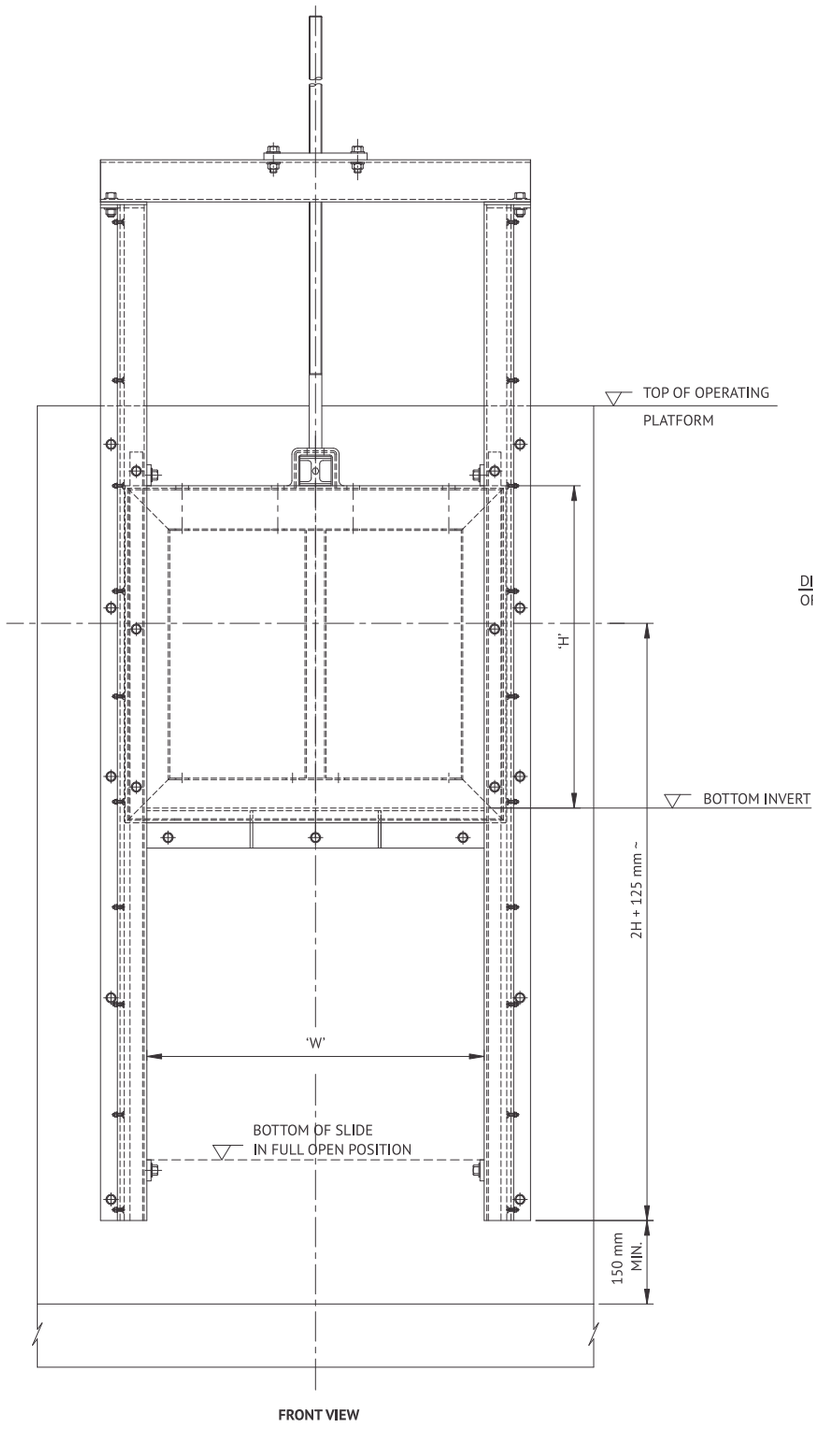


BOTTOM SEALING ARRANGEMENT

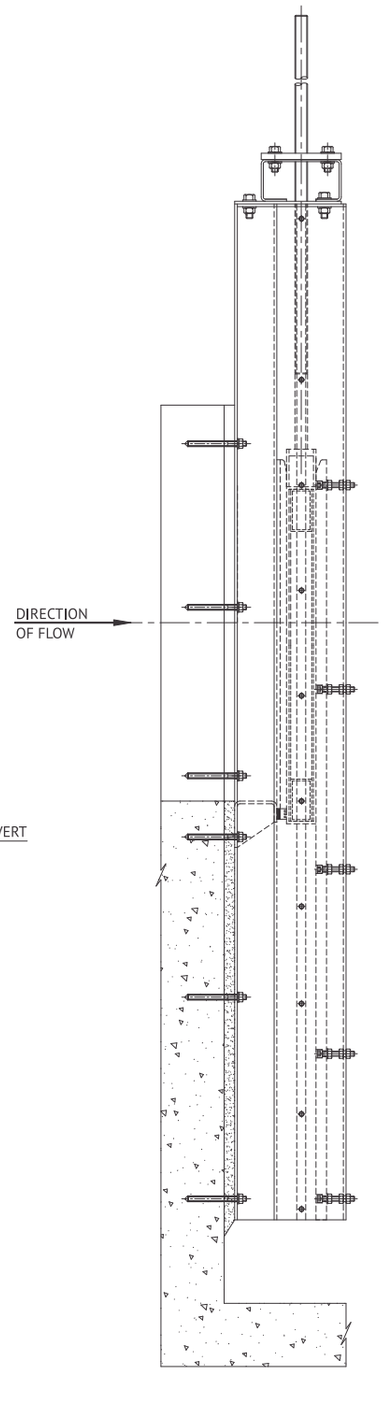
COMPOSITE WEIR GATES
SERIES: A-351 - DRAWINGS

JASH SINCE 1948

COMPOSITE WEIR GATE



FRONT VIEW



SIDE VIEW

COMPOSITE STOPLOGS
SERIES: A-451 / A-452 / A-453

COMPOSITE STOPLOGS

SPECIFICATION:

These stoplogs are made as per Jash design.

APPLICATION:

Single piece / multi-piece stoplogs are used for isolation application in open channel where immediate closure or isolation of waterway opening in a short time is not required, where isolation requirement is infrequent and where 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.

In cases where height of water is very high or when there is weight and height restriction in handling, muti-piece stoplogs are used instead of single piece stoplogs.

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 stainless steel gate frame provided with guides extending to the top of operating floor for ease in insertion of logs.
- Stop log of composite sandwich construction comprising lightweight rigid cellular core with a fully welded steel box matrix and chemically bonded and sealed with outer skins of “jointless” rigid composite material to prevent ingress of water into the inner core. The outer skin material is non toxic and UV stabilized.
- Sectional logs of 30 or 350 mm height and suitable to withstand 6 m water head upto 3 m width, higher sizes on request.
- Offered with either frame mounted sealing system or log mounted sealing system for vertical sealing between frame and stoplogs on the upstream as well as downstream sides at both ends.
- Frame mounted sealing system offers joint-less vertical sealing with the gliding face of stoplogs to ensure improved seal leakage performance.
- Log mounted sealing system comprise of non -continuous interrupted sealing with the frame face thereby increasing the possibility of higher leakage through joints in the vertical sealing.
- Type of sealing system offered depends upon client requirement and application.
- Frame mounted sealing arrangement offered with LIP-GLIDE™ resilient sealing system having seal separate from the seat.
- Frame mounted LIP-GLIDE™ resilient sealing system comprise of resilient lip seal mechanically fastened on frame and in forced contact with face of stoplog. This sealing arrangement is replaceable only during plant shut down.
- Log mounted WRAP-ON™ resilient sealing system comprise of resilient lip seal mechanically fastened on logs and in forced contact with face of frame. These can be easily replaced without resorting to plant shutdown.
- WRAP-ON™ resilient sealing system designed to wrap around the sides of stoplogs to prevent edge damage during handling or movement in and out 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.

OPTIONAL FEATURES:

- Lowering / raising of stoplogs using automatically engaging lifting beam with manual / electric hoist.
- Portable frame for mounting lifting beam.
- Storage rack for safe storage of stoplogs.

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client can select and specify the material of construction option for various components of the stoplogs from the alternatives stated on page no. 29.

SHOP TESTING:

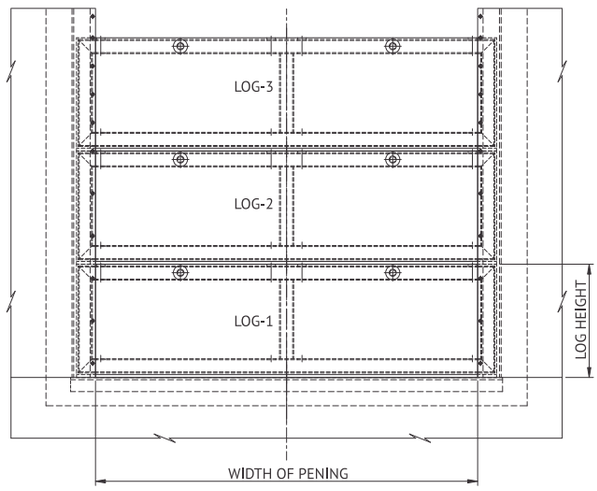
- Leakage testing of stoplogs at plant with water filled up to the top of logs to verify gate leakage performance.#
- Seat clearance check of each stoplog assembly for checking clearance between mating sealing faces.
- Movement test for checking interference free movement of complete assembly.

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

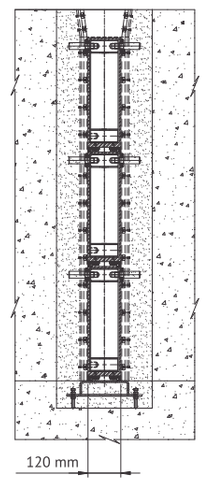
Composite Stoplog for San Wai STP, Hong Kong

COMPOSITE STOPLOGS
SERIES: A-451 / A-452 / A-453

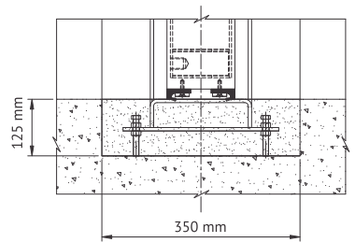
DRAWINGS



FRONT VIEW

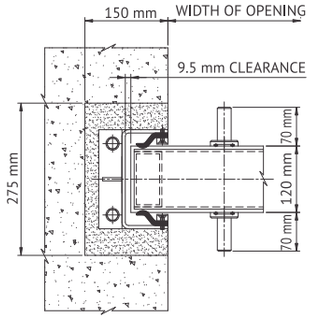


SIDE VIEW

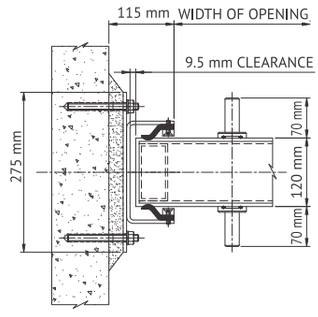


CIVIL DETAILS

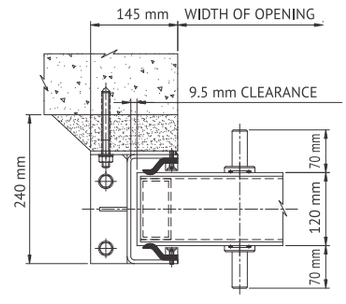
LIP-GLIDE™ RESILIENT SEALING SYSTEM



SERIES: A-451

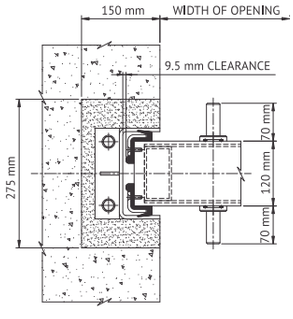


SERIES: A-452

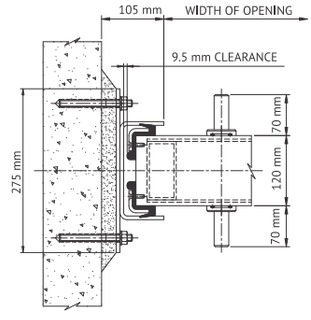


SERIES: A-453

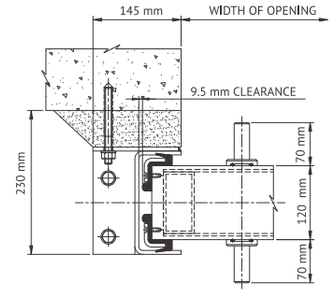
WRAP-ON™ RESILIENT SEALING SYSTEM



SERIES: A-451



SERIES: A-452



SERIES: A-453

FRP SLIDE GATES
SERIES: A-161

FRP SLIDE GATE

SPECIFICATION:

These slide gates are made in compliance with AWWA C563.

APPLICATION:

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

FEATURES:

- Rigid flange back frame made of Fiber reinforced plastic suitable for direct mounting on face of wall using anchor fasteners and secondary grout between wall and frame.
- 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.
- Fiber reinforced plastic slide of suitable strength to withstand applicable water head without metal reinforcements.
- Offered with PRESS-ON™ resilient sealing system comprise of replaceable resilient seal mounted on frame 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 ensures the gate does not dislodge from location during future seal replacement.
- Flush bottom slide gates provided with a bottom sealing arrangement comprises of flexible rubber seal flush with the opening.
- Rising stem with pedestal / yoke mounted manual gate operating arrangement 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 the stem sections with the lowest stem section connecting to the stem block mounted on slide.
- Stem guides and brackets to prevent buckling of stem.
- Dual or tandem stems for all gates 1200 mm and wider and having widths greater than twice their height.
- 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 face of the wall.
- Self-contained / close top gate frame with lifting mechanism mounted directly on the yoke provided across the top of slide gate frame.
- 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:

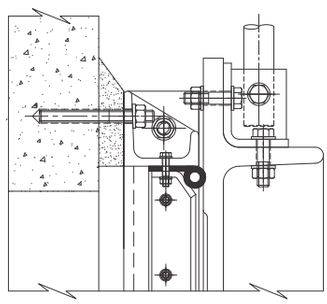
Depending upon application & requirement, client can select & specify the material of construction option for various components of the gate from the alternatives stated on page no. 29.

FRP SLIDE GATES
SERIES: A-161

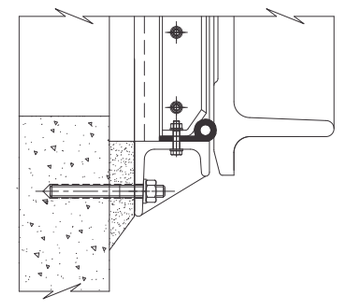
SHOP TESTING:

- Leakage testing of slide gate at plant at actual operating head to verify slide gate leakage performance in line with leakage requirement as specified or as per AWWA C563.
- 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 manual operating slide gate.

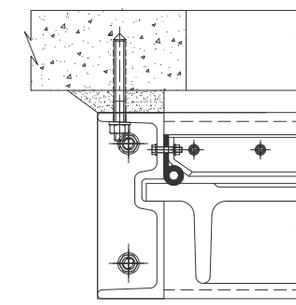
PRESS-ON™ RESILIENT SEALING SYSTEM



TOP SEALING ARRANGEMENT



BOTTOM SEALING ARRANGEMENT

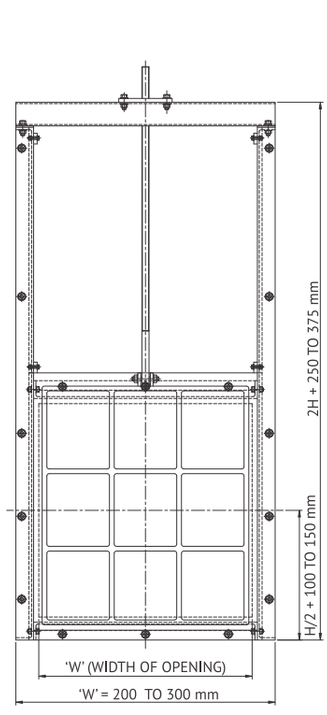


SIDE SEALING ARRANGEMENT

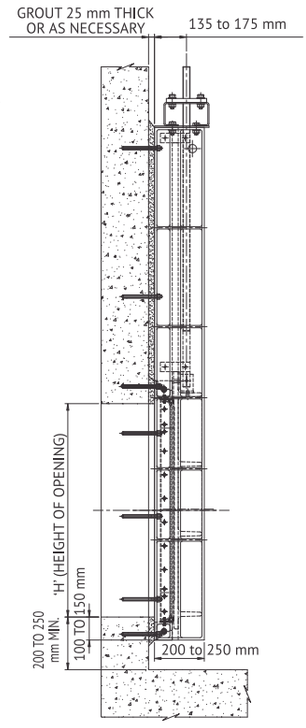
FRP SLIDE GATES
SERIES: A-161 - DRAWINGS

JASH SINCE 1948

SELF CONTAINED - CONVENTIONAL CLOSURE

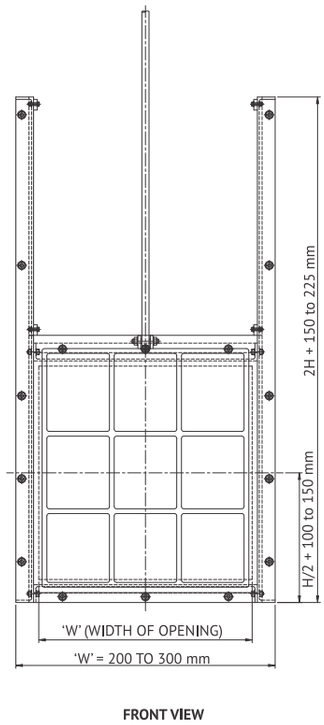


FRONT VIEW

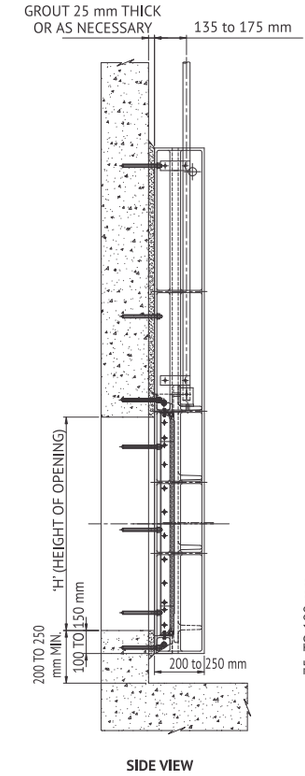


SIDE VIEW

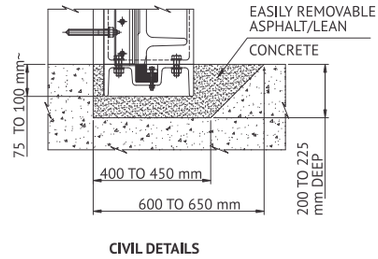
NON SELF CONTAINED - CONVENTIONAL CLOSURE



FRONT VIEW



SIDE VIEW



CIVIL DETAILS

FRP OPEN CHANNEL
SERIES: A-261 / A-262 / A-263

FRP OPEN CHANNEL GATE

SPECIFICATION:

These open channel slide gates are made in compliance with AWWA C563.

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 therefore, 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 gate frame made of Fiber reinforced plastic 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 lifting mechanism mounted directly on the yoke provided across the top of gate frame.
- Fiber reinforced plastic slide suitable strength to withstand applicable water head without metal reinforcements.
- Offered with EASY-SLIDE™ resilient sealing system having seal separate from the seat to offer leakage limits substantially less than AWWA C561. EASY-SLIDE™ resilient sealing system ensures easy operation on account of low operating torque.
- EASY-SLIDE™ resilient sealing system comprise of replaceable resilient seal in forced contact with low friction, high abrasion resistant seat of UHMWPE to ensure reduced seal wear.
- Seal fitment ensures the gate does not dislodge from location during future seal replacement.
- Flush bottom slide gates provided with a bottom sealing arrangement comprises of flexible rubber seal flush with the opening.
- Rising stem with pedestal / yoke mounted manual gate operating arrangement to operate the slide gate with less than 18 kgs effort on the crank or handwheel.
- Dual or tandem stems for all gates 1200 mm and wider, and having widths greater than twice their height.
- Anchor bolts with nuts and washers for frame, stem guide brackets and pedestal of lift mechanism.

OPTIONAL FEATURES:

- 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 1 m from the top of the operating floor in cases where manual operating arrangement is located more than 1.5 m distance from the operating floor.
- 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.
- 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.

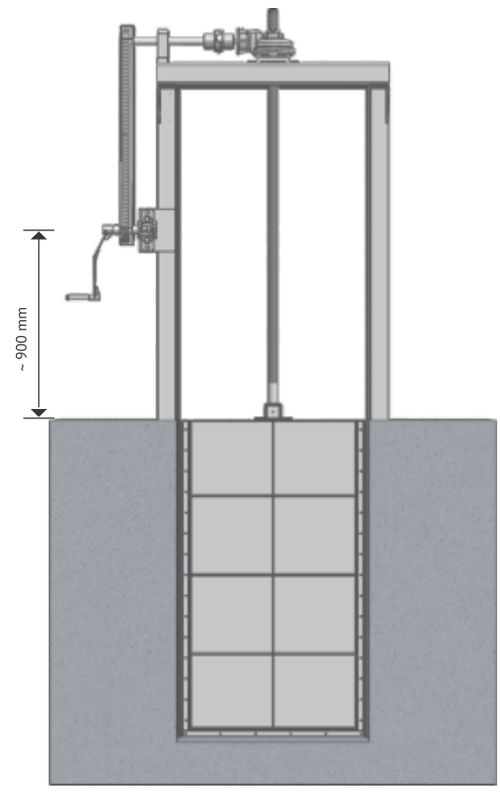
MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client can select and specify the material of construction option for various components of the gate from the alternatives stated on page no. 29.

SHOP TESTING:

- Leakage testing of slide gate at plant with water filled to the top of slide to verify 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 manual operating slide gate.

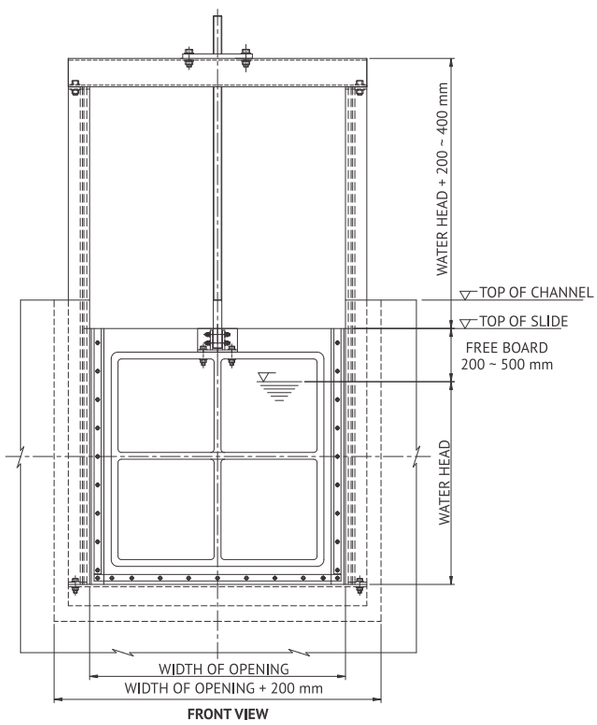
 # Shop leakage test will be carried out only when a test has been specifically agreed to or when a test is specifically stated in specifications.



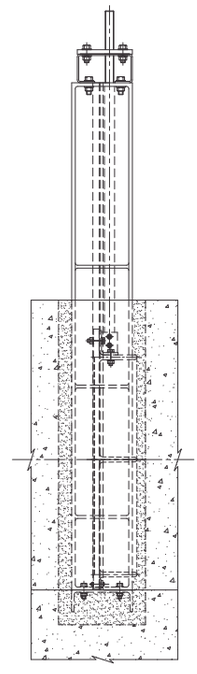
FRP OPEN CHANNEL
SERIES: A-261 / A-262

DRAWINGS

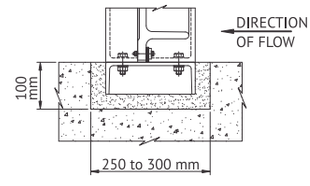
SERIES: A - 261 - SIDE WALL EMBEDDED



FRONT VIEW

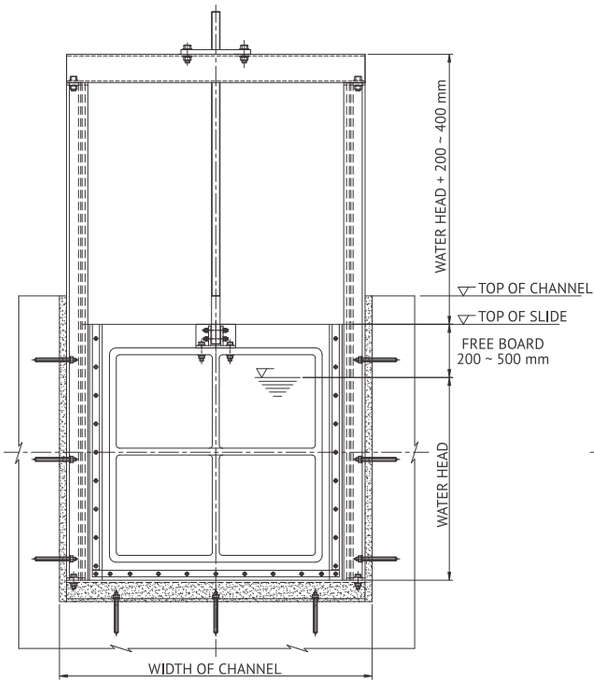


SIDE VIEW

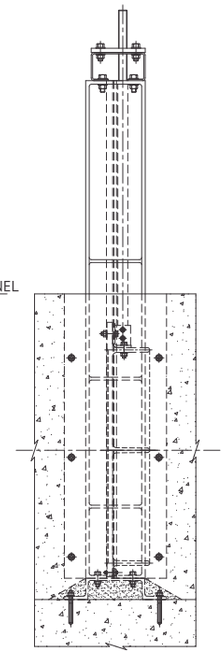


CIVIL DETAILS

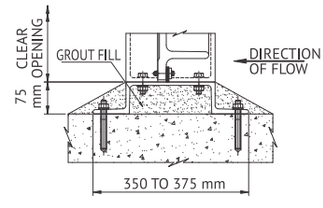
SERIES: A - 262 - SIDE WALL ANCHORED



FRONT VIEW



SIDE VIEW

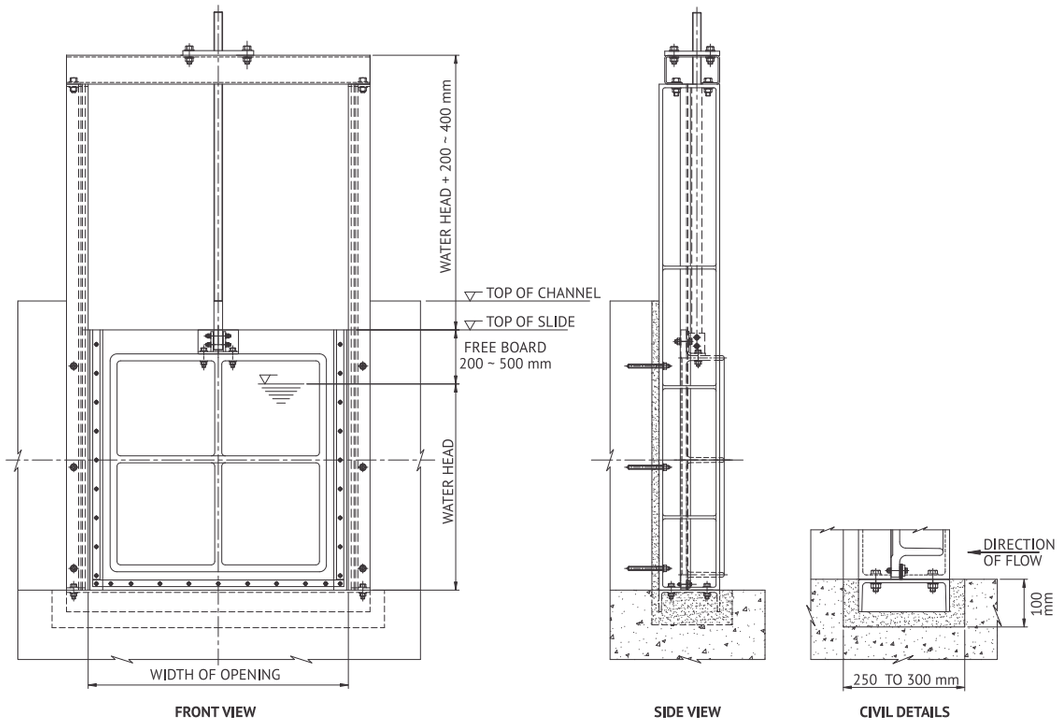


CIVIL DETAILS

FRP OPEN CHANNEL
SERIES: A-263 - DRAWINGS

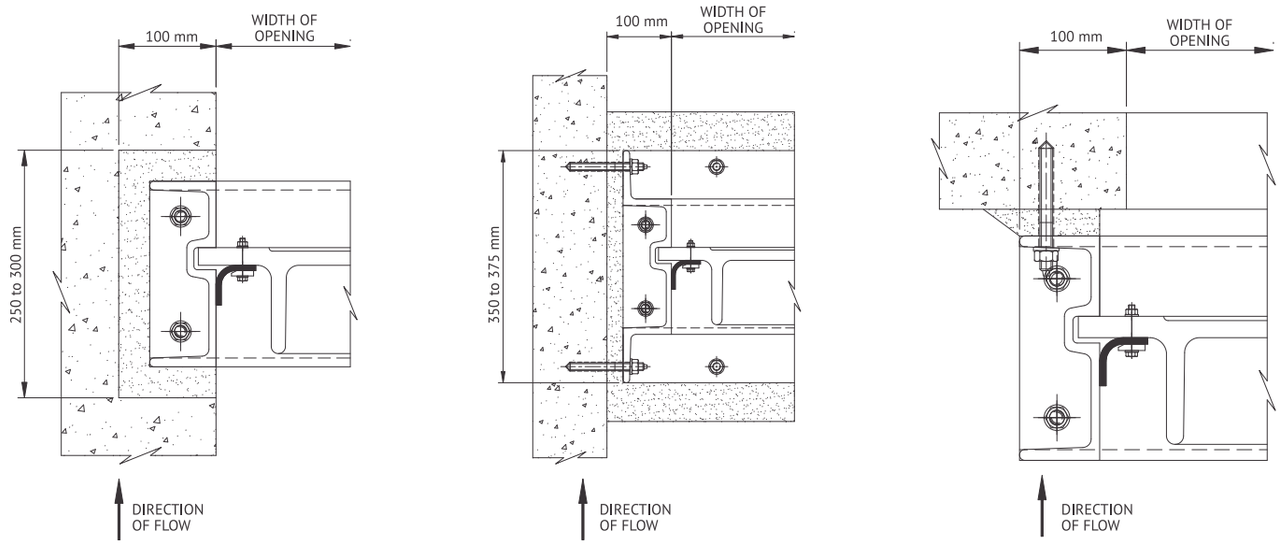
JASH SINCE 1948

SERIES: A - 263 - FACE WALL MOUNTED



FRONT VIEW | SIDE VIEW | CIVIL DETAILS

EASY-SLIDE™ RESILIENT SEALING SYSTEM



SERIES: A-261 | SERIES: A-262 | SERIES: A-263

FRP HAND STOPS / STOP GATES
SERIES: A-465 / A-466 / A-467

MATERIAL OF CONSTRUCTION:

Depending upon application and requirement, client can select and specify the material of construction option for various components of the gate from the alternatives stated on page no. 29.

SHOP TESTING:

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.

SPECIFICATION:

Hand stops / Stop gates are made per Jash design.

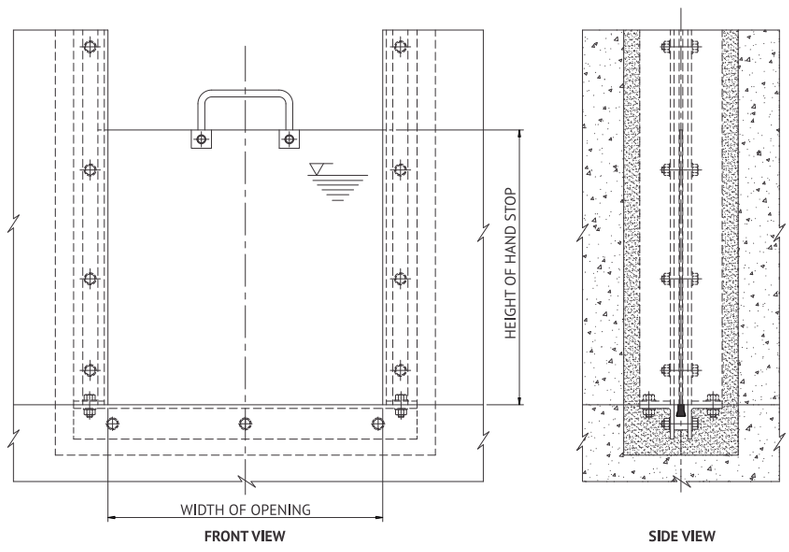
APPLICATION:

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

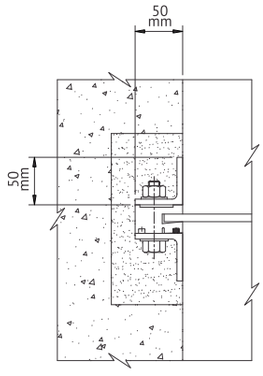
Handstops / stop gates are also suitable for insertion in multiple frames installed at different locations provided the handstop and the frame are of same width.

FEATURES:

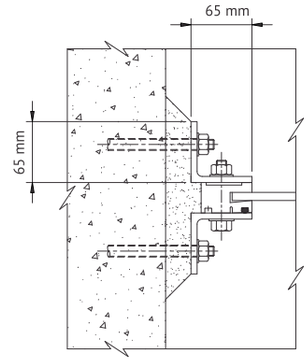
- Frame design suitable for (i) embedment on two sides and bottom, or (ii) anchoring on two sides and bottom, or (iii) face wall mounting at the end of channel.
- Offered with either frame mounted HARSA™ rigid sealing system having integral seal/seat or frame mounted resilient sealing system.
- Frame 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.



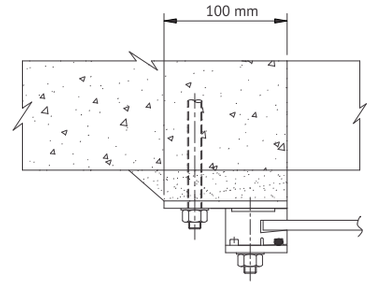
HARSA™ RIGID SEALING SYSTEM (SIDE)



SERIES: A-465

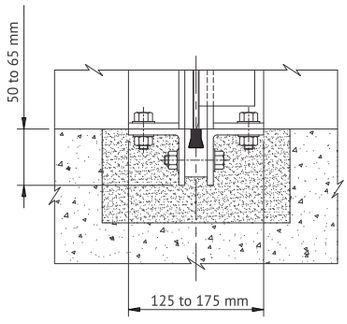


SERIES: A-466

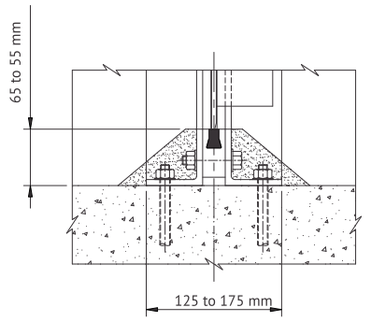


SERIES: A-467

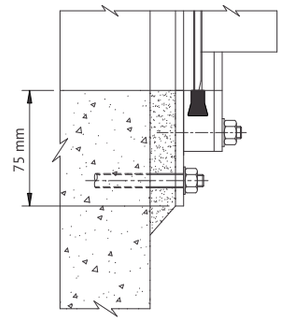
HARSA™ RIGID SEALING SYSTEM (BOTTOM)



SERIES: A-465



SERIES: A-466



SERIES: A-467

HDPE FLAP GATES
SERIES: A - 641 & A - 642

SERIES: A - 641

SERIES: A - 642

SERIES:

- **A-641:** Round flange back frame / body for directly mounting on face of wall using anchor fasteners and secondary grout between wall and frame / body or on the wall thimble or on the pipe flange.
- **A-642:** Square / Rectangular flange back frame / body for mounting on face of wall using anchor fasteners and secondary grout between wall & frame/body or to wall thimble.

FEATURES:

- Single piece flap cover to withstand applicable head. Flap cover may have stainless steel stiffening depending upon size.
- Resilient seal to absorb closing shocks.
- Resilient sealing arrangement comprise of resilient seal mounted on outer peripheral edge of frame / body and in contact with mating face of flap cover.
- Single or double pivot design depending upon size, sensitivity required and application.
- Single or double hinged with hinge sized to prevent formation of oval hole due to higher applying forces.
- Replaceable hinge pins and self lubricating hinge bushings.

OPTIONAL FEATURES:

- Wall thimble mounting.
- Mounting flange drilling pattern to match PN10 as required.
- Stainless Steel frame can be offered on request.

MATERIAL OF CONSTRUCTION:

Frame / Body	HDPE ASTM D-4020 / Stainless Steel ASTM A240-304L / 316L
Flap Cover	HDPE ASTM D-4020
Stiffners	HDPE / Stainless Steel
Hinge arm	Stainless Steel ASTM A240-304L / 316L
Seals	Neoprene ASTM D-2000
Hinge Bushing	UHMWPE ASTM D-4020
Hinge Pin & Washers	Stainless Steel 304
Fasteners	Stainless Steel 304 / 316

SHOP TESTING:

Seat clearance check of each flap gate for checking clearance between mating sealing face.

SPECIFICATION:

These flap gates are made as per Jash design.

APPLICATION:

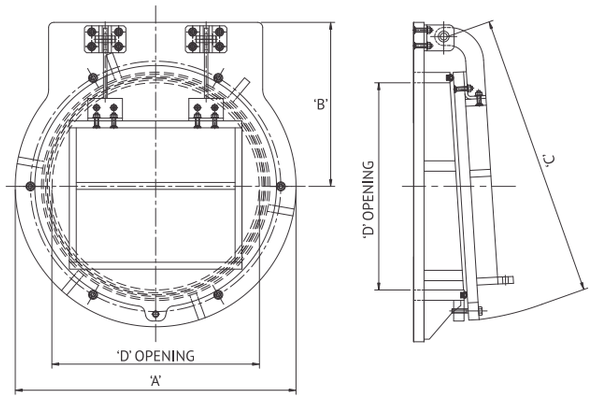
For low cost back flow prevention applications in low head conditions. HDPE material enables light weight construction thereby offering ease in installation and also high corrosion resistance, longevity and minimum maintenance.

SIZE RANGE:

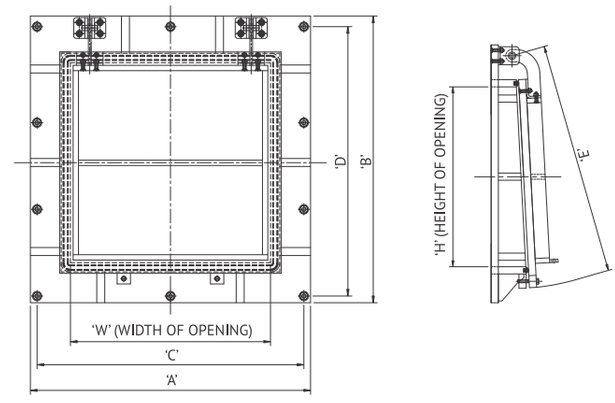
- From 300 mm to 1500 mm.
- Higher sizes can be offered on request.

JASH SINCE 1948

SERIES: A - 641



SERIES: A - 642



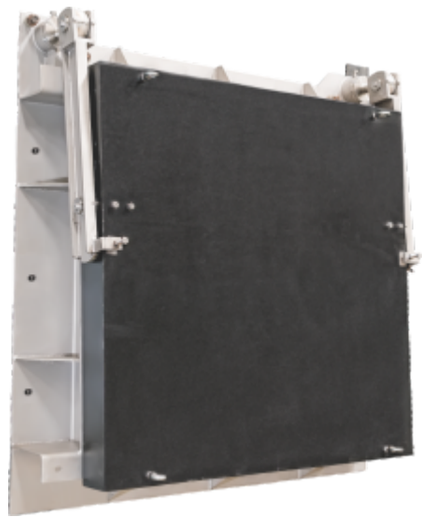
FLAP GATE DIMENSIONS (MM)			
D	A	B	C
150	405	215	330
200	455	240	380
250	510	265	430
300	560	320	485
350	635	330	610
450	710	395	685
533	785	420	760
600	865	485	840
750	1015	635	990
900	1170	760	1145
1050	1320	865	1295
1200	1475	940	1450
1350	1625	1040	1600
1500	1780	1345	1755
1800	2085	1525	2055
2100	2390	1675	2360
2400	2690	1855	2665

FLAP GATE DIMENSIONS (MM)						
W	H	A	B	C	D	E
300	300	560	650	510	600	520
400	400	660	750	610	700	620
450	450	710	805	660	750	675
533	533	785	920	735	855	800
600	600	865	980	815	955	875
750	750	1015	1135	965	1085	925
800	800	1065	1210	1015	1160	1030
900	900	1170	1310	1120	1260	1130
1000	1000	1270	1415	1220	1360	1230
1050	1050	1320	1475	1270	1440	1335
1200	1200	1475	1625	1420	1575	1435
1350	1350	1625	1780	1575	1725	1640
1500	1500	1780	1930	1725	1880	1790
1800	1800	2085	2260	2030	2210	2095
2100	2100	2390	2565	2335	2515	2400
2400	2400	2690	2870	2640	2820	2705

Rectangular sizes on request.

COMPOSITE FLAP GATES
SERIES: A - 652

COMPOSITE FLAP GATE



SPECIFICATION:

These flap gates are made as per Jash design.

APPLICATION:

Back flow prevention applications in low head conditions. Composite material enable high corrosion resistance, longevity and minimum maintenance.

SIZE RANGE:

- From 300 mm to 2700 mm.
- Higher sizes can be offered on request.

FEATURES:

- Square / Rectangular fabricated flange back frame / body for mounting on face of wall using anchor fasteners and secondary grout between wall and frame/body or to wall thimble.
- Single piece flap cover manufactured as a composite sandwich construction comprising of light weight rigid cellular core with a fully welded steel matrix covered by rigid compressed composite plastic to withstand applicable head.
- Flap cover is internally chemical bonded, sealed and free of exposed reinforcing material.
- Resilient seal to absorb closing shocks.
- Resilient sealing arrangement comprise of resilient seal mounted on outer peripheral edge of frame / body and in contact with mating face of flap cover.
- Double pivot design for all sizes of flap gate.
- Double hinged with hinge sized to prevent formation of oval hole due to higher applying forces.
- Replaceable hinge pins and self lubricating hinge bushings.

OPTIONAL FEATURES:

- Wall thimble mounting.

MATERIAL OF CONSTRUCTION:

Frame / Body	Stainless Steel ASTM A240-304L / 316L OR FRP
Flap Cover	Composite FRP & Steel OR FRP
Hinge Arm	Stainless Steel ASTM A240-304 / 316
Seals	Neoprene ASTM D-2000
Hinge Bushing	UHMWPE ASTM D-4020
Hinge Bolt	Toughened Steel
Fasteners	Stainless Steel 304 / 316

Higher grade of stainless steel can be offered on request.

SHOP TESTING:

Seat clearance check of each flap gate for checking clearance between mating sealing face.

FLEXIBLE FLAP GATES
SERIES: A - 672

JASH SINCE 1948

FLEXIBLE FLAP GATE

OPTIONAL FEATURES:

- Wall thimble mounting.
- Neoprene to neoprene seating for low leakage.

MATERIAL OF CONSTRUCTION:

Frame / Body	Stainless Steel ASTM 240-304L / 316L
Flap Cover	Neoprene / EPDM ASTM D-2000
Stiffeners	Stainless Steel ASTM A240-304L / 316L
Fasteners	Stainless Steel 304 / 316

SHOP TESTING:

Seat clearance check of each flap gate for checking clearance between mating sealing face.

SPECIFICATION:

These flap gates are made as per Jash design.

APPLICATION:

For low cost back flow prevention applications in low head conditions. A stainless steel frame with neoprene material enable light weight construction thereby offering ease in installation and also high corrosion resistance, longevity and minimum maintenance.

SIZE RANGE:

- From 300 mm to 1200 mm.
- For wider openings, two or more can be bonded and clamped.

FEATURES:

- Square / Rectangular flange back frame / body for mounting on face of wall using anchor fasteners and secondary grout between wall and frame/body or to wall thimble.
- Opens under very low unseating head.
- Resilient seal to withstand slamming action of pump discharge and wave action.
- Single piece flap cover to withstand applicable head. Door may also have stainless steel stiffening depending upon size.
- Stainless steel frame with flexible reinforced neoprene flap.

STANDARD & 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, Yoke	Composite with Steel Matrix Fiber Reinforced Plastic Stainless Steel	 ASTM A 240	 303, 304, 304L, 316, 316L, Duplex (31803/ 32205) Super Duplex (32750 / 32760)
2.	Slide	Composite with Steel Matrix Fiber-Reinforced Plastic		
3.	Seat	UHMWPE HDPE	ASTM D 4020 ASTM D 4020	
4.	Resilient Rubber Seal	EPDM Rubber Neoprene Rubber	ASTM D 2000 ASTM D 2000 BS EN 681	
5.	Rubber Seal Retainer Bar	Stainless Steel	ASTM A 240	303, 304, 304L, 316, 316L Duplex (31803/32205) Super Duplex (32750 / 32760)
6.	Connecting Block / Stem Block / Thrust Nut	Stainless Steel Bronze Gun Metal	ASTM A 276 ASTM B584 BS EN 1982	303, 304, 316, CF8, CF8M, Duplex (31803 / 32205) Super Duplex (32750 / 32760) CA 863, 865, CA 873 LG2
7.	Stem & Coupling	Stainless Steel	ASTM A 276	303, 304, 316, 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, Super Duplex (32750 / 32760) AL - 6XN
10. `	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
11.	Stem Cover	Poly Carbonate 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.

JASH SINCE 1948

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.

Ungeared
Lift Mechanism

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.

Geared Lift Mechanism

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.

Two Speed Geared
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 5.5 m.

COUPLINGS: Internally threaded couplings to couple / connect small lengths of stem when stems are to be longer than 3.5 m to 4.5 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 fifty times 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.

Stem Guide

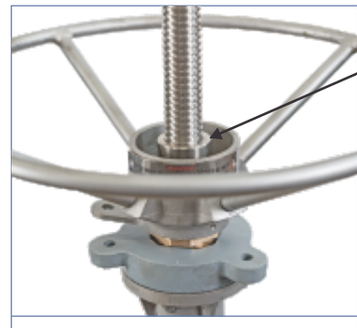
Stem Guide

Coupling

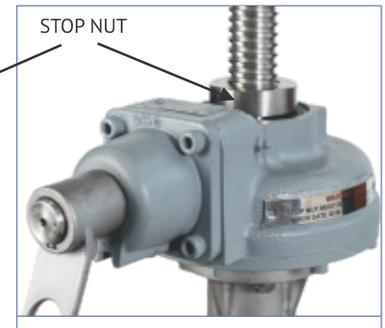
STANDARD AND OPTIONAL ACCESSORIES

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 2 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



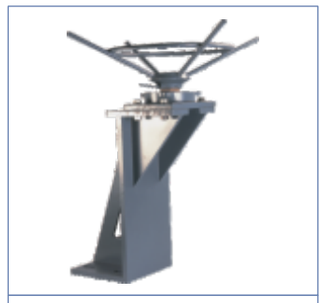
Stop Nut for Geared Lift Mechanism

OPTIONAL ACCESSORIES

Stem Cover and Indicating Arrangement for Ungeared Lift Mechanism

Stem Cover and Indicating Arrangement for Geared Lift Mechanism

Foot Wall Bracket



Offset Center Floor Stand

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 10 mm graduation.

FOOT WALL BRACKET: Foot plate 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.

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. Actuators to suit modulating application can also be given.

Electrically Operated Lift Mechanism

PNEUMATICALLY OPERATED LIFT MECHANISM WITH MANUAL OVERRIDE FACILITY:

Pneumatically operated lift mechanism 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.

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 140 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.

Pneumatically Operated Lift Mechanism

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 WATER CONTROL PRODUCTS

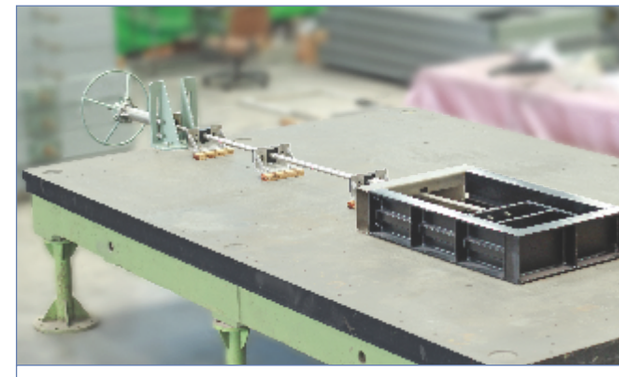
SEAT CLEARANCE CHECK (Applicable for all type of gates):

Clearance, if any, between the mating sealing faces of the gate frame and slide, in gate fully closed position is checked to ensure that 0.004 inch 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 it's 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.



Movement Test

- Checking that adequate threaded length is provided on stem for full opening & closing of gate in case of manual /electric operated gates.

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.

Leakage acceptance norms as per AWWA C563 requires that under the design seating or unseating head the allowable leakage shall not exceed 1.24 Lpm / 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.

Shop Leakage Test

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, 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 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 to 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
   - 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

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 mm / m.**

6. **Distance from Centerline of Gate Opening to top of operating floor in mm / m.**

7. **Distance from Gate Invert to Sump Invert in mm / m.**

8. **Required Direction of Opening**
   - Upward opening, or
   - Downward opening, or

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**.

18. **Additional Information** required to be furnished:
    - Type of fluid to be handled.
    - Quantity required for each similar size & type of gate.
    - 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.**

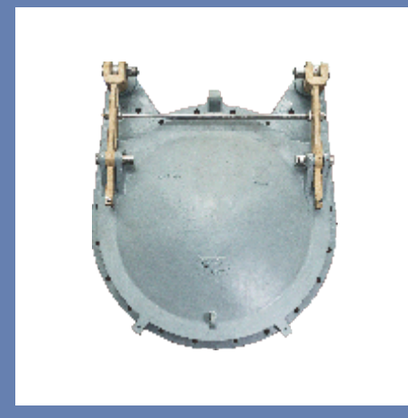
- *Manufacturer reserves the right to depart from the catalogue specifications and illustrations at any time, with or without notice.*
- *Pictures shown are general, unless specific job names are listed.*

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

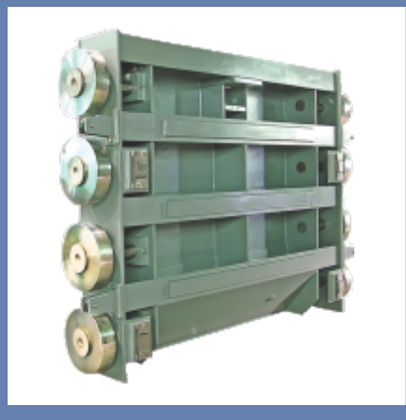
For more information about our products or to contact sales representative, visit the Jash website **www.jashindia.com** or call at our office.

CAST IRON SLIDE GATE

STAINLESS STEEL SLIDE GATE

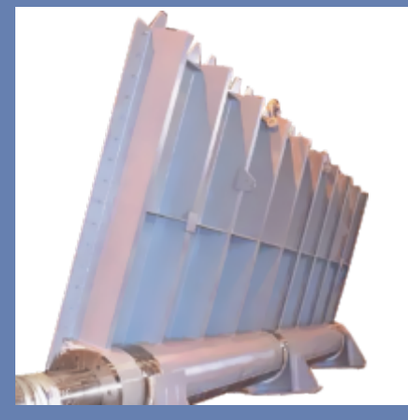


CAST IRON FLAP GATE



ROLLER GATE

BUTTERFLY GATE



CREST GATE

JASH
SINCE 1948

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