Date: 01/06/2023

Addendum No. 1
For Project No. 300DM-72012-06

Description: Hardy Lake Dam Valves Replacement

Location: Hardy Lake Reservoir, Scott County

FOR AGENCY: Department of Natural Resources

The information contained in this Addendum shall become a part of the basic plans and specifications the same as if original incorporated therein. The original plans and specifications shall remain in their entirety, except as modified by this Addendum. The items herein shall supersede information in the specifications and on the plans.

ITEM No. 1: Attached are the Pre-bid Meeting Agenda, Sign-In Sheet, Meeting Notes, Contractor Questions and Answers to date

ITEM No. 2: Previous Valve/Gate Inspection Reports and Video and selected sheets of the original 1968 Plans can be requested from Dale Gick, PE, Commonwealth Engineering at dgick@contactcei.com

ITEM No. 3: Attached are 2 reference documents for sluice gate installation and clearance.

ITEM No. 4: Contractor questions to be submitted by 12:00 pm on Monday, January 9. Submit to Dale Gick, PE, Commonwealth Engineering at dgick@contactcei.com and to David Nance, PG, Department of Natural Resources at dnance@dnr.IN.gov

END OF ADDENDUM

AGENDA

Hardy Lake Dam
300DM-72012-06
Dam Gate Valves Replacement
Pre-Bid Meeting: 1/4/2023 @ Site

Bids due: 1:01pm (Indianapolis Time), Wednesday, January 18, 2023. Bid opening via Teams @ 1:30pm. See Notice to Bidders.

Contractors must be prequalified by Indiana Department of Administration at time of bidding

Category: Dam and Dike Construction

Include all required documents per the Instructions to Bidders including but not limited to:

Drug-Free Workplace Plan

Domestic Steel Affidavit

Supplemental Unit Price Sheet with Bid (3 Items)

No Alternate Bids

Remediation Allowance = $25,000 – See Section 7 of Specifications

Construction Period = 365 days - substantial completion goal by December 1, 2023.

Bids are lump sum, except for the supplemental unit price sheet

Contractor must be a registered State Vendor before we can create a Purchase Order or make payment.

Project Scope: Includes but not limited to removal (1 - 15" gate already removed) and installation of 2 – (15" existing) slide gates on the exterior and 1 – (36" existing) slide gate on the interior of the Hardy Lake Dam drawdown structure. Project includes removal and replacement of gate stems, stem guides, trash racks, hand cranks, and a flow deflector. Project includes removal of ladders without replacement and installation of a stainless steel weir plate and a staff gauge at the existing outlet stilling basin. See Plan Sheets.

Facilities must remain in operation during construction. A Plan of Operation must be submitted within 30 days of Notice to Proceed. See Part 2 – Plan of Operation in specifications. 1500 gpm of flow shall be maintained for water supply purposes.

Project will include confined space entry – OSHA requirements must be met.

Meeting Notes:

If Contractor is not currently pre-qualified, please submit an application to the Certification Board ASAP and copy Jomary Baller, Department of Natural Resources at jballer@dnr.IN.gov. Certification information can be found at https://www.in.gov/idoa/state-property-and-facilities/public-works/certification-board/ A special meeting of the board will need to be requested to get the application reviewed and acted upon prior to the bid date.

DNR will work with the water utility (Stucker Fork Conservancy District) to inform them of the upcoming project and the plan to maintain flows for water supply.

Flow discharge during project, 1500 gpm. This is based on a 24-hour day. Increased flow for a shorter period, 12 hours or more, resulting in an average flow of 1500 gpm should be sufficient to maintain the function of water supply. 1500 gpm will be equal to the flow through the new staged weir at the top of the second stage, just before a full width discharge over the full weir. This would be 4" of flow over the concrete lower stage. For example, 3000 gpm would be a discharge that would measure 5.5" or 0.45' over the lower stage, concrete weir.

Q: What is the inflow and drainage area? A: based on the DNR Division of Water's 2017 Dam Inspection Report the watershed is 12 square miles and the surface area of the lake is 741 acres. The inflow information is not readily available. The lake responds to precipitation events differently due to many variables. The lake is typically at its lowest stages in late summer/fall. The watershed is relatively small compared to the lake size and groundwater does not significantly contribute to lake level.

During the site visit the upper 15" gate and the interior butterfly valve were fully open resulting in a discharge 14" deep over the full width of the existing weir. Some minor leakage from the butterfly valve and pipe has been noted, but no significant leaks.

The supplemental unit price is called out to address potential costs associated with discharging water without using the principal spillway, pump, or other methods. The "Plan of Operation" submittal should address the plan for maintaining facility function.

Q: What is the gate lead time? A: Different time frames based on manufacturer, but an average of 10-12 weeks after drawing and approval. Likely 17-18 weeks total.

Q: Is there a detail for the thimble? A: No details available. The original plans (1968) have manufacturer and model number of the gates, but not the thimble. The original plan set was used as the background on the December 2022 plans. The project was designed to assume that the new gate will be larger than the existing and not use the existing bolt holes. See the 1968 plans sheets for more information.

Q: What is the embedment depth of anchors into concrete? A: Per manufacturer's instructions.

Staging area – there is a parking lot behind locked gates available near the dam for staging. A key can be made for the Contractor during construction.

There is a boat ramp available to accommodate large boats/equipment that can be used for the project.

Q: Can Contractors get a copy of previous video inspections of the valve? A: Yes, that will be included in an addendum.

Q: What is the condition of the concrete? A: No major concerns noted, but some repairs may be needed. May be able to see on the inspection video that will be made available.

Q: MBE/WBE requirements? A: There is a goal for this project listed on the Notice to Bidders. A Good Faith worksheet is required to be submitted with the bid documents.

Q: Is there a list of MBE/WBEs? A: Yes, the link on the Notice to Bidders will offer more information as well as a link to a list of MBE/WBE contractors.

A flow deflector is included on the plan sheets to protect the stem of the valves inside the valve house. See plan sheet MD1.

Q: Is video documentation acceptable for the post-installation inspection? A: Yes.

Q: There is a range of gate sizes – how were these determined? Is there a minimum? A: The range was developed using standard gate sizes. The Contractor may request a different size for review by the Designer.

There is no detail on the plans for the trash racks. This information can be found in Section 6 of the specifications.

Q: Is there a Wage Scale on this project? A: No Wage Scale is required on this project.

Q: What will be done to abandon the lower 36" valve/gate? A: The outside, bottom 36" valve/gate will be abandoned by cutting the stem and leaving in place.

Q: When should a Contractor expect a contract award? A: As long as everything is in order, 30-45 days from the bid date is a reasonable expectation for a Notice to Proceed. A purchase order cannot be issued unless the Contractor is a registered State Vendor. If the Contractor is not registered, please submit the appropriate information ASAP. This process can take several weeks. A copy of instructions for Vendor Registration is attached to these meeting notes.

Q: Is the existing 36'' bottom gate flush mount bottom as drawn? A: Sheet 10 of the 1968 design drawings show the centerline of the 36" gate opening at elevation 570.0'. Sheet 10 also shows 1/2 of the 36" gate plus 3-7/8" of thimble below the centerline of the gate. This would be a total of 21-7/8". Sheet 9 shows 2.0' from the centerline of the gate to the floor. Therefore, there should be 2-1/8" of space between the floor and the bottom of the thimble.

Q: Is there a sump below the existing gate? A: The 1968 design drawings show the floor as flat.

Q: Can you provide the record drawings? A: 1968 design drawings and 3 videos are available via Procore. See addenda.

CONTRACTOR QUESTIONS TO BE SUBMITTED BY 12:00 PM ON MONDAY, JANUARY 9. Submit to Dale Gick, PE, Commonwealth Engineering at dgick@contactcei.com and to David Nance, PG, Department of Natural Resources at dnance@dnr.IN.gov

PLEASE CONTINUE TO CHECK THE WEBSITE FOR ADDENDA. MEETING NOTES AND SIGN-IN SHEET WILL BE POSTED AS WELL AS CONTRACTOR QUESTIONS AND ANSWERS.

SIGN-IN SHEET

Hardy Lake Dam
300DM-72012-06
Dam Gate Valves Replacement
Pre-Bid Meeting: 1/4/2023 @ Site

Name	Phone	Email	Business Name
Jomary Baller	317-234-8731	jballer@dnr.IN.gov	DNR, Engineering
David Nance	317-234-1111	dnance@dnr.IN.gov	DNR, Engineering
Matt Taylor	812-794-3800	mtaylor@dnr.IN.gov	DNR, State Parks
Bubba Weber	513 407 2403	Bubba.Weber@AlliedPumpRentals.com	Allied Pump Rentals
Josh Magan	859 321 1578	Josh.Magan@AlliedPumpRentals.com	Allied Pump
Curtis Maynard	513-233-5606	Curtis.Maynard@Alliedunderwaterservices.com	Allied underwater Ser.
Griffin Eckert	608-769-1657	geckert@jfbrennan.com	J.F. Brennan
Andy Henry	812-794-3800	ahenry@dnr.in.gov	DNR, State Parks
~~Matt Ta~~ TODD STEARNS	317-499-2714	TSTEARNS@dnr.in.gov	DNR Engineering
RICHARD VUCKSON	812-525-4265	RLV8@AOL.com	R.L. VUCKSON

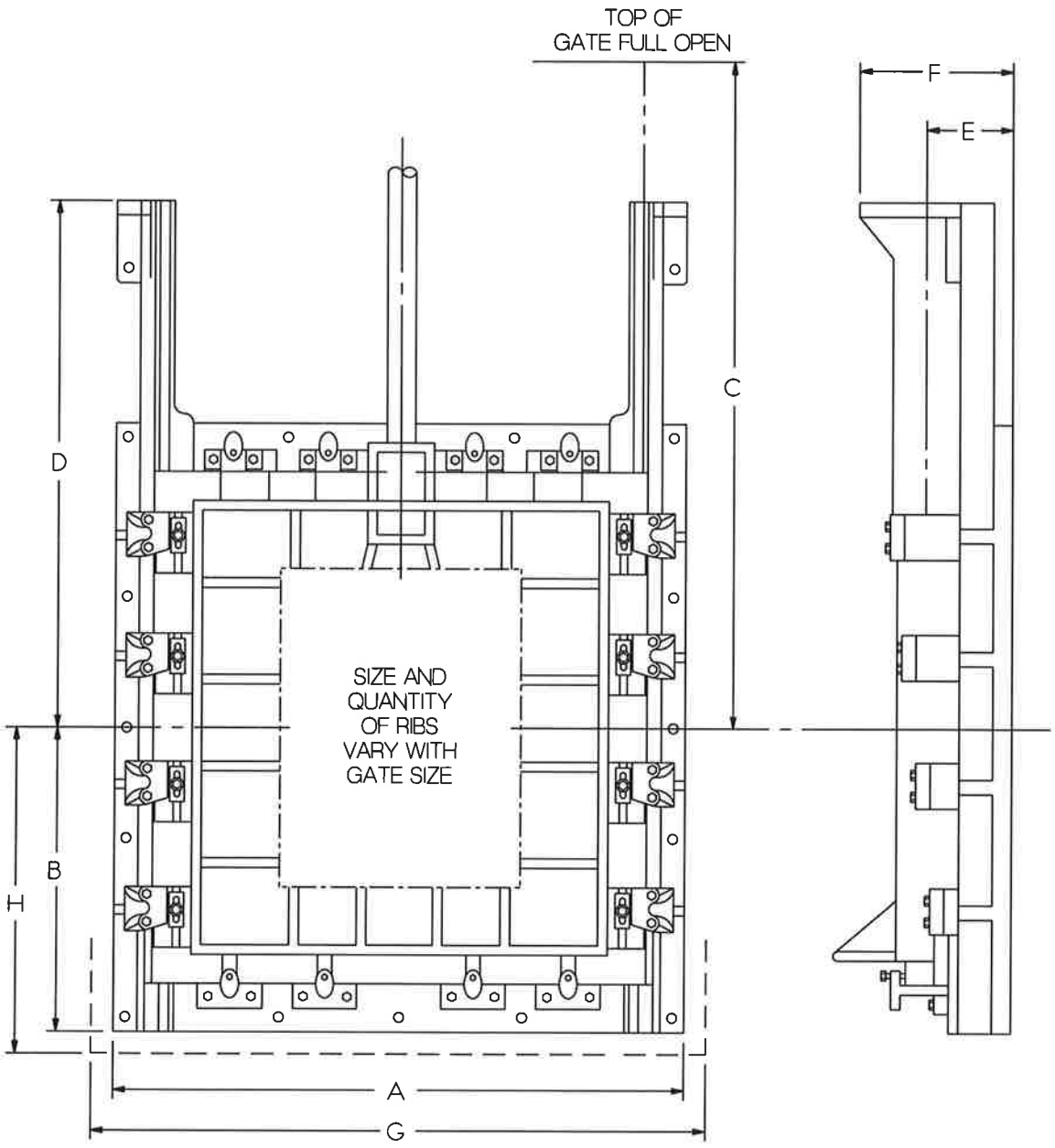


Figure 1-18

Square Opening, 55 Ft Seating Head; 20 Ft Unseating Head – Heavy-Duty Sluice Gate (Series 501)

This is a design class head rating. Many gate sizes have a higher actual head rating.
Please contact the Hydro Gate Engineering Department for maximum head ratings.
Note: G and H are installation clearance dimensions.

Square Opening – Heavy-Duty Sluice Gate (Series 501)

Gate Size	Flange Back Dimensions (In.)							
	Width (A)	Centerline to Bottom of Frame Flange (B)	Centerline to Slide Full Opening Position (C)	Centerline to Top of Frame (D)	Back of Mounting Flange to Centerline of Stem (E)	Overall Thickness of Gate (F)	Installation Clearance (G)	Installation Clearance (H)
6 x 6	14.00	7.00	14.37	8.87	5.75	7.25	18.00	9.00
8 x 8	16.00	8.00	16.37	10.87	5.75	7.25	20.00	10.00
10 x 10	18.00	9.00	19.37	12.87	5.75	7.25	22.00	11.00
12 x 12	20.00	10.00	22.37	14.12	5.75	7.25	24.00	12.00
14 x 14	22.00	11.00	26.75	16.87	6.00	8.12	26.00	19.00
15 x 15	23.00	11.50	26.87	17.87	5.75	7.25	27.00	13.50
16 x 16	24.00	12.00	28.37	18.87	5.75	7.25	28.00	14.00
18 x 18	26.00	13.00	31.37	20.87	5.75	7.75	30.00	15.00
20 x 20	28.00	14.00	34.37	22.87	5.75	7.25	32.00	16.00
21 x 21	29.00	14.50	35.87	23.87	6.00	7.50	33.00	16.50
24 x 24	32.00	16.00	41.62	26.87	5.75	8.12	36.00	18.00
30 x 30	38.00	19.00	52.37	32.87	6.37	8.87	42.00	21.00
36 x 36	47.00	23.50	61.37	41.12	7.37	10.87	51.00	25.50
39 x 39	50.50	25.25	66.25	44.25	7.50	11.50	50.50	27.50
42 x 42	53.00	26.50	70.37	47.12	7.50	12.00	57.00	28.50
48 x 48	59.00	29.50	79.37	53.12	7.50	13.50	63.00	31.50
54 x 54	65.00	32.50	91.37	59.12	8.62	16.00	69.00	34.50
60 x 60	73.00	36.50	101.50	65.50	10.00	17.37	77.00	38.50
63 x 63	76.00	38.00	99.62	68.00	10.00	17.37	80.00	40.00
66 x 66	79.00	39.50	106.50	71.00	10.25	18.62	53.00	41.50
72 x 72	85.00	42.50	115.50	77.00	10.25	19.12	89.00	44.00
78 x 78	91.00	45.50	124.50	83.00	10.25	20.12	95.00	47.50
84 x 84	97.00	48.50	133.50	89.00	10.25	21.62	101.00	50.50
90 x 90	103.00	51.50	142.87	95.00	10.25	24.12	107.00	5350
96 x 96	109.00	54.50	151.87	101.00	10.50	22.87	113.00	56.50
108 x 108	122.50	61.25	169.87	113.00	12.50	23.37	126.50	63.25
120 x 120	134.50	67.25	187.87	125.00	12.62	23.37	138.50	69.25
144 x 144	158.50	79.25	221.25	84.50	13.00	25.00	162.50	81.25

Round Opening – Heavy-Duty Sluice Gate (Series 501)

Gate Diameter (In.)	Width (A)	Centerline to Bottom of Frame Flange (B)	Flange Diameter (In.)	Centerline to Slide Full Opening Position (C)	Centerline to Top of Frame (D)	Back of Mounting Flange to Centerline of Stem (E)	Overall Thickness of Gate (F)	Installation Clearance (G)	Installation Clearance (H)
6	12.75	6.50	11.00	13.75	8.87	6.87	8.37	24.00	14.00
8	14.75	7.50	13.50	16.37	10.87	6.37	8.37	26.00	15.00
10	16.75	8.50	16.00	19.37	12.87	6.37	6.87	28.00	16.00
12	18.75	9.50	19.00	22.37	14.12	6.87	8.37	30.00	17.00
14	20.75	10.50	21.00	25.37	16.87	8.37	6.87	32.00	18.00
15	21.00	10.75	22.00	28.25	16.50	6.25	8.50	35.00	18.50
16	22.00	11.25	23.50	29.50	17.75	6.00	8.00	36.00	19.00
18	22.75	12.50	25.00	31.37	20.87	6.87	8.87	38.00	20.00
20	26.75	13.50	27.50	34.37	22.87	7.12	8.62	40.00	21.00
21	27.00	13.75	28.50	38.00	23.00	6.75	8.75	41.00	21.50
24	28.75	16.00	32.00	41.62	26.87	7.25	9.75	44.00	23.00
30	34.75	19.00	38.37	52.37	32.87	8.00	10.25	54.00	30.00
36	44.00	23.00	46.00	61.50	40.00	8.25	11.25	60.00	33.00
42	50.00	25.87	53.00	71.75	44.00	10.00	13.50	66.00	36.00
48	56.00	28.00	59.50	81.25	52.00	9.75	14.75	72.00	41.00
54	62.00	32.00	66.25	91.25	57.00	10.00	15.00	78.00	44.00
60	70.00	35.50	73.00	101.25	64.00	10.75	17.37	90.00	47.00
66	76.00	38.50	80.00	108.75	70.00	10.37	17.25	96.00	50.00
72	82.00	42.25	86.50	117.87	77.00	10.75	18.50	102.00	53.00
78	89.00	44.75	93.50	138.37	83.00	11.25	19.00	108.00	57.00
84	94.00	47.75	99.75	138.00	88.00	11.25	19.25	116.00	60.00
90	102.00	51.25	106.50	144.62	95.00	13.00	19.00	122.00	63.00
96	108.00	54.25	112.50	155.75	101.00	14.00	18.00	128.00	66.00

Installation of Sluice Gates

Rodney Hunt sluice gates can be attached to wall thimbles embedded in the concrete, pipe flanges or directly to the concrete wall, and held in place with anchor bolts embedded in the concrete. However, the wall thimble is most frequently used and is the recommended method of installation. Here are some of the advantages of the use of wall thimbles:

They can be easily positioned in forms before the concrete is poured.

No additional form work is required for the opening when the length of the wall thimble is equal to the wall thickness.

They provide a smooth, machined surface on which to mount the gate, greatly reducing the possibility of gate distortion.

Correctly installed, a wall thimble assures that the sluice gate will be plum in both directions.

Attaching stud locations are fixed by the gate manufacturer. Wall thimble and gate are drilled to the same dimensions.

The wall thimble eliminates the need for shimming and grouting, reducing gate installation costs and making the installation easier.

Gates can be removed and installed again without disturbing the concrete.

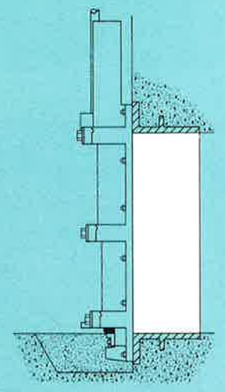
WALL THIMBLES

These square and circular wall thimbles are typical of those shipped by Rodney Hunt every day. Note the use of plastic cap plugs to keep concrete out of the bolt holes during installation.

WALL THIMBLES

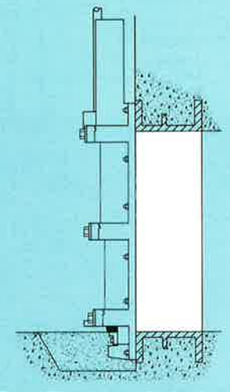
Rodney Hunt offers three types of wall thimbles as standard equipment. They are the "F", "E" and "Flange and Bell". Variations such as the "L" and "C" section thimbles are also available. All wall thimbles are supplied with rectangular or circular openings that conform to the clear opening of the gate. Mounting flanges are rectangular to match the sluice gate frame. The mounting flange is slightly larger than the gate frame to prevent interference with the concrete adjacent to the thimble. The common wall thimble depths are 8″, 12″, and 24″, and are usually furnished in depths corresponding to wall thickness.

TYPE "F"



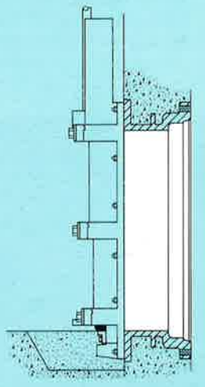
Type "F" wall thimble is the most widely used. The "F" section design is suitable for mounting sluice gates subject to any seating or moderate unseating pressures.

TYPE "E"



Type "E" section wall thimbles are recommended for sluice gates subject to high unseating pressures and very large gates. The "E" section thimble provides maximum strength and rigidity for even the largest sluice gate installations and the most severe conditions.

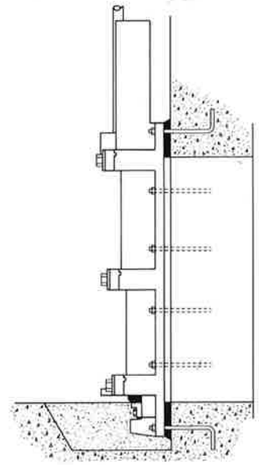
FLANGE AND MECHANICAL JOINT



Flange and mechanical joint bell thimbles take the spigot end of a standard cast iron or cast ductile iron pipe.

ANCHOR BOLTS

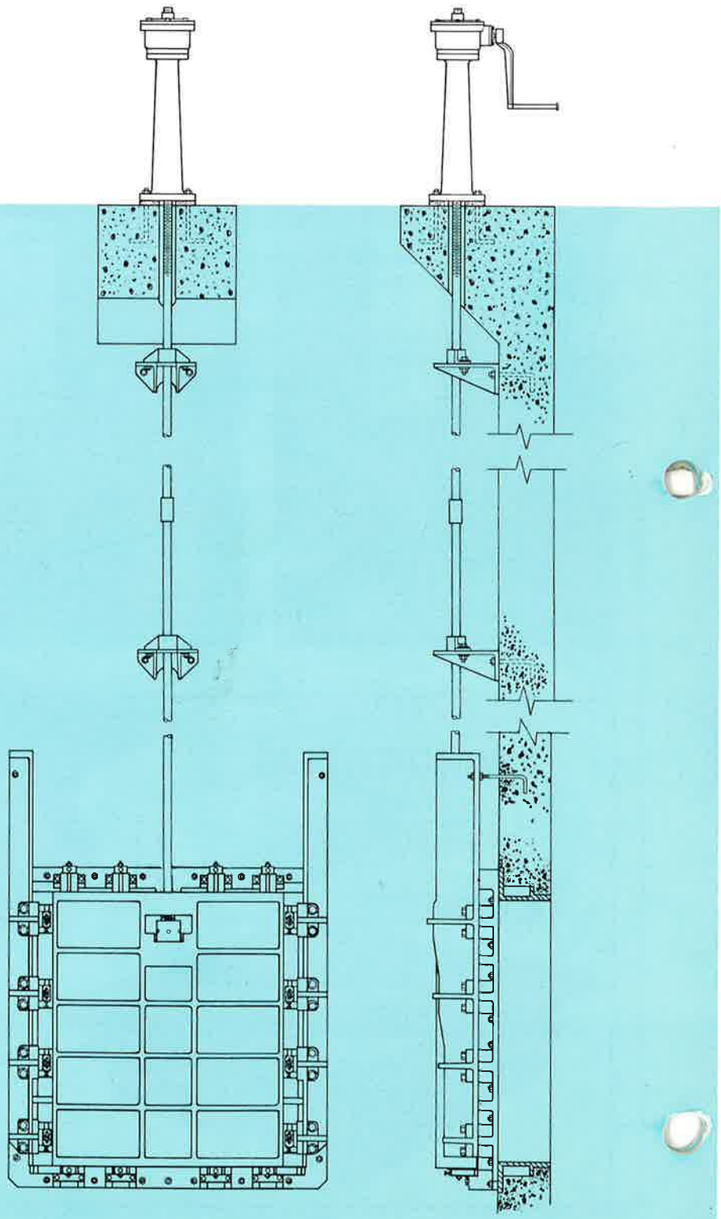
Sluice gates can also be mounted on hook type anchor bolts that have been embedded in the concrete structure.



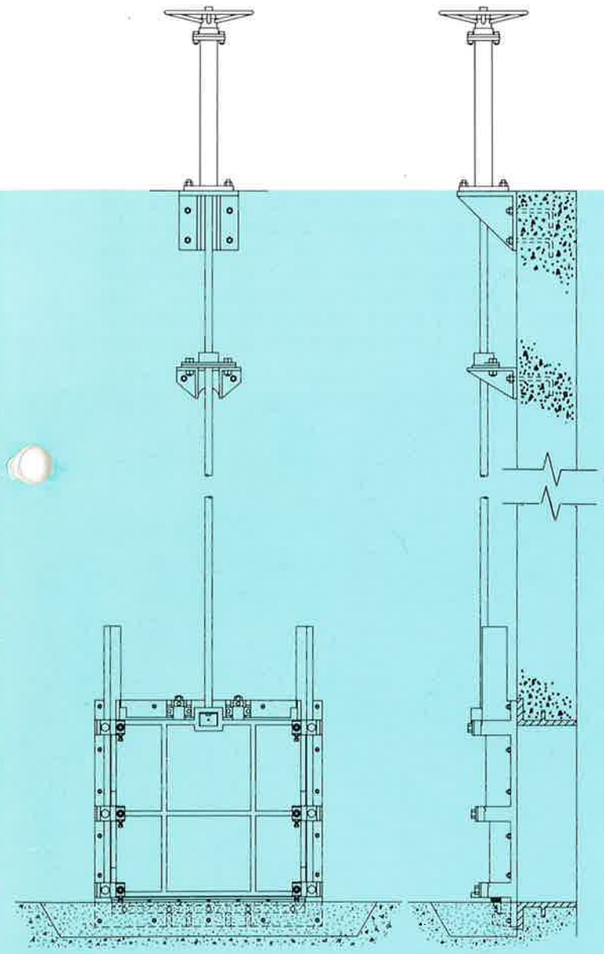
A typical installation of a HY-Q sluice gate with anchor bolts. Note the use of 1" of grout between the flange of the gate and the concrete wall. This is to prevent mounting the gate directly to the concrete surface which may not be flat.

Installation Variations

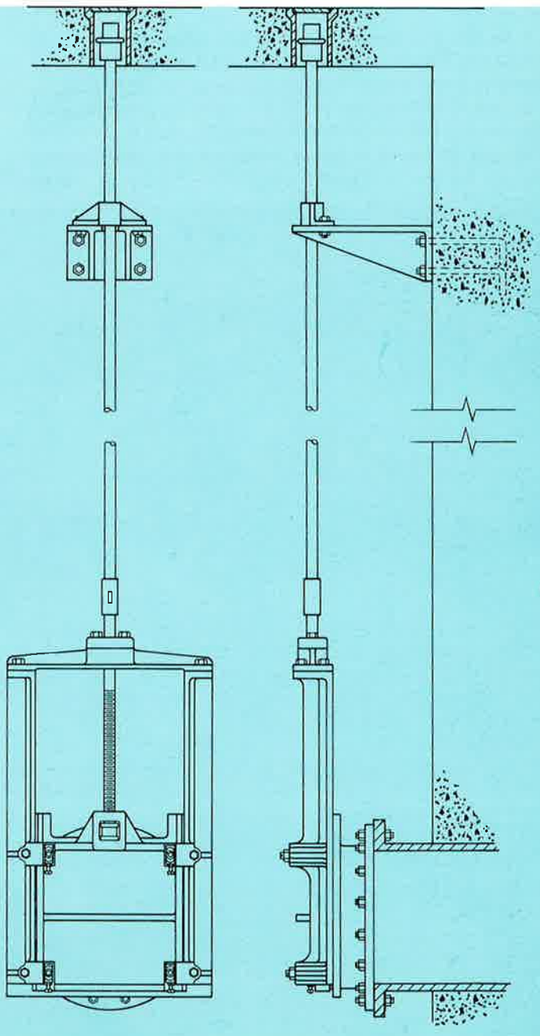
This diagram shows a side wedge sluice gate with a two-piece operating stem and crank operated, single-speed floorstand. The gate is installed on an "F" section wall thimble extending completely through the concrete wall. This makes installation easier. Also note that a grout pad is used under the hoist to insure the proper alignment between hoist and operating stem.



This is a Rodney Hunt sluice gate with flush-bottom closure and side and top wedges. It is mounted on a type "F" wall thimble, the most widely used. Note that the handwheel operated floorstand is mounted on a machined wall bracket. In this situation, a grout pad under the floorstand is not necessary for true alignment.

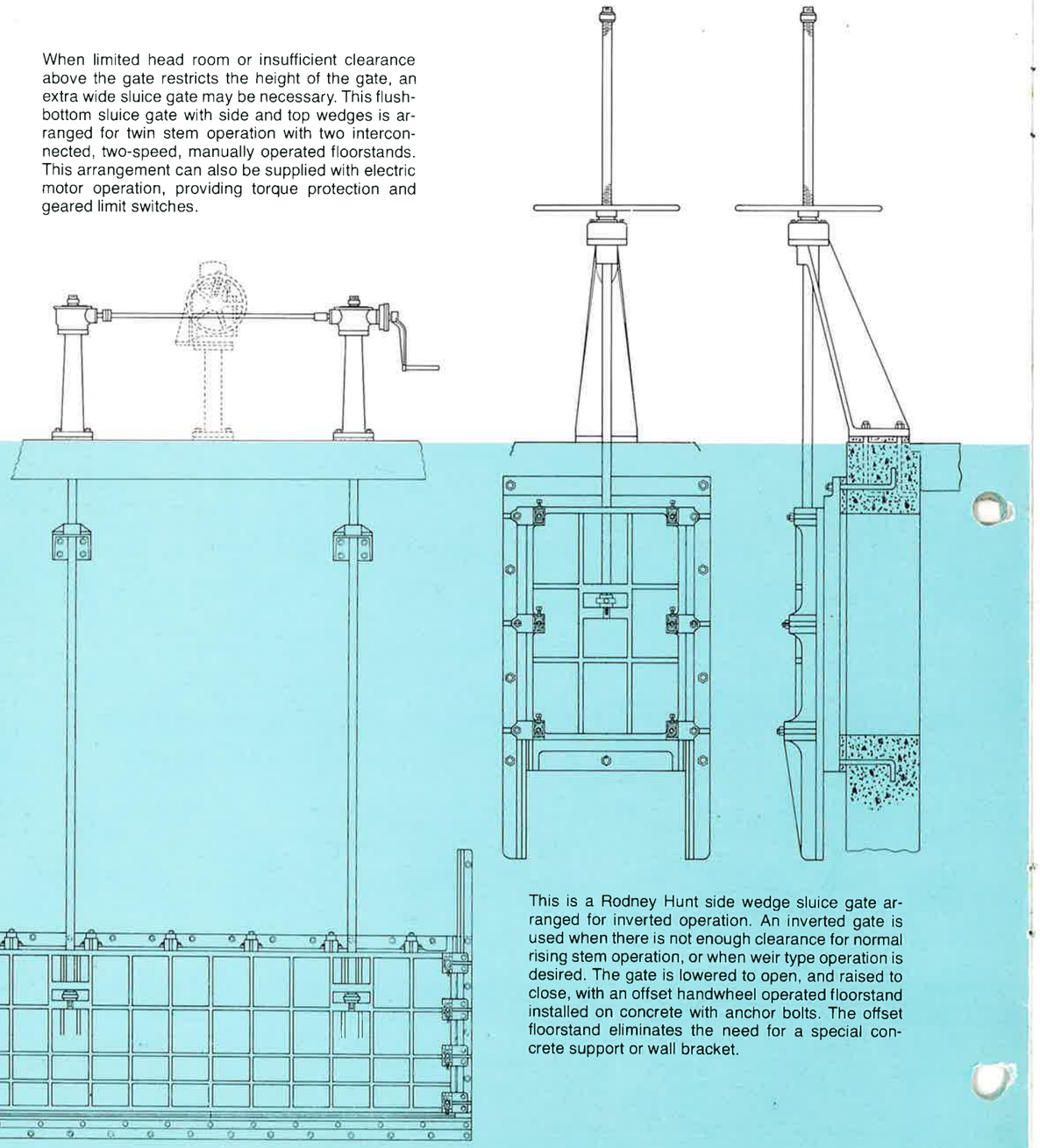


This 16″ diameter gate, mounted on a flanged pipe extending from the wall, is a flange frame, side wedge, self-contained sluice gate using a non-rising stem. A T-handle wrench, engaging a 2″ square operating nut in the floorbox is used to raise and lower the gate. Non-rising stem gates should not be used when it can be avoided, because the stem threads are in the medium where they cannot be regularly cleaned and lubricated.



Installation Variations

When limited head room or insufficient clearance above the gate restricts the height of the gate, an extra wide sluice gate may be necessary. This flush-bottom sluice gate with side and top wedges is arranged for twin stem operation with two interconnected, two-speed, manually operated floorstands. This arrangement can also be supplied with electric motor operation, providing torque protection and geared limit switches.



This is a Rodney Hunt side wedge sluice gate arranged for inverted operation. An inverted gate is used when there is not enough clearance for normal rising stem operation, or when weir type operation is desired. The gate is lowered to open, and raised to close, with an offset handwheel operated floorstand installed on concrete with anchor bolts. The offset floorstand eliminates the need for a special concrete support or wall bracket.

An In-Depth Review of Sluice Gates and Related Systems

What is a sluice gate?

A sluice gate is a cast iron, vertically sliding valve having bronze seating surfaces and adjustable bronze wedges. It is used at the end of a pipe line or to cover an opening in a wall and is not an in-line valve. Sluice gates are raised and lowered by means of a stem or rod using a manually operated screw stem hoist, an electrically driven screw stem hoist or a hydraulic cylinder. Sluice gates are mounted to a wall casting or thimble embedded in the concrete, a pipe flange or directly to the concrete wall with anchor bolts.

Sluice gates have been in use controlling water and sewage for 75 years. They have the important advantage of having an extremely long life with very low maintenance. Once a sluice gate has been satisfactorily installed, its normal life will be 30 to 50 years and no maintenance of the gate itself will be required. Simple, periodic cleaning and lubrication of the stem and hoisting mechanism is all that is required over the life of the gate installation. Very few pieces of equipment used in water control are as reliable, as long lasting and as maintenance free as the cast iron, bronze mounted sluice gate.

What are the variations in types of gates?

There are a large number of variations of sluice gates.

They can be furnished with conventional closure with bronze seats completely around the periphery or with a resilient seal across the bottom of the gate for flush-bottom closure.

In the normal gate, the operating thrust is taken on the floor or a separate support above the gate. All sluice gates can be furnished as self-contained gates in which the operating device is mounted on the yoke of the gate which is, in turn, attached to the top of the guides. On these gates, the operating thrust is taken by the gate itself.

Most sluice gate applications use a rising stem in which the threads are at the operator and the stem moves up and down with the gate. It is possible, however, to provide sluice gates with non-rising stems. On these installations the threaded section of the stem is at the gate and the disc climbs the stem as the stem is turned.

What is the practical size limitation of sluice gates?

The largest Rodney Hunt gate made thus far, measures 16 ft. x 16 ft., which is about the largest practical size for a sluice gate. Sluice gates are made as small as 6 inches, but in these small sizes, other types of valves may be more practical.

What is the head limitation on sluice gates?

The maximum head under which a sluice gate can be used depends primarily on the type of application and the size. Sluice gates can be designed to withstand seating heads of 200 ft. and unseating heads of 100 ft., but for heads greater than 80 ft. seating and 50 ft. unseating, the sluice gate manufacturer should be consulted. If the sluice gate is an extremely large gate or if it is to be used under unusual conditions, such as throttling or modulating service, perhaps some modification will be required to make the gate suitable for that service.

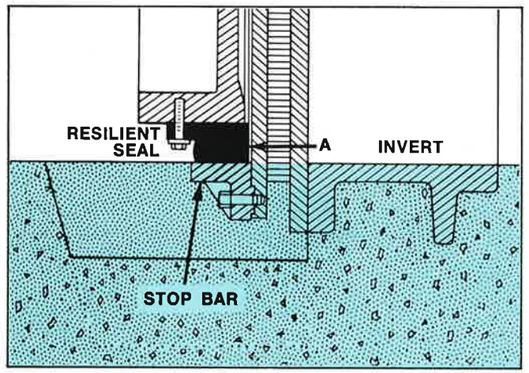
Normally, a further limitation on the amount of head under which a gate can be used is the operating thrust necessary to open and close the gate. This thrust is usually limited to approximately 150,000 lbs., which is equivalent to a 10 ft. by 10 ft. gate under a head of approximately 60 ft.

What makes a well designed gate?

Because high loads exerted by the side wedge system must be resisted by the guides, their design is of critical importance. On Rodney Hunt gates over 60 inches, a heavy reinforcing rib extends from the flange of the guide over the top of the wedge seat. This rib helps make the entire wedge seat system extremely strong and rigid. The guides are bolted and dowelled to the frame, so that once in position they cannot be moved.

What is a Rodney Hunt flush-bottom closure sluice gate?

This is a gate that uses a wide resilient seal on the bottom edge of the disc. The seal takes the place of the bronze seat. Seal material, usually a chemical and oil resistant neoprene with low water absorption properties, is attached to the disc with a stainless steel plate and attaching screws. Because of its position on the disc it is not exposed to sunlight and does not deteriorate. It is compressed against a machined cast iron stop bar which, in turn, is bolted and keyed to the frame.



When should a flush-bottom sluice gate be used?

When it is desired to avoid a cut-out in the floor or a wall beneath the gate where debris can collect, or when complete flushing of the chamber is needed.

Can flush-bottom closure sluice gates be made to seal at the corners?

Although a tight corner seal has traditionally been the most difficult problem in the design of flush-bottom closure gates, Rodney Hunt has found a very satisfactory solution. A special wide seal shape is used, with the vertical face of the seal forced against the bronze side seat facing on the frame while its bottom surface is compressed against the cast iron stop bar.

What are the limitations on the use of a flush-bottom gate?

The flush-bottom closure gate has no limitations that do not exist for the conventional sluice gate. They can be used in any application where conventional gates are used.

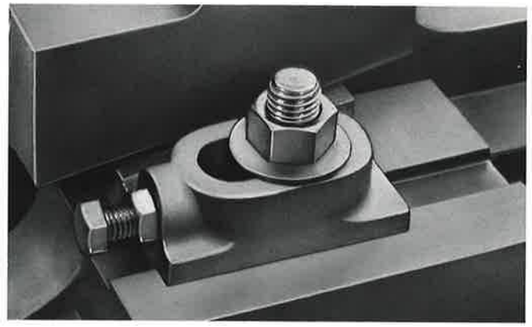
Why are wedges used on gates?

Wedges are used to insure tight contact between bronze seat facings on the disc and frame. Wedges are cast bronze, machined on their contact surfaces and once adjusted are positively held in place with a locking nut on the adjusting bolt.

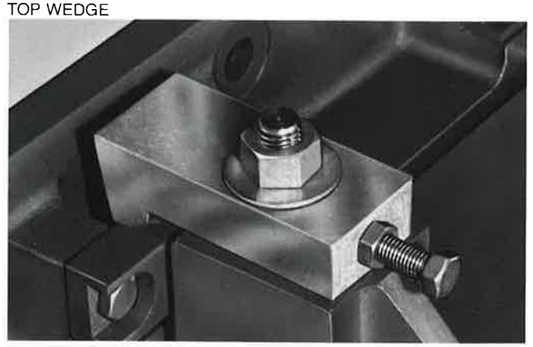
Three types of wedges are used on sluice gates. The side wedge system used on all gates is the most critical. It must resist the vertical loads placed on the gate when closing and assumes most of the loads due to unseating head. Because it is virtually impossible to spread these forces equally on all wedges, the loads assumed by the side wedge system can be high.

Top and bottom wedges, specified for gates designed for unseating head, are hook-type configuration which seat onto machined bronze loops attached to the frame. As the gate moves into the closed position, the wedges pull the top and bottom seats into contact.

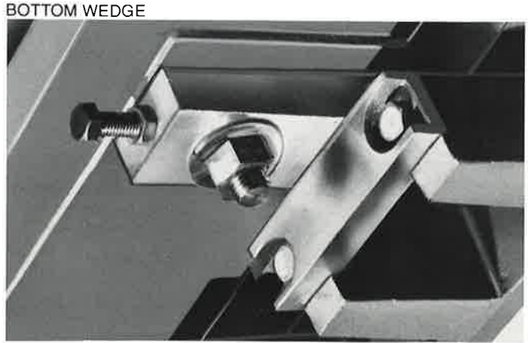
SIDE WEDGE



TOP WEDGE



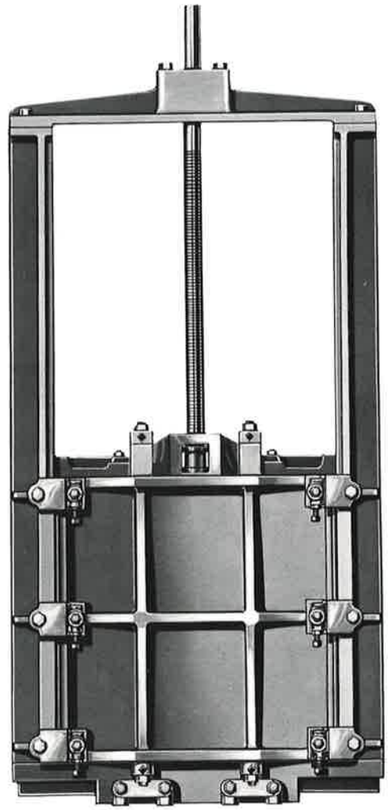
BOTTOM WEDGE



What is a self-contained sluice gate?

The self-contained gate differs from the conventional gate in that the operating loads created during opening and closing are absorbed by the gate itself. This is accomplished through the use of a yoke or supporting member mounted on the top of extended guides. The force required to operate the gate is transmitted by the yoke and guides directly back to the gate.

Self-contained gates are available with both rising and non-rising stems. The non-rising stem is more common on gates 18 inches or smaller. Because operating forces on small gates are low, non-rising stems can be successfully operated with a T-handle wrench acting on an operating nut attached to the stem.



Where are self-contained gates recommended?

The self-contained gate is ideal where there is no concrete floor above the gate or where it is impractical to build a structure to take the load. By mounting the floorstand or benchstand directly on the yoke, the operating thrust is taken by the gate. There are no limitations for the self-contained gate that do not exist for conventional gates. They are available in the same sizes and for the same heads.

Why should non-rising stems be avoided?

Wherever possible, the use of non-rising stems should be avoided. Because the threaded part of the stem is normally submerged, it is impossible to regularly clean and lubricate it. Any debris or rubbish jamming into the threads create wear of the stem and thrust nut and make the gate very difficult to operate.

What is an inverted gate?

An inverted gate is a conventional gate designed to lower to open. Its best application is where there is inadequate clearance between the opening and the floor above the gate to allow the disc to raise to open. It can also be useful for decanting from a reservoir or tank, although flow along the bottom and side may prevent precise level control.

How much maintenance is required on a sluice gate?

The maintenance on a sluice gate installation is minimal, but what there is, is important. The threads on the stem must be cleaned and lubricated periodically. Dirty grease or lack of grease will increase the operating force necessary to open or close the gate and will accelerate the wear of the stem nut. Stems should be cleaned and regreased at least twice a year and more often if the grease dries out or becomes dirty.

There are grease fittings on the manual screw stem hoists and these should be lubricated at least every six months. No other regular maintenance is required.

What construction materials are used in the manufacture of sluice gates?

The materials suitable for most sluice gate applications are: cast iron in the frame, disc and guides, ASTM A-126, Class B; bronze castings for wedges, thrust nuts, lift nuts and couplings, ASTM B-584 (Copper Alloy 865); bronze seat facings in frame and disc, ASTM B-21, extruded (Copper Alloy 464); stainless steel for stems and fasteners, ASTM A-276, Type 304, or ASTM A-582, Type 303; bronze for adjusting screws and fasteners, ASTM B-98 (Copper alloy 655); stainless steel for fasteners, ASTM F-593, alloy 304.

When is the use of special materials justified?

Bronze having less than 2% aluminum and 16% zinc should be used where dezincification of bronze can occur. In most areas of the country, dezincification of bronze is not a problem. The best determination of whether or not it is a problem is the examination of equipment presently in place. If dezincification of the bronze is a problem, sluice gate seat facings and bronze castings should be phosphor or silicon bronze, both of which meet the low zinc requirement.

In some severe industrial wastes, it may be necessary to use stainless steel seat facings and wedges, but this should be avoided wherever possible. Stainless steel machined surfaces rubbing against each other may produce galling, and severe damage to the sliding surfaces will be the result.

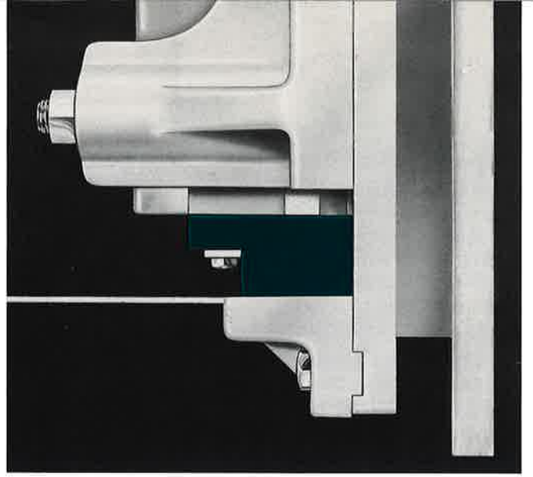
What factors affect sluice gate leakage?

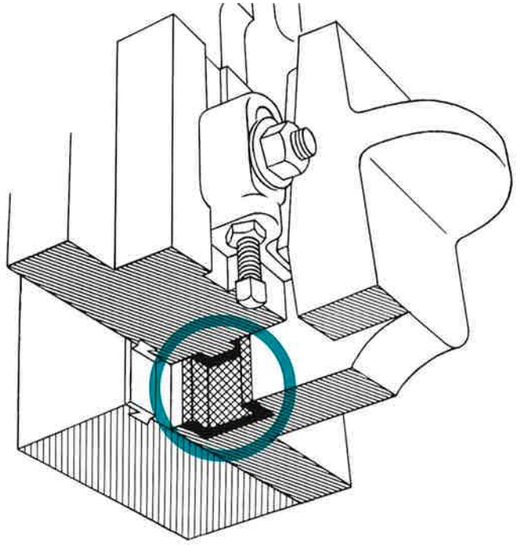
Sluice gates are designed to be as tight as possible, but cannot be guaranteed to be drop tight. A gate can be designed, manufactured and shop tested to produce a very low leakage rate, but installation factors beyond the control of the manufacturer can seriously affect leakage characteristics. Was the gate stored properly? Was it installed on a flat surface? Have the bolts been tightened evenly? Have the seats been damaged by concrete spillage? All of these factors can seriously affect sluice gate leakage characteristics.

What should the leakage specification require?

AWWA specifications maintain that leakage under seating head should not exceed 0.1 gpm per foot of perimeter. Under unseating heads up to 20 ft., leakage should not exceed 0.2 gpm per foot of perimeter. As the unseating head increases above 20 ft., the permissible leakage increases.

This is not a sufficiently tight specification. It is Rodney Hunt's opinion that leakage limits of 0.1 gpm per foot of perimeter can be maintained for normal sluice gate applications required to withstand all seating heads and all unseating heads up to at least 35 ft.



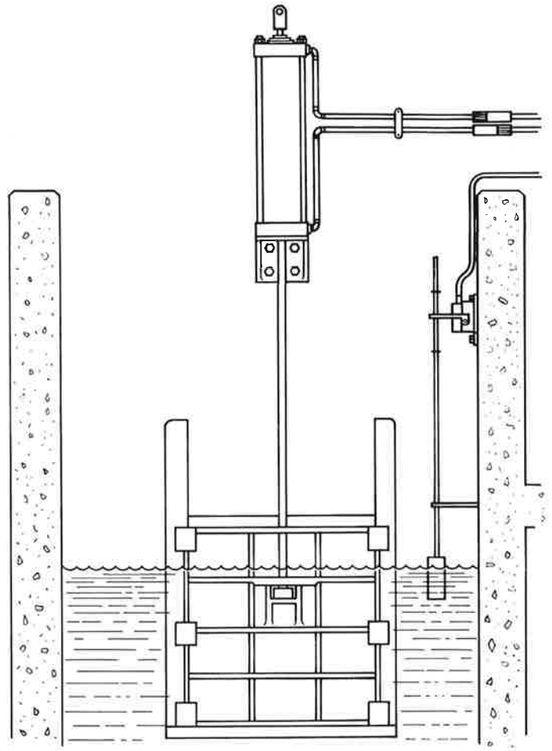


What factors limit the use of conventional sluice gates for modulating service?

Sluice gates for modulating service can experience excessive wear on the tongue of the disc and the groove in the guide. To reduce this wear a bronze liner can be placed in the groove and on the tongue so that all contact surfaces are bronze to bronze. Another important consideration on the use of sluice gates for modulating service is the use of the screw stem and nut for operation. Unless special steps are taken, accelerated wear of the nut may occur if the gates are operated frequently.

How can stem and nut wear on modulating gates be reduced?

Rapid nut wear can occur when screw stem hoists are used to operate gates in modulating service. A solution to this problem which has been used successfully in a number of installations, is the use of a cast nylon operating nut and a polished stainless steel stem. This combination has extended the life of the operating nut from a few months to years.



What is the best way to operate modulating gates?

Rodney Hunt generally recommends the use of hydraulic cylinders for this service. Hydraulic cylinders are made to oscillate and do not present the problem of stem nut wear. Fail-safe closure can be easily provided, something that is not as easily achieved with electric motor driven actuators.

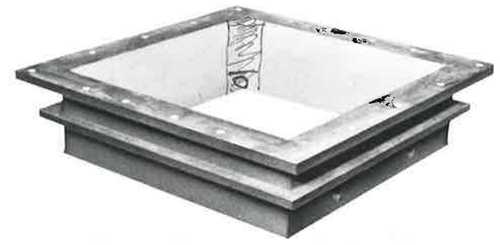
Are sluice gates suitable for throttling service?

Sluice gates can be used for throttling service up to at least 40 ft. without difficulty. However, for heads over 40 ft. excessive vibration may occur. This vibration can be damaging to the gates and can cause loosening of the stem guides, reducing the support of the stem.

Placing the gate so that it is under seating head during throttling conditions will help to reduce the tendency of the disc to vibrate. Stem guides should be pinned or dowelled to the bracket in severe applications to secure them against vibration.

What are the advantages of mounting a sluice gate on a wall thimble?

A wall thimble is a heavy cast iron fitting with a machined front face which has been drilled and tapped. It is cast into the concrete when the concrete is poured and provides a smooth, flat mounting surface for the sluice gate, eliminating most of the causes of distortion of the gate. An additional advantage, although not often realized, is the ease with which a gate is removed from the wall and reinstalled, if this becomes necessary. A wall thimble is an additional initial expense, but it eliminates the requirement for the contractor to form the opening so that the total additional cost is minimal.



Can a sluice gate be mounted to a cast iron pipe flange?

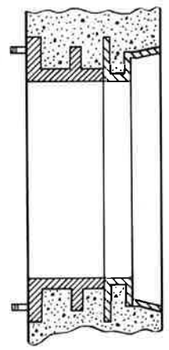
Yes. A cast iron flange is flat and rigid and is not likely to distort. The flange should be drilled and tapped if the front surface of the flange is going to be positioned flush with a concrete wall.

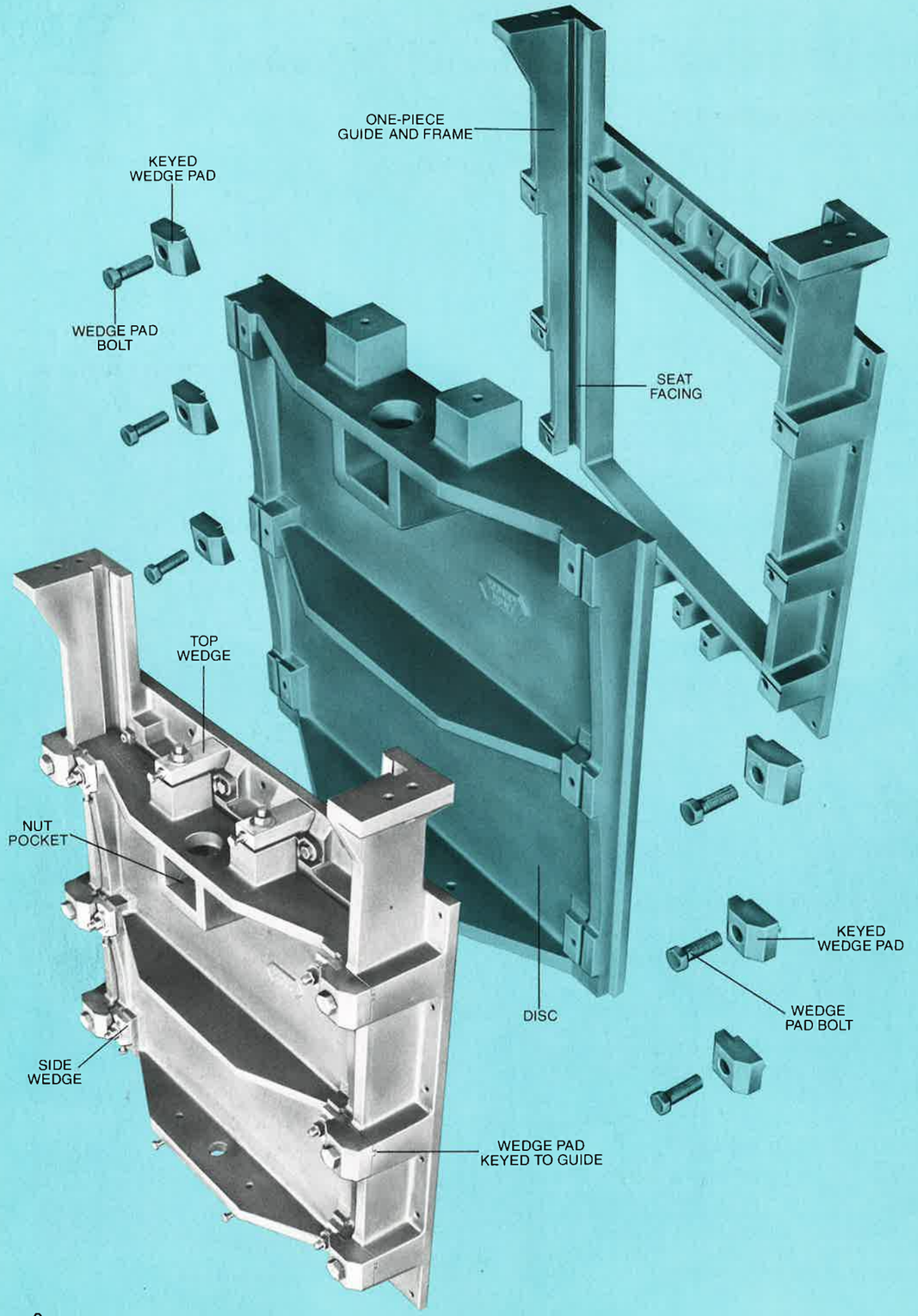
Does a welded steel flange provide a suitable mounting surface?

Unless the steel flange weldment is stress relieved and the face of the flange machined, the steel flange is not a suitable mounting surface. Regardless of the care used in the welding process the front flange will be distorted. If the sluice gate is mounted to this flange, distortion of the gate will result and excess leakage will occur.

How is a sluice gate mounted to a concrete pipe?

Reinforced concrete pipe is normally furnished with a steel spigot to fit into a flange and bell adaptor. Rodney Hunt recommends that the gate not be mounted directly to the flanged surface of this flange and bell adaptor. Instead, a cast iron wall thimble should be furnished to which the flange and bell adaptor can be butted or joined. This will result in a flat machined surface on which to mount the gate and the required bell end to match the spigot provided on the concrete pipe.





The Integral Frame Sluice Gate

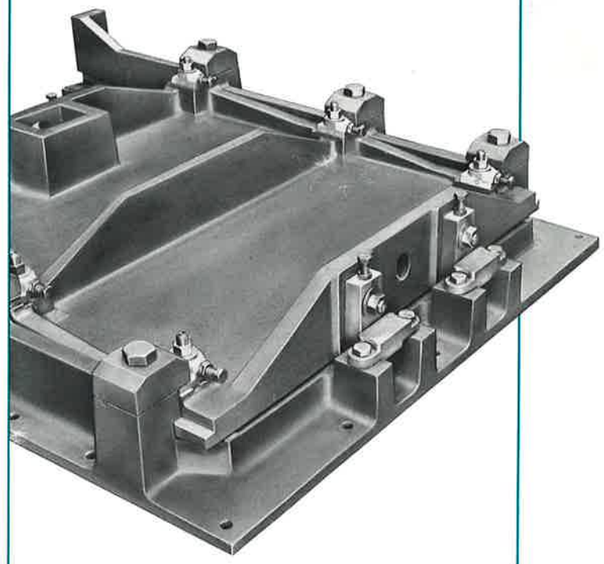
For Openings 60″ and Smaller

Rodney Hunt has designed an integral frame gate for openings 60" and smaller which can be used for most sluice gate applications. The gate makes use of a one-piece guide and frame with the wedge seats bolted to machined pads on the guides. Unlike similar designs, this pad is locked in place with a key and is bolted to prevent it from moving under stress. The gate has been designed to minimize the installation clearances required.

The wedging system used for the side, top and bottom wedges is the proven Rodney Hunt design where adjusting screws with lock nuts are used to precisely adjust the wedges and to lock them in place once adjusted. The gate can be furnished with or without top and bottom wedges; as a flush-bottom closure gate and as a self-contained gate.

The Integral Gate is provided with a flat frame for ease of installation.

View of Integral Frame Gate shows same wedge design used on all Rodney Hunt gates and the keyed wedge pad mounted to the frame.



The Wedge System

Adjustable wedges of high tensile strength cast bronze are furnished on all Rodney Hunt sluice gates. The number and location of wedges used on any gate depends on gate size and the amount and direction of water pressure acting on the sluice gate.

A gate subject to a seating head (a pressure which forces the disc and frame seats together) needs only side wedges to assure proper closure. Unseating heads, on the other hand, force the disc and frame seats apart, making additional wedges on top and bottom necessary.

There are exceptions. The HY-Q gate for unseating heads needs only top and side wedges because it makes use of a resilient seal rather than bronze seats at the invert. Gates in widths 24″ and under, subject to unseating heads, are usually supplied only with side wedges because of the support inherent in the short span of the disc.

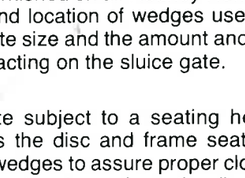
SIDE WEDGES

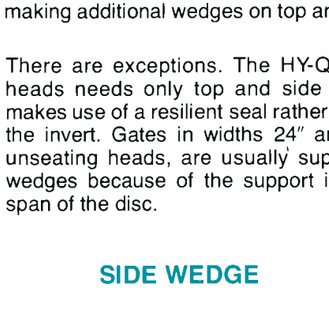
Side wedges are keyed directly to the sluice gate disc to prevent rotation. Because the wedge and its contact surfaces are machined to match the exact angle of the bronze wedge seat, misalignment of the wedge is not possible, even through faulty field adjustment. After the wedge has been properly set using the adjusting bolt, a lock nut and hold-down stud are used as a double-lock feature to insure permanent setting. The accuracy of this wedge system results in low unit pressures uniformly distributed over bearing surfaces.

TOP AND BOTTOM WEDGES

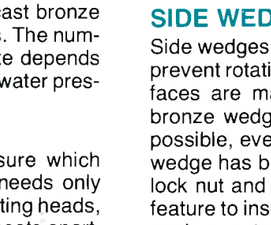
Both top and bottom wedges make use of a bronze wedge hook and wedge loop or seat. Top and bottom wedge seats are bolted directly to the cast iron frame and keyed so that they will not move under force. The wedge hooks are provided with an adjusting bolt with a lock nut to maintain the proper setting.

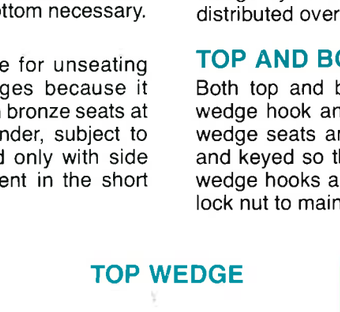
SIDE WEDGE



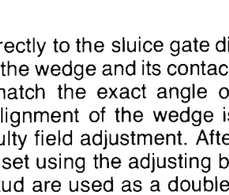


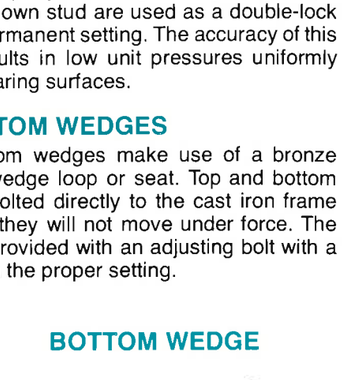
TOP WEDGE





BOTTOM WEDGE



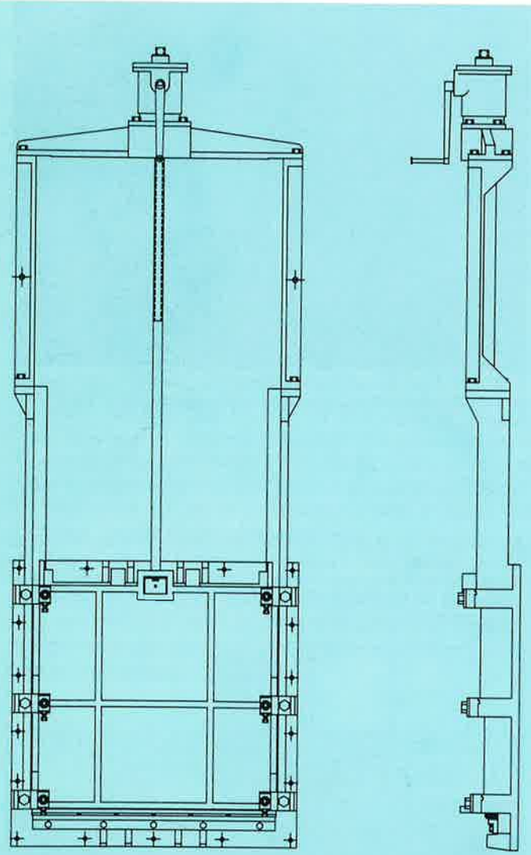


LEGEND **A.** BRONZE WEDGE **B.** BRONZE WEDGE SEAT **C.** BRONZE ADJUSTING SCREW WITH LOCK NUT **D.** HOLD DOWN BOLT **E.** BRONZE SEAT FACING **F.** GATE DISC **G.** GATE FRAME

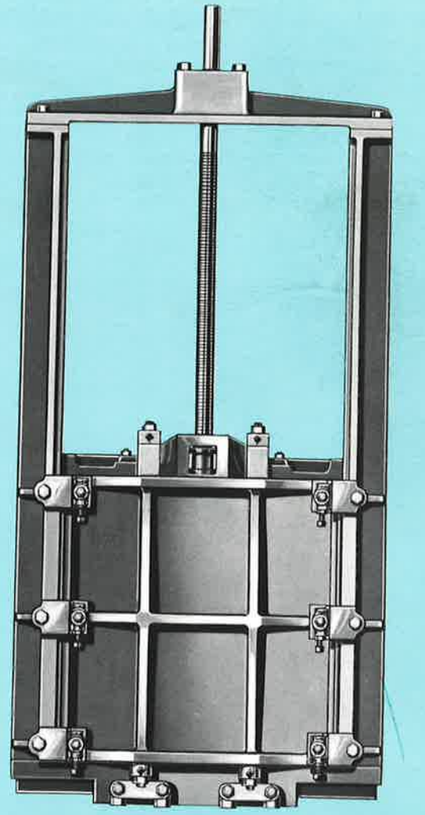
The Self-Contained Sluice Gate

The self-contained gate differs from other gates in that it absorbs the operating load created during opening and closing. This is accomplished through the use of a yoke, a supporting member mounted on the top of the extended guides. The thrust required to operate the gate is transmitted by the yoke and guides directly to the gate. In the conventional gate installation the load is absorbed by the floor or structure above the gate.

All Rodney Hunt sluice gates are available as self-contained gates with yokes and with rising or non-rising stems. The self-contained gate is useful where space above the gate installation, or the absence of structural supports, limits the use of a separate operating floor-stand or benchstand.



A self-contained gate has the same general features as a conventional gate. Its cast iron frame, disc and guides are identical except that the guides are extended to provide clearance for the sliding member in the open position. A cast iron or structural steel yoke is mounted on machined pads at the top of the guides. Opening thrusts are transferred through the yoke and guides to the gate. This arrangement eliminates the transmission of operating loads to the floor above.



Self-contained gates can be furnished with non-rising stems where there is inadequate clearance above the gate for a rising stem. Because the non-rising stem may be in the medium, it cannot be cleaned and lubricated and excessive wear of the thrust nut may result. For that reason, non-rising stems should be used only when there is no alternative.

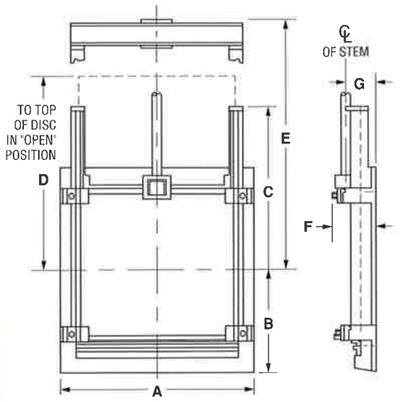
SLUICE GATES

Sizes 6”- 8”- 10”- 12”- 14”- 15”- 16”- 18”- 20”- 24”- 30”

SIZE	DESIGN HEAD FT.		DIMENSIONS						
WIDTH x HEIGHT INCHES (MILLIMETERS)	SEAT	UNSEAT	A	B	C	D	E	F	G
6 x 6 (150 x 150)	120	75	14 (356)	6 (152)	15-1/2 (394)	15 (381)	17 (432)	5-1/4 (133)	3 (76)
8 x 8 (200 x 200)	120	69	16 (406)	7 (178)	18-1/2 (470)	18 (457)	20 (508)	5-1/4 (133)	3 (76)
10 x 10 (250 x 250)	96	44	18 (457)	8 (203)	21-1/2 (546)	21 (533)	23 (584)	5-1/4 (133)	3 (76)
12 x 12 (300 x 300)	139	62	20 (508)	9 (229)	14 (356)	25 (635)	28-1/4 (718)	6-1/4 (159)	3 (76)
12 x 18 (300 x 450)	150	75	20 (508)	14 (356)	20 (508)	32-3/4 (832)	36-3/4 (933)	8-1/2 (216)	6 (152)
12 x 24 (300 x 600)	150	75	20 (508)	17 (432)	26 (660)	41-3/4 (1060)	49 (1245)	8-1/2 (216)	6 (152)
14 x 14 (350 x 350)	133	45	22 (559)	10 (254)	29 (737)	28 (711)	31-1/4 (794)	6-3/4 (171)	3-3/4 (95)
15 x 15 (375 x 375)	114	40	23 (584)	10-1/2 (267)	30-1/2 (775)	29-1/2 (749)	32-3/4 (832)	6-3/4 (171)	3-3/4 (95)
16 x 16 (400 x 400)	96	35	24 (610)	11 (279)	32 (813)	31 (787)	34-1/4 (870)	6-3/4 (171)	3-3/4 (95)
18 x 12 (450 x 300)	62	41	28 (711)	11 (279)	14 (356)	23-3/4 (603)	27-3/4 (705)	8-1/2 (216)	5-3/4 (146)
18 x 18 (450 x 450)	74	54	28 (711)	14 (356)	20 (508)	32-3/4 (832)	36-3/4 (933)	8-1/2 (216)	5-3/4 (146)
18 x 24 (450 x 600)	107	73	28 (711)	17 (432)	26 (711)	41-3/4 (1060)	45-3/4 (1162)	8-1/2 (216)	6 (152)
18 x 30 (450 x 750)	150	58	28 (711)	20 (508)	32 (813)	50-3/4 (1289)	54-3/4 (1391)	9 (229)	6 (152)
18 x 36 (450 x 900)	70	58	28 (711)	23 (584)	38 (965)	59-3/4 (1518)	63-3/4 (1619)	9 (229)	6 (152)
20 x 20 (500 x 500)	70	55	30 (762)	15 (381)	21 (533)	35-3/4 (908)	41-1/2 (1054)	8-1/2 (216)	6 (152)
24 x 12 (600 x 300)	54	41	34 (864)	11 (279)	14 (356)	24 (610)	31 (787)	8-1/2 (216)	6 (152)
24 x 18 (600 x 450)	60	55	34 (864)	14 (356)	20 (508)	33 (838)	40 (1016)	8-1/2 (216)	6 (152)
24 x 24 (600 x 600)	60	55	34 (864)	17 (432)	26 (660)	42 (1067)	49 (1245)	8-1/2 (216)	6-1/4 (159)
24 x 30 (600 x 750)	53	31	34 (864)	20 (508)	32 (813)	51 (1295)	58-1/4 (1480)	9-1/4 (235)	6-1/4 (159)
24 x 36 (600 x 900)	45	41	34 (864)	23 (584)	38 (965)	60 (1524)	67-3/4 (1721)	9-1/2 (235)	6-1/4 (159)
24 x 42 (600 x 1050)	84	47	35-1/2 (902)	26 (660)	44 (1118)	69 (1753)	82 (2083)	9-1/2 (235)	6-1/4 (159)
24 x 48 (600 x 1200)	78	56	35-1/2 (902)	29 (737)	50 (1270)	78 (1981)	91 (2286)	10 (254)	6-1/4 (159)
30 x 12 (750 x 300)	85	64	40 (1016)	11 (279)	14 (356)	24 (610)	31 (787)	8-1/2 (216)	6 (152)
30 x 18 (750 x 450)	46	43	40 (1016)	14 (356)	20 (508)	33 (838)	40 (1016)	8-1/2 (216)	6 (152)
30 x 24 (750 x 600)	54	29	40 (1016)	17 (432)	26 (660)	42 (1067)	49 (1245)	8-1/2 (216)	6-1/4 (159)
30 x 30 (750 x 750)	60	35	40 (1016)	20 (508)	32 (813)	51 (1295)	58-1/4 (1480)	9-1/4 (235)	6-1/4 (159)
30 x 36 (750 x 900)	60	40	40 (1016)	23 (584)	38 (965)	60 (1524)	67-3/4 (1721)	9-1/2 (241)	6-1/4 (159)
30 x 42 (750 x 1050)	56	38	41-1/2 (1054)	26 (660)	44 (1118)	69 (1753)	82 (2083)	9-1/2 (241)	6-1/4 (159)
30 x 48 (750 x 1200)	52	35	41-1/2 (1054)	29 (737)	50 (1270)	78 (1981)	91 (2311)	10 (254)	6-1/4 (159)

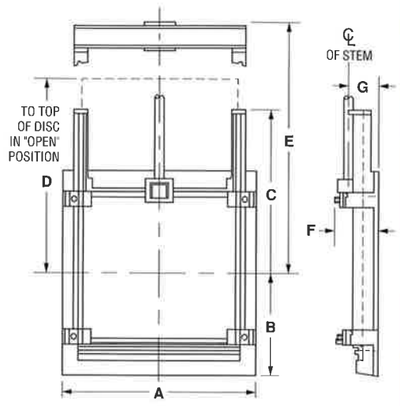
For gates 6 - 24” (150 - 600 mm) to be mounted on pipe flanges, the dimensions “F” and “G” are increased by 2-1/2” (64mm).

For 30” (750mm) gates to be mounted on pipe flanges, the dimensions “F” and “G” are increased 3” (76mm).



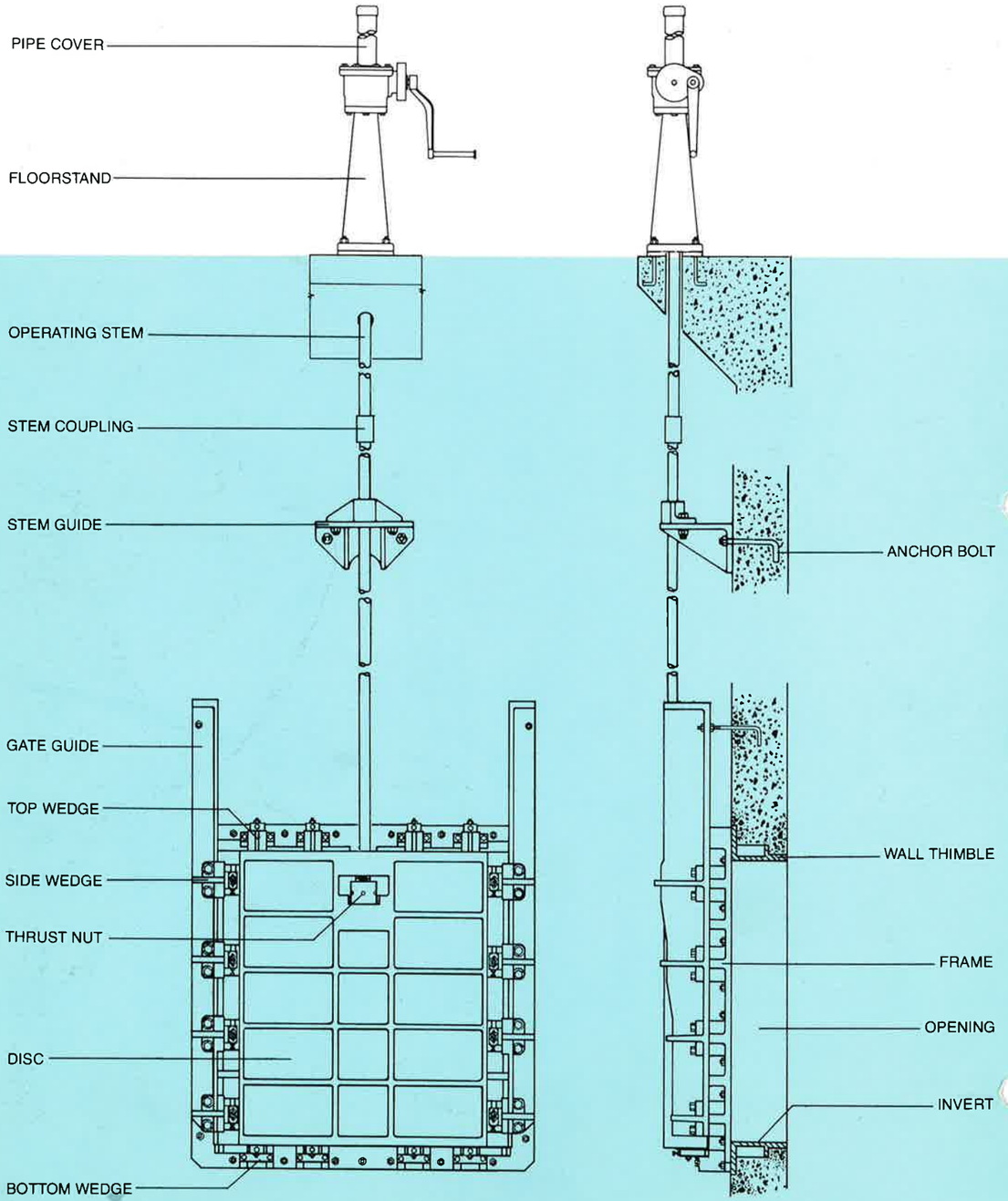
SLUICE GATES

Sizes 36”- 42”- 48”



SIZE	DESIGN HEAD FT.		DIMENSIONS						
WIDTH x HEIGHT INCHES (MILLIMETERS)	SEAT	UNSEAT	A	B	C	D	E	F	G
36 x 18 (900 x 450)	88	40	46 (1168)	14 (356)	20 (508)	33 (838)	40 (1016)	8-1/2 (216)	6 (159)
36 x 24 (900 x 600)	82	30	46 (1168)	17 (432)	26 (660)	42 (1067)	49 (1245)	8-1/2 (216)	6-1/4 (210)
36 x 30 (900 x 750)	60	36	46 (1168)	20 (508)	32 (813)	51 (1295)	58-1/4 (1480)	9-1/2 (241)	6-1/4 (210)
36 x 36 (900 x 900)	60	30	46 (1168)	23 (584)	38 (965)	60 (1524)	67-3/4 (1721)	9-1/2 (241)	6-1/4 (210)
36 x 42 (900 x 1050)	76	43	47-1/2 (1207)	26 (660)	44 (1118)	69 (1753)	82 (2083)	9-1/2 (241)	6-1/4 (210)
36 x 48 (900 x 1200)	65	30	47-1/2 (1207)	29 (737)	50 (1270)	78 (1981)	91 (2311)	10 (254)	6-1/4 (210)
36 x 48 (900 x 1200)	240	95	49-1/2 (1257)	30-3/4 (781)	51-1/2 (1308)	81-1/2 (2070)	93-1/2 (2375)	15-1/4 (387)	9-1/2 (241)
36 x 60 (900 x 1500)	213	84	49-1/2 (1257)	36-3/4 (933)	63-1/2 (1613)	99-1/2 (2527)	111-1/2 (2832)	16-1/2 (419)	9-1/2 (241)
36 x 72 (900 x 1800)	244	101	49-1/2 (1257)	42-3/4 (1086)	75-1/2 (1918)	117-1/2 (2985)	129-1/2 (3289)	16-1/2 (419)	9-1/2 (241)
42 x 24 (1050 x 1050)	90	21	53-1/2 (1359)	17 (432)	26 (660)	42 (1067)	48-1/4 (1226)	8-1/2 (216)	6 (152)
42 x 30 (1050 x 750)	88	25	53-1/2 (1359)	20 (508)	32 (813)	51 (1295)	58-1/4 (1480)	9-1/4 (235)	6-1/4 (210)
42 x 36 (1050 x 900)	88	24	53-1/2 (1359)	23 (584)	38 (965)	60 (1524)	67-3/4 (1721)	9-1/2 (241)	6-1/4 (210)
42 x 42 (1050 x 1050)	87	23	53-1/2 (1359)	26 (660)	44 (1118)	69 (1753)	82 (2083)	9-1/2 (241)	6-1/4 (210)
42 x 48 (1050 x 1200)	80	20	53-1/2 (1359)	29 (737)	50 (1270)	78 (1981)	91 (2311)	10 (254)	6-1/4 (210)
48 x 24 (1200 x 600)	58	21	59-1/2 (1511)	17 (432)	26 (660)	42 (1067)	49 (1245)	8-1/2 (216)	6-1/4 (159)
48 x 30 (1200 x 750)	60	32	59-1/2 (1511)	20 (508)	32 (813)	51 (1295)	58-1/4 (1480)	9-1/4 (235)	6-1/4 (159)
48 x 36 (1200 x 900)	62	27	59-1/2 (1511)	23 (584)	38 (965)	60 (1524)	67-3/4 (1721)	9-1/2 (241)	6-1/4 (159)
48 x 42 (1200 x 1050)	65	32	59-1/2 (1511)	26 (660)	44 (1118)	69 (1753)	82 (2083)	9-1/2 (241)	6-1/4 (159)
48 x 48 (1200 x 1200)	69	16	59-1/2 (1511)	29 (737)	50 (1270)	78 (1981)	91 (2311)	10 (254)	6-1/4 (159)
48 x 48 (1200 x 1200)	150	60	61-1/2 (1562)	30-3/4 (781)	51-1/2 (1308)	81-1/2 (2070)	93-1/2 (2375)	15-1/4 (387)	9-1/2 (241)
48 x 54 (1200 x 1350)	150	60	61-1/2 (1562)	33-3/4 (857)	57-1/2 (1461)	90-1/2 (2299)	102-1/2 (2604)	15-1/4 (387)	9-1/2 (241)
48 x 60 (1200 x 1500)	150	60	61-1/2 (1562)	36-3/4 (933)	63-1/2 (1613)	99-1/2 (2527)	111-1/2 (2832)	16-1/2 (419)	9-1/2 (241)
48 x 72 (1200 x 1800)	150	60	61-1/2 (1562)	42-3/4 (1086)	69-1/2 (1765)	117-1/2 (2985)	129-1/2 (3289)	16-1/2 (419)	9-1/2 (241)
48 x 84 (1200 x 2100)	150	60	61-1/2 (1562)	48-3/4 (1238)	75-1/2 (1918)	135-1/2 (3442)	147-1/2 (3747)	17-3/4 (451)	9-1/2 (241)
48 x 96 (1200 x 2400)	150	60	61-1/2 (1562)	54-3/4 (1391)	81-1/2 (2070)	153-1/2 (3899)	165-1/2 (4204)	17-3/4 (451)	9-1/2 (241)

For gates 36” (900 mm) - 48” (1200 mm) to be mounted on pipe flanges, the dimensions “F” and “G” are increased as follows:
36” (900 mm) — increase 3-1/2” (89 mm)
42” (1050 mm) — increase 4” (102 mm)
48” (1200 mm) — increase 4-1/4” (108 mm)



SLUICE GATE DIMENSIONS

Actual dimensions for sluice gates suitable for the design head listed are presented in this section of the catalog. It is now possible for the consulting engineer to choose a specific Rodney Hunt gate he desires and design the application accordingly.

The gates are listed by width with the various heights for each width gate indicated and the design seating and unseating heads are shown.

Example:

The installation requires a 60" x 72" gate for a head of 90 ft. seating and 32 ft. unseating. The 60" x 72" gate is shown on Page 14 and there are three heads for which this gate is designed; 80 ft. seating, 25 ft. unseating; 130 ft. seating, 45 ft. unseating; and 180 ft. seating, 90 ft. unseating. The proper gate for this application is a gate suitable for a head of 130 ft. seating and 45 ft. unseating.

The dimensions for this gate are shown. If the installation requirement was for 90 ft. seating only with no unseating head, then the same gate would be used but no top and bottom wedges would be furnished.

The sluice gates listed are not the only gates available from Rodney Hunt, but are the most common sizes and design heads. For information on gates not listed, please contact the Rodney Hunt representative in your area or the factory direct.

HOW TO SPECIFY

Because of the number of gates involved, the heads for which these gates are suitable and the several configurations in which the gate can be furnished, Rodney Hunt does not describe these gates by series numbers. The best way to describe the gate is by size of gate and the head for which it is designed, such as 60" x 72", 130-45. If the gate is to be flush-bottom closure the words HY-Q can be used following the design heads. This way the gate is positively designated.

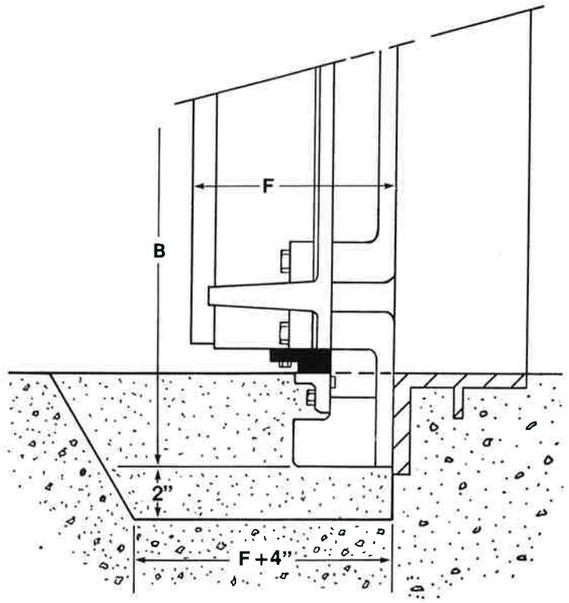
DESIGN HEAD VS. OPERATING HEAD

The design head is the maximum head the gate has been designed to withstand.

The operating head is the head under which the gate is to be opened and closed. The operating head is used to determine the size of hoist and stem that is required to operate the gate and should be listed in the project specifications in addition to the design heads.

FLUSH-BOTTOM CLOSURE SLUICE GATE

Where the flush-bottom closure sluice gate is used, it is necessary to provide a cut-out in the concrete beneath the opening. The dimensions of this cut-out depend upon the size of the gate; specifically, Dimensions B and F as given in the following tables. The drawing shown here illustrates the size of concrete cut-out for all gates based on these two dimensions.



Thank you for supporting the Department of Natural Resources!
DNR is committed to the wise use of the state's resources *and* our tax dollars.

As directed by State of Indiana procurement laws and Indiana Department of Administration (IDOA) policy, all entities ("suppliers") conducting business with DNR must be registered before we can finalize a solicitation award, create a purchase order, execute a contract, or make a payment.

WE GET IT: Doing business with the State can seem overwhelming.
Assistance is available through IDOA's ***Vendor and Supplier Resource Center*** at https://www.in.gov/idoa/3106.htm.

You'll also find registration forms and links, as well as detailed information on State bidding opportunities, purchasing terminology, supplier responsibilities, technical support, and more.

Communicating with DNR is easy.
Because DNR divisions and properties make their own procurement decisions, communicating directly with them about your products and services is best. Contact information is available on DNR's website at https://www.in.gov/dnr/.

Additionally, the DNR Division of Purchasing is happy to distribute electronic information on your behalf. Feel free to email your request to DNRPurchase@dnr.in.gov.

REGISTRATIONS TO BE A STATE SUPPLIER

1. Auditor of State (AOS)
Required for all suppliers, payments, and dollar amounts. **Complete the two forms listed below** to create a new account, update an inactive account, or modify information on an existing account (e.g. address, bank account, business name). Submit completed forms to your DNR contact person OR email them directly to DNRVendorForms@dnr.in.gov.

- ***Request for Taxpayer Identification Number and Certification*** (IRS W-9, October 2018)
- ***Automated Direct Deposit Authorization Agreement*** (State Form 47551; R7/5-18)

2. IDOA Bidder Profile
Required for purchases costing $1,500 or more and creation of a purchase order, grant, or contract, even if not technically "bidding" for anything. Upon registration, suppliers receive a unique ID which allows DNR to select them for purchase orders and payments. Suppliers can also complete information in their Bidder Profile to identify to the State what kind of business they are or products they sell.

3. Secretary of State (SOS) Business Registration
Except for Sole Proprietorships and General Partnerships, suppliers must register per IC 23-1-49-1 for purchases costing $1,500 or more and creation of a purchase order, grant, or contract. Suppliers may not need to register for a one-time purchase.

Indiana businesses are likely already registered. Out-of-state suppliers may need to register and/or secure an Indiana agent. Initial registration costs $90, with a $30 fee every two years to remain current. Contact the SOS for detailed advice.

4. Tax Clearances
DNR cannot issue a purchase order to or execute an agreement with a supplier who owes taxes to the State of Indiana. Suppliers must be current with all tax payments to the Indiana Department of Revenue (https://www.in.gov/dor/) and the Indiana Department of Workforce Development (https://www.in.gov/dwd/). DNR cannot provide tax-related information or advice.