



YASHWANT INDUSTRIAL WORKS PVT.LTD

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INSTALLATION MANUAL

Sluice Gates, Stop-logs & Screens

INTRODUCTION

During manufacture and assembly of equipment great care is taken to ensure accuracy in mating the sealing faces on frame and doors, especially on metal seated units. It is essential; therefore, that Sluice Gates should be erected accurately, free from distortion and treated with care. The sluice gates door must not be removed from the frame prior to erection. The Frame prior assembly must be kept together as one unit to provide the most rigid structure to avoid distortion / damage to the sealing faces during erection. If the sealing faces are distorted or damaged in any way during erection. If the sealing faces are distorted or damaged in any way during installation the degree or sealing / leakage attainable will be affected directly.

Through on the following pages we detail recommendations for installing the Sluice gates, Wall brackets and Hoist using foundation bolts are for guidance. The procedure can be adjusted according to actual site conditions.

If the Sluice Gates is not to be used for some considerable time after installation, due to other site activities It is suggested that the Sluice Gates door is well covered with tarpaulin sheets or similar to avoid foreign objects from loading on the top of gate and becoming entrapped between the seals causing consequential damage.

UNLOADING AND PACKING

Please unload all the material by using crane. Please use the holes and bolts are provided for unloading of the gates. Gate frame and Gate plate and packed together. Please unload the same in the same condition. While unloading please check all the material as per delivery challan. Packing should be removed only when the erection is to be commenced.

HANDLING AND STORAGE

If the Sluice Gates are not to be used immediately after unloading the same should be stored well covered with tarpaulin sheets. Other material like spindles, nut bolts, gunny bag, and hoist hand wheel indicator pipe should be stored in the safe place.

Place the thimble in the correct position in the forms and secure in place. The top and bottom center line is marked on the flange face and should aligned with the a plumb. The thimble should be flush or projecting slightly from the hand wheel face.

Use thimble or other bracing on the inside of the opening to support the thimble and prevent war page during the pour. This is particularly important on the larger thimbles or when the concert. Cover will be especially high. Plug the trapped holes in the thimble while pouring the concrete. After concrete is over the holes should be made free. Take care not to tilt or move thimble from its original position. Let the concrete set then clean the front machined face of the thimble.



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INSTALLATION OF WALL THIMBLE

Place the thimble in the correct position in the forms and secure in place. The top and bottom centre line is marked on the flange faces and should be aligned with a plumb. The thimble should be flush or projecting slightly from the headwall face.

Use thimble or other bracing on the inside of the opening to support the thimble and prevent warpage during the pour. This is particularly important on larger thimbles or when concrete cover will be especially high. Plug the tapped holes in the thimble while pouring the concrete.

After concrete is over the holes should be free. Take care not to tilt or move thimble from its original position. Let concrete set then clean that front machine face of the thimble.

INSTALLATION OF GATE ON THE WALL THIMBLE

Clean the back flange of the gate frame thoroughly. Apply a thin coat of grease on the front face of thimble and mount the complete assembled gate on the thimble. Place bolts and tighten uniformly (Normally tighten the diagonally opposite bolts) until a metal to metal contact is made. Fit foundation bolts projections are square. Place the nut on the foundation Bolts. Do not tighten it immediately. Once concrete is set then tighten the nut to the requirement.

FIXING OF LIFTING RODS / STEM/ GUIDE BRACKETS

After the gate has been mounted and shipping stops have been removed, place the lower end of stem with stem coupling in the gate plat.

Insert threaded stem into stem nut. Mount stem guide and grout packet. Check bolts projections are square. Place the nut on the foundation bolt. Do not tighten it immediately. Once concrete is set then tighten the nut to the requirement.

Install stem couplings as required. Make sure to tighten all the bolts with nuts of the coupling.

Take care, not to bend stems or damage threads during installation.

MOUNTING OF HEAD STOCK

Place the headstock assembly and guide assembly on the platforms insert the anchor bolts for both the assemblies and grout the packets. Check bolt projection are square. Place the nut on the anchor bolt. Do not tighten it immediately. Once concrete is set then tighten the nut to the requirement. The threaded end of the stem is already inserted in the stem nut. Fix the pointer on the spindle and fix the indicator pipe is threaded at the bottom side from the outside. Check nut is also provided for the indicator pipe. Fix the hand wheel on the work shaft of the headstock.

INITIAL SETTING OF GATE OPENING INDICATOR FOR RISING SPINDLE GATE

The indicator pointer is provided should be fixed in the threads provided the spindle at the end portion of the spindle. After the indicator pipe is fixed on the cap of the headstock please check the indicator on "O" mark. Do not open or close the gate for achieving "O" mark.



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FIELD ADJUSTMENT OF WEDGES

As we have to install the total assembly of the gate frame and Gate plate wedges adjustment is not at all required because all wedges are perfectly set before dispatch. If there are leakages due to frame being twisted while erection the wedges adjustment may be required.

The wedges on gate should be adjusted diametrically opposite each other commencing highest wedge on the side.

Firstly fixing bolt should be loosened and then adjusted bolts should be unscrewed. Close the gate plate on matching face of frames.

Tighten the adjusting bolts. Tighten the fixing bolts.

Check with feeler gauge again.

When the wedges are set the clearance should not exceed.

PNEUMATIC & ELECTRIC ACTUATOR

In case of use of actuator, please ensure that you have received the Instruction sheet for pneumatic or electric actuator separately from their respective manufacturer. Please see that you receive all the contact details of actuator manufacturer for any problems arise in future.

The top & bottom limit settings are to be done properly with the help of competent person who understands the electric functioning of actuator or call the actuator manufacturer's authorized person at extra cost.

Due to improper setting of limit switches of actuator it may cause the damage to the gate frame, Gate plate, wedges and other parts of the gate as well.

Also please see that sufficient support is provided to Gate Frame & Yoke sides with concrete. This will effect smooth working of Actuator & lifting the plate.

So utmost care has to be taken to mount & set the actuator.

FIELD ADJUSTMENT OF FLUSH BOTTOM CLOSING GATE

The seal is supported by Cast Iron bracket; The seal is held by stainless steel retainer bar bolted with Cast Iron bracket with stainless steel fasteners. Sealing pressure shall be varied by adjusting side and top wedges. Flush bottom assembly is not at all to be adjusted.

INITIAL OPERATION OF GATE AFTER COMPLETION OF INSTALLATION

Clean Sluice Gate, open fully and carefully remove all foreign matter from the faces and invert. The faces, wedging and sliding surfaces and the opening screw should then be well greased.

Every possible care should be taken to ensure that the faces are neither scratched nor damaged in any way. Otherwise Sluice Gate can not be expected to seal under pressure.

Now the gate is ready for use.



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MAINTENANCE INSTRUCTION

Each gate should be inspected thoroughly after every six months.

Spindles and other working components should be lubricated after every six months.

Use large diameter hand wheels should be avoided. The gates before regular use or after having been left standing for considerable length of time gate plate should be raised and foreign matter should be carefully removed. The contacting faces, spindles and other machined parts should be greased. Every possible care should be taken to ensure that the faces are neither scratched nor damaged.

ERRECTION AND COMMISSIONING INSTRUCTIONS

Thimble, gate frames, gate plates and all other parts of sluice gates should be unloaded from vehicle very carefully. Crane should be used for heavy items for unloading. The machined faces nut bolts etc. should not be damaged at all while unloading.

The gates are manufactured with great care to insure accuracy in mating the faces of the door and frame. It is very essential therefore that the gates should be accurately erected. Free from distortion and treated with the gates must not be dismantled for fixing.

The C.I. Thimble embedded in the concrete in the vertical line marked on thimble. The plumb line should be used for the front side (on which the gates frame is to be fixed on the thimble).

The gate frame & gate plate jointly should be erected and mounted on the thimble after the due setting of concrete / grout of thimble. The top of the gate frame should be embedded in the concrete by stainless steel foundation bolts for rest of the frame stainless steel bolts should be used for gate frame & thimble fixing.

After the grout is cured then tighten foundation bolt nut. Excessive tightness is not required.

Clear opening hoist open fully and carefully remove all foreign matters from faces, wedging, sliding surfaces and opening screw. The face of sliding surfaces and operating screw should then be well greased.

All wedges are perfectly set before dispatch.

The wedges on gate should be adjusted diametrically opposite each other commencing highest wedge on one side.

Firstly fixing bolts should be loosened and then adjusting bolts should be unscrewed. Close the gate plate on mating face of frame.

Tighten the adjusting bolts. Tighten the fixing bolts. Check with feeler gauge again. When the wedges are set the clearance should not exceed. Each gate should be inspected thoroughly After every six months; Spindle and other working components should be lubricated after every six months.

Use of large diameter hand wheels should be avoided. The gates before regular use or after having been left standing for considerable length of the gate plate should be raised and foreign matter carefully removed. The contacting faces, spindles and other machined parts should be greased. Every possible care should be taken to ensure that the faces are neither scratched nor damaged.



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DO'S AND DONT'S

Before Sluice gate is put into regular services or after having been left standing for considerable length of time the door should be raised and all foreign matter carefully removed from faces, guide grooves and the invert area. The sealing faces, guide wedge faces, screwed stems and any other machine parts should then be well greased.

Do not use large hand wheels, tee keys, other than those originally supplied.

Every Sluice gate should be operated at least once every three months and checked for signs of wear / corrosion every six months.

The nuts of all constructional and foundation bolts should be checked for tightness after every twelve months. On installations which are subjected to vibration due to high water velocity acting on the gate all the bolts / nuts should be checked more frequently for tightness. If the sluice gates are installed in situation where debris or foreign matter can be built up, we recommend that the Sluice gates should be periodically inspected.

The protection paint should be examined after every six months for signs of damage and be repainted as required.

The screw of each gate should be cleaned inspected for wear and regressed every six months. The grease nipples should be greased after every six months.

The stem nut should be checked after every twelve months for signs of wear and be replaced if necessary. Badly worn threaded shearing and cause the gate to fail without warning.

If frequency of operation is greater than this or operation condition, are more severe inspection should be carried out at shorter intervals to suit.

When the stem protection cover is supplied these should be removed every six months and the stem cleared inspected for wear and regressed prior to refitting of the cover.

Use of large diameter hand wheel should be avoided. The gates before regular use or after having been left standing for considerable length of time gate plate should be raised and foreign matters should be carefully removed. The contacting faces, spindles and other machined parts should be greased. Every possible care should be taken to ensure that the faces are neither scratched nor damaged.

HANDLING AND STORAGE

If sluice gates are not to be used immediately after unloading the same should be stored well covered with tarpaulin sheet. Other materials like spindle, nut bolt, gunny bag, hoist, hand wheel, etc. should be stored in safe place.

HEALTH SAFETY AT WORKS

NOTICE

Attention is drawn to the duty for which the equipment in this manual was designed. The equipment must be installed operated and maintained in accordance with recommendations given by us and we disclaim responsibility if any relevant information or advice given is disregarded and for using procedures other than those recommended.



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The equipment must only be used for duties within the scope described with all accessories properly aligned, fixed and inter faced, but should it be necessary to consider alternative we would be pleased reference and items affected.

INSTALLATION OF C.I/ M.S/ S.S/AL. SLUICE GATES

The gates are manufactured with great care to insure accuracy in mating the faces of the door and frame. It is very essential therefore that the gates should be accurately erected, free from distortion and treated with the gates must not be dismantled for fixing.

The gates assembly should be erected in concrete in the line with plumb than the gate should be placed the foundation bolts of gates frame should embedded into concrete.

After the growth is cured check frame and gate plate faces for the non-acceptance of feeler gauge and pack or wedge if necessary between wall and frame.

Carefully tighten each foundation bolt nut attending to opposing nuts in turns excessive tightness in not required.

Clean operating hoist open fully and carefully remove all foreign matters from faces, wedging, sling surfaces and operating screw should than be well greased.

Every care should be taken to ensure that the faces are neither scratched nor damaged. other wise the gates cannot be expected to seal under pressure.

WEDGES OF SLUICE GASTES

All wedges are perfectly set before dispatch. If there is leakage due to frame being twisted during erection this must be rectified before any wedges adjusted.

The wedges on gate should be adjusted diametrically opposite each other commencing highest wedge on one side.

Firstly fixing bolts should be loosened and then adjusting bolts should be unscrewed. Close the gates plates on matching face of frames.

Tighten the adjusting bolts. Tighten the fixing bolts.

Check with feeler gauge again.

When the wedges are set the clearance should not exceed.

GENEARAL MAINTANCE INSTRUCTIONS FOR SLUICE GATE

Each gate should be inspected thoroughly after every six months.

Spindles and other working components should be lubricated after every six months.

Use of large diameter hand wheels should be avoided. The gates before regular use or after having been left standing for considerable length of time gate plate should be raised and foreign matter should be carefully removed. The contacting faces, spindles and other machined parts should be greased. Every possible care should be taken to ensure that the faces are neither scratched nor damaged.

FIXING OF LIFTING RODS . STEM/ GUIDE BRACKETS

After the gate has been mounted, the lower end of stem in the gate plate. Joint gates plate and spindle by nut-bolts.



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Insert threaded stem into stem nut. Mount stem guide in order from the bottom up as stem is installed. Place the foundation bolts of stem guide and grout pocket. Check bolts projections are square. Place the nut on the foundation bolt. Do not tighten it immediately. Once concrete is set then tighten the nut to the requirement. Install stem couplings are required. Make sure to tighten all the bolts with nuts of the coupling.

Take care, not to bend stems or damage threaded during installation.

MOUNTING OF HEAD STOCK

Place the headstock assembly and guide assembly on the platform insert the anchor foundation bolts for both the assemblies and grout the pockets. Check bolt projection are square. Place the nut on the anchor bolt. Do not tighten it immediately. Once concrete is set than tighten the nut to the requirement. The threaded end of the stem is already inserted in the stem nut. Fix the hand wheel on the work shaft of the headstock.

DO'S AND DONT'S

Before Sluice gate is put into regular service or after being left standing for considerable length of time the door should be raised and all foreign matter carefully removed from faces, guide grooves and the invert area. The sealing faces, guide wedge faces, screwed stems and any other machine part should then be well greased.

Do not use large hand wheels, tee keys, other than those originally supplied. Every Sluice gate should be operated at least once every three months and checked for signs of wear / corrosion every six months.

The nuts of all constructional and foundation bolts should be checked for tightness after every twelve months. On installations which are subjected to vibration due to high water velocity acting on the gate all bolts / nuts should be checked more frequency for tightness.

If the Sluice gates are installed in situation where debris or foreign matter can be built up, we recommend that the Sluice gate should be periodically inspected.

The protection paint should be examined after every six months for signs of damage and be repainted as required.

The screw of each gate should be cleaned inspected for wear and re-greased every six months.

The grease nipples should be greased after every six months.

The stem nut should be checked after every twelve months for signs of wear and replaced if necessary. Badly worn threads shearing and cause the gate to fail without warning.

If frequency of operation is greater than this or operation condition, are more severe inspection should be carried out at shorter intervals to suit.

When the stem protection cover is supplied these should be removed every six months and the stem cleaned inspected for wear and re-greased prior to refitting of the cover.

Use of large diameter hand wheel should be avoided. The gates before regular use or after having been left standing for considerable length of time gate plate should be raised and foreign matters should be carefully removed. The contacting faces, spindles and other machined parts should be greased. Every possible care should be taken to ensure that the faces are neither scratched nor damaged.

For YASHWANT INDUSTRIAL WORKS PVT.LTD.