



Rodney Hunt
A GA Industries Company
Fabricated Timber Gates

Timber Gates

Fabricated



General Features of Fabricated Timber Gates



Many Rodney Hunt Fabricated Timber Gates throughout the country have given continuous service for more than fifty years. While metal gates are primarily recommended for their permanency and strength, particularly for severe conditions under high head or unseating pressures, Fabricated Timber Gates are economical, durable and have unique corrosion-resistant properties.

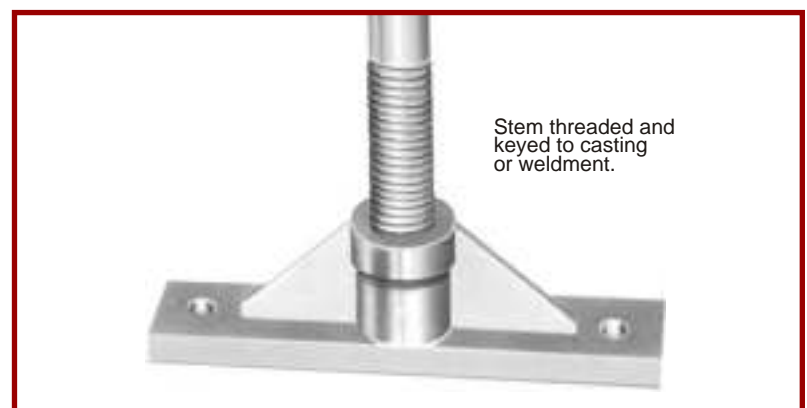
Supplied for seating pressures only, all Rodney Hunt Fabricated Timber Gates are constructed of selected timbers, specially planed on all surfaces to exact dimensions and rigidly keyed with wooden splines running the entire length of the timbers. Metal tie rods extend from top to bottom of the gates and are fastened at each end to hold the individual timbers securely together. Design is limited only by the width and height of the opening and the availability of select material in the necessary sizes. In general, timber gates are designed in widths to 7 feet for 25-foot seating head applications. Larger gate sizes in widths to 14 feet may be practically applied when static heads do not exceed 10 to 15 feet.

Timber gates can also be provided with the same type of flush-bottom closure that has made Hy-Q® Cast-Iron Sluice Gates the standard of the industry. The Hy-Q design features a wide compressible resilient seal on the bottom of the gate disc that assures a positive seal.

Rodney Hunt Fabricated Timber Gates are available with any of three different types of guides - cast iron, steel or timber. The gates may be operated either by manual or electrical hoists.

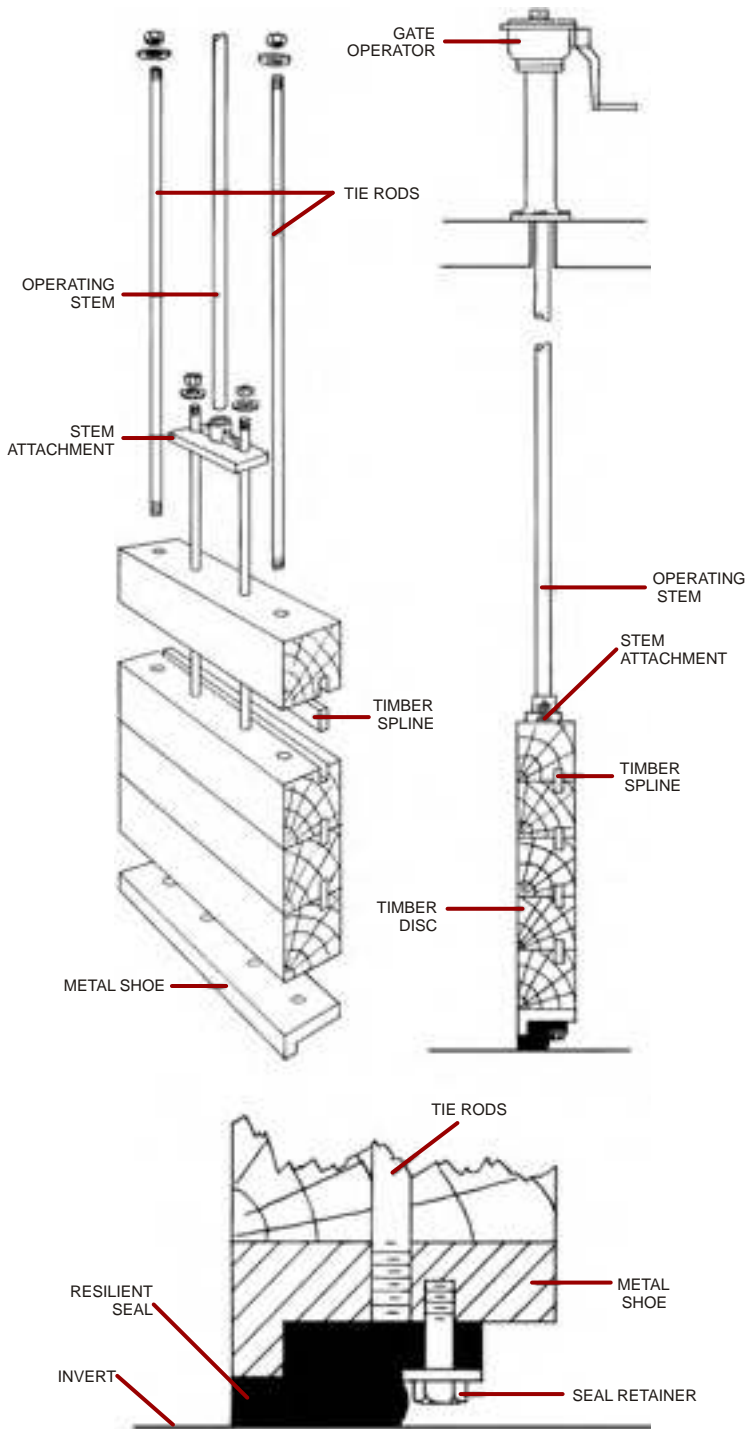
STEM ATTACHMENTS

The method of attaching the stem of a Fabricated Timber Gate to the gate disc is shown here. Stems are equipped with machine-cut Acme threads for use with manual or motor-operated floor or bench stand hoists.



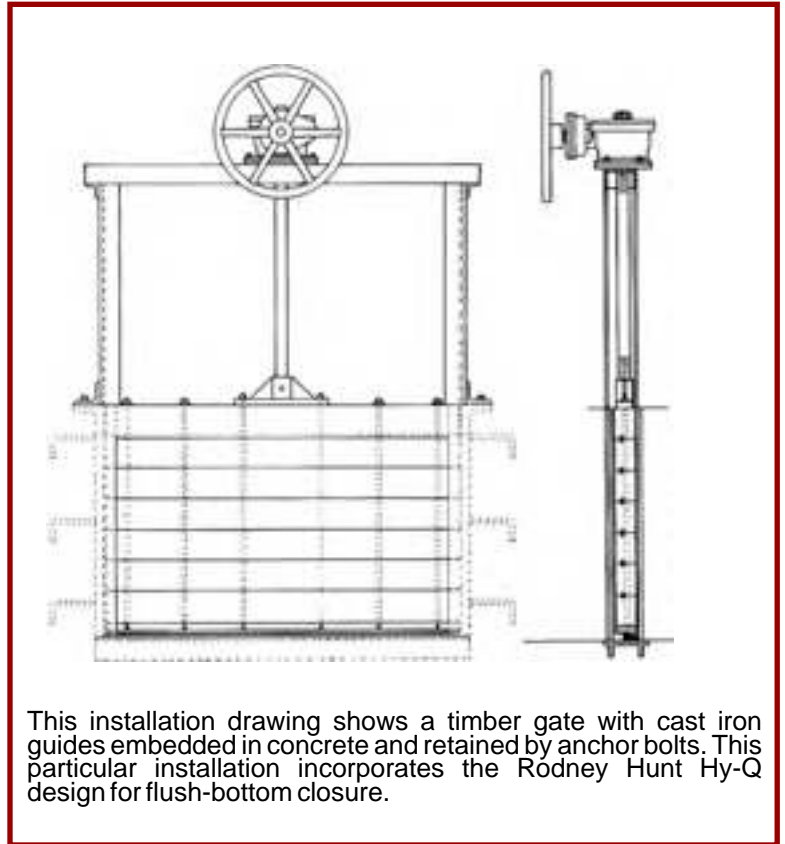
Principal Parts

The principal parts of a Rodney Hunt Fabricated Timber Gate are shown in the diagram below. Note the metal shoe attached to the underside of the bottom timber that cuts through dirt and silt to insure full seating.

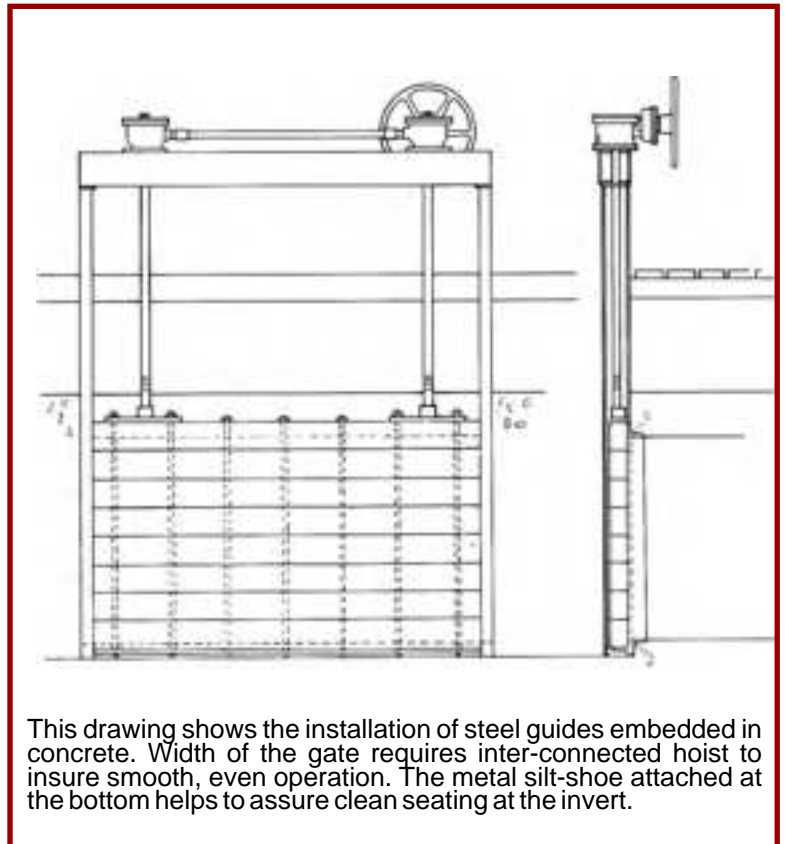


Flush-bottom closure is provided by a compressible seal on the bottom of the gate disc.

Typical Installations



This installation drawing shows a timber gate with cast iron guides embedded in concrete and retained by anchor bolts. This particular installation incorporates the Rodney Hunt Hy-Q design for flush-bottom closure.



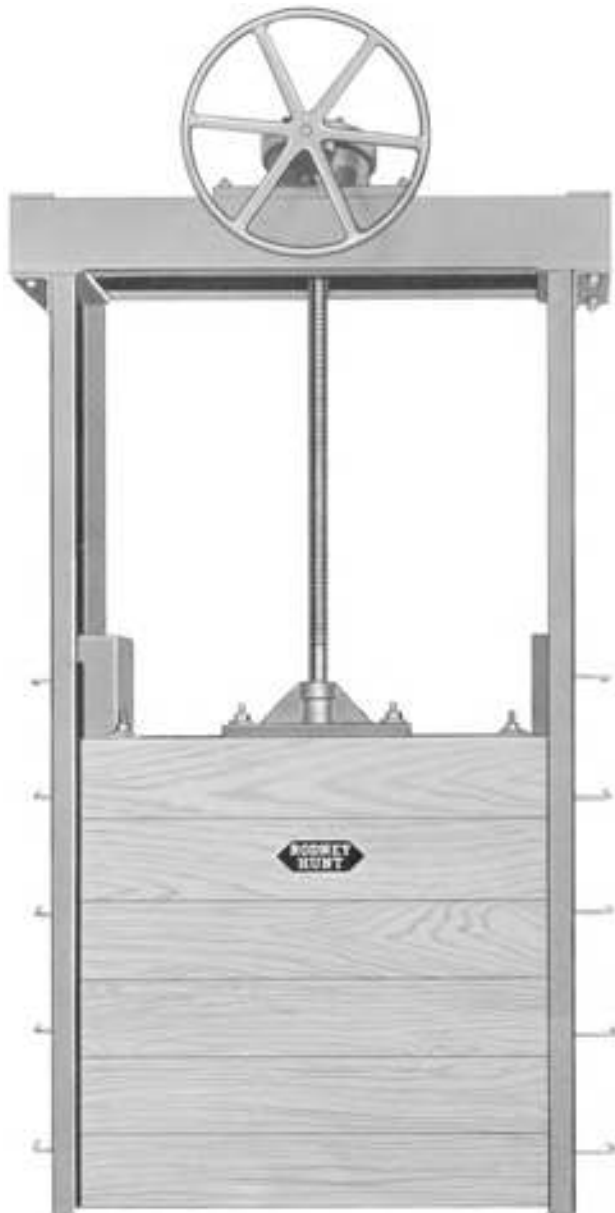
This drawing shows the installation of steel guides embedded in concrete. Width of the gate requires inter-connected hoist to insure smooth, even operation. The metal silt-shoe attached to the bottom helps to assure clean seating at the invert.

Fabricated Timber Gates Series 900



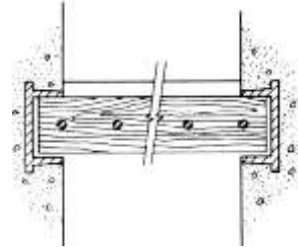
Series 900 represents a complete line of Rodney Hunt Fabricated Timber Gates in which the disc is constructed of wood members. These gates are available with any of three basic types of guides - cast iron (Series 920), steel (Series 940) or timber (Series 960). In addition, each of these guides is available with either of two closure styles, identified in the series number by a third digit. For example, gates with cast-iron guides are designated Series 921 when they have resilient-seal flush-bottom closure, Series 922 with silt-shoe closure.

Fabricated Timber Gates are furnished for seating pressures only and are available in sizes ranging from 24" x 24" to 168" x 168". Timber gate sizes are specified in terms of the clear opening controlled by the gate and are always written: Width x Height. Because the selection of the proper gates to satisfy individual project requirements depends on many factors, you should consult a Rodney Hunt engineer to insure the most suitable installation at the most economical investment.



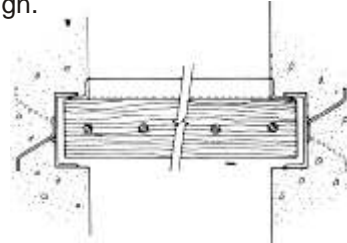
Series 920 Cast Iron Guides

The basic design of Series 920 gates features cast-iron guides to provide a strong and durable installation. Guides, machined their full height, insure straight, smooth travel for the timber disc in opening and closing. The cast-iron guides allow for wide flexibility in design to accommodate a complete range of timber gate thickness from 2 inches to 16 inches.



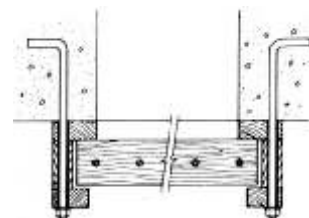
Series 940 Steel Guides

The all-steel guides have the advantage of using standard structural steel shapes to provide a strong installation with maximum economy. Costs are further minimized by the fact that the guides need no machining - one face of a steel angle provides a bearing surface on which the timber disc slides. The use of steel in conjunction with the timber disc provides a great flexibility in design.



Series 960 Timber Guides

Since Series 960 gates are fabricated mostly of timber members, they are usually more economical than those with metal guides. However, they are not so versatile since it is not practical to embed a timber frame in newly placed concrete.

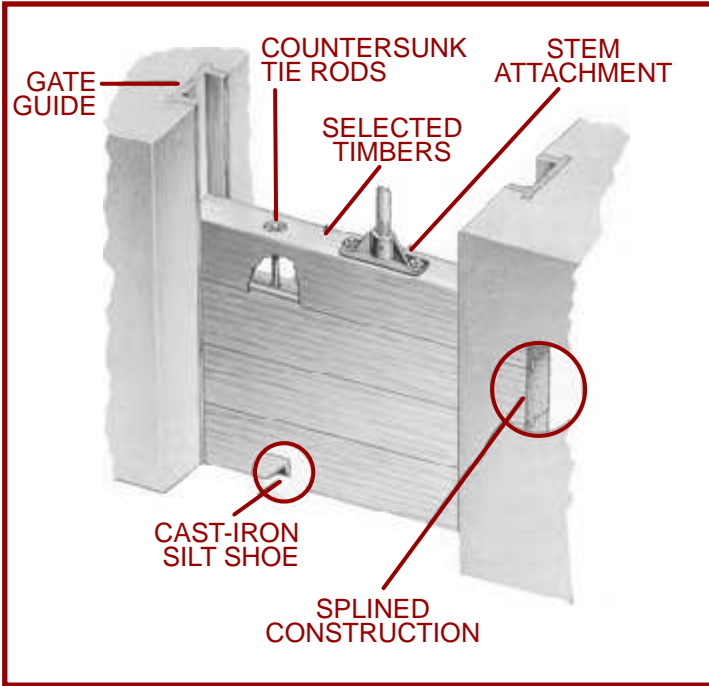


Continued...

Specifications

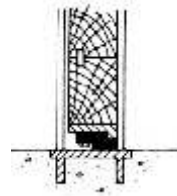


Fabricated Timber Gates, where shown on the plans or indicated in the specifications, shall be of the Series 9 . . . (fill in appropriate series number) for seating pressures as manufactured by Rodney Hunt Company, Orange, Mass. The sliding disc shall be of rod and splined construction with disc members of (specify type of wood required). Frame and guide assembly shall be of cast iron, fabricated steel or fabricated timber (select one). The gate disc shall be provided with either silt-shoe closure or a compressible resilient seal for flush-bottom closure (select one). The splined face of the disc shall be installed facing up-stream.



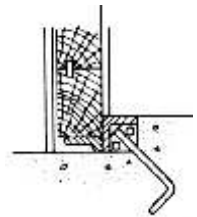
The diagram above illustrates some of the particular features of Rodney Hunt Fabricated Timber Gates

Series 921 Cast Iron Guides



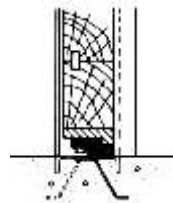
...with resilient-seal flush bottom closure

Series 922 Cast Iron Guides



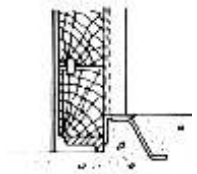
...with silt-shoe closure

Series 941 Steel Guides



...with resilient-seal flush bottom closure

Series 942 Steel Guides



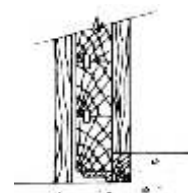
...with silt-shoe closure

Series 961 Timber Guides



...with resilient-seal flush bottom closure

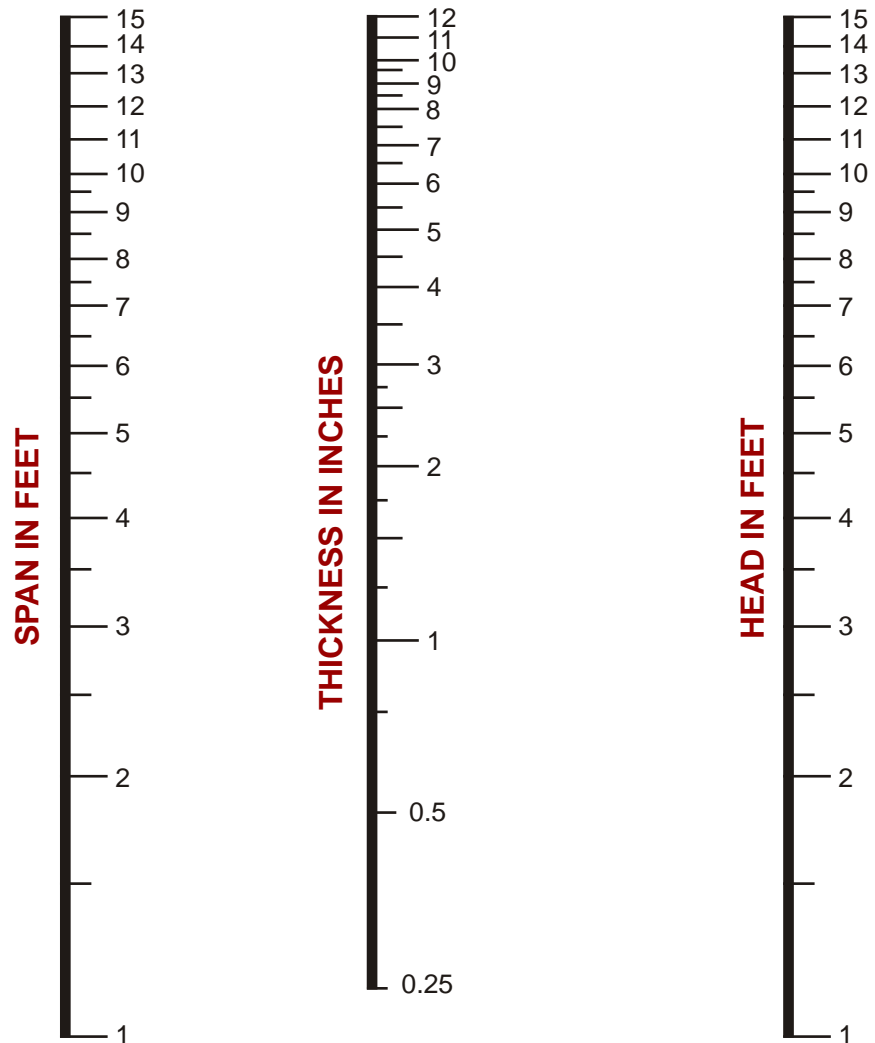
Series 962 Timber Guides



...with silt-shoe closure

Timber thickness for Various Heads and Various Spans

This nomograph will allow the selection of proper timber thickness for timber gates of different widths or spans under a specified head. The span is the width of the opening in feet, and the head is the depth of water above the invert of the gate. The nomograph is based on an allowable working stress of 1200 psi, a conservative figure for the yellow pine, cypress and Douglas Fir woods normally used in this construction. A straight edge connecting these two figures will result in the thickness of timber required. Since timbers have a nominal thickness, the next larger nominal thickness is used. The same nomograph can be used for stop logs or flash boards.



Wood Preservation

Wood structures operating under conditions conducive to decay can have their life expectancy greatly extended by treatment with a wood preservative. Rodney Hunt suggests that the wood be pressure impregnated with Wolman® Wood Preservative Chemical. This preservative has been used successfully for nearly 50 years. It is nontoxic, does not leach out of the wood and is not affected by sunlight or submergence. It resists rot, decay and termite attack. Wolmanized® pressure treated wood is in compliance and conformance with all applicable government and industrial regulations, standards and specifications.

ALLOWABLE WORKING STRESS (psi)				
TIMBER	PARALLEL TO GRAIN			PERPENDICULAR TO GRAIN
	COMPRESSION	TENSION	SHEAR	COMPRESSION
YELLOW PINE	1550	2000	135	455
DOUGLAS FIR	1466	1733	133	300
GREENHEART	3000	3300	400	1500

Timber Flap Valves

Series FV-T

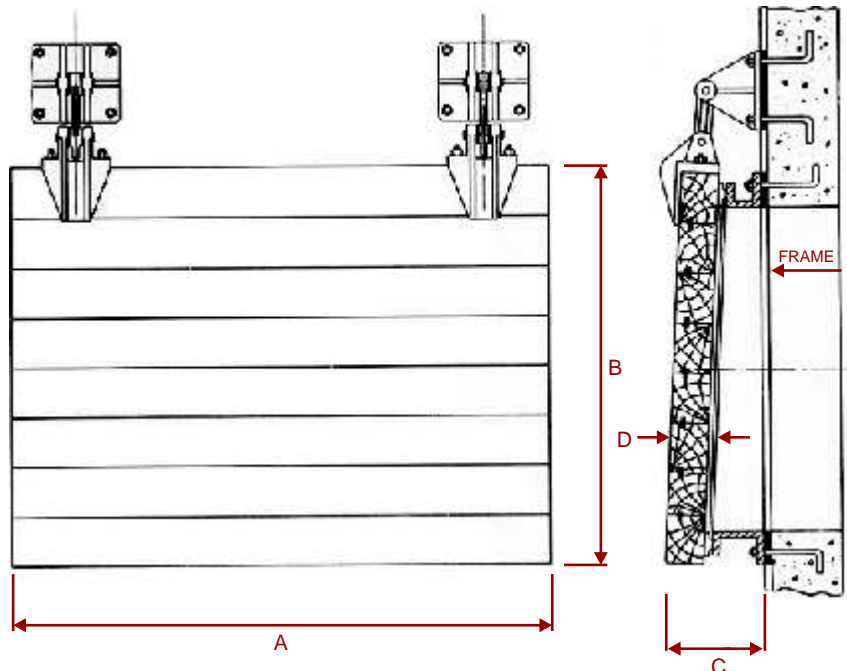


Rodney Hunt Fabricated Timber Flap Valves are a swinging or hinged type of valve constructed of timber for rectangular openings. Also known as backwater gates or tide gates, they are used to prevent backflow at the end of outfall lines or between chambers. They open easily under slight head differential and close by themselves when reverse flow tends to re-enter the waterway. Because of this self-closing feature, they can be used to advantage as flood control valves. The selected treated timber used is extremely durable, and noncorrosive hardware is used throughout. Timber flap valves can also be provided with a resilient seal around the frame or the disc to give a tighter closure of the valve. The practical design limits are established by the width and height of the opening and the availability of select material in the necessary sizes. An economical choice, Rodney Hunt Fabricated Timber Flap Valves have been field-proven in hundreds of installations.



TIMBER FLAP VALVE DIMENSIONS

Width x Height	A	B	C	D
36x48	46	58	13	3¼
36x60	46	70	13½	3¼
48x48	58	58	13¾	4½
48x60	58	70	14¼	4½
60x36	70	46	14	5½
60x48	70	58	14¾	5½
60x60	70	70	15¼	5½
72x48	82	58	14¾	5½
72x60	82	70	15¼	5½
72x72	82	82	16	5½
84x48	94	58	17¾	7½
84x60	94	70	18¼	7½
84x72	94	82	19	7½
84x84	94	94	19½	7½
96x48	106	58	17¾	7½
96x60	106	70	18¼	7½
96x72	118	82	19	9½
108x36	118	46	19	9½
108x48	118	58	19¾	9½
108x60	118	70	20¼	9½
120x72	130	82	21	9½
120x84	130	94	21½	9½



Operation and Maintenance of Timber Gates and Flap Valves



Timber Gates and Flap Valves

Once Rodney Hunt timber gates or timber flap valves have been installed, they require very little maintenance and should give a long useful life. The gates should be operated periodically to prevent build-up of corrosion in the guides, and to clear away debris that may be collecting against the seating side of the gate. Care should be taken during closure of both of these valves since any type of debris caught between the timber gate and the frame will prevent the gate from closing. The timber gates and flap valves should be inspected every two years to determine that the timbers have maintained their soundness and that the fasteners have not seriously corroded.

The operating stems on timber gates should be cleaned and lubricated every six months. Suitable stem greases include Shell Alvania 2EP, Tidewater Tycol Azepro 11,

Mobilox Grease 2EP, and Ashland Valvoline Val-Lith 2EP.

Flap valves require no maintenance other than yearly lubrication of the hinge arms with a high grade, water repellent bearing grease.

Manual operated floor stands are supplied with high pressure grease fittings located on the operating and spur gear case. These floor stands or bench stands should be lubricated with a high-grade pressure grease which is impervious to water and suitable for a temperature range from -30° to + 100°.

Electric motor driven operators should be serviced in accordance with manufacturer's instruction manual included with the unit.

Rodney Hunt products have an unparalleled reputation for trouble-free operation in thousands of municipal, industrial, and power installations around the world. Rodney Hunt water control equipment covers a broad range of products and support systems.

The information herein is, to our knowledge, true and accurate. However, Rodney Hunt Company makes no warranties or representation, expressed or implied, other than those set forth in the specifications of a formal quotation. No agent, representative or employee of this company is authorized to vary the terms of this notice.