

A60.10.0-1

SLIDE AND FIXED-WHEEL GATES

Flow control and protection in hydraulic systems

Function

Slide and Fixed-Wheel Gates are the best known hydro-mechanical equipment in hydraulic sites. They perform the control and the protection of channels, water intake, dams and in other irrigation, sewage, or energy hydraulic systems.

Construction

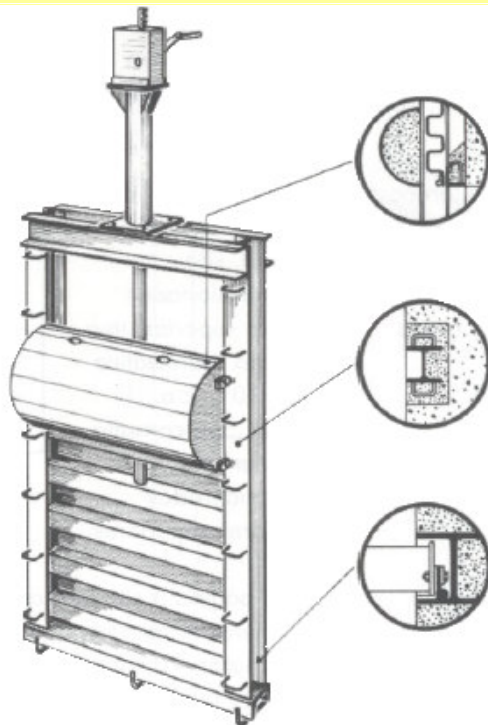
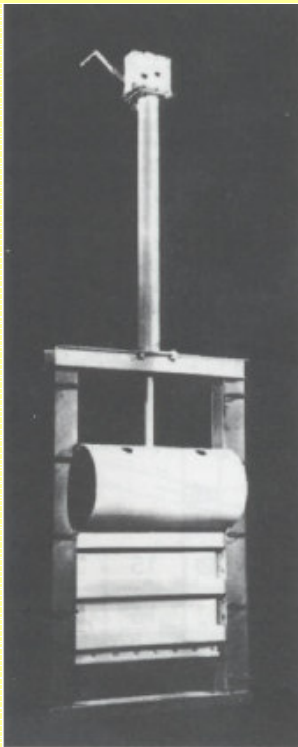
Due to the variety of sizes and

types, **hydrostec** has developed a range of special Slide and Fixed-Sheel Gates which offer the market the best delivery, price, and quality conditions.

The Slide and Fixed-Wheel gates are welded assemblies of carbon steel plates, pipes and rolled shapes. The monoblock design conception links the embedded parts, the gate and the hoisting device to make assembly easier. The

required structures of civil works are with simple and easy to make.

A very good watertightness is achieved by employing special section rubber seals. The slide gates come with brass or copper lined heads to decrease the sliding friction loads.



Discharge
Maximum assured by a special intake structure.

Assembly
Simple and fast

Water tightness
Excellent assured by a special section rubber seal

The embedded parts are provided with stainless steel seats for the rubber seal contact.

Large gates and/or gates for high hydrostatic loads are of the fixed-wheel type and they are provided with four wheels mounted on self-lubricating bushings or rollers bearing with stainless steel shafts.

The gates hoist, depending on the loads, the sizes, and operational requirements, may be:

- Manual,
- Motorized with electrical actuator,
- Motorized with hydraulic or pneumatic actuator.

The motorized gates operation can be with local or remote control and/or with automatic control system.

Specification

For the Slide and Fixed-Wheel Gate choice, the following information is required:

Gate type:

- Bottom slide gate: VG
- Surface slide gate : VGS
- Fixed-Wheel gate: VW

Installation type: against a wall or in a span between vertical walls.

The gate span dimensions:

- Width x Height of the bottom gate hole,

- Span width x gate height for surface gate,
- The height between the operational floor and the gate sill,
- Upstream water level,
- The sealing rubber assembly side (upstream side, downstream side or double side sealing)

Manufacturing range

The gates may be provided with square or rectangular sections, typically wider than they are high. The practical limit to construct slide gate is L x H= 3150 x 1600mm. For larger dimensions, please contact us or use fixed-wheel gate (with wheel) to decrease the hoisting load. The bottom gates can also be used for closing waterways with circular section. In this case, the embedded parts are supplied with a cylindrical liner.

In general, the bottom gates are dimensioned for a hydrostatic load of 10m. (1 bar). Higher values may be considered after consultation.

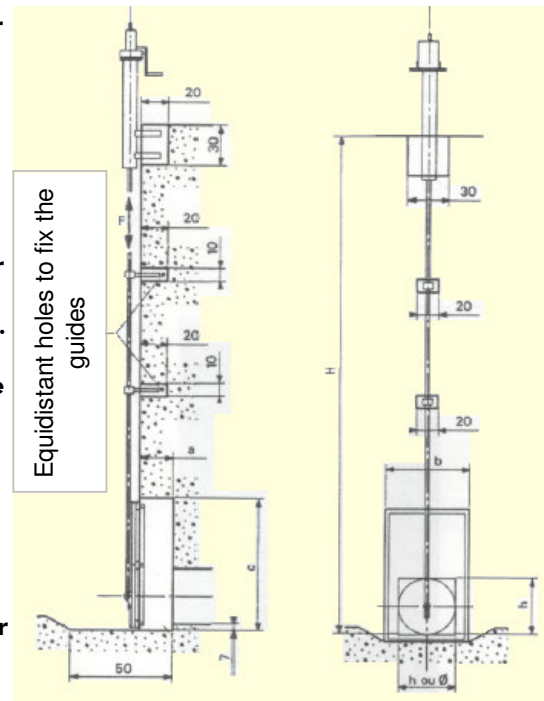
The recommended dimensions of grooves and concrete structure to be provided in the civil works for

certain flat gate sizes are shown in the following page. For other dimensions please to consult us.

In the last page we can see some typical installation sketches for slide and fixed-wheel gates.

Slide gates for small spans

For small spans, we provide a variety of slide flat gates measuring 15 x 15 to 40 x 40 cm and with walkway height less than 20m. The layout and dimensions are shown below:

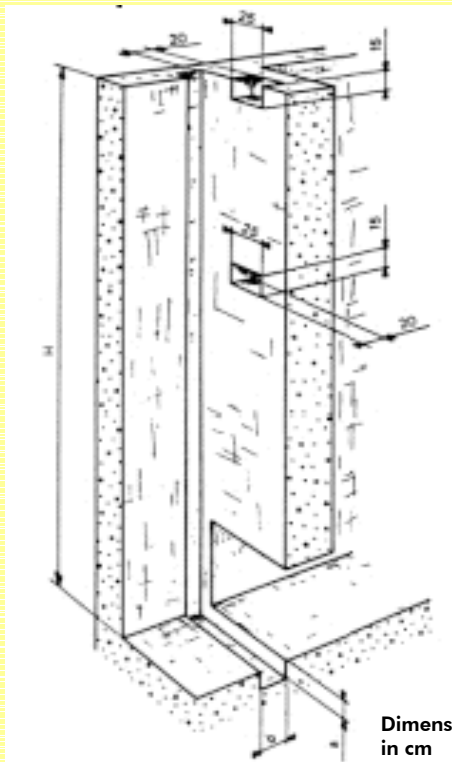


Dimensions in cm

h or Ø	15	20	30	40
a	15	15	20	25
b	30	40	50	60
c	45	60	80	100

Slide and fixed-wheel gate – Civil engineering structure

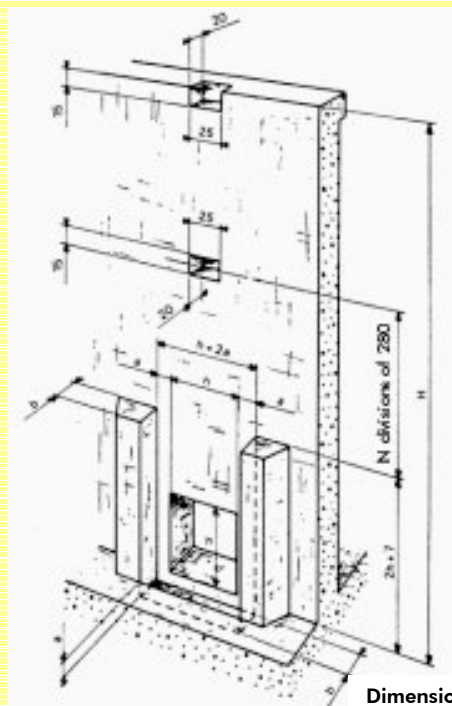
Installed in a span between two vertical walls



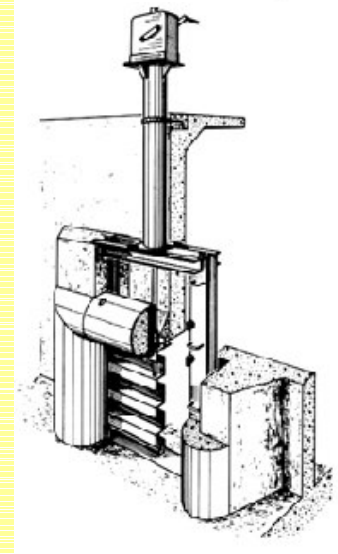
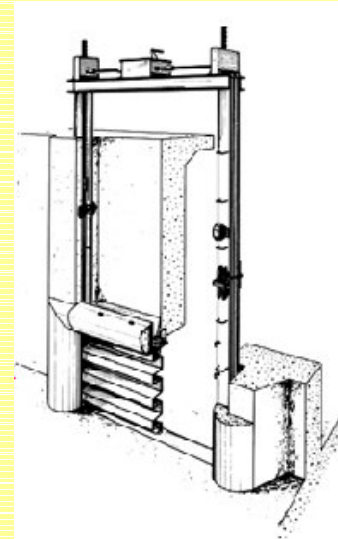
Dimensions in cm

	h x h mm	a cm	b cm
Bottom slide gate VG	500 x 500	12	25
	630 x 630	12	25
	800 x 800	15	28
	1000 x 1000	15	28
	1250 x 1250	18	35
	1400 x 1400	18	35
	1600 x 1600	22	40
Fixed-wheel gate VW	1600 x 1600	35	60
	1800 x 1800	35	60
	200 x 2000	35	60
	2200 x 2200	35	75
	2500 x 2500	40	85
VGS	1000 x 1000	12	25
	à 2700 x 1800		

Installed against wall



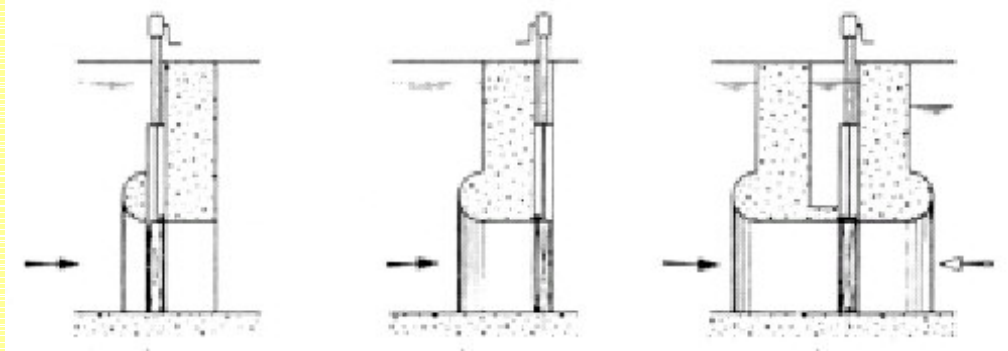
Dimensions in cm



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Slide and fixed-wheel gate – Installation sketch

Bottom gates – Sealing direction



downstream

upstream

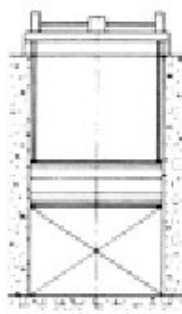
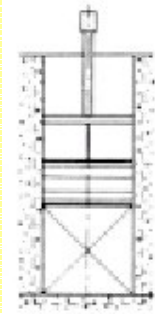
double sealing : upstream and downstream

Civil engineering structure forms

Installed in a span between two walls

Simple actuator

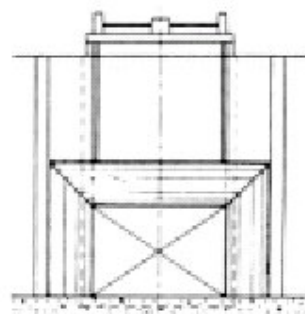
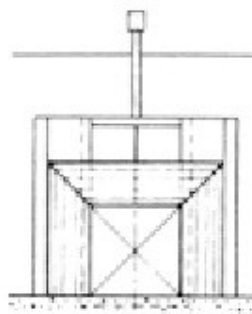
Double actuator



Simple actuator

Wall gates

Double actuator

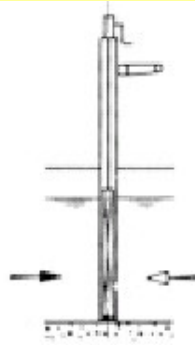


Surface gates – Sealing direction

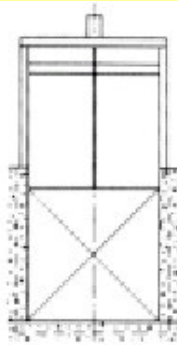
Civil engineering structure forms



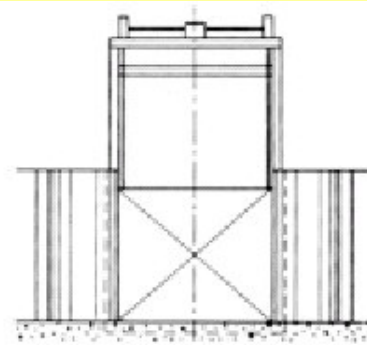
Downstream



upstream and downstream



Gates in span between two vertical walls



Wall gates (intake): mounted between two walls