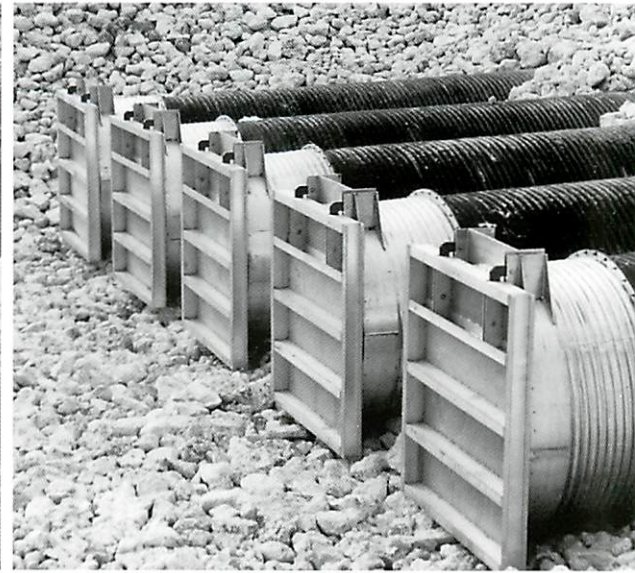
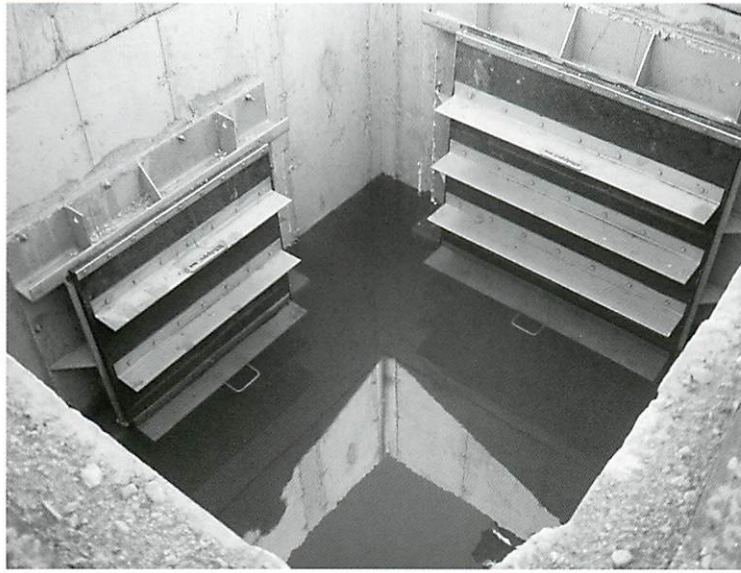


Flap Gates

Series 450



Whipps, inc.

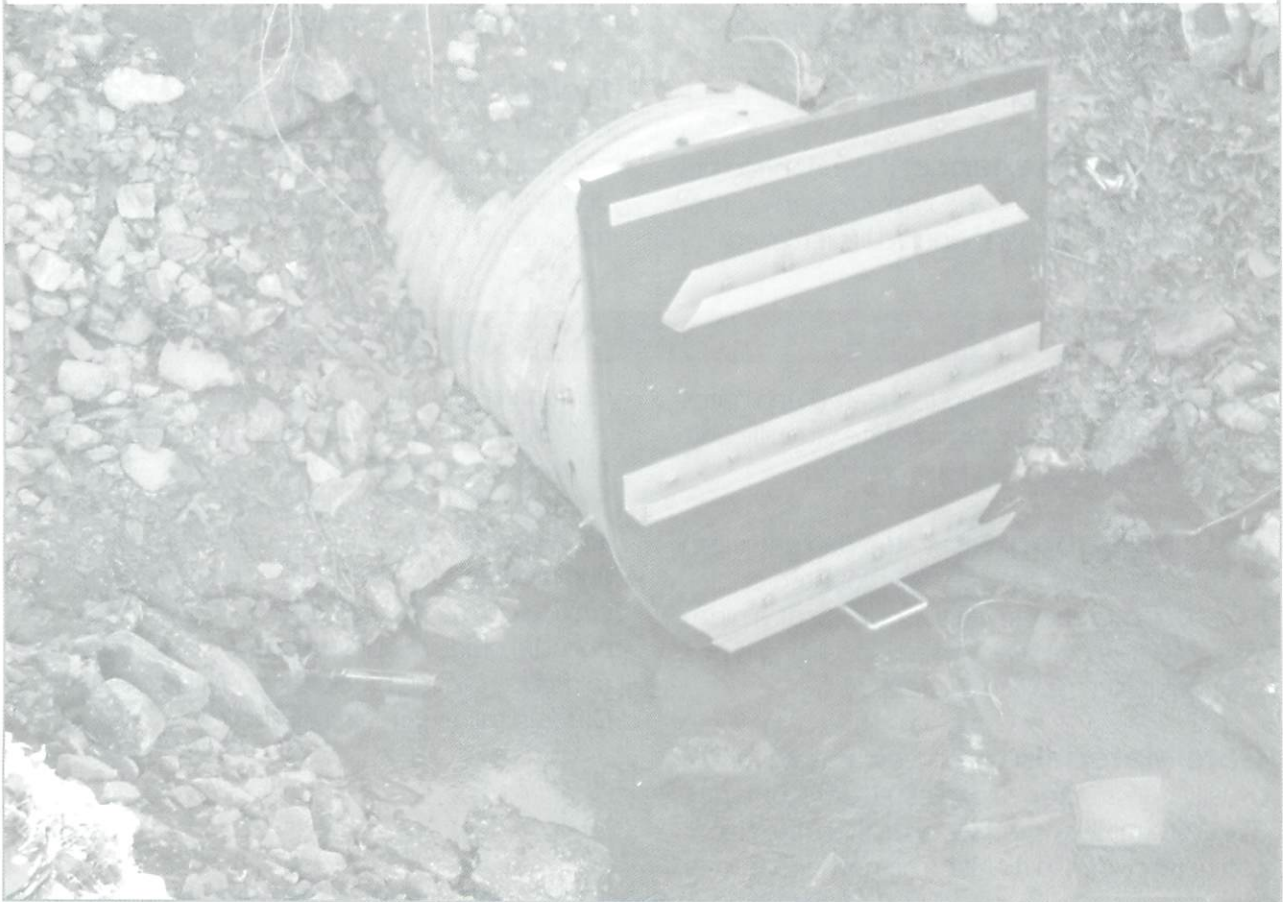
Manufacturing high quality gates since 1977

Whipps, inc.

Flap Gates Series 450

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Introduction

Series 450 Flap Gates are used for backflow prevention in gravity flow; pump discharge and tidal applications. Fabricated Flap Gates offer high performance and long life in designs that accommodate a wide range of mounting arrangements and flow conditions. Rugged, reinforced construction is combined with a resilient seal to provide a heavy-duty, low leakage flap

gate. Whipps, Inc. can economically produce customized flap gates for standard and non-standard applications. Fabricated flap gates are typically constructed of corrosion resisting materials such as stainless steel, rubber or aluminum. Flap gates constructed of cast iron, carbon steel and timber are also available.

Advantages (vs. Cast Iron Flap Gates)

Performance: The use of compressible seals gives better leakage performance than a traditional cast iron flap gate with bronze seating faces.

Design flexibility: All flap gates are custom-built for each application.

Functionality: Fabricated flap gates open under a very low unseating head. This is especially true with rubber flap gates.

Ease of Maintenance: If debris becomes wedged in the flap or accumulates behind the flap, it is easier for personnel to lift it to clear

the debris. This is especially true on flexible rubber flap gates.

Quiet operation: Due to the use of resilient seals, there is no slamming action between the flap and frame even in pump discharge applications.

Corrosion Resistance: Stainless steel never needs to be painted or re-coated.

Field replaceable seals: If the seals were ever to become damaged, they are easily removable and replaceable. The bronze seating faces on traditional cast iron flap gates cannot be replaced in the field.

Gate Selection Criteria

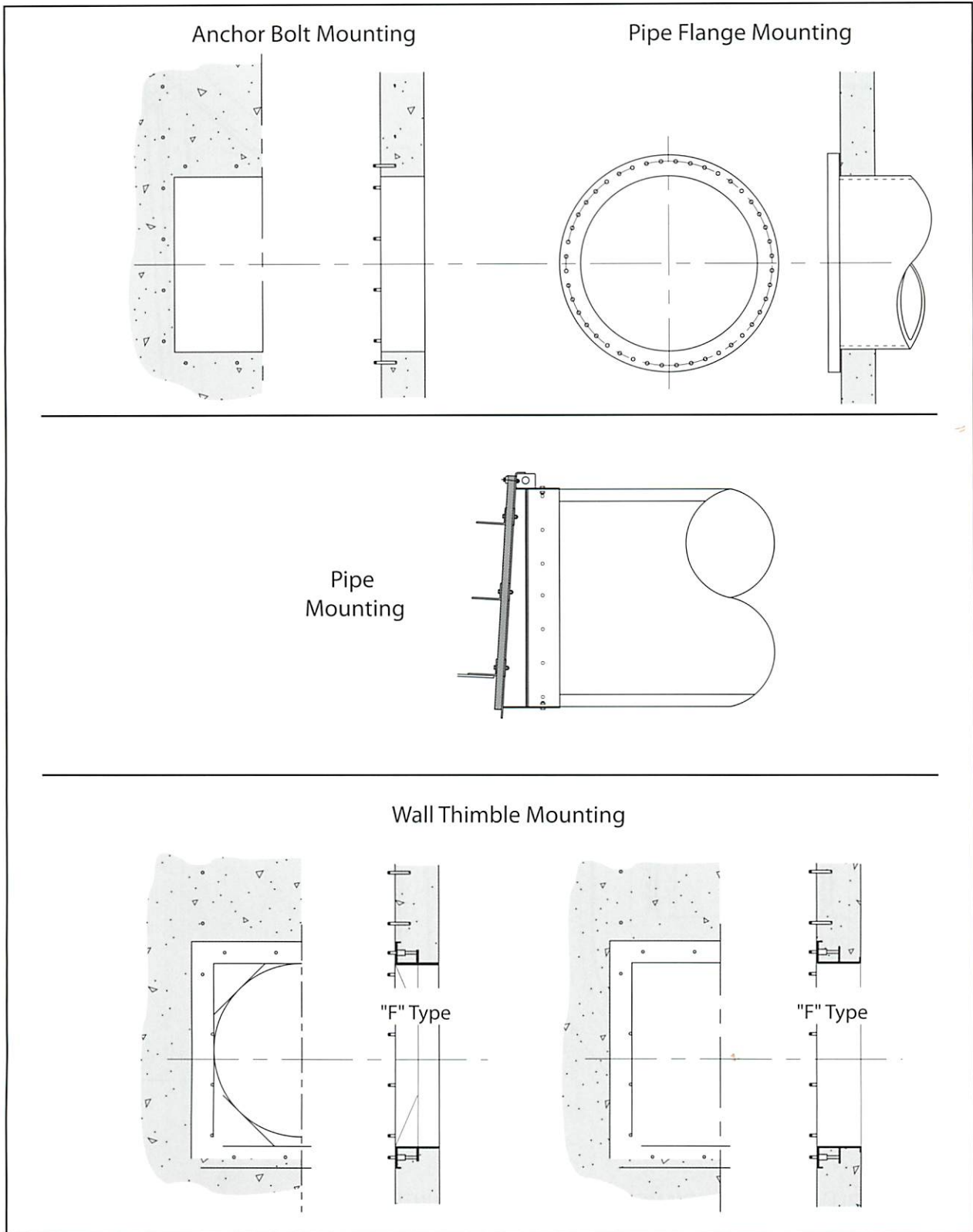
Gate Size: Whipps, Inc. fabricated flap gates are custom-built to accommodate virtually any round, square or rectangular opening.

Gate Mounting: Fabricated flap gates can be mounted directly to a wall, mounted on a pipe flange, mounted on the outside of a pipe or on a wall thimble. Wall thimble mounting is possible but it is typically unnecessary.

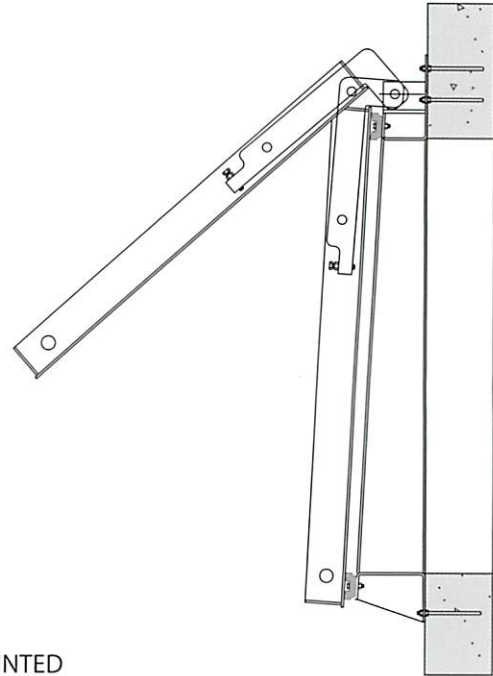
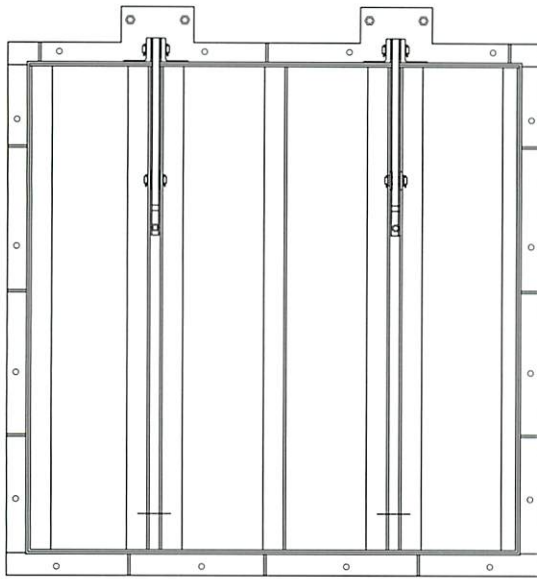
Gate Material: Fabricated flap gates are usually constructed of type 304/304L or type 316/316L stainless steel. As an option, the flap can be provided in rubber. The rubber flap is

reinforced with stainless steel members. Type 304/304L is less expensive and generally it may safely be specified for water or wastewater applications if residual chlorine is 200 mg/l or less. Type 316/316L is a more conservative choice and provides greater resistance to pitting and crevice corrosion. In either case, the low carbon ("L") grade should be used for welded parts to reduce carbon precipitation in the welds. Different alloys are also available.

Flap Gate Mounting

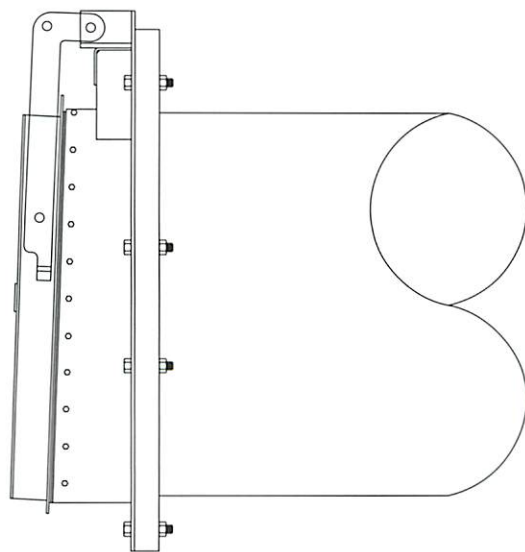
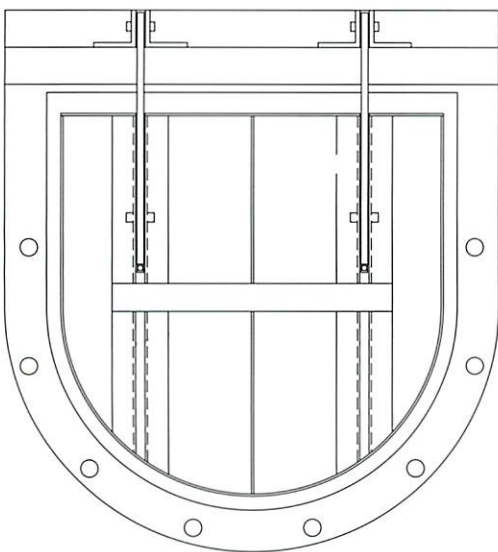


Model 452 Stainless Steel Flap Gate



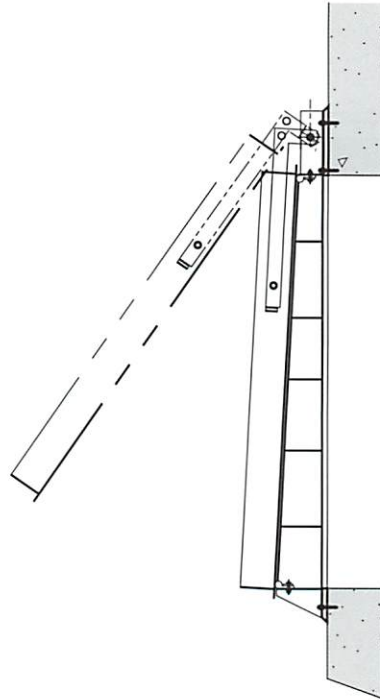
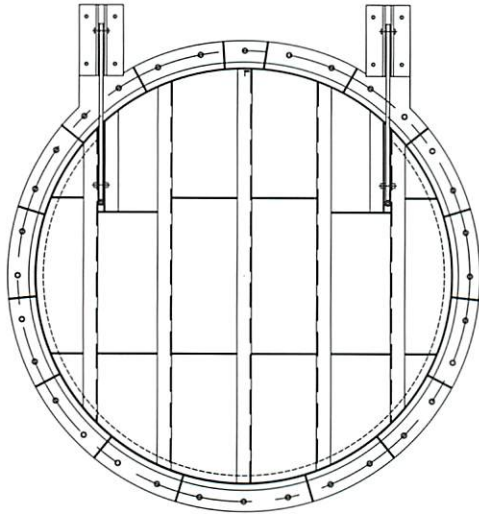
GATE ILLUSTRATED: 48" WIDE X 48" HIGH - WALL MOUNTED

Model 452 Stainless Steel Flap Gate



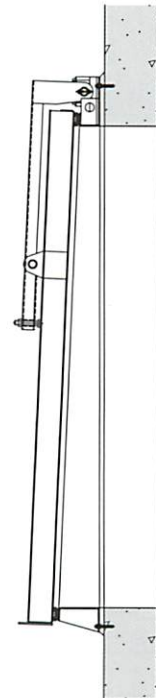
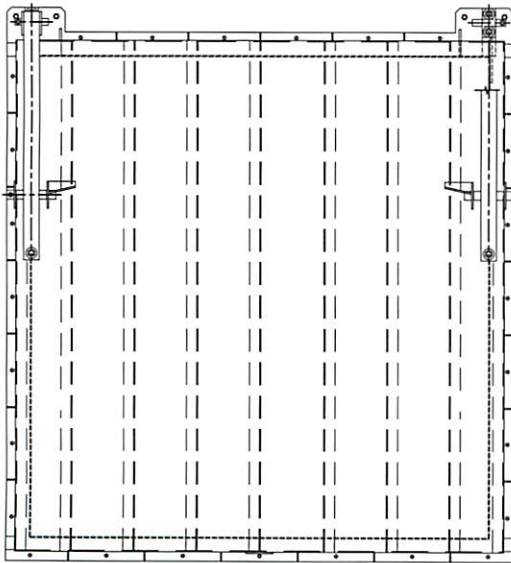
GATE ILLUSTRATED: 42" DIAMETER - PIPE FLANGE MOUNTED

Model 452 Stainless Steel Flap Gate



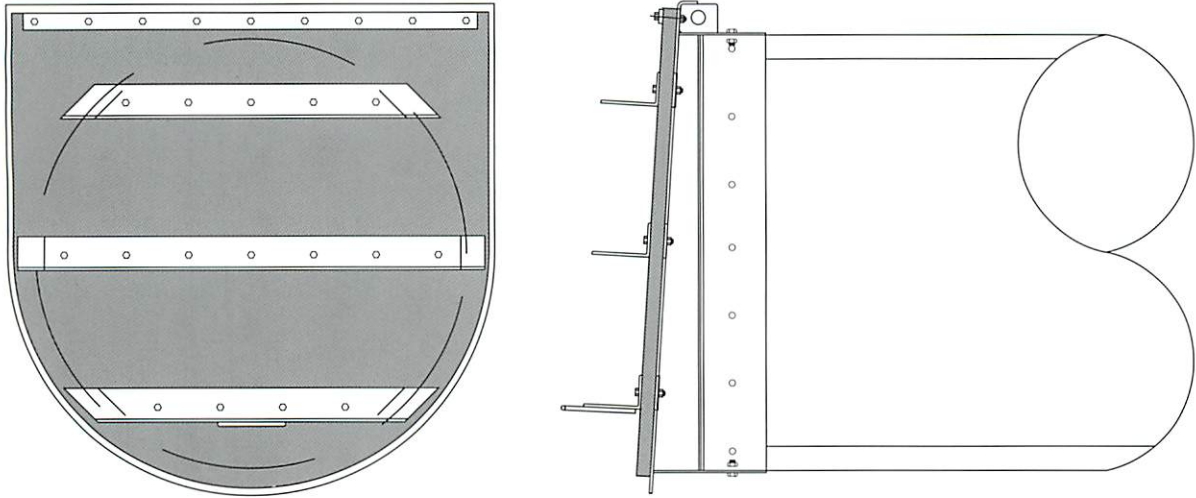
GATE ILLUSTRATED: 84" DIAMETER – WALL MOUNTED

Model 452 Stainless Steel Flap Gate (Pontoon Type)



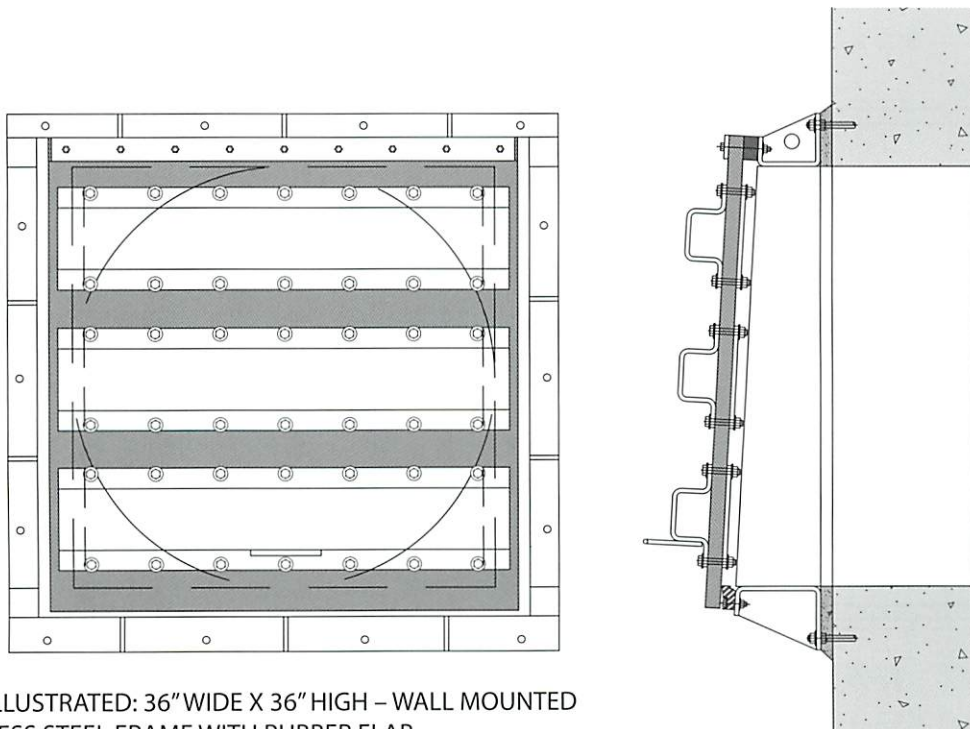
GATE ILLUSTRATED: 102" WIDE X 108" HIGH – WALL MOUNTED

Model 451 Flexible Flap Gate



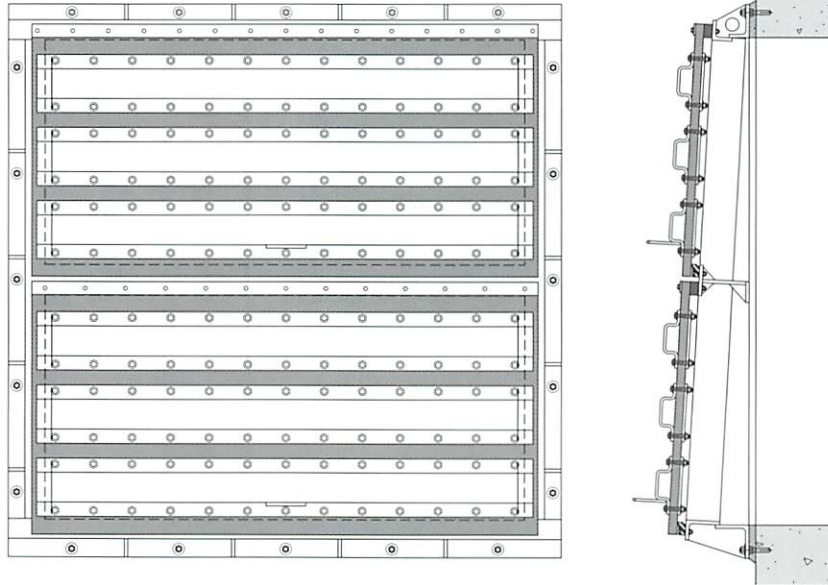
GATE ILLUSTRATED: 38" DIAMETER – PIPE MOUNTED
STAINLESS STEEL FRAME WITH RUBBER FLAP

Model 451 Flexible Flap Gate



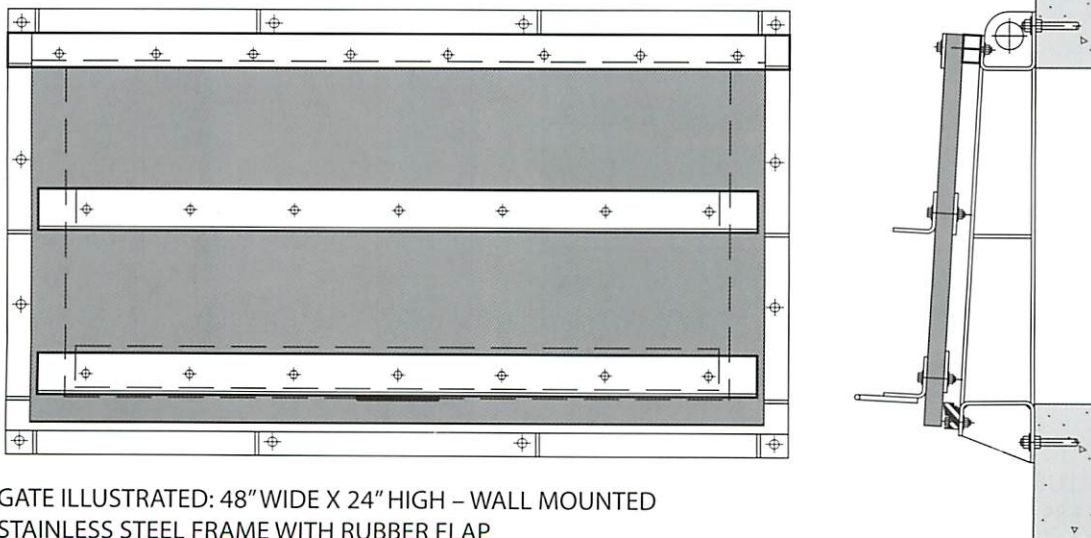
GATE ILLUSTRATED: 36" WIDE X 36" HIGH – WALL MOUNTED
STAINLESS STEEL FRAME WITH RUBBER FLAP

Model 451 Flexible Flap Gate



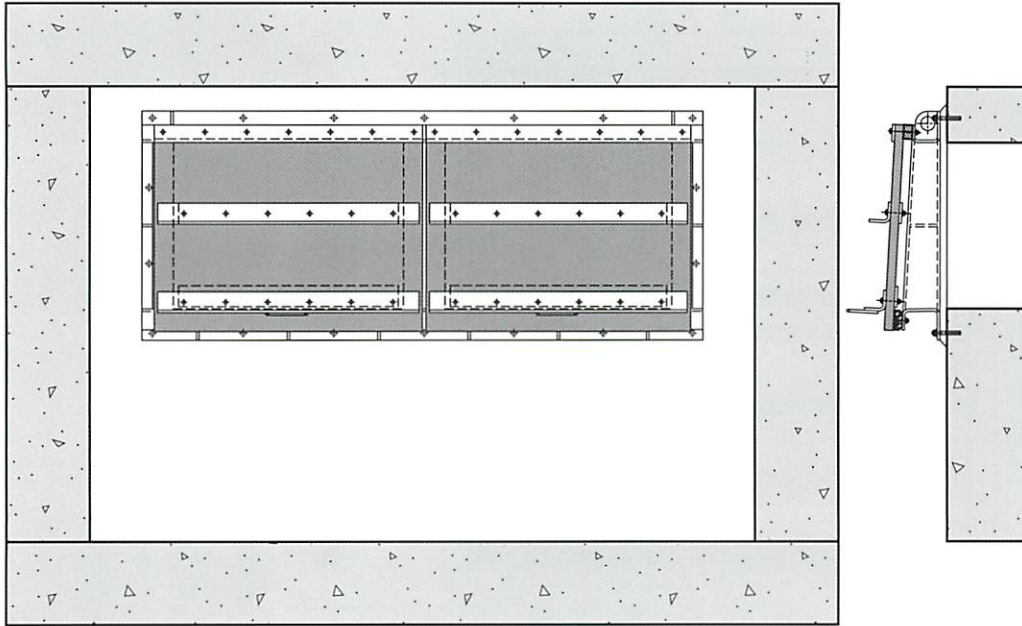
GATE ILLUSTRATED: 72" WIDE X 72" HIGH - (WITH HORIZONTAL CENTER SUPPORT) - WALL MOUNTED STAINLESS STEEL FRAME WITH TWO RUBBER FLAPS

Model 451 Flexible Flap Gate



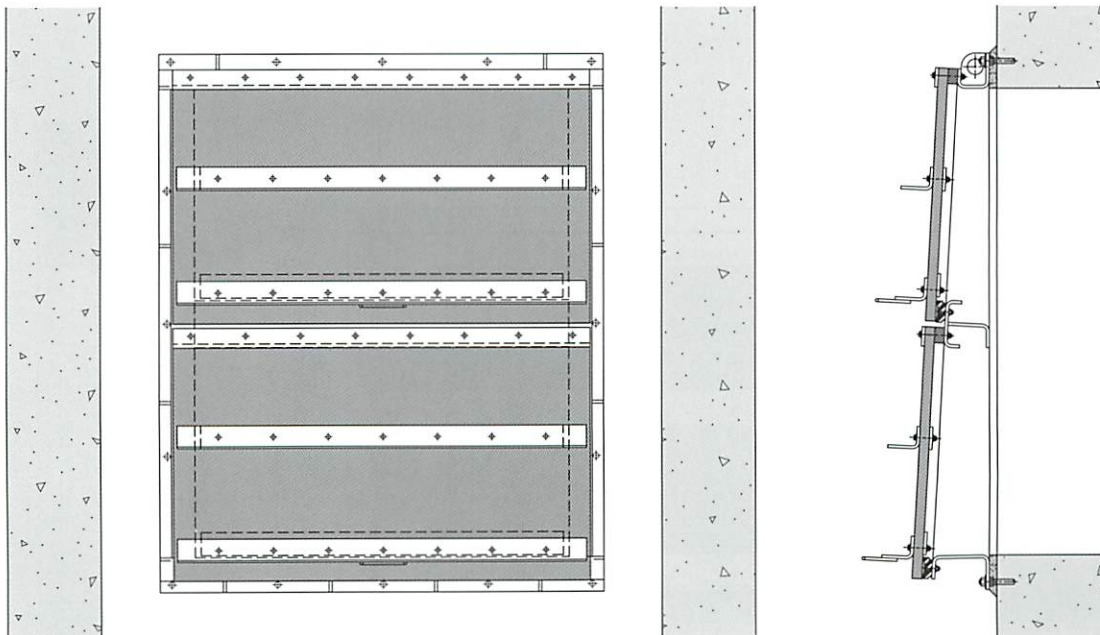
GATE ILLUSTRATED: 48" WIDE X 24" HIGH - WALL MOUNTED STAINLESS STEEL FRAME WITH RUBBER FLAP

Model 451 Flexible Flap Gate



GATE ILLUSTRATED: 72" WIDE X 24" HIGH – (WITH VERTICAL CENTER SUPPORT) – WALL MOUNTED
STAINLESS STEEL FRAME WITH TWO RUBBER FLAPS

Model 451 Flexible Flap Gate



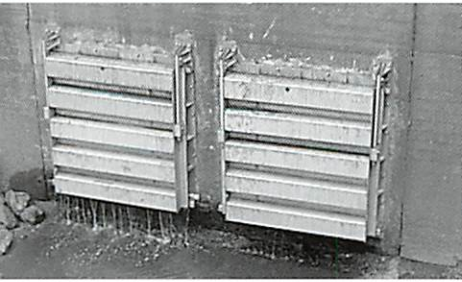
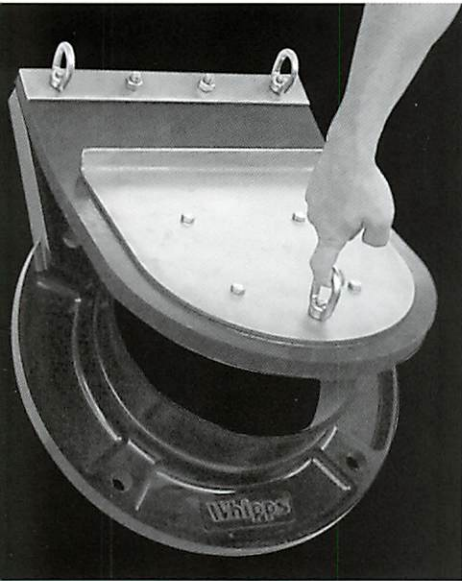
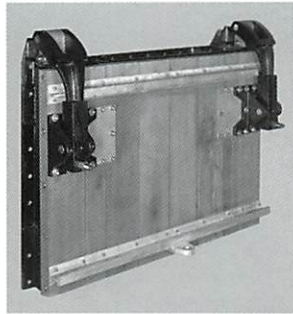
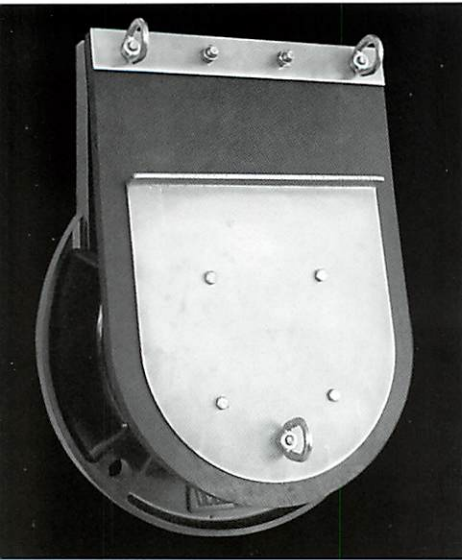
GATE ILLUSTRATED: 48" WIDE X 60" HIGH – (WITH HORIZONTAL CENTER SUPPORT) – WALL MOUNTED
STAINLESS STEEL FRAME WITH TWO RUBBER FLAPS



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