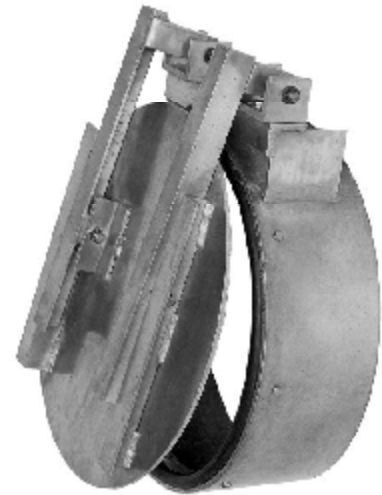


AF-41 ALUMINUM DRAINAGE (FLAP) GATES

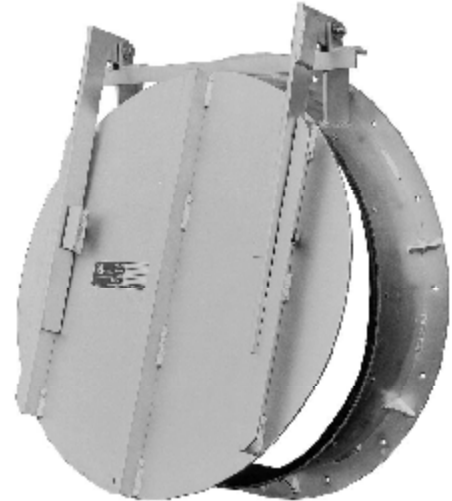
- LIGHTER WEIGHT REDUCES INSTALLATION COSTS
- SPIGOTBACK, FLATBACK OR FLANGEBACK
- SIZES 12" - 84" (CUSTOM SPIGOT SIZES AVAILABLE)
- SEATING HEADS TO 40 FEET.

- A CORROSION-RESISTANT RUST-PROOF AUTOMATIC DRAINAGE GATE DESIGNED FOR USE WITH ALUMINUM CORRUGATED PIPE FOR FLANGE MOUNTING OR FOR USE WITH HDPE
- PREVENTS ELECTROLYSIS ASSOCIATED WITH CAST IRON GATES TO ALUMINUM PIPE CONNECTIONS.
- J-BULB NEOPRENE ADJUSTABLE SEATS PROVIDE EXCELLENT SEALING AGAINST RETURN FLOW.
- FRAME, COVER, RETAINER RING, HINGE ARM, AND PIVOT LUG ARE OF ALUMINUM ALLOY 6061-T6. GATE HARDWARE IS STAINLESS STEEL.

- SPIGOTBACK FOR MOUNTING TO CORRUGATED METAL PIPE. (ALUMINUM, STEEL OR PLASTIC)
- FLATBACK FOR MOUNTING TO HEADWALL.
- FLANGEBACK TO MATE WITH 25# OR 125# PIPE FLANGE.
- TYPE 6 SPIGOT FOR MOUNTING TO HDPE



AF-41 SPIGOTBACK

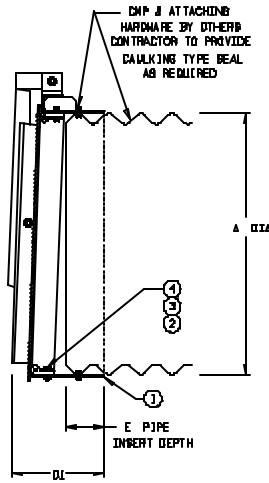
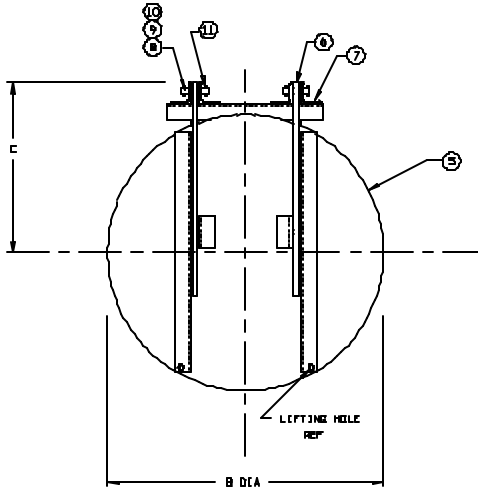


AF-41 FLATBACK

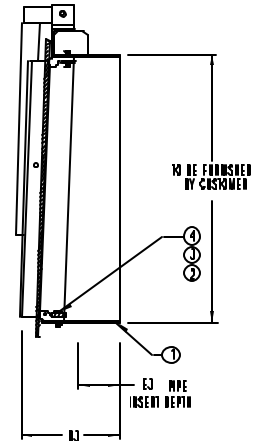


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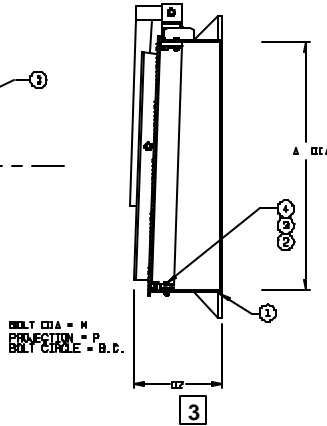
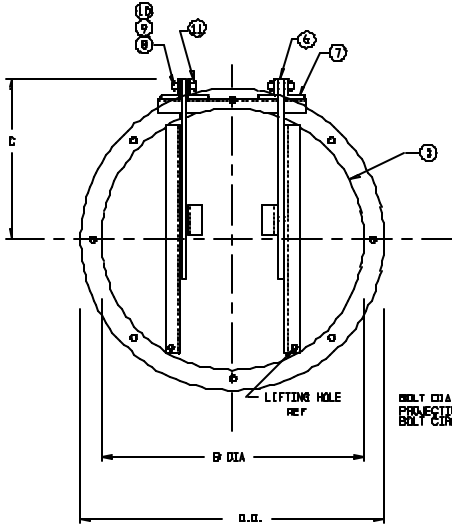
AF-41 ALUMINUM DRAINAGE (FLAP) GATE - SPIGOTBACK



AF-41 TYPE 6 SPIGOT FOR HDPE PIPE



AF-41 ALUMINUM DRAINAGE (FLAP) GATE FLATBACK (FLANGEBACK SIMILAR BUT WITH ASA STANDARD FLANGE DIMENSIONS)

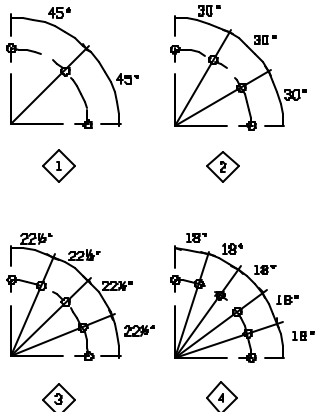


PARTS LIST	
No.	Name
1	Frame
2	Seat
3	Retainer Ring
4	Hex Hd. Bolt/Nut
5	Cover
6	Hinge Arm
7	Pivot Lug
8	Hex Hd. Bolt/Nut
9	Hinge Pin
10	Bushing
11	Washer
12	Spring Pin

1. Add grout pad thickness to anchor bolt projection.

2. Also available with flange and drilling to attach to a 125# standard pipe flange.

3. If grout pad mounting is used add grout thickness to dimension.



DIMENSIONS IN INCHES														
GATE SIZE	A	B	C	D1	D2	D3	E	E3	O.D.	B.C.	M	P	1	2
12	13 1/8	13 1/2	10 1/4	8 1/4	8 1/8	11 1/2	4	7	17 1/2	15 3/4	1/2	1	1	
15	16 1/8	17	12 1/4	8 1/4	8 1/8	11 1/2	4	7	20 1/2	18 3/4	1/2	1	2	
18	19 1/8	20	14 1/4	8 1/4	8 1/8	11 1/2	4	7	23 1/2	21 3/4	1/2	1	2	
24	25 1/8	26 1/2	16 1/4	8 1/4	8 1/8	11 1/2	4	7	30 1/2	28 1/4	1/2	1 1/2	2	
30	31 1/8	32 1/2	19 1/4	10 1/2	10 1/8	12	4 1/2	7	36 1/2	34 1/4	1/2	1 1/2	3	
36	37 1/8	38 1/2	24	10 1/4	10 1/8	12	4 1/2	7 1/2	42 1/2	40 1/4	1/2	1 1/2	3	
42	43 1/8	46	28	13	13 1/8	-	5 1/2	-	48 1/2	46 1/4	1/2	1 1/2	3	
48	49 1/8	52	31	13 3/8	13 3/4	-	5 1/2	-	54 1/2	52 1/4	1/2	1 1/2	4	
54	55 1/8	58	35	13 3/4	13 3/8	-	6 1/2	-	60 1/2	58 1/4	3/8	2	4	
60	61 1/8	64	38	15 1/4	15 3/8	-	6 1/2	-	66 1/2	64 1/4	3/8	2	4	
72	73 1/8	76	44 1/2	17 1/4	17 1/8	-	7 1/4	-	78 1/2	76 1/4	3/8	2	4	
84	DIMENSIONS ON APPLICATION													

NOTE: FOR PRELIMINARY DESIGN PURPOSES ONLY
DO NOT USE FOR INSTALLATION
UNLESS PART OF CERTIFIED & APPROVED SUBMITTAL



INDUSTRIES, INC.

TYPICAL SPECIFICATIONS
AF-41 ALUMINUM DRAINAGE (FLAP) (TIDE) GATES

General

The flap gate shall be designed to allow free outflow and prevent backflow for maximum seating heads of 40 feet. Gates shall be Waterman Model AF-41 or equal.

Construction

The frame shall be aluminum of flatback, spigotback or flangeback design (or other specified design configuration as required) with seating surface inclined from vertical at a minimum of $2\frac{1}{2}^{\circ}$ to assure positive closure. The aluminum cover shall be attached to the frame in such a manner as to allow proper seating and full opening of cover. Built in stops shall be provided to prevent the cover from rotating sufficiently to become wedged in the open position. A resilient neoprene seal shall be attached to the inside of the frame opening and shall act as a seat for the cover to seal against. The seal shall be retained by an aluminum ring bolted or welded to the frame.

The linkage system shall be of the double pivoted type, attached to fixed pivot points on cover and frame. Hinge links shall be of structural aluminum shapes. The heavily reinforced hinge arm of the Model AF-41 is fastened to the pivot lug by means of heavy stainless steel hinge pins inserted through a durable non-metallic bushing. The hinge pin is arranged in a double shear configuration at extremely close tolerances thus severely limiting lateral movement. This, in conjunction with the protruding rubber seat (in lieu of a recessed seat) insures positive seating at all times regardless of the angle of tidal action.

Finish

Mill finish on all surfaces.

Materials

Frame and Cover - Aluminum Alloy 6061-T6.

Hinge Link - Aluminum Alloy 6061-T6.

Assembly Hardware - Stainless Steel Type 18-8.

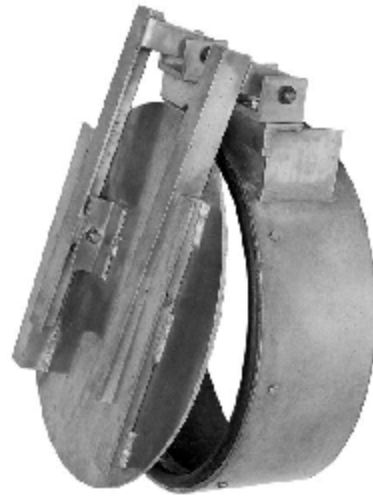


SSF-41 STAINLESS STEEL DRAINAGE (FLAP) GATES

- SPIGOTBACK, FLATBACK OR FLANGEBACK
- SIZES 12" - 84" (CUSTOM SPIGOT SIZES AVAILABLE)
- SEATING HEADS TO 30 FEET*
- A CORROSION-RESISTANT RUST-PROOF AUTOMATIC DRAINAGE GATE DESIGNED FOR FLANGE MOUNTING OR WALL MOUNTING
- J-BULB NEOPRENE ADJUSTABLE SEATS PROVIDE EXCELLENT SEALING AGAINST RETURN FLOW.
- FRAME, COVER, RETAINER RING, HINGE ARM, AND PIVOT LUG ARE OF STAINLESS STEEL. GATE HARDWARE IS STAINLESS STEEL.
- FLATBACK FOR MOUNTING TO HEADWALL.
- FLANGEBACK TO MATE WITH 25# OR 125# PIPE FLANGE.

* Recommended Maximum Seating Heads

8" - 30"	30 Feet
36" - 42"	20 Feet
48" - 60"	15 Feet
66" - 84"	10 Feet



SSF-41 SPIGOTBACK

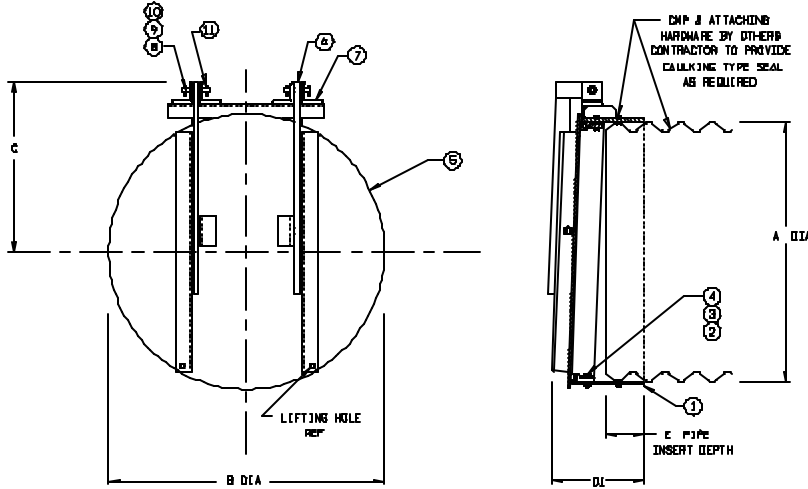


SSF-41 FLATBACK

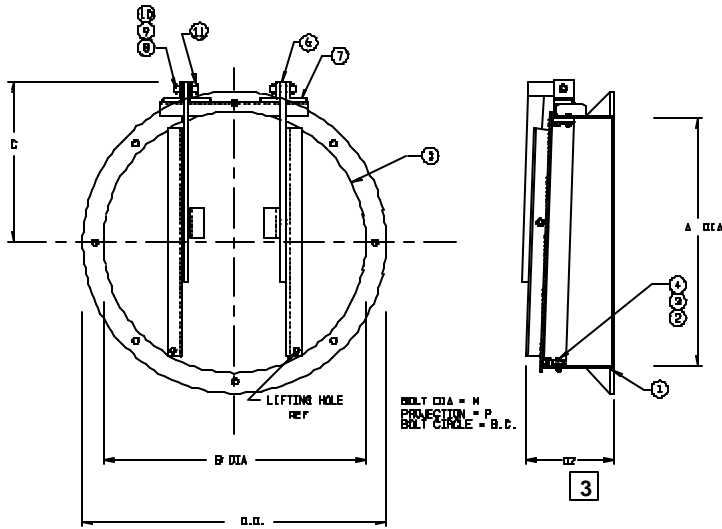


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SSF-41 STAINLESS STEEL DRAINAGE (FLAP) GATE - SPIGOTBACK



SSF-41 DRAINAGE (FLAP) GATE FLATBACK (FLANGEBACK SIMILAR BUT WITH ASA STANDARD FLANGE DIMENSIONS)

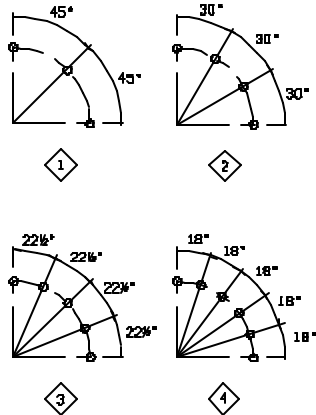


PARTS LIST	
No.	Name
1	Frame
2	Seat
3	Retainer Ring
4	Hex Hd. Bolt/Nut
5	Cover
6	Hinge Arm
7	Pivot Lug
8	Hex Hd. Bolt/Nut
9	Hinge Pin
10	Bushing
11	Washer
12	Spring Pin

1. Add grout pad thickness to anchor bolt projection.

2. Also available with flange and drilling to attach to a 125# standard pipe flange.

3. If grout pad mounting is used add grout thickness to dimension.



DIMENSIONS IN INCHES														
GATE SIZE	A	B	C	D1	D2	D3	E	E3	O.D.	B.C.	M	P	1	2
12	13 3/8	13 1/2	10 3/4	8 3/4	8 3/8	11 1/2	4	7	17 1/2	15 3/4	1/2	1	1	1
15	16 1/8	17	12 1/4	8 3/4	8 3/8	11 1/2	4	7	20 1/2	18 3/4	1/2	1	2	2
18	19 3/8	20	14 1/4	8 3/4	8 3/8	11 1/2	4	7	23 1/2	21 3/4	1/2	1	2	2
24	25 1/8	26 1/2	16 3/4	8 3/4	8 3/8	11 1/2	4	7	30 3/4	28 1/4	1/2	1 1/2	3	2
30	31 1/8	32 1/2	19 3/4	10 1/2	10 3/8	12	4 1/2	7	36 3/4	34 1/4	1/2	1 1/2	3	3
36	37 1/8	38 1/2	24	10 1/2	10 3/8	12	4 1/2	7 1/2	42 3/4	40 1/4	1/2	1 1/2	3	3
42	43 1/8	46	28	13	13 1/8	-	5 1/2	-	48 3/4	46 1/4	1/2	1 1/2	3	3
48	49 1/8	52	31	13 3/4	13 3/8	-	5 1/2	-	54 3/4	52 1/4	1/2	1 1/2	4	4
54	55 1/8	58	35	13 3/4	13 3/8	-	6 1/2	-	60 3/4	58 1/4	5/8	2	4	4
60	61 1/8	64	38	15 1/4	15 3/8	-	6 1/2	-	66 3/4	64 1/4	5/8	2	4	4
72	73 1/8	76	44 1/2	17 1/4	17 1/8	-	7 1/4	-	78 3/4	76 1/4	5/8	2	4	4
84	DIMENSIONS ON APPLICATION													

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UNLESS PART OF CERTIFIED & APPROVED SUBMITTAL



TYPICAL SPECIFICATIONS
SSF-41 STAINLESS STEEL DRAINAGE (FLAP) (TIDE) GATES

General

The flap gate shall be designed to allow free outflow and prevent backflow for maximum seating heads of 30 feet. Gates shall be Waterman Model SSF-41 or equal.

Construction

The frame shall be stainless steel of flatback, spigotback or flangeback design (or other specified design configuration as required) with seating surface inclined from vertical at a minimum of 2½° to assure positive closure. The stainless steel cover shall be attached to the frame in such a manner as to allow proper seating and full opening of cover. Built in stops shall be provided to prevent the cover from rotating sufficiently to become wedged in the open position. A resilient neoprene seal shall be attached to the inside of the frame opening and shall act as a seat for the cover to seal against. The seal shall be retained by a stainless steel ring bolted or welded to the frame.

The linkage system shall be of the double pivoted type, attached to fixed pivot points on cover and frame. Hinge links shall be of structural stainless steel shapes. The heavily reinforced hinge arm of the Model SSF-41 is fastened to the pivot lug by means of heavy stainless steel hinge pins inserted through a durable non-metallic bushing. The hinge pin is arranged in a double shear configuration at extremely close tolerances thus severely limiting lateral movement. This, in conjunction with the protruding rubber seat (in lieu of a recessed seat) insures positive seating at all times regardless of the angle of tidal action.

Finish

Mill finish on all surfaces.

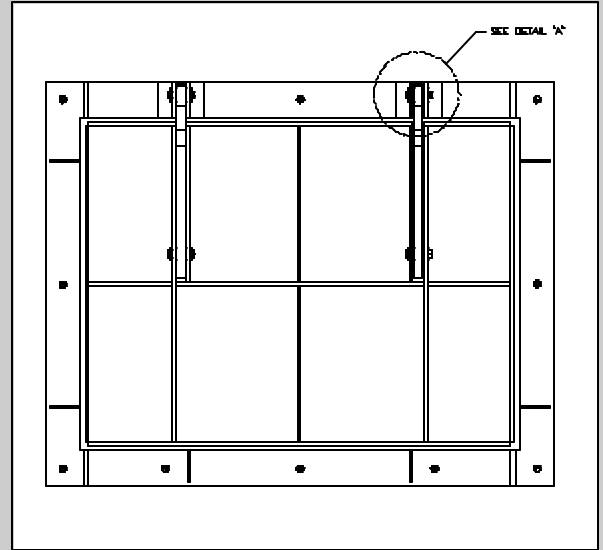
Materials

Frame and Cover and Hinge Link - Stainless Steel - ASTM A-276, Type 304 or 316 as specified.
Assembly Hardware - Stainless Steel Type 18-8.



AF-43 ALUMINUM DRAINAGE (FLAP) GATES

- LIGHTER WEIGHT REDUCES INSTALLATION COSTS
- FLATBACK OR FLANGEBACK
- SEATING HEADS TO 30 FEET.
- A CORROSION-RESISTANT RUSTPROOF AUTOMATIC DRAINAGE GATE DESIGNED FOR USE WHERE LIGHT WEIGHT, CORROSION RESISTANCE OR TIGHT SEALING IS FOREMOST.
- J-BULB NEOPRENE ADJUSTABLE SEATS PROVIDE EXCELLENT SEALING AGAINST RETURN FLOW.
- FRAME, COVER, RETAINER RING, HINGE ARM, AND PIVOT LUG ARE OF ALUMINUM ALLOY 6061-T6. GATE HARDWARE IS STAINLESS STEEL.
- FLATBACK FOR MOUNTING TO HEADWALL.
- FLANGEBACK TO MATE WITH WALL THIMBLE.



TYPICAL SPECIFICATIONS AF-43 ALUMINUM DRAINAGE (FLAP) (TIDE) GATES

General

The flap gate shall be designed to allow free outflow and prevent backflow for maximum seating heads of 30 feet. Gates shall be Waterman Model AF-43 or equal.

Construction

The frame shall be aluminum of flatback, spigotback or flangeback design (or other specified design configuration as required) with seating surface inclined from vertical at a minimum of $2\frac{1}{2}^\circ$ to assure positive closure. The aluminum cover shall be attached to the frame in such a manner as to allow proper seating and full opening of cover. Built in stops shall be provided to prevent the cover from rotating sufficiently to become wedged in the open position. A resilient neoprene seal shall be attached to the inside of the frame opening and shall act as a seat for the cover to seal against. The seal shall be retained by an aluminum ring bolted or welded to the frame.

The linkage system shall be of the double pivoted type, attached to fixed pivot points on cover and frame. Hinge links shall be of structural aluminum shapes. The heavily reinforced hinge arm of the Model AF-43 is fastened to the pivot lug by means of heavy stainless steel hinge pins inserted through a durable non-metallic bushing. The hinge pin is arranged in a double shear configuration at extremely close tolerances thus severely limiting lateral movement. This, in conjunction with the protruding rubber seat (in lieu of a recessed seat) insures positive seating at all times regardless of the angle of tidal action.

Finish

Mill finish on all surfaces.

Materials

Frame and Cover - Aluminum Alloy 6061-T6.
Hinge Link - Aluminum Alloy 6061-T6.
Assembly Hardware - Stainless Steel Type 18-8.

* Recommended Maximum Seating Heads

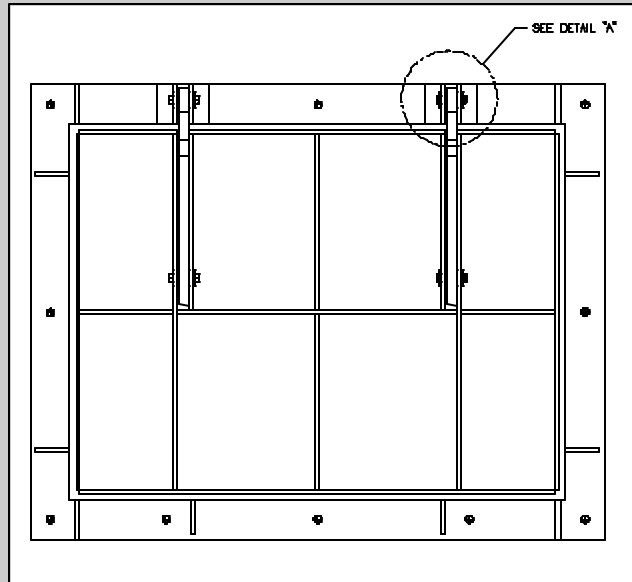
8" - 30"	30 Feet
36" - 42"	20 Feet
48" - 60"	15 Feet
66" - 84"	10 Feet



INDUSTRIES, INC.

MODEL SSF-43 STAINLESS STEEL AUTOMATIC DRAINAGE GATE

- FABRICATED STAINLESS STEEL
- AUTOMATIC OPERATION
- STANDARD AND NON-STANDARD SIZES
- SEATING HEADS TO 30 FEET
- TYPE 304 OR 316 OPTIONAL
- NEOPRENE SEAT FOR MINIMUM LEAKAGE
- CUSTOM SIZES AVAILABLE



TYPICAL SPECIFICATIONS

MODEL SSF-43 STAINLESS STEEL AUTOMATIC DRAINAGE (FLAP) (TIDE) GATES

General

The flap gate shall be designed to allow free outflow and prevent backflow for maximum seating heads of 30 feet. Gates shall be Waterman Model SSF-43 or equal.

Construction

The frame shall be fabricated stainless steel of flatback design, with seating surface inclined from vertical at a minimum of $2\frac{1}{2}^\circ$ to assure positive closure. For flatback gates mounted to thimbles or flanges, the gate flange shall be machined and drilled to match.

The cover shall be fabricated stainless steel with reinforcing ribs, designed to withstand the seating head specified. A lifting eye shall be provided for manual lifting of the cover.

Seating surfaces for frame and cover shall be neoprene "J" seal with stainless steel retainer.

The gate shall be provided with an adjustable, double pivoted hinge linkage so designed to permit complete seating, full opening and with stops or other arrangement to prevent the cover from rotating sufficiently to become wedged in the open position. Pivot lugs mounted to the frame shall be adjustable to allow adjustment of hinge links without having to remove cover from gate. The hinge links shall be bronze bushed stainless steel.

All assembly hardware shall be type 18-8 stainless steel.

Finish

Bronze and stainless steel parts do not require further finish.

Materials

Frame and Cover - Stainless Steel per ASTM A-276, type 304 or 316.

Pivot Lug - Stainless Steel per ASTM A-276, type 304 or 316.

Hinge Link - Stainless Steel per ASTM A-276, type 304 or 316.

Bronze Busings and Washers - Commercial Bronze.

Assembly Hardware and Pins - 18-8 Stainless Steel.

Optional materials for frame and cover include Stainless Steel per ASTM A-276, Type 316L.

* Recommended Maximum Seating Heads

8" - 30"	30 Feet
36" - 42"	20 Feet
48" - 60"	15 Feet
66" - 84"	10 Feet



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