

ORIFICE PLATES

MANUFACTURING STANDARDS: Superior Products manufactures Orifice Plates in strict accordance with the specifications of: AGA., ISA., ASME., API., and ISO. as applicable. Special custom designs are also available.

SIZE: Superior Products manufactures Orifice Plates up to 96 inches in diameter.

MATERIAL: Superior Products uses special stretcher leveled plate stock to manufacture Orifice Plates. This material is flattened and stress relieved to stay flat. Orifice Plates are stocked in: T-304, T-304L, T-316, T316L, T-321, T-410, Alloy-20, Hastelloy B and C, Monel and Titanium. Many other materials are available. All Orifice Plate outside diameter's are machined to within $\pm .005$ " to assure perfect concentric alignment of the Orifice Bore.

PLATE FINISH: Superior Products purchases polished taped plate stock. After Boring, the Orifice Plate, a final finish is applied using a specially designed polishing machine that maintains the Orifice Plate's flatness and Orifice Bore sharpness. The finish does not exceeds 50 microinches.

125 RMS FINISH: Special finishes can be applied to the Orifice Plate face. The area covered is usually equal to the O.D. dimensions of a standard A.N.S.I. B-16.5 flange raised face and I.D. equal to the line I.D. **NOTE:** A 125 RMS finish requirement, indicates the use of 1/8 inch thick flexitallic gaskets. Orifice Flange tap holes are standardly located 15/16 of an inch from the raised face to give 1 inch spacing from the face of the Plate. It is recommended to use Orifice Flanges with tap holes drilled 7/8 of an inch from the flange face to maintain the 1 inch distance and avoid a measurement error.

ORIFICE BORING: Superior Products Orifice Plates are bored to size using special boring bars to precisely bore the Orifice Plates to any given size. The Orifice Plate is held during boring by special stepped circular jaws that contact 90% of the outside diameter of the plate to reduce distortion. Restriction Orifices under 1/16 of an inch may be drilled to size.

CONCENTRIC BORE: For standard fluid conditions an Orifice Plate would have a centrally located orifice bore.

ECCENTRIC BORE: The Orifice would be set off center and tangent to the bottom inside line I.D. to allow heavy solids or slur-ries to flow through the orifice. Also used when the Orifice Bore is less than 1" in diameter and the line requires a vent od drain hole.

QUADRANT BORE: The Quadrant Bored Orifice Plate has a quarter round upstream edge and is designed for high viscosity flows with Reynolds Numbers below 10,000.

ORIFICE BORE CALCULATIONS: Superior Products uses the latest versions of "Flo Soft" to calculate Orifice Bores. Superior Products charges for this service on large engineering projects, but will provide this service at no charge on an individual basis.

WEEP HOLES: Weep Holes are located at the elevational top or bottom of the Orifice Plate. The Weep Hole is tangent to a circle equal to 98% of the line I.D. **DRAIN HOLES** are located at the bottom of the Orifice Plate to prevent liquids in a gas or condensate in a steam flow from damming up behind the Orifice Plate. **VENT HOLES** are located at the top of the Orifice Plate to allow gases in a liquid flow to vent pass the Orifice Plate. See "G" dimension on page two for Weep Hole sizes.

PLATE IDENTIFICATION: Each plate is stamped with the following standardized information: SUPERIOR, Tag Number, Bore Size, INLET, Line Size, Pressure Rating, Material and USA.

PACKAGING: Each plate is shipped individually in a protective package. Each package is identified with the Plate's Tag number.

COMPANY MISSION: Quality and Service is our Company Mission. We strive to main-tain the highest standards of quality and we specialize in service. When necessary we will work 24 hrs a day and 7 days a week to meet your delivery requirements.

D = INSIDE LINE I.D.

d = ORIFICE BORE DIAMETER

G = WEEP HOLE DIAMETER

E = ORIFICE PLATE THICKNESS

Dw = DIAMETER OF WEEP HOLE CIRCLE = .98D-G

e = ORIFICE THROAT THICKNESS

e_{max} = THE SMALLER OF: D/50

or d/8

CAT No.SP520, ORIFICE PLATE DIMENSIONS

LINE SIZE INCHES	A					E	e	B	C	MAX DIFF LBS $\beta = .50$
	125/150#	300#	600#	900#	1500#					
1/2"	1-7/8	2-1/8	2-1/8	2-1/2	2-1/2	1/8	1/32	4	1	7596
3/4"	2-1/4	2-5/8	2-5/8	2-3/4	2-3/4	1/8	1/32	4	1	4113
1"	2-5/8	2-7/8	2-7/8	3-1/8	3-1/8	1/8	1/32	4	1	2051
1-1/2"	3-3/8	3-3/4	3-3/4	3-7/8	3-7/8	1/8	1/32	4	1	890
2"	4-1/8	4-3/8	4-3/8	5-5/8	5-5/8	1/8	1/32	4	1-1/4	530
3"	5-3/8	5-7/8	5-7/8	6-5/8	6-7/8	1/8	1/32	4	1-1/4	240
4"	6-7/8	7-1/8	7-5/8	8-1/8	8-1/4	1/8	1/16	4	1-1/4	112
6"	8-3/4	9-7/8	10-1/2	11-3/8	11-1/8	1/8	3/32	5	1-1/4	61
8"	11	12-1/8	12-5/8	14-1/8	13-7/8	1/8	1/8	5	1-1/4	35
10"	13-3/8	14-1/4	15-3/4	17-1/8	17-1/8	1/8	1/8	6	1-1/4	22
12"	16-1/8	16-5/8	18	19-5/8	20-1/2	1/4	1/8	6	1-1/4	63
14"	17-3/4	19-1/8	19-3/8	20-1/2	22-3/4	1/4	1/8	6	1-1/4	51
16"	20-1/4	21-1/4	22-1/4	22-5/8	25-1/4	1/4	1/4	6	1-1/4	38
18"	21-1/2	23-3/8	24	25	27-5/8	1/4	1/4	6	1-1/4	30
20"	23-3/4	25-5/8	26-3/4	27-3/8	29-5/8	3/8	1/4	6	1-1/4	24
24"	28-1/8	30-3/8	31	32-7/8	35-1/2	3/8	1/4	6	1-1/4	13

WEEP HOLE DIMENSIONS PER I.S.A. RP 3.2

d ORIFICE BORE	G MAX DIAMETER	d ORIFICE BORE	G MAX DIAMETER
LESS THAN 1.000	NOT RECOMENDED	8.376 - 9.250	5/16
1.000 - 3.500	3/32	9.251 - 10.000	11/32
3.501 - 4.125	1/8	10.001 - 10.875	3/8
4.126 - 5.000	5/32	10.876 - 11.625	13/32
5.001 - 6.000	3/16	11.626 - 12.500	7/16
6.001 - 6.750	7/32	12.501 - 13.250	15/32
6.751 - 7.500	1/4	13.251 +	1/2
7.501 - 8.375	9/32		

RING JOINT TYPE JOINT ORIFICE PLATE HOLDERS

1500 LB ANSI RATING

LINE SIZE INCHES	RING No.	RING DIMENSIONS					ORIFICE PLATE DIMENSIONS			GROOVE DIMENSIONS		DISTANCE BETWEEN FLANGES
		T	B	W	C	P	A	E	e	F	D	
1/2	R 12	1	1 1/16	5/16	.206	1 9/16	*	1/8	1/32	11/32	1/4	19/32
3/4	R 14	1	1 1/16	5/16	.206	1 3/4	*	1/8	1/32	11/32	1/4	19/32
1	R 16	1	1 1/16	5/16	.206	2	*	1/8	1/32	11/32	1/4	19/32
1-1/2	R 20	1	1 1/16	5/16	.206	2 11/16	*	1/8	1/32	11/32	1/4	19/32
2	R 24	1 1/16	1 1/8	7/16	.305	3 3/4	2.437	1/8	1/32	15/32	5/16	5/8
3	R 35	1 1/16	1 1/8	7/16	.305	5 3/8	3.437	1/8	1/32	15/32	5/16	5/8
4	R 39	1 1/16	1 1/8	7/16	.305	6 3/8	4.406	1/8	1/16	15/32	5/16	5/8
6	R 46	1 3/16	1 1/4	1/2	.341	8 5/16	6.437	1/8	1/16	17/32	3/8	5/8
8	R 50	1 5/16	1 3/8	5/8	.413	10 5/8	8.437	1/8	1/8	21/32	7/16	11/16
10	R 54	1 5/16	1 3/8	5/8	.413	12 3/4	10.687	1/8	1/8	21/32	7/16	11/16
12	R 58	1 9/16	1 5/8	7/8	.583	15	12.593	1/4	1/8	29/32	9/16	13/16
14	R 63	1 3/4	1 13/16	1	.681	16 1/2	14.000	1/4	1/8	1 1/16	5/8	13/16
16	R 67	2	2 1/16	1 1/8	.780	18 1/2	16.000	1/4	1/4	1 3/16	11/16	1
18	R 71	2	2 1/16	1 1/8	.780	21	18.000	1/4	1/4	1 3/16	11/16	1
20	R 75	2 1/8	2 3/16	1 1/4	.879	23	20.000	3/8	1/4	1 5/16	11/16	1
24	R 79	2 5/16	2 3/8	1 3/8	.977	27 1/4	24.000	3/8	1/4	1 7/16	13/16	1 1/16

* INTEGRAL TYPE ONLY

2500 LB ANSI RATING

LINE SIZE INCHES	RING No.	RING DIMENSIONS					ORIFICE PLATE DIMENSIONS			GROOVE DIMENSIONS		DISTANCE BETWEEN FLANGES
		T	B	W	C	P	A	E	e	F	D	
1/2	R 13	1	1 1/16	5/16	.206	1 11/16	*	1/8	1/32	11/32	1/4	19/32
3/4	R 16	1	1 1/16	5/16	.206	2	*	1/8	1/32	11/32	1/4	19/32
1	R 18	1	1 1/16	5/16	.206	2 3/8	*	1/8	1/32	11/32	1/4	19/32
1-1/2	R 23	1 1/16	1 1/8	7/16	.305	3 1/4	*	1/8	1/32	15/32	5/16	1/2
2	R 26	1 1/16	1 1/8	7/16	.305	4	2.437	1/8	1/32	15/32	5/16	5/8
3	R 32	1 3/16	1 1/4	1/2	.341	5	3.437	1/8	1/32	17/32	3/8	11/16
4	R 38	1 5/16	1 3/8	5/8	.413	6 3/16	4.406	1/8	1/16	21/32	7/16	11/16
6	R 47	1 7/16	1 1/2	3/4	.485	9	6.437	1/8	1/16	25/32	1/2	13/16
8	R 51	1 9/16	1 5/8	7/8	.583	11	8.437	1/8	1/8	29/32	9/16	13/16
10	R 55	1 7/8	1 15/16	1 1/8	.780	13 1/2	10.687	1/8	1/8	1 3/16	11/16	7/8
12	R 60	2	2 1/16	1 1/4	.879	16	12.593	1/4	1/8	1 5/16	11/16	7/8

* INTEGRAL TYPE ONLY

RING TYPE JOINT ORIFICE PLATE HOLDERS

A Ring Type Seal is used in high pressure or high integrity service where a metal to metal seal is required. These Ring Type Joint Seals can be manufactured in any of the standard materials. The Oval design is the most commonly used.

CAT No. SP560

INTEGRAL TYPE HOLDER: The Integral, Oval Type Orifice Plate is the most commonly manufactured RTJ Holder. Integral Type Holder is highly recommended. It is the least expensive RTJ Holder. The one piece design makes it more durable than the Screw Type or Snap Ring Type Holders. The replacement cost is higher than replacing just replacing the Orifice Plates as in the Screw Type and Snap Ring Type.

CAT No. SP590

SCREW TYPE HOLDER: The Screw Type, Oval RTJ Holder is the second most commonly manufactured RTJ Holder. It's initial cost are higher but, replacement Universal Plates are less expensive. The 1/32 inch thick gasket presents a possibility of differential leakage and if accidentally installed back-wards, which happens, the Orifice Plate could be dislodged down-stream.

CAT No. SP580

SNAP RING TYPE HOLDER: This is the least popular design and is the most expensive. The gasket creates a possibility of differential pressure leakage.

RING JOINT TYPE JOINT ORIFICE PLATE HOLDERS

300 \ 600 LB ANSI RATING

LINE SIZE INCHES	RING No.	RING DIMENSIONS					ORIFICE PLATE DIMENSIONS			GROOVE DIMENSIONS		DISTANCE BETWEEN FLANGES
		T	B	W	C	P	A	E	e	F	D	
1/2	R 11	29/32	31/32	1/4	.170	1 11/32	*	1/8	1/32	9/32	7/32	19/32
3/4	R 13	1	1 1/16	5/16	.206	1 11/16	*	1/8	1/32	11/32	1/4	19/32
1	R 16	1	1 1/16	5/16	.206	2	*	1/8	1/32	11/32	1/4	19/32
1-1/2	R 20	1	1 1/16	5/16	.206	2 11/16	*	1/8	1/32	11/32	1/4	19/32
2	R 23	1 1/16	1 1/8	7/16	.305	3 1/4	2.437	1/8	1/32	15/32	5/16	5/8
3	R 31	1 1/16	1 1/8	7/16	.305	4 7/8	3.437	1/8	1/32	15/32	5/16	5/8
4	R 37	1 1/16	1 1/8	7/16	.305	5 7/8	4.406	1/8	1/16	15/32	5/16	5/8
6	R 45	1 1/16	1 1/8	7/16	.305	8 5/16	6.437	1/8	1/16	15/32	5/16	5/8
8	R 49	1 1/16	1 1/8	7/16	.305	10 5/8	8.437	1/8	1/8	15/32	5/16	5/8
10	R 53	1 1/16	1 1/8	7/16	.305	12 3/4	10.687	1/8	1/8	15/32	5/16	5/8
12	R 57	1 1/16	1 1/8	7/16	.305	15	12.593	1/4	1/8	15/32	5/16	5/8
14	R 61	1 1/16	1 1/8	7/16	.305	16 1/2	14.000	1/4	1/8	15/32	5/16	5/8
16	R 65	1 3/16	1 1/4	7/16	.305	18 1/2	16.000	1/4	1/4	15/32	5/16	3/4
18	R 69	1 3/16	1 1/4	7/16	.305	21	18.000	1/4	1/4	15/32	5/16	3/4
20	R 73	1 1/4	1 5/16	1/2	.341	23	20.000	3/8	1/4	17/32	3/8	3/4
24	R 77	1 7/16	1 1/2	5/8	.413	27 1/4	24.000	3/8	1/4	21/32	7/16	13/16

* INTEGRAL TYPE ONLY

900 LB ANSI RATING

LINE SIZE INCHES	RING No.	RING DIMENSIONS					ORIFICE PLATE DIMENSIONS			GROOVE DIMENSIONS		DISTANCE BETWEEN FLANGES
		T	B	W	C	P	A	E	e	F	D	
1/2	R 12	1	1 1/16	5/16	.206	1 9/16	*	1/8	1/32	11/32	1/4	19/32
3/4	R 14	1	1 1/16	5/16	.206	1 3/4	*	1/8	1/32	11/32	1/4	19/32
1	R 16	1	1 1/16	5/16	.206	2	*	1/8	1/32	11/32	1/4	19/32
1 1/2	R 20	1	1 1/16	5/16	.206	2 11/16	*	1/8	1/32	11/32	1/4	19/32
2	R 24	1 1/16	1 1/8	7/16	.305	3 3/4	2.437	1/8	1/32	15/32	5/16	5/8
3	R 31	1 1/16	1 1/8	7/16	.305	4 7/8	3.437	1/8	1/32	15/32	5/16	5/8
4	R 37	1 1/16	1 1/8	7/16	.305	5 7/8	4.406	1/8	1/16	15/32	5/16	5/8
6	R 45	1 1/16	1 1/8	7/16	.305	8 5/16	6.437	1/8	1/16	17/32	3/8	5/8
8	R 49	1 1/16	1 1/8	7/16	.305	10 5/8	8.437	1/8	1/8	21/32	7/16	5/8
10	R 53	1 1/16	1 1/8	7/16	.305	12 3/4	10.687	1/8	1/8	21/32	7/16	5/8
12	R 57	1 1/16	1 1/8	7/16	.305	15	12.593	1/4	1/8	29/32	9/16	5/8
14	R 62	1 5/16	1 3/8	5/8	.413	16 1/2	14.000	1/4	1/8	1 1/16	5/8	11/16
16	R 66	1 7/16	1 1/2	5/8	.413	18 1/2	16.000	1/4	1/4	1 3/16	11/16	13/16
18	R 70	1 9/16	1 5/8	3/4	.484	21	18.000	1/4	1/4	1 3/16	11/16	15/16
20	R 74	1 9/16	1 5/8	3/4	.485	23	20.000	3/8	1/4	1 5/16	11/16	15/16
24	R 78	1 7/8	1 15/16	1	.681	27 1/4	24.000	3/8	1/4	1 7/16	13/16	15/16

* INTEGRAL TYPE ONLY

RING TYPE JOINT ORIFICE PLATE HOLDERS

A Ring Type Seal is used in high pressure or high integrity service where a metal to metal

seal is required. These Ring Type Joint Seals can be manufactured in any of the standard materials. The Oval design is the most commonly used.

CAT No. SP560

INTEGRAL TYPE HOLDER: The Integral, Oval Type Orifice Plate is the most commonly manufactured RTJ Holder. Integral Type Holder is highly recommended. It is the least expensive RTJ Holder. The one piece design makes it more durable than the Screw Type or Snap Ring Type Holders. The replacement cost is higher than replacing just replacing the Orifice Plates as in the Screw Type and Snap Ring Type.

CAT No. SP590

SCREW TYPE HOLDER: The Screw Type, Oval RTJ Holder is the second most commonly man-ufactured RTJ Holder. It's initial cost are higher but, replacement Universal Plates are less expensive. The 1/32 inch thick gasket presents a possibility of differential leakage and if accidently installed back-wards, which happens, the Orifice Plate could be dislodged down-stream.

CAT No. SP580

SNAP RING TYPE HOLDER: This is the least popular design and is the most expensive. The gasket creates a possibility of differential pressure leakage.

SEALING UNITS FOR UNIVERSAL ORIFICE PLATES

Universal Orifice Plate Seals are designed for use in Orifice Fittings only. Superior Products

Manufactures Custom Severe Service Fittings. Superior Products manufactures a variety of Orifice Plate Seals. Shown below are three of the most commonly used Seals. For larger diameter, high temperature, high pressure service, Superior Products, Inc. has developed a patented Integral Orifice Plate Seal.

CAT No. SPES

ELASTOMER SEALS. Available in the following materials: **NITRILE**, 0° F to 225° F. Primarily used for services requiring hydrocarbon resistance. Recommended for high aniline aliphatic hydrocarbons. **FLUROELASTOMER**, 0° F to 400° F. For higher temperature and more aggressive hydrocarbon service. **SILICONE**, -30° F to 200° F. For lower temperature hydrocarbon service. **AFLAX**, -25° F to 480° F. For high and low aniline hydrocarbon service.

CAT No. SPTS

TEFLON SEALS, -65° F to 500+ ° F. Pri-marily used for acid service including dilute sulfuric and fuming nitric acid. It also performs well with hydrazine and low temperature liquid gases. It is recommended that it be used in higher pressure Orifice Fittings above 900 lbs rating.

CAT No. SPMS

METAL SEALS. 500° F to 1200° F. Primarily for high temperature service. Due to corrosion problems we do not recommend cadmium plated carbon steel Metal Seals. Superior Product's Seals are standardly manufactured from 316 SS with inconel Springs. For special services we can offer our patented Integral Orifice Seal, not shown.

CAT No. SP520

PADDLE TYPE ORIFICE PLATES FOR SPECIAL SERVICES

Superior Products manufactures a variety of Orifice Plates. Shown below are a few of the standard special service Orifice Bore variations. Superior Products is very skilled. We

welcome the challenge of manufacturing unique products to meet our customer's needs.

STANDARD CONCENTRIC ORIFICE: This is the standard Flow Element "FE" type Orifice Plate. As required Per AGA Report # 3 the orifice is beveled on the downstream edge. The purpose of the bevel is to reduce the width of the throat area to the "e" dimension. The ratio of the Orifice Bore divide by the Line I.D. is called the Beta Ratio "β". The "β" Ratio should be between .2 and .7. The accuracy of the flow coefficient diminishes beyond these limits.

RESTRICTION TYPE ORIFICE: The purpose of the Restriction Orifice is to reduce the flow rate or to create a pressure drop. They are placed downstream of a Turbine Meter to guard against over spin. A Restriction Orifice is denoted by "RO" or "FO". When specifying a Restriction Orifice, the Plate thickness "E" should be thick enough to reduce Plate de-flection to a minimum. As a rule of thumb the maximum pressure drop across a single Orifice for a gas is 50%. For greater drops, multiple Orifices may be used. Cavitation and excessive noise can be a problem.

COUNTER BORED ORIFICE: Instead of beveling the downstream face of the Orifice Plate at 45°, a counter bore is an another method of reducing the throat thickness to the "e" dimension. The counter bore dia-menter is equal to the bore + "A".

CAT No. SP520

PADDLE TYPE ORIFICE PLATES FOR SPECIAL SERVICES

CONTINUED:

ECCENTRIC ORIFICE BORE: The outside diameter of the bevel of the Eccentric Orifice is tangent to 98% of the line I.D. When set at the elevational top of the line entrained gases in a liquid will pass the Orifice. When at the bottom position entrained solids of a liquid will be allowed to pass the Orifice.

QUADRANT BORED ORIFICE: The Quadrant Orifice is designed to measure the flow of high viscosity fluids and is recommended when the Reynolds Number is below 10,000. Quadrant Orifices maintain a constant coefficient in laminar flow. The Radius "R" is a function of the β Ratio. The thickness of the orifice is equal to Quadrant Radius "R". The thickness of the Orifice Plate is equal to "R" rounded up to next 1/8" increment. For example if R = .899 the Orifice Plate would be 1 inch thick. Due to the thickness and round-ed entrance edge the plate is very durable.

SEGMENTAL BORED ORIFICE: The Segmental Orifice Bore is designed for fluids containing heavy sediments. The diameter "D" is equal to 98% of the line I.D. "H" is the height of the circular segment. The β ratio is equal to equivalent circular diameter of segment divide by the line I.D.. The Segmental Orifice is the most difficult type of Orifice to manufacture requiring finishing off by hand.

CAT No. SP520

PADDLE TYPE ORIFICE PLATES FOR SPECIAL SERVICES

Superior Products manufactures a variety of Orifice Plates. Shown below are a few of the standard special service Orifice Bore variations. Superior Products is very skilled. We welcome the challenge of manufacturing unique products to meet our customer's needs.

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RESTRICTION TYPE ORIFICE: The purpose of the Restriction Orifice is to reduce the flow rate or to create a pressure drop. They are placed downstream of a Turbine Meter to guard against over spin. A Restriction Orifice is denoted by "RO" or "FO". When specifying a Restriction Orifice, the Plate thickness "E" should be thick enough to reduce Plate de-flection to a minimum. As a rule of thumb the maximum pressure drop across a single Orifice for a gas is 50%. For greater drops, multiple Orifices may be used. Cavitation and excessive noise can be a problem.

COUNTER BORED ORIFICE: Instead of beveling the downstream face of the Orifice Plate at 45°, a counter bore is an another method of reducing the throat thickness to the "e" dimension. The counter bore dia-menter is equal to the bore + "A".

CAT No. SP500

UNIVERSAL TYPE ORIFICE PLATES

The Universal type Orifice Plate is designed to be used in an Orifice Fitting. Line sizes 2 inch through 10 inch require a removable Orifice Plate Seal. Depending upon the service these Seals are made of Nitrile, Teflon or Stainless Steel. Please see page 7. Line sizes 12 inches and above require that the seal be vulcanized to the O.D. of the

Plate. The bore geometry of the Universal Orifice Plate is the same as the Paddle Type Orifice Plate. Care must be taken in installing Eccentric Bored Plates and Orifice Plates with Weep Holes to assure they are rotated in the correct position. Segmental Bores are not recommended in Universal Type Orifice Plates.

ORIFICE PLATE DIMENSIONS

LINE SIZE INCHES	PLATE OD A	PLATE THICKNESS E	BLANK WT LBS
2	2.437	1/8	.17
3	3.437	1/8	.34
4	4.406	1/8	.55
6	6.437	1/8	1.18
8	8.437	1/8	2.03
10	10.687	1/8	3.25
12*	13.079	1/4	9.02
14*	14.563	1/4	11.16

LINE SIZE INCHES	PLATE OD A	PLATE THICKNES S E	BLANK WT LBS
16*	16.563	1/4	14.58
18*	18.563	1/4	18.45
20*	20.563	3/8	22.78
24*	24.500	3/8	32.80
26*	26.750	3/8	62.00
30*	30.750	1/2	112.00
34*	35.228	1/2	134.00
36*	38.000	1/2	156.00

*"A" Dimension for 12 inch and larger Orifice Plates above include the Vulcanized Seal. Upon request Teflon and Metal Seals can be manufactured for Orifice Plates 12 inch and larger.