



# ORIFICE PLATES

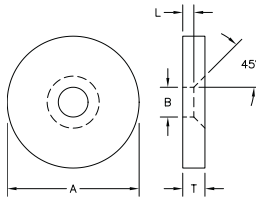
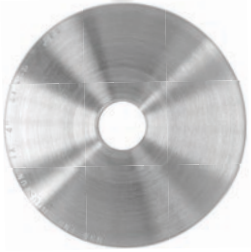
Simple, Predictable and Reliable Differential Flow Measurement



## SERIES 500 / 520 UNIVERSAL & PADDLE ORIFICE PLATES SERIES 560 / 590 RING TYPE JOINT PLATES & HOLDERS RESTRICTION ORIFICE UNIONS

USA Industries manufacture all of our flow measurement universal orifice plates, paddle plates, ring type joint (RTJ) plates and restriction orifice unions to meet or exceed standards set by A.G.A., I.S.A., A.N.S.I., A.S.M.E. and A.P.I. recommendations. Stocked plates include 304 & 316 stainless steel in 1/8" and 1/4" thicknesses. Other material and/or thicknesses are available upon request. We bore the plates to the customer's supplied sizing calculation, but we also provide sizing calculation services for an additional fee.

### Series 500 Orifice Plates & Seals



Nominal Pipe Size (in)	A (in)	L (in)	T (in)
1	1.312	1.02	1/8
1-1/2	2	0.03	1/8
2	2.437	0.03	1/8
2-1/2	2.812	0.03	1/8
3	3.437	0.03	1/8
4	4.406	0.06	1/8
5	6	0.06	1/8
6	6.437	0.06	1/8
8	8.437	0.125	1/4
10	10.687	0.125	1/4
12	12.593	.25	1/4
14	14	.25	1/4
16	16	.25	3/8
18	18	.25	3/8
20	20	0.375	3/8
24	24	0.375	3/8

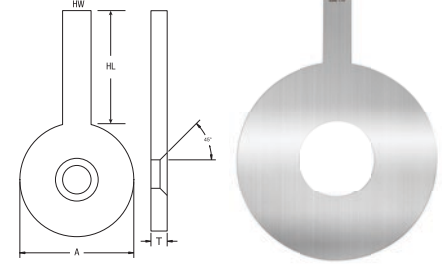
USA Industries' Universal Orifice Plates are designed to be used with all standard orifice fitting assemblies or RTJ plate holders. Can be used with any of the dual- or single-chambered orifice fittings.

Seal rings for Series 500 Orifice Plates are sold separately.

### Series 520 Paddle Orifice Plates

USA Industries' Paddle-Type Orifice Plates are manufactured for use with Raised Face Orifice Flanges and Holding Blocks.

Our paddle orifice plates meet or exceed the stringent requirements of AGA, ISA, ANSI, ASME & API Standards.

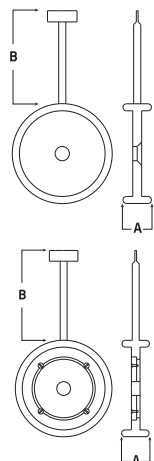


Line Size (in)	Flange Rating A							HL (in)	HW (in)	T (in)
	150#	300#	400#	600#	900#	1500#	2500#			
0.5	1.875	2.125	2.125	2.125	2.5	2.5	2.75	4	1	1/8
0.75	2.25	2.625	2.625	2.625	2.75	2.75	3			
1	2.625	2.875	2.875	2.875	3.125	3.125	3.375			
1.25	3	3.25	3.25	3.25	3.5	3.5	4.125			
1.5	3.375	3.75	3.75	3.75	3.875	3.875	4.625			
2	4.125	4.375	4.375	4.375	5.625	5.625	5.75			
2.5	4.875	5.125	5.125	5.125	6.5	6.5	6.625			
3	5.375	5.875	5.875	5.875	6.625	6.875	7.75			
4	6.875	7.125	7	7.625	8.125	8.25	9.25			
5	7.75	8.5	8.375	9.5	9.75	10	11			
6	8.75	9.875	9.75	10.5	11.375	11.125	12.125			
8	11	12.125	12	12.625	14.125	13.875	15.25			
10	13.375	14.25	14.125	15.75	17.125	17.125	18.75			
12	16.125	16.625	16.5	18	19.625	20.5	21.625			
14	17.75	19.125	19	19.375	20.5	22.75	-			
16	20.25	21.25	21.125	22.25	22.625	25.25	-			
18	21.5	23.375	23.25	24	25	27.625	-			
20	23.75	25.625	25.375	26.75	27.375	29.625	-			
22	26	27.75	27.5	28.875	-	-	-			
24	28.125	30.735	30.125	31	32.875	35.5	-			
30	34.625	37.375	37.25	38.125	-	-	-			
36	41.125	43.875	43.875	44.375	-	-	-			

### Series 560 Plates & 590 Plate Holders

The RTJ type orifice plate incorporates an integral gasket for mounting between RTJ flanges. There are no moving parts and are suitable for high temperature and pressure applications.

Plate thicknesses depend on line size and differential pressure, and may be machined in one piece, or from two pieces, with an Orifice Plate screwed onto a carrier ring/gasket.

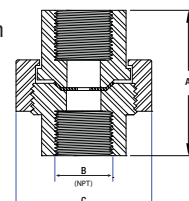


Line Size (in.)	FLANGE RATING											
	300# - 600#			900#			1500#			2500#		
RING SIZE	A	B	RING SIZE	A	B	RING SIZE	A	B	RING SIZE	A	B	
1/2	R-11	29/32		R-12		R-12		R-13				
3/4	R-13			R-14		R-14		R-16				
1	R-16	1	4-1/4	R-16	1	4-1/4		R-18				
1-1/2	R-20			R-20				R-23				
2	R-23			R-24				R-26	1-1/16		6-1/2	
2-1/2	R-26			R-27				R-27				
3	R-31			R-31		5-1/4		R-35				
3-1/2	R-34	1-1/16	5-1/4		1-1/16			R-39		1-1/16		
4	R-37			R-37				R-39				
5	R-41			R-41				R-44				
6	R-45		6-1/4	R-45		6-1/4		R-46	1-3/16			
8	R-49		6-1/2	R-49		6-1/2		R-50	1-5/16			
10	R-53			R-53				R-54	1-7/16	7-1/2		
12	R-57			R-57	1-3/16			R-58	1-11/16	8-1/2		
14	R-61	1-3/16	7-1/2	R-62	1-7/16	7-1/2		R-63	1-7/8			
16	R-65			R-66				R-67				
18	R-69			R-70				R-71	2	9-1/2		
20	R-73	1-1/4		R-74	1-9/16			R-75	2-1/8	10-1/2		
24	R-77	1-7/16		R-78	1-7/8	9-1/2	R-79	2-5/16	11-1/2			

For more information on USA Industries products, contact us at (713) 941-3797 or go to [www.USAIndustries.com](http://www.USAIndustries.com)

### Restriction Orifice Unions

Stocked in carbon & stainless steel bodies with pressure ratings of 3,000 PSIG, RSU's are available in line sizes 1/4" to 2" with female NPT or socket-weld connections. Non-standard sizes and materials can be produced rapidly upon request. Plates can be configured to work as recessed, pressed, or pressed with tab for easy size identification without breaking the union.



Line Size (in.)	A OAL (in.)	B NPT or SW (in.)	C Hex Size (in.)
1/4	1-3/4	1/4	1-3/8
3/8	1-7/8	3/8	1-5/8
1/2	2	1/2	1-3/4
3/4	2-1/4	3/4	2-3/16
1	2-9/16	1	2-9/16
1-1/4	2-7/8	1-1/4	3-1/6
1-1/2	3-1/8	1-1/2	3-7/16
2	3-1/2	2	4