



ORIFICE PLATES & RESTRICTION UNIONS

AVAILABLE 24/7 / 365

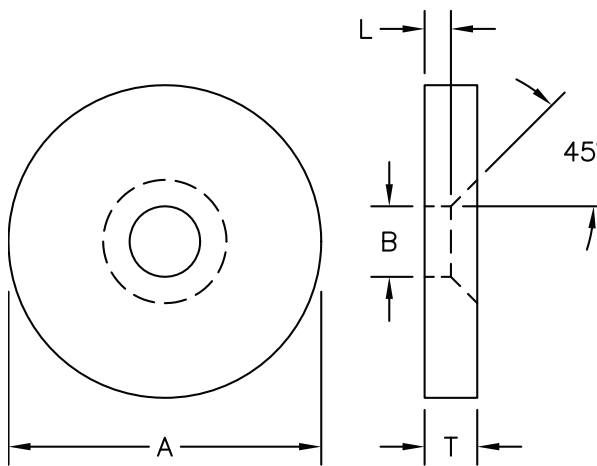
<p>MATERIALS USA-MADE 304/316 SS</p>	<p>STOCKED THICKNESS 1/8" & 1/4"</p>	<p>CALCULATION SERVICE IN-HOUSE CALCULATIONS (FEE BASED)</p>	<p>CERTIFIED ISO 9001: 2015</p> 
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USA Industries manufactures a full range of flow measurement components, including **UNIVERSAL ORIFICE PLATES, PADDLE PLATES, RTJ PLATES,** and **RESTRICTION UNIONS,** engineered to meet or exceed leading industry standards. Each plate is precision-bored to align with customer-supplied sizing calculations, with sizing services available for a nominal fee.

SERIES 500

UNIVERSAL ORIFICE PLATES

- Engineered for compatibility with all standard orifice fitting assemblies and RTJ plate holders. Universal plates can be used with both dual- and single-chambered orifice fittings, offering maximum versatility across applications.



NOMINAL PIPE SIZE (in)	A (IN)	L (IN)	T (IN)
1	1.312	1.02	1/8
1.5	2	0.03	1/8
2	2.437	0.03	1/8
2.5	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



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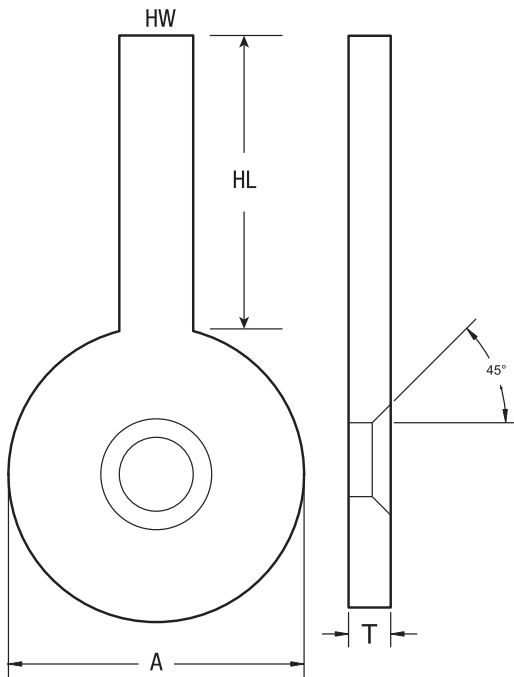
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SERIES 520

PADDLE TYPE ORIFICE PLATES

- Designed specifically for use with Raised Face Orifice Flanges and Holding Blocks. Each plate is manufactured to meet or exceed the rigorous standards set by AGA, ISA, ANSI, ASME, and API — ensuring reliable performance and precision.



LINE SIZE	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	.125
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	-	-	-			
								6	1.5	.375
										.25
										.5



ORIFICE PLATES & RESTRICTION UNIONS

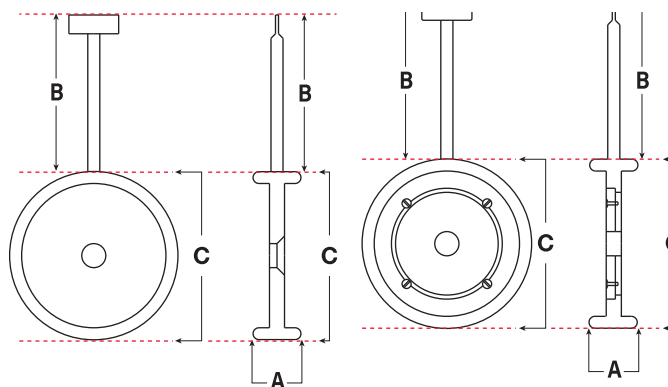
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MATERIALS USA-MADE 304/316 SS	STOCKED THICKNESS 1/8" & 1/4"	CALCULATION SERVICE IN-HOUSE CALCULATIONS (FEE BASED)	CERTIFIED ISO 9001: 2015
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SERIES 560 & 590

RTJ TYPE ORIFICE PLATES

— The RTJ-Type Orifice Plate includes an integrated gasket for direct installation between RTJ flanges. With no moving parts, it's well-suited for high-pressure, high-temperature service. Plate thickness depends on line size and differential pressure — plates are available as a solid piece or as a two-piece assembly with a carrier ring or gasket.



	LINE SIZE (IN.)	.5	.75	1	1.5	2	2.5	3	4	6	8	10	12	14	16	18	20	24				
ANSI 300 TO 600	API Ring No.	R-11	R-13	R-16	R-20	R-23	R-26	R-31	R-37	R-45	R-49	R-53	R-57	R-61	R-65	R-69	R-73	R-77				
	ANSI 300 Gap 1 (in.)	.625				.655				.78				.905				1.03				
	ANSI 600 Gap 1 (in.)					.625				.75				.875				1				
	A (in.)	.945	1.025			1.125			1.25			1.375			1.66							
	B (in.)	4.25			5.25			6.25			7.25											
	C Ring OD (in.)	1.593	2	2.313	3	3.688	4.438	5.313	6.313	8.75	11.063	13.188	15.438	16.938	18.938	21.438	23.5	27.875				
560 Plate Blank Wt. (lb.)	.3	.5	.6	.9	1.9	2.5	3.3	4.3	7.2	10.6	14.3	18.7	21.9	35.6	45.9	56.2	80.8					
590 Plate Blank Wt. (lb.)	—				1.7	2.1	2.6	3.2	4.6	5.9	7.2	8.4	9.3	12.3	14	17.7	26.1					
ANSI 900	API Ring No.	R-12	R-14	R-16	R-20	R-24	R-27	R-31	R-37	R-45	R-49	R-53	R-57	R-62	R-66	R-70	R-74	R-78				
	ANSI 900 Gap 1 (in.)					.625				.75				.875				1				
	A (in.)	1.025			1.195			1.155			1.28			1.47			1.595	1.685	2.09			
	B (in.)	4.25			5.25			6.25			7.25											
	C Ring OD (in.)	1.875	2.063	2.313	3	4.188	4.688	5.313	6.313	8.75	11.063	13.188	15.438	17.125	19.125	21.75	23.75	28.25				
	560 Plate Blank Wt. (lb.)	.4	.5	.6	.9	2	2.7	3.3	4.3	7.2	10.6	14.3	18.7	27.1	42.6	57.8	65.2	102.8				
590 Plate Blank Wt. (lb.)	—				1.8	2.3	2.6	3.2	4.6	5.9	7.2	8.4	14.8	18.9	26.9	27.5	49.7					
ANSI 1500	API Ring No.	R-12	R-14	R-16	R-20	R-24	R-27	R-35	R-39	R-46	R-50	R-54	R-58	R-63	R-67	R-71	R-75	R-79				
	ANSI 1500 Gap 1 (in.)					.625				.565				.75				.875	1			
	A (in.)	1.025			1.195			1.47			1.69			1.84			2.005			2.31		
	B (in.)	4.25			5.25			6.25			7.25			8.25			9.25			10.25		
	C Ring OD (in.)	1.875	2.063	2.313	3	4.188	4.688	5.813	6.813	8.813	11.25	13.375	15.875	17.5	19.625	22.125	24.25	28.625				
	560 Plate Blank Wt. (lb.)	.4	.5	.6	.9	2	2.7	3.8	4.9	8.2	14	18.3	30.8	40.8	64.4	77.5	93.7	132.8				
590 Plate Blank Wt. (lb.)	—				1.8	2.3	2.9	3.5	5.6	9.5	11.4	21.2	29.1	42.1	47.8	57.8	81.2					
ANSI 2500	API Ring No.	R-13	R-16	R-18	R-23	R-26	R-28	R-32	R-38	R-47	R-51	R-55	R-60									
	ANSI 2500 Gap 1 (in.)					.625				.75												
	A (in.)	1.025			1.195			1.255			1.345			1.465			1.69			1.94	2	
	B (in.)	4.25			5.25			6.25			7.25			8.25			9.25			---		
	C Ring OD (in.)	2	2.313	2.688	3.688	4.438	4.875	5.5	6.813	9.75	11.875	14.625	17.25									
	560 Plate Blank Wt. (lb.)	.5	.6	.7	1.5	2.5	3.3	4.5	6.6	13.1	20.1	37.6	49.8									
590 Plate Blank Wt. (lb.)	—				2.1	2.9	3.7	5.5	10.2	15.5	26.6	39.3										



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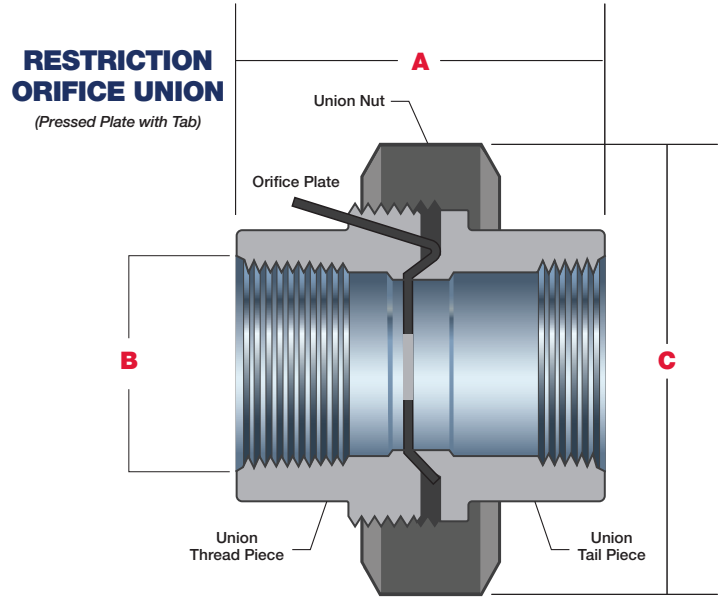
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RESTRICTION UNIONS

RSU SERIES

- Restriction Orifice Unions (RSUs) are stocked in carbon steel and stainless steel bodies, rated to 3,000 PSIG, and available in line sizes from 1/4" to 2" with female NPT or socket-weld connections. Non-standard sizes and materials can be produced quickly upon request.
- **RECESSED** – flush plate configuration
- **PRESSED** – secure press-fit installation
- **PRESSED WITH TAB** – 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