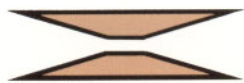
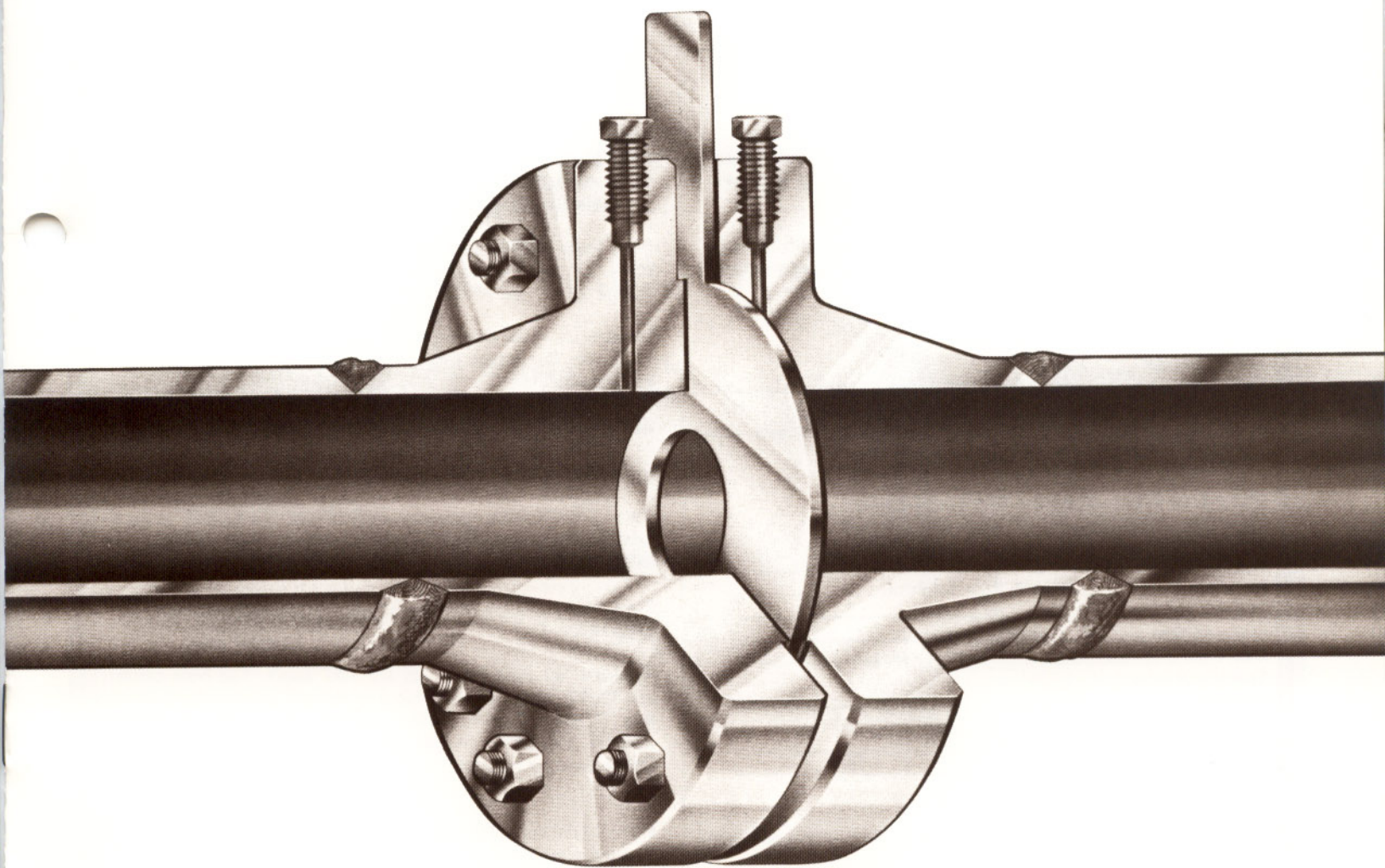
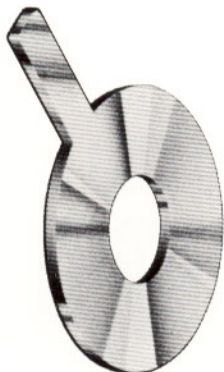


# ORIFICE PLATES AND FLANGE UNIONS



**ENERGY FLOW SYSTEMS, INC.**

# ORIFICE PLATES & ORIFICE FLANGE UNIONS



## ORIFICE PLATES

Energy Flow Systems orifice plates are manufactured in accordance with A.G.A., A.S.M.E. and I.S.A. recommendations.

Energy Flow Systems orifice plates are available in the paddle handle type as described on page 3 for use with raised face orifice flange unions and the ring joint type plates and holders as described on page 4 for use with RTJ orifice flange unions.

Standard materials of construction are 304 or 316 SS with other materials such as Monel and Hastelloy C or D available as required.

Energy Flow Systems orifice plates may be supplied with concentric, eccentric, segmental or quadrant edge bores as required.

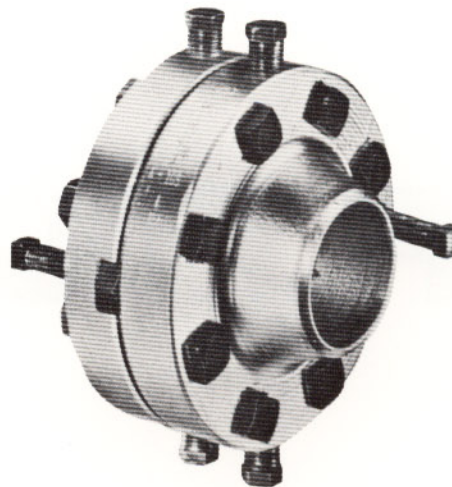
### WHEN ORDERING PLEASE SPECIFY:

Series number \_\_\_\_\_  
 Line size \_\_\_\_\_ & flange rating \_\_\_\_\_ #  
 Plate material \_\_\_\_\_ & thickness \_\_\_\_\_  
 Bore size \_\_\_\_\_ (If Energy Flow Systems is to calculate orifice bore, the following flow data is required).

Meter type dry \_\_\_\_\_ or Hg \_\_\_\_\_  
 Meter tap (type) \_\_\_\_\_  
 Meter differential range \_\_\_\_\_ "WC  
 Pipe I.D. \_\_\_\_\_ or  
 Line size \_\_\_\_\_ & Pipe Schedule \_\_\_\_\_  
 Fluid \_\_\_\_\_  
 Units of flow \_\_\_\_\_  
 Max flow \_\_\_\_\_ Normal flow \_\_\_\_\_  
 Specific gravity:  
 Operating \_\_\_\_\_ Base \_\_\_\_\_  
 Temperature:  
 Operating \_\_\_\_\_ Base \_\_\_\_\_  
 Pressure: Operating \_\_\_\_\_

If liquid specify:  
 Viscosity @ Operating temperature \_\_\_\_\_

If gas specify.  
 Molecular weight \_\_\_\_\_  
 Base pressure \_\_\_\_\_  
 Gas composition \_\_\_\_\_ or  
 Specific heat ratio \_\_\_\_\_ and  
 Compressibility ratio ( $Z_f$ ) \_\_\_\_\_



## ORIFICE FLANGE UNIONS

Energy Flow Systems orifice flange unions are furnished in A.S.T.M. A181 and A105 to conform to A.S.A. B16.5 Flange Piping Code. Other materials such as stainless steel, P.V.C. and fiberglass are available as required.

Stud bolts are furnished with all orifice flange unions and are made in accordance with A.S.T.M., A193-Grade B7 alloy steel.

Hexagonal nuts are supplies for each stud and are manufactured in accordance with A.S.T.M. A194 Grade-2H alloy steel.

Jackscrews are A.S.T.M. A307 heat treated carbon steel.

Pipe plugs are hex head forged steel.

Two 1/16" thick asbestos gaskets are furnished with all raised face orifice flange unions. Other gasket materials are available as required.

Bore tolerance are within A.G.A. recommendations for .75 Beta ratio.

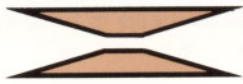
Pressure tap hole locations are 180° apart. Tap hole centers are 15/16" from bearing faces of flanges, placing their center line 1" from face of orifice plate when 1/16" gasket thickness is included. Standard connections are 1/2" N.P.T. Other sizes on request.

### WHEN ORDERING PLEASE SPECIFY:

1. Line size and pipe schedule
2. Flange rating and type
3. Flange material
4. Tap location
5. Tap connections

Orifice plates must be ordered separately.



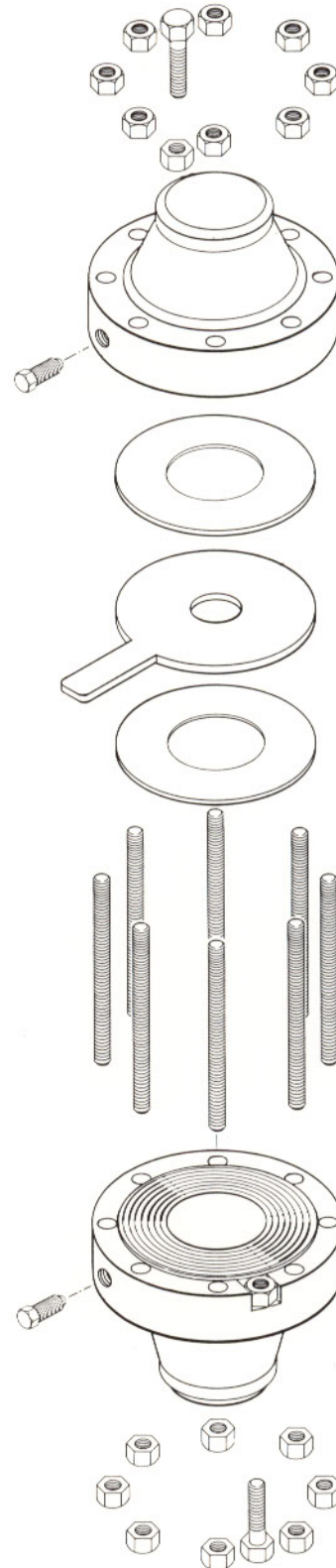


**ENERGY FLOW SYSTEMS, INC.**

## **MAINTENANCE & INSTALLATION INSTRUCTIONS**

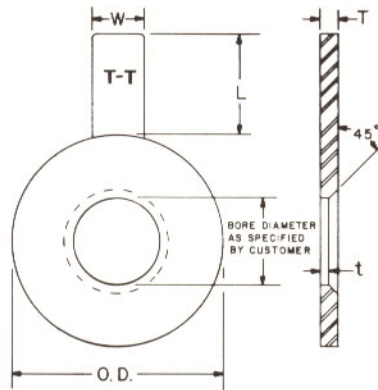
### **TO INSTALL OR REMOVE ORIFICE PLATE:**

1. Make certain the pipeline is not under pressure and has been properly drained or purged as required.
2. Loosen all studs.
3. Remove the studs in one half of the flange union.
4. Spread flange union by turning jackscrews clockwise.
5. Install new plate or remove existing plate for replacement or inspection.
6. Install new gaskets when installing plate. We recommend installing new gaskets each time orifice flange union is separated.
7. Release the flange union by turning jackscrews counter clockwise.
8. Replace studs.
9. Tighten studs starting with two studs opposite each other.



# PADDLE TYPE ORIFICE PLATES SERIES PT-500

FOR USE WITH STANDARD RAISED FACE ORIFICE FLANGE UNIONS



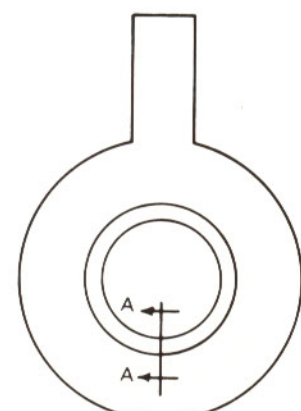
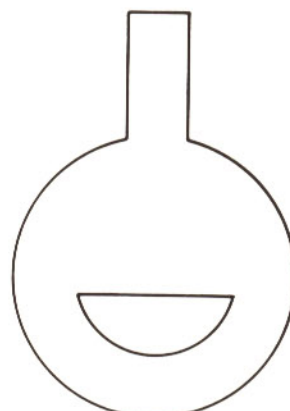
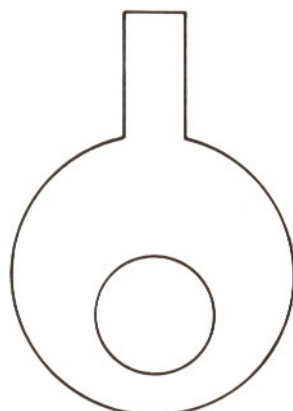
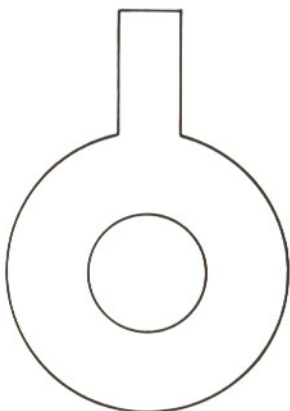
Line Size	150 #	300 #	600 #	900 #	1500 #	All Ratings				WEIGHT IN POUNDS - BLANK PLATE				
	O.D.	O.D.	O.D.	O.D.	O.D.	T	t	W	L	150 #	300 #	600 #	900 #	1500 #
1/2"	1.875	2.125	2.125	2.500	2.500	0.125	0.020	1.00	4.00	.2	.2	.2	.3	.3
3/4"	2.250	2.625	2.625	2.750	2.750	0.125	0.020	1.00	4.00	.3	.3	.3	.3	.3
1"	2.625	2.875	2.875	3.125	3.125	0.125	0.020	1.00	4.00	.3	.4	.4	.5	.5
1-1/2"	3.375	3.750	3.750	3.875	3.875	0.125	0.030	1.00	4.00	.5	.5	.5	.6	.6
2"	4.125	4.375	4.375	5.625	5.625	0.125	0.030	1.00	4.00	.6	.7	.7	1.0	1.0
2-1/2"	4.875	5.125	5.125	6.500	6.500	0.125	0.030	1.00	4.00	.8	.9	.9	1.3	1.3
3"	5.375	5.875	5.875	6.625	6.875	0.125	0.030	1.00	4.00	1.0	1.1	1.1	1.4	1.5
4"	6.875	7.125	7.625	8.125	8.250	0.125	0.060	1.00	4.00	1.5	1.6	1.8	2.0	2.1
5"	7.750	8.500	9.500	9.750	10.000	0.125	0.060	1.00	4.00	1.9	2.2	2.7	2.9	3.0
6"	8.750	9.875	10.500	11.375	11.125	0.125	0.060	1.00	4.00	2.4	3.0	3.4	3.9	3.7
8"	11.000	12.125	12.625	14.125	13.875	0.125	0.125	1.00	4.00	3.6	4.4	4.8	5.9	5.7
10"	13.375	14.250	15.750	17.125	17.125	0.125	0.125	1.50	4.50	5.3	6.0	7.3	8.6	8.6
12"	16.125	16.625	18.000	19.625	20.500	0.250	0.250	1.50	4.50	8.1	8.6	10.0	11.7	12.8
14"	17.750	19.125	19.375	20.500	22.75	0.250	0.250	1.50	4.50	11.0	11.7	13.0	14.2	20.7
16"	20.250	21.250	22.250	22.625	25.25	0.250	0.250	1.50	5.00	11.9	13.1	14.4	14.8	25.50
18"	21.625	23.500	24.125	25.125	27.75	0.250	0.250	2.00	5.00	27.5	32.3	34.0	36.8	38.50
20"	23.875	25.750	26.875	27.500	29.75	0.250	0.250	2.00	5.00	33.3	38.6	42.0	43.9	44.25
24"	28.250	30.500	31.125	33.000	35.50	0.250	0.250	2.00	5.00	47.2	53.9	56.0	62.9	63.20
26"	30.500	32.875	34.125	34.750	-	0.250	0.250	3.00	6.00	82.1	94.9	102.1	105.8	-
30"	34.750	37.500	38.250	39.750	-	0.250	0.250	3.00	6.00	106.1	123.1	127.9	137.9	-
36"	41.125	43.875	44.375	-	-	0.250	0.250	3.00	6.00	125.0	160.0	165.0	180.0	-

**CONCENTRIC**

**ECCENTRIC**

**SEGMENTAL**

**QUADRANT EDGE**



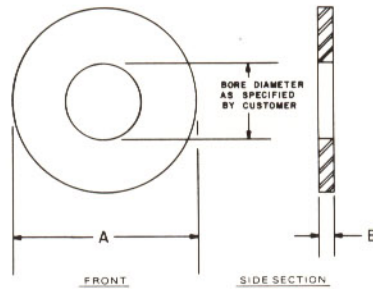
Section A-A



# UNIVERSAL TYPE ORIFICE PLATES SERIES UP-600

FOR USE WITH RING JOINT ORIFICE PLATE HOLDERS

LINE SIZE	DIMENSIONS		WEIGHT BLANK
	A	B	
3/4"	1.125"	1/8"	0.03
1"	1.312"	1/8"	0.05
1-1/2"	2.000"	1/8"	0.15
2"	2.437"	1/8"	0.20
2-1/2"	2.812"	1/8"	0.30
3"	3.437"	1/8"	0.35 #
4"	4.406"	1/8"	0.60 #
6"	6.437"	1/8"	1.20 #
8"	8.437"	1/8"	2.00 #

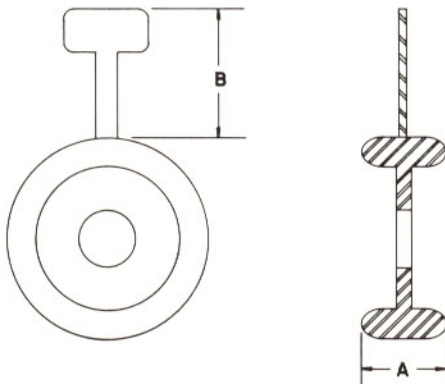


LINE SIZE	DIMENSIONS		WEIGHT BLANK
	A	B	
10"	10.687"	1/8"	3.25 #
12"	12.593"	1/4"	7.50 #
14"	14.000"	1/4"	11.50 #
16"	16.000"	1/4"	15.00 #
18"	18.000"	1/4"	19.00 #
20"	20.000"	1/4"	23.00 #
24"	24.000"	1/4"	33.00 #
26"	26.000"	1/4"	44.00 #
30"	30.000"	3/8"	77.00 #

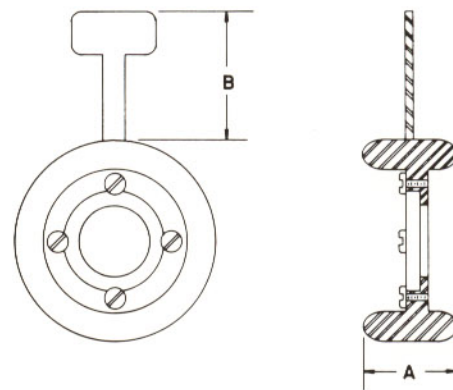
## RING JOINT TYPE PLATE HOLDERS

FOR USE WITH RING JOINT TYPE ORIFICE FLANGES

**SERIES IPH-100**  
INTEGRAL PLATE TYPE HOLDER



**SERIES RPH-200**  
REMOVABLE PLATE TYPE HOLDER



### DIMENSIONS AND A.P.I. RING NUMBERS

SIZE	300-600 LBS. A.S.A.			900 LBS. A.S.A.			1500 LBS. A.S.A.			2500 LBS. A.S.A.		
	A.P.I. Ring Nos.	A	B	A.P.I. Ring Nos.	A	B	A.P.I. Ring Nos.	A	B	A.P.I. Ring Nos.	A	B
1"	R-16*	1"	7-1/4"	R-16*	1"	7-1/4"	R-16*	1"	7-1/4"	R-18*	1"	7-1/4"
1-1/2"	R-20*	1"	7-1/4"	R-20*	1"	7-1/4"	R-20*	1"	7-1/4"	R-23*	1-1/16"	7-1/4"
2"	R-23*	1-1/16"	7-1/4"	R-24	1-1/16"	7-1/4"	R-24	1-1/16"	7-1/4"	R-26	1-1/16"	7-1/4"
2-1/2"	R-26	1-1/16"	7-1/4"	R-27	1-1/16"	7-1/4"	R-27	1-1/16"	7-1/4"	R-28	1-3/16"	7-1/4"
3"	R-31	1-1/16"	7-1/4"	R-31	1-1/16"	7-1/4"	R-35	1-1/16"	7-1/4"	R-32	1-3/16"	7-1/4"
4"	R-37	1-1/16"	7-1/4"	R-37	1-1/16"	7-1/4"	R-39	1-1/16"	7-1/4"	R-38	1-5/16"	7-1/4"
5"	R-41	1-1/16"	7-1/4"	R-41	1-1/16"	7-1/4"	R-44	1-1/16"	7-1/4"	R-42	1-7/16"	7-1/4"
6"	R-45	1-1/16"	7-1/4"	R-45	1-1/16"	7-1/4"	R-46	1-1/8"	7-1/4"	R-47	1-6/16"	7-1/4"
8"	R-49	1-1/16"	7-1/4"	R-49	1-1/16"	7-1/4"	R-50	1-5/16"	7-1/4"	R-51	1-9/16"	7-1/4"
10"	R-53	1-1/16"	7-1/4"	R-53	1-1/16"	7-1/4"	R-54	1-5/16"	7-1/4"	R-55	1-7/8"	7-1/4"
12"	R-57	1-1/16"	7-1/4"	R-57	1-1/16"	7-1/4"	R-58	1-9/16"	7-1/4"	R-60	2"	9-1/4"
14"	R-61	1-1/16"	7-1/4"	R-62	1-5/16"	7-1/4"	R-63	1-3/4"	7-1/4"	....	.....	.....
16"	R-65	1-3/16"	7-1/4"	R-66	1-7/16"	7-1/4"	R-67	2"	9-1/4"	....	.....	.....
18"	R-69	1-3/16"	7-1/4"	R-70	1-9/16"	7-1/4"	R-71	2"	9-1/4"	....	.....	.....
20"	R-73	1-1/4"	7-1/4"	R-74	1-9/16"	7-1/4"	R-75	2-1/8"	11-1/4"	....	.....	.....
24"	R-77	1-7/16"	7-1/4"	R-78	1-7/8"	9-1/4"	R-79	2-5/16"	11-1/4"	....	.....	.....

\*NOTE: A.P.I. RING NUMBERS R-16 THROUGH R-31 AVAILABLE IN TYPE IPH-100 ONLY



## 300# ORIFICE FLANGE UNION DIMENSIONS

Line	A.O.D.	B. Flange	Y Flange	C	D	D <sub>1</sub>	E	E <sub>1</sub>	E <sub>2</sub>	F	F <sub>1</sub>	Face	G
Size	Flange	Thickness	Thickness	Thickness	Bore	Bore	Length	Length	Length	Dia	Dia	Dia	Dia
1/2"	3-3/4	1-1/2	1-1/4	1/16		.88	3	1-13/16	3	.84	1-1/2	1-3/8	1-11/32
1	4-7/8	1-1/2	1-1/4	1/16		1.36	3-1/4	1-7/8	3	1.32	2-1/8	2	2
1-1/4"	5-1/4	1-1/2	1-1/4	1/16		1.70	3-5/16	1-13/16	3-1/16	1.66	2-1/2	2-1/2	2-3/8
1-1/2"	6-1/8	1-1/2	1-1/4	1/16	Per Customer Specifications	1.95	3-3/8	1-7/8	3-1/8	1.90	2-3/4	2-7/8	2-11/16
2	6-1/2	1-1/2	1-1/4	1/16		2.44	3-3/8	1-15/16	3-1/8	2.38	3-5/16	3-5/8	3-1/4
2-1/2"	7-1/2	1-1/2	1-1/4	1/16		2.94	3-1/2	2	3-1/4	2.88	3-15/16	4-1/8	4
3	8-1/4	1-1/2	1-1/4	1/16		3.57	3-1/2	2-1/16	3-1/4	3.50	4-5/8	5	4-7/8
4	10	1-1/2	1-1/4	1/16		4.57	3-5/8	2-1/8	3-3/8	4.50	5-3/4	6-3/16	5-7/8
5	11	1-1/2	1-3/8	1/16		5.66	4	2-1/8	3-7/8	5.56	7	7-5/16	7-1/8
6	12-1/2	1-1/2	1-7/16	1/16		6.72	3-15/16	2-1/8	3-7/8	6.63	8-1/8	8-1/2	8-5/16
8	15	1-5/8	1-5/8	1/16		8.72	4-3/8	2-7/16	4-3/8	8.63	10-1/4	10-5/8	10-5/8
10	17-1/2	1-7/8	1-7/8	1/16		10.88	4-5/8	2-5/8	4-5/8	10.75	12-5/8	12-3/4	12-3/4
12	20-1/2	2	2	1/16		12.88	5-1/8	2-7/8	5-1/8	12.75	14-3/4	15	15
14	23	2-1/8	2-1/8	1/16		14.14	5-5/8	3	5-5/8	14.00	16-3/4	16-1/4	16-1/2
16	25-1/2	2-1/4	2-1/4	1/16		16.16	5-3/4	3-1/4	5-3/4	16.00	19	18-1/2	18-1/2
18	28	2-3/8	2-3/8	1/16		18.18	6-1/4	3-1/2	6-1/4	18.00	21	21	21
20	30-1/2	2-1/2	2-1/2	1/16		20.20	6-3/8	3-3/4	6-3/8	20.00	23-1/8	23	23
24	36	2-3/4	2-3/4	1/16		24.25	6-5/8	4-3/16	6-5/8	24.00	27-5/8	27-1/4	27-1/4

## 600# ORIFICE FLANGE UNION DIMENSIONS

Line	A.O.D.	B. Flange	Y Flange	C	D	D <sub>1</sub>	E	E <sub>1</sub>	E <sub>2</sub>	F	F <sub>1</sub>	Face	G
Size	Flange	Thickness	Thickness	Thickness	Bore	Bore	Length	Length	Length	Dia	Dia	Dia	Dia
1/2"	3-3/4	1-1/2	1-1/4	1/16		.88	3	1-13/16	3	.84	1-1/2	1-3/8	1-11/32
1	4-7/8	1-1/2	1-1/4	1/16		1.36	3-1/4	1-7/8	3	1.32	2-1/8	2	2
1-1/4"	5-1/4	1-1/2	1-1/4	1/16		1.70	3-15/16	1-13/16	3-1/16	1.66	2-1/2	2-1/2	2-3/8
1-1/2"	6-1/8	1-1/2	1-1/4	1/16	Per Customer Specifications	1.95	3-3/8	1-7/8	3-1/8	1.90	2-3/4	2-7/8	2-11/16
2	6-1/2	1-1/2	1-1/4	1/16		2.44	3-3/8	1-15/16	3-1/8	2.38	3-5/16	3-5/8	3-1/4
2-1/2"	7-1/2	1-1/2	1-1/4	1/16		2.94	3-1/2	2	3-1/4	2.88	3-15/16	4-1/8	4
3	8-1/4	1-1/2	1-1/4	1/16		3.57	3-1/2	2-1/16	3-1/4	3.50	4-5/8	5	4-7/8
4	10-3/4	1-3/4	1-1/2	1/4		4.57	4-1/4	2-3/8	4	4.50	6	6-3/16	5-7/8
5	13	2	1-3/4	1/4		5.66	4-3/4	2-5/8	4-1/2	5.56	7-7/16	7-5/16	7-1/8
6	14	2-1/8	1-7/8	1/4		6.72	4-7/8	2-7/8	4-5/8	6.63	8-3/4	8-1/2	8-15/16
8	16-1/2	2-7/16	2-3/16	1/4		8.72	5-1/2	3-1/4	5-1/4	8.63	10-3/4	10-5/8	10-5/8
10	20	2-3/4	2-1/2	1/4		10.88	6-1/4	3-5/8	6	10.75	13-1/2	12-3/4	12-3/4
12	22	2-7/8	2-5/8	1/4		12.88	6-3/8	3-7/8	6-1/8	12.75	15-3/4	15	15
14	23-3/4	3	2-3/4	1/4		14.14	6-3/4	3-15/16	6-9/16	14.00	17	16-1/4	16-1/2
16	27	3-1/4	3	1/4		16.16	7-1/4	4-7/16	7-1/16	16.00	19-1/2	18-1/2	18-1/2
18	29-1/4	3-1/2	3-1/4	1/4		18.18	7-1/2	4-7/8	7-15/16	18.00	21-1/2	21	21
20	32	3-3/4	3-1/2	1/4		20.20	7-3/4	5-1/4	7-5/8	20.00	24	23	23
24	37	4-1/4	4	1/4		24.25	8-1/4	5-3/4	8-3/16	24.00	28-1/4	27-1/4	27-1/4

## 900# ORIFICE FLANGE UNION DIMENSIONS

Line	A.O.D.	B. Flange	Y Flange	C	D	D <sub>1</sub>	E	E <sub>1</sub>	E <sub>2</sub>	F	F <sub>1</sub>	Face	G
Size	Flange	Thickness	Thickness	Thickness	Bore	Bore	Length	Length	Length	Dia	Dia	Dia	Dia
1/2"	4-3/4	1-1/2	1-1/4	1/4		.88	3-1/8	1-7/8	3-1/8	.84	1-1/2	1-3/8	1-9/16
1	5-7/8	1-5/8	1-1/4	1/4		1.36	3-1/4	2-1/8	3	1.32	2-1/16	2	2
1-1/4"	6-1/4	1-5/8	1-1/4	1/4		1.70	3-1/4	2-1/8	3	1.66	2-1/2	2-1/2	2-3/8
1-1/2"	7	1-5/8	1-1/4	1/4	Per Customer Specifications	1.95	3-1/2	2-1/8	3-1/4	1.90	2-3/4	2-7/8	2-11/16
2	8-1/2	1-3/4	1-1/2	1/4		2.44	4-1/4	2-1/2	4	2.38	4-1/8	3-5/8	3-3/4
2-1/2"	9-5/8	1-7/8	1-5/8	1/4		2.94	4-3/8	2-3/4	4-1/8	2.88	4-7/8	4-1/8	4-1/4
3	9-1/2	1-3/4	1-1/2	1/4		3.57	4-1/4	2-3/8	4	3.50	5	5	4-7/8
4	11-1/2	2	1-3/4	1/4		4.57	4-3/4	3	4-1/2	4.50	6-1/4	6-3/16	5-7/8
5	13-3/4	2-1/4	2	1/4		5.66	5-1/4	3-3/8	5	5.56	7-1/2	7-5/16	7-1/8
6	15	2-7/16	2-3/16	1/4		6.72	5-3/4	3-5/8	5-1/2	6.63	9-1/4	8-1/2	8-5/16
8	18-1/2	2-3/4	2-1/2	1/4		8.72	6-5/8	4-1/4	6-3/8	8.63	11-3/4	10-5/8	10-5/8
10	21-1/2	3	2-3/4	1/4		10.88	7-1/2	4-1/2	7-1/4	10.75	14-1/2	12-3/4	12-3/4
12	24	3-3/8	3-1/8	1/4		12.88	8-1/8	4-7/8	7-7/8	12.75	16-1/2	15	15
14	25-1/4	3-5/8	3-3/8	1/4		14.14	8-5/8	5-3/8	8-9/16	14.00	17-3/4	16-1/4	16-1/2
16	27-3/4	3-3/4	3-1/2	1/4		16.16	8-3/4	5-1/2	8-11/16	16.00	20	18-1/2	18-1/2
18	31	4-1/4	4	1/4		18.18	9-1/4	6-1/4	9-1/4	18.00	22-1/4	21	21

**NOTES**

- (1) Stud lengths for RFWN, RFSO and RFTHD flanges.
- (2) Stud lengths for RFTJ flanges.

- (3) Weights for RFWN and RFRTJ flanges.
- (4) Weights for RFSO and RFTHD flanges.



# 300 LB.

STUDS					Weight	Weight
No.			Lgth.	Lgth	Approx.	Approx.
Holes	Dia.	Circle	Note 1	Note 2	Note 3	Note 4
4	1/2	2-5/8	5	5	14	8
4	5/8	3-1/2	5	5-1/4	18	11
4	5/8	3-7/8	5	5-1/4	20	14
4	3/4	4-1/2	5-1/4	5-1/2	25	18
8	5/8	5	5	5-1/4	27	19
8	3/4	5-7/8	5-1/4	6	35	28
8	3/4	6-5/8	5-1/4	6	43	34
8	3/4	7-7/8	5-1/4	6	66	59
8	3/4	9-1/4	5-1/4	6	78	88
12	3/4	10-5/8	5-1/4	6	106	102
12	7/8	13	5-3/4	6-1/2	152	152
16	1	15-1/4	6-1/2	7-1/2	319	224
16	1-1/8	17-3/4	7	7-3/4	444	315
20	1-1/8	20-1/4	7-1/2	8	520	434
20	1-1/4	22-1/2	7-3/4	8-1/2	672	570
24	1-1/4	24-3/4	8-1/4	9	835	697
24	1-1/4	27	8-1/2	10	995	853
24	1-1/2	32	9-1/2	11	1460	1335

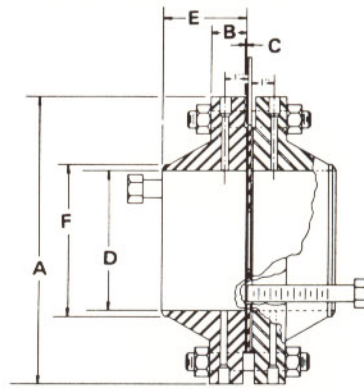
# 600 LB.

STUDS					Weight	Weight
No.			Lgth.	Lgth	Approx.	Approx.
Holes	Dia.	Circle	Note 1	Note 2	Note 3	Note 4
4	1/2	2-5/8	5	5	14	9
4	5/8	3-1/2	5	5-1/4	18	13
4	5/8	3-7/8	5	5-1/4	20	15
4	3/4	4-1/2	5-1/4	5-1/2	25	19
8	5/8	5	5	5-1/4	27	23
8	3/4	5-7/8	5-1/4	5-1/2	35	34
8	3/4	6-5/8	5-1/4	5-1/2	56	40
8	7/8	8-1/2	6	6-1/4	99	104
8	1	10-1/2	6-1/2	7	158	156
12	1	11-1/2	7	7-1/2	197	200
12	1-1/8	13-3/4	8	8-1/2	284	270
16	1-1/4	17	8-3/4	9	472	410
20	1-1/4	19-1/4	9	9-1/2	571	489
20	1-3/8	20-3/4	9-3/4	9-3/4	720	576
20	1-1/2	23-3/4	10-1/2	10-1/2	997	810
20	1-5/8	25-3/4	11-1/4	11-1/4	1155	991
24	1-5/8	28-1/2	11-3/4	12	1439	1259
24	1-7/8	33	13-1/4	13-1/2	2032	1815

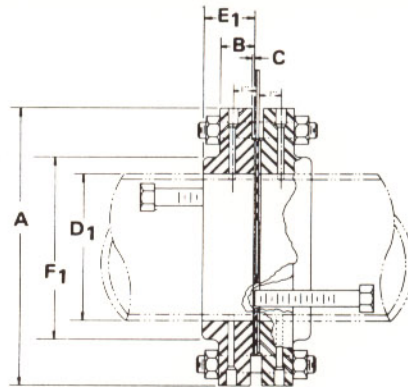
# 900 LB.

STUDS					Weight	Weight
No.			Lgth.	Lgth	Approx.	Approx.
Holes	Dia.	Circle	Note 1	Note 2	Note 3	Note 4
4	3/4	3-1/4	5-3/4	5-1/2	26	13
4	7/8	4	5-3/4	6-1/4	29	26
4	7/8	4-3/8	5-3/4	6-1/4	32	30
4	1	4-7/8	6	6-1/2	40	45
8	7/8	6-1/2	5-3/4	6-1/4	60	65
8	1	7-1/2	6-1/2	6-1/2	84	98
8	7/8	7-1/2	5-3/4	6-1/4	70	123
8	1-1/8	9-1/4	7	7-1/2	126	133
8	1-1/4	11	7-3/4	8	202	201
12	1-1/8	12-1/2	8	8-1/2	259	259
12	1-3/8	15-1/2	9	9-1/4	442	415
16	1-3/8	18-1/2	9-1/2	9-3/4	619	588
20	1-3/8	21	10-1/4	10-3/4	866	780
20	1-1/2	22	11-1/4	11-3/4	1249	916
20	1-5/8	24-1/4	11-3/4	12-1/4	1505	1114
20	1-7/8	27	13-1/2	13-1/2	1998	1574

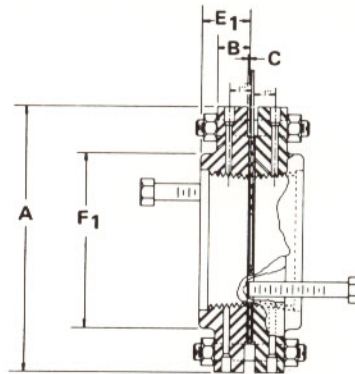
## RFWN ORIFICE FLANGE UNION



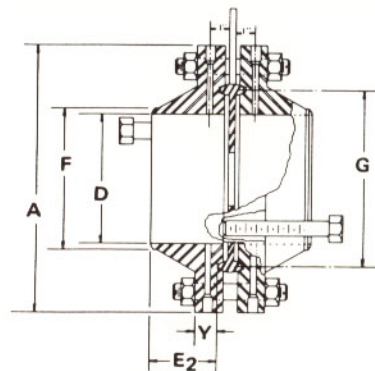
## RFSO ORIFICE FLANGE UNION



## RFTHD ORIFICE FLANGE UNION



## RTJ ORIFICE FLANGE UNION



**OTHER**

**PRODUCTS INCLUDE**

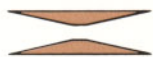
**VENTURI TUBES**

**FLOW NOZZLES**

**METER RUNS**

**AND ACCESSORIES**

**FOR FLOW ELEMENTS**



**ENERGY FLOW SYSTEMS, INC.**

P.O. Box 14127  
Houston, Texas 77221-4127  
Phone:- (713) 747-3569  
Fax:- (713) 747-7868

Represented By