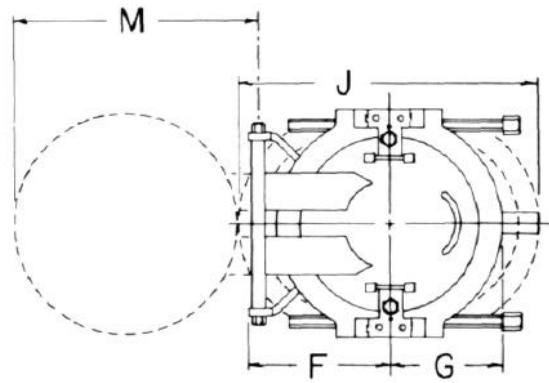
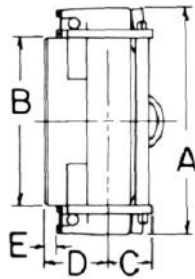
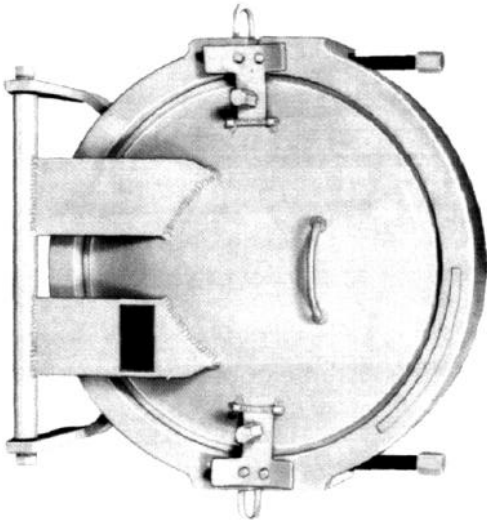


DOUBLE-BOLT HORIZONTAL



For ASME/ANSI 150-Lb, 300-Lb, 600-Lb, 900-Lb, and 1500-Lb Services
Class 150-H, 300-H, 600-H, 900-H, 1500-H

U.S. Pat. No. 3,077,360

	Nominal Size	Over-all A	O.D. at Welding Bevel B	Back to Face Max. C	Hub Length D	Clear Hub Length E	Center to Hinge End F	Center to Free End G	Yoke Clearance J	Opening Clearance M	Approx. Weight Lbs
Class 150-H Double-Bolt Horizontal	8	12 ¹ / ₁₆	8 ⁵ / ₈	2 ⁹ / ₁₆	4	5 ₁₆	7 ₁₆	5 ¹ / ₂	15 ¹ / ₈	11 ³ / ₁₆	60
	10	14 ⁷ / ₈	10 ³ / ₄	2 ¹¹ / ₁₆	4 ¹ / ₄	7 ₁₆	7 ⁵ / ₁₆	6 ³ / ₄	18 ¹ / ₈	13 ¹ / ₈	80
	12	16 ⁷ / ₈	12 ³ / ₄	2 ⁵ / ₈	4 ¹ / ₄	1 ³ / ₁₆	8 ⁹ / ₁₆	7 ³ / ₄	20 ³ / ₈	14 ³ / ₄	110
	14	18 ¹ / ₈	14	2 ¹¹ / ₁₆	4 ¹ / ₄	3 ₄	9 ⁵ / ₁₆	8 ⁷ / ₁₆	22	16 ¹ / ₈	130
	16	20 ⁷ / ₈	16	2 ¹¹ / ₁₆	4 ⁵ / ₈	1 ¹ / ₁₆	10 ³ / ₈	9 ¹ / ₂	24 ⁷ / ₈	18 ¹ / ₄	160
	18	22 ⁷ / ₈	18	2 ¹¹ / ₁₆	4 ⁵ / ₈	1 ¹ / ₁₆	11 ¹ / ₂	10 ¹ / ₂	27 ¹ / ₈	20 ¹ / ₄	190
	20	24 ⁷ / ₈	20	3 ¹ / ₈	4 ⁵ / ₈	5 ₁₆	12 ¹³ / ₁₆	11 ¹ / ₂	29 ³ / ₈	22 ⁹ / ₁₆	220
	22	26 ⁷ / ₈	22	3 ¹ / ₄	4 ⁵ / ₈	5 ₁₆	14	12 ⁹ / ₁₆	32 ¹ / ₈	24 ¹¹ / ₁₆	260
	24	28 ⁷ / ₈	24	3 ¹ / ₄	4 ⁵ / ₈	5 ₁₆	15	13 ⁵ / ₈	34 ⁵ / ₈	26 ¹¹ / ₁₆	310
	26	30 ⁷ / ₈	26	3 ⁵ / ₁₆	5	1 ₂	16 ¹ / ₁₆	14 ¹¹ / ₁₆	37 ³ / ₈	28 ¹³ / ₁₆	370
	28	32 ⁷ / ₈	28	3 ¹ / ₂	5	7 ₁₆	17 ⁹ / ₁₆	15 ³ / ₄	39 ⁷ / ₈	31 ⁵ / ₁₆	440
	30	34 ⁷ / ₈	30	3 ⁵ / ₈	5 ¹ / ₂	1 ³ / ₁₆	19	16 ⁵ / ₁₆	43	33 ³ / ₈	530
	32	37 ⁵ / ₈	32	4	5 ¹ / ₂	1 ₂	20 ³ / ₈	18	45 ³ / ₈	35 ³ / ₄	600
	34	39 ⁵ / ₈	34	4	5 ¹ / ₂	1 ₂	21 ³ / ₈	19	47 ⁵ / ₈	37 ³ / ₄	680
	36	41 ⁵ / ₈	36	4 ¹ / ₈	6	1 ³ / ₁₆	22 ³ / ₈	20 ¹ / ₁₆	50	39 ³ / ₄	780
	38	44 ¹ / ₈	38	4 ¹ / ₈	6	3 ₄	23 ³ / ₈	21 ¹ / ₈	52 ³ / ₈	41 ³ / ₄	880
	40	46 ¹ / ₈	40	4 ¹ / ₄	6	5 ₁₆	24 ⁷ / ₁₆	22 ³ / ₁₆	55 ⁵ / ₈	43 ⁷ / ₈	990
	42	48 ¹ / ₈	42	4 ⁵ / ₈	6 ¹ / ₈	5 ₁₆	25 ⁷ / ₁₆	23 ³ / ₁₆	57 ⁷ / ₈	45 ⁷ / ₈	1150
Class 300-H Double-Bolt Horizontal	8	12 ¹¹ / ₁₆	8 ⁵ / ₈	2 ⁹ / ₁₆	4	5 ₁₆	7 ₁₆	5 ¹ / ₂	15 ¹ / ₈	11 ³ / ₁₆	60
	10	14 ¹³ / ₁₆	10 ³ / ₄	2 ¹¹ / ₁₆	4 ¹ / ₄	7 ₁₆	7 ⁵ / ₁₆	6 ³ / ₄	18 ¹ / ₈	13 ¹ / ₈	80
	12	16 ¹³ / ₁₆	12 ³ / ₄	2 ³ / ₄	4 ¹ / ₄	1 ⁵ / ₁₆	8 ¹ / ₂	7 ³ / ₄	21	14 ¹¹ / ₁₆	110
	14	18 ³ / ₁₆	14	2 ⁷ / ₈	4 ¹ / ₄	1 ⁵ / ₁₆	9 ⁵ / ₁₆	8 ⁷ / ₁₆	22 ³ / ₁₆	16 ¹ / ₈	140
	16	20 ¹⁵ / ₁₆	16	3 ⁵ / ₁₆	5	1	12 ³ / ₈	9 ¹ / ₂	25 ⁷ / ₈	19 ¹⁵ / ₁₆	170
	18	23 ¹ / ₈	18	3 ¹¹ / ₁₆	5 ¹ / ₄	7 ₈	12 ⁵ / ₈	11 ³ / ₁₆	30 ¹ / ₈	21 ³ / ₄	220
	20	25 ¹ / ₄	20	4 ¹ / ₈	5 ⁵ / ₈	1 ¹ / ₁₆	13 ⁷ / ₈	12 ⁹ / ₁₆	33 ¹ / ₈	24	300
	22	27 ³ / ₄	22	4 ¹ / ₄	6 ¹ / ₄	1 ⁵ / ₁₆	16 ³ / ₁₆	13 ¹ / ₈	36 ³ / ₁₆	27 ¹ / ₁₆	360
	24	30 ⁹ / ₁₆	24	4 ⁵ / ₈	6 ¹ / ₂	7 ₈	16	14 ¹¹ / ₁₆	38 ⁷ / ₁₆	28 ¹ / ₈	460
	26	32 ¹ / ₂	26	4 ¹³ / ₁₆	6 ³ / ₄	1 ¹ / ₄	19 ¹ / ₂	15 ⁷ / ₁₆	42	32 ¹ / ₈	570
	28	34 ³ / ₄	28	5	7 ¹ / ₂	1 ⁵ / ₁₆	20 ¹ / ₂	16 ¹ / ₂	44 ⁹ / ₁₆	34 ¹ / ₈	700
	30	36 ⁷ / ₈	30	5 ¹ / ₈	7 ³ / ₄	1 ⁷ / ₁₆	21 ¹¹ / ₁₆	17 ¹¹ / ₁₆	47 ¹¹ / ₁₆	36 ⁷ / ₁₆	840
	32	38 ⁷ / ₈	32	5 ³ / ₁₆	7 ³ / ₄	1 ³ / ₈	22 ¹¹ / ₁₆	18 ³ / ₄	50 ³ / ₁₆	38 ⁷ / ₁₆	980
	34	42 ¹ / ₄	34	5 ⁷ / ₁₆	8 ¹ / ₄	1 ⁵ / ₈	21 ⁷ / ₈	20	53 ⁷ / ₁₆	38 ³ / ₄	1150
	36	44 ¹ / ₄	36	5 ⁷ / ₁₆	8 ¹ / ₂	1 ⁹ / ₁₆	23 ³ / ₈	21 ¹ / ₈	56	40 ³ / ₄	1350
	38	46 ³ / ₈	38	5 ⁵ / ₈	8 ³ / ₄	1 ¹¹ / ₁₆	24 ⁵ / ₈	22 ¹ / ₄	59 ¹ / ₁₆	43 ¹ / ₈	1600
	40	48 ⁷ / ₈	40	5 ¹³ / ₁₆	9 ¹ / ₄	1 ¹¹ / ₁₆	25 ⁵ / ₈	23 ³ / ₈	62 ¹ / ₁₆	45 ³ / ₁₆	1850
	42	51	42	5 ¹⁵ / ₁₆	9 ¹ / ₂	1 ⁷ / ₈	26 ³ / ₄	24 ¹ / ₂	64 ⁷ / ₁₆	47 ³ / ₈	2100

See notes on page 11.

DOUBLE-BOLT HORIZONTAL

	Nominal Size	Over-all A	O.D. at Welding Bevel B	Back to Face Max. C	Hub Length D	Clear Hub Length E	Center to Hinge End F	Center to Free End G	Yoke Clearance J	Opening Clearance M	Approx. Weight Lbs
Class 600-H Double-Bolt Horizontal	8	12 ³ / ₄	8 ⁵ / ₈	2 ⁷ / ₈	4 ³ / ₁₆	5 ⁵ / ₈	8 ¹ / ₈	5 ¹⁵ / ₁₆	16 ³ / ₄	12 ⁵ / ₁₆	90
	10	14 ⁷ / ₈	10 ³ / ₄	3 ¹ / ₈	4 ⁷ / ₁₆	5 ⁵ / ₈	9	7 ³ / ₁₆	20	14 ⁹ / ₁₆	150
	12	17 ⁵ / ₈	12 ³ / ₄	3 ⁵ / ₁₆	5 ³ / ₁₆	3 ⁵ / ₈	9 ³ / ₈	8 ¹ / ₄	22 ³ / ₈	15 ⁵ / ₈	180
	14	19	14	3 ¹⁵ / ₁₆	5 ¹ / ₄	5 ¹ / ₁₆	9 ¹⁵ / ₁₆	9	24 ⁷ / ₈	16 ⁷ / ₈	220
	16	21 ⁷ / ₈	16	4 ¹ / ₄	6 ¹ / ₁₆	9 ¹ / ₁₆	13 ³ / ₁₆	10 ¹¹ / ₁₆	29 ¹ / ₈	21 ³ / ₁₆	350
	18	24 ⁷ / ₈	18	4 ⁹ / ₁₆	6 ¹ / ₄	1 ¹ / ₂	14 ¹ / ₄	12 ¹ / ₄	33 ³ / ₄	23 ¹ / ₁₆	480
	20	27 ¹ / ₈	20	4 ¹³ / ₁₆	7	3 ⁵ / ₈	15 ⁵ / ₁₆	13 ¹ / ₂	37	25 ⁵ / ₁₆	620
	22	29 ¹ / ₈	22	5 ¹ / ₂	8	1 ³ / ₁₆	16 ³ / ₁₆	14 ¹ / ₂	39 ³ / ₄	27 ³ / ₁₆	750
	24	32 ¹ / ₈	24	5 ⁵ / ₈	8 ³ / ₈	1 ³ / ₁₆	17 ⁷ / ₈	15 ³ / ₈	42 ¹ / ₂	29 ¹³ / ₁₆	900
	26	34 ³ / ₈	26	5 ¹¹ / ₁₆	8 ⁹ / ₁₆	1 ¹ / ₄	18 ¹ / ₂	16 ¹¹ / ₁₆	46 ¹ / ₄	31 ⁵ / ₈	1120
	28	36 ¹ / ₁₆	28	5 ¹³ / ₁₆	8 ³ / ₄	1 ⁵ / ₁₆	19 ³ / ₈	17 ⁷ / ₈	49 ¹ / ₂	33 ¹³ / ₁₆	1380
	30	38 ⁹ / ₁₆	30	6 ³ / ₁₆	9 ¹ / ₂	1 ³ / ₈	20 ¹¹ / ₁₆	19	52 ¹ / ₄	35 ³ / ₄	1700
	32	40 ¹³ / ₁₆	32	6 ¹ / ₄	9 ¹ / ₂	1 ³ / ₈	21 ⁷ / ₈	20 ¹ / ₄	55 ¹ / ₈	38 ¹ / ₁₆	2000
	34	43 ¹³ / ₁₆	34	6 ¹ / ₄	10	1 ³ / ₁₆	22 ⁵ / ₁₆	21 ¹ / ₂	58 ¹ / ₈	40 ¹ / ₄	2320
	36	45 ¹³ / ₁₆	36	6 ¹¹ / ₁₆	10 ¹ / ₄	1 ³ / ₁₆	24 ¹¹ / ₁₆	22 ¹ / ₂	60 ⁵ / ₈	42 ³ / ₈	2750
	38	48 ⁷ / ₁₆	38	6 ¹¹ / ₁₆	10 ³ / ₄	1 ⁵ / ₁₆	25 ⁷ / ₈	23 ⁵ / ₈	63 ¹ / ₄	44 ⁹ / ₁₆	3280
	40	50 ⁷ / ₁₆	40	6 ¹³ / ₁₆	10 ³ / ₄	1 ⁵ / ₁₆	26 ³ / ₄	24 ³ / ₄	65 ³ / ₄	46 ⁷ / ₁₆	3450
	42	53 ¹ / ₁₆	42	7 ³ / ₁₆	11 ⁷ / ₈	1 ⁷ / ₁₆	27 ¹³ / ₁₆	26	69 ¹ / ₂	48 ³ / ₈	4000
Class 900-H Double-Bolt Horizontal	8	12 ¹³ / ₁₆	8 ⁵ / ₈	3 ⁷ / ₁₆	4 ⁹ / ₁₆	9 ¹ / ₁₆	9	6 ¹ / ₄	18 ⁷ / ₁₆	13 ⁵ / ₁₆	140
	10	15 ¹⁵ / ₁₆	10 ³ / ₄	3 ¹¹ / ₁₆	5 ³ / ₈	3 ¹ / ₄	11 ¹¹ / ₁₆	7 ³ / ₄	22 ¹ / ₄	16 ³ / ₈	210
	12	18 ¹⁵ / ₁₆	12 ³ / ₄	4 ⁹ / ₁₆	6 ³ / ₈	1 ¹ / ₁₆	12 ¹ / ₂	9 ³ / ₁₆	25 ⁷ / ₈	19	340
	14	20 ¹ / ₂	14	4 ¹¹ / ₁₆	6 ⁵ / ₈	1 ³ / ₁₆	13 ¹ / ₈	9 ¹⁵ / ₁₆	28 ¹ / ₁₆	20 ¹ / ₄	440
	16	23	16	5 ¹ / ₈	7 ¹ / ₂	1 ¹ / ₁₆	15 ⁷ / ₁₆	11 ¹ / ₄	31 ¹ / ₄	23 ³ / ₁₆	600
	18	25 ¹ / ₁₆	18	5 ³ / ₈	7 ³ / ₁₆	1	17	12 ¹ / ₄	35	25 ¹³ / ₁₆	900
	20	28 ³ / ₈	20	5 ⁵ / ₁₆	8 ¹ / ₂	1 ¹ / ₈	17 ⁷ / ₈	13 ¹ / ₂	37 ⁵ / ₈	27 ³ / ₄	1200
	22	30 ¹ / ₂	22	6 ¹ / ₄	8 ³ / ₄	1 ³ / ₁₆	19 ¹ / ₈	14 ¹³ / ₁₆	40 ⁷ / ₈	30 ¹ / ₈	1580
	24	33 ¹ / ₈	24	6 ⁵ / ₈	9 ¹ / ₂	1 ¹ / ₄	20 ⁷ / ₁₆	16 ¹ / ₈	44 ¹ / ₂	32 ⁹ / ₁₆	2000
	26	35 ¹ / ₈	26	7	9 ³ / ₄	1 ⁹ / ₁₆	21 ³ / ₄	17 ¹ / ₂	47 ³ / ₄	35	2100
	28	38 ¹ / ₄	28	7 ³ / ₁₆	10 ¹ / ₂	1 ³ / ₁₆	24	18 ³ / ₄	51	37 ¹³ / ₁₆	2550
	30	40 ³ / ₈	30	8 ¹ / ₁₆	10 ¹³ / ₁₆	1 ¹ / ₈	25 ³ / ₁₆	20 ¹ / ₁₆	54	40 ¹ / ₈	3100
	32	43	32	8 ⁵ / ₈	11 ¹ / ₂	1 ⁷ / ₁₆	26 ³ / ₄	21 ⁵ / ₁₆	57 ¹ / ₂	42 ³ / ₄	3700
	34	45 ³ / ₄	34	8 ¹ / ₁₆	12 ¹ / ₂	1 ⁵ / ₈	27 ³ / ₄	22 ⁵ / ₈	61	44 ⁷ / ₈	4200
	36	48 ⁵ / ₈	36	10	13 ⁵ / ₁₆	1 ¹³ / ₁₆	30	23 ⁵ / ₁₆	64 ¹ / ₂	47 ³ / ₄	5200
	38	50 ⁵ / ₈	38	9 ¹¹ / ₁₆	13 ³ / ₈	1 ¹¹ / ₁₆	31 ⁵ / ₁₆	25 ³ / ₁₆	67 ⁵ / ₈	50 ¹ / ₈	5700
	40	53 ³ / ₄	40	9 ³ / ₄	13 ³ / ₄	1 ⁹ / ₁₆	32 ⁵ / ₈	26 ¹ / ₂	70 ³ / ₄	52 ⁹ / ₁₆	6600
	42	55 ⁷ / ₈	42	10 ⁹ / ₁₆	14 ¹ / ₈	1 ³ / ₄	34	27 ¹³ / ₁₆	74 ¹ / ₈	55 ¹ / ₁₆	7600
Class 1500-H Double-Bolt Horizontal	6	11 ¹³ / ₁₆	6 ⁵ / ₈	4 ³ / ₁₆	6	7 ⁵ / ₈	9 ¹ / ₁₆	5 ¹ / ₂	16 ³ / ₄	12 ¹ / ₂	125
	8	14 ¹ / ₁₆	8 ⁵ / ₈	4 ⁵ / ₁₆	6 ¹ / ₄	7 ⁵ / ₈	10 ⁵ / ₈	6 ³ / ₄	20 ¹ / ₄	15 ¹ / ₄	230
	10	17 ¹ / ₁₆	10 ³ / ₄	4 ⁷ / ₈	7 ¹ / ₂	1 ³ / ₈	11 ⁷ / ₈	8 ³ / ₈	24 ¹ / ₂	17 ¹ / ₂	400
	12	20 ¹ / ₈	12 ³ / ₄	5 ³ / ₁₆	8 ¹ / ₂	2 ¹ / ₁₆	13 ³ / ₄	10	29 ¹ / ₁₆	20 ¹¹ / ₁₆	650
	14	21 ⁵ / ₈	14	6	8 ³ / ₄	1 ⁹ / ₁₆	15 ⁵ / ₁₆	10 ³ / ₄	30 ³ / ₄	22 ⁵ / ₁₆	800
	16	24 ⁷ / ₈	16	5 ¹ / ₁₆	10	2 ⁵ / ₁₆	17	12 ³ / ₈	35	25 ³ / ₈	1200
	18	27 ⁹ / ₁₆	18	7 ¹ / ₁₆	10 ¹ / ₂	2 ¹ / ₈	19	13 ³ / ₄	40	28 ³ / ₈	1600
	20	30 ³ / ₄	20	7 ¹ / ₂	10 ³ / ₄	1 ⁹ / ₁₆	19 ⁵ / ₈	15 ⁵ / ₁₆	43 ¹ / ₂	30 ³ / ₈	2200
	22	33	22	8 ¹ / ₁₆	12	2	20	16 ¹ / ₂	46	33 ¹ / ₈	2700
	24	36 ⁷ / ₈	24	8 ⁷ / ₁₆	12 ³ / ₄	2 ¹ / ₄	23 ⁷ / ₈	18 ³ / ₈	51	37 ¹ / ₈	3550
	26	39 ¹¹ / ₁₆	26	9	13 ³ / ₄	2 ⁹ / ₁₆	24 ¹ / ₂	19 ¹³ / ₁₆	54 ⁷ / ₈	38 ¹³ / ₁₆	4500
	28	41 ³ / ₈	28	10 ¹ / ₈	14 ³ / ₄	3 ¹ / ₁₆	27	20 ¹¹ / ₁₆	58 ⁷ / ₈	41 ¹ / ₄	5200
	30	44 ⁵ / ₈	30	10 ¹ / ₄	15 ³ / ₄	3 ³ / ₈	28 ¹ / ₂	22 ⁵ / ₁₆	62 ¹ / ₂	44 ³ / ₁₆	6200

All dimensions are in inches.

When ordering, please specify type, nominal size, bore, material, service conditions, and hinge location.

NOTE: Type H Double-Bolt Horizontal model closure is normally installed with hinge at the left when viewed facing the closure. If hinge location is desired in other than at left position, this

information should be made available at time of order. Otherwise opening, closing, and maintaining correct yoke gap are problems that can result.

Tube Turns Hinged Closures are regularly furnished in carbon steel; however, the horizontal type is also available in high yield strength steels. Horizontal closures are also available in other metals and

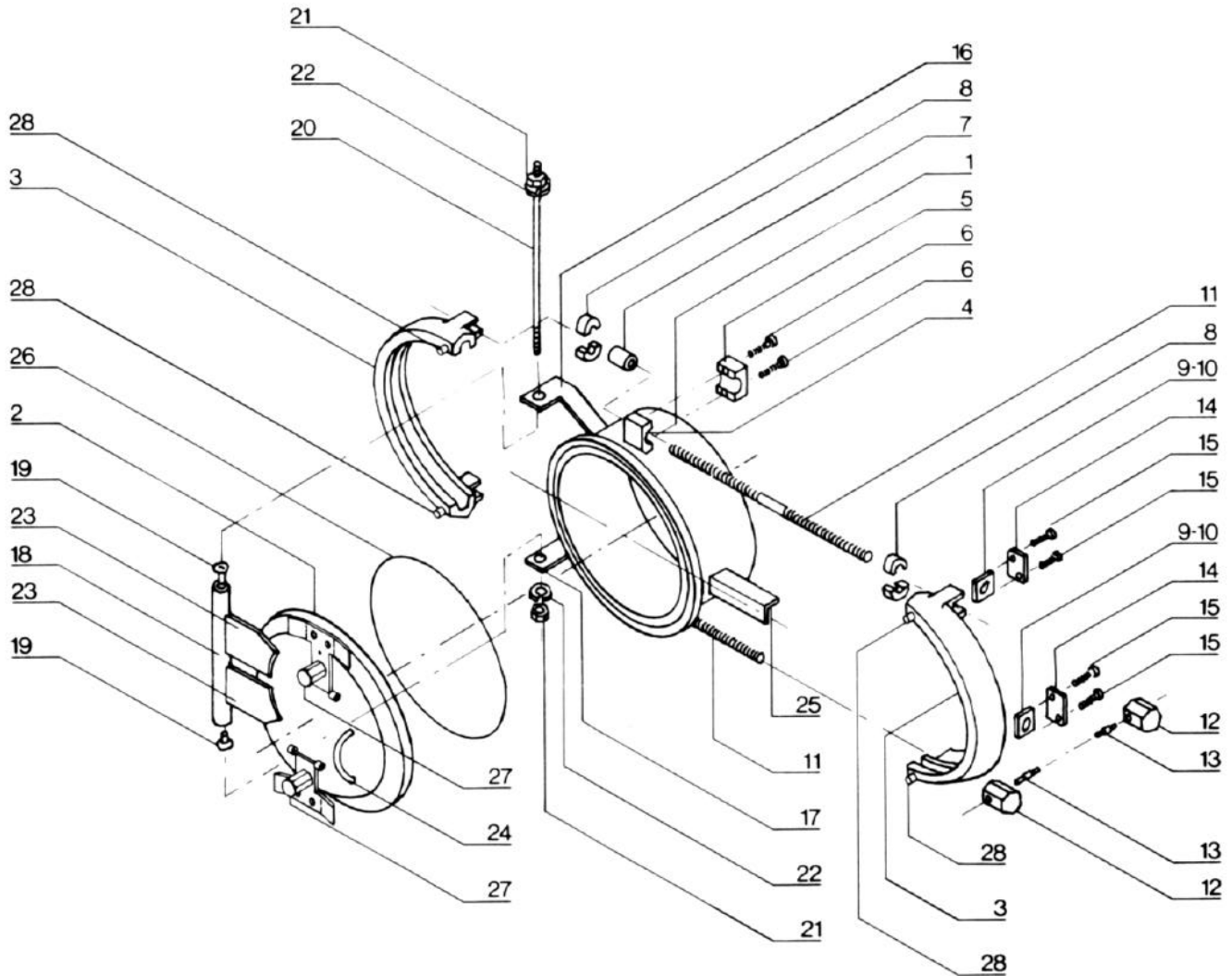
alloys and in other sizes and pressure classes on special order. Chain-and-Sprocket Drives are available at extra cost (see page 8 & 9). Attached Break-Over Wrenches are available at extra cost (see page 25). Lifting Eyes are provided on Horizontal types 16" and larger. For Pressure-Temperature Ratings, see page 8.

DOUBLE-BOLT HORIZONTAL



Class H Double-Bolt Horizontal Parts List

1. Hub	9. Nut (RH)	17. Hub Hinge Arm (LH)	25. Support Arm
2. Head	10. Nut (LH)	18. Hinge Tube	26. O-Ring
3. Yoke	11. Yoke Bolt	19. Hinge Bearing	27. Pressure Warning Device and Positioning Plate
4. Bolt Holder (W)	12. Wrench Lug	20. Hinge Rod	28. Positioning Lugs
5. Bolt Holder (L)	13. Wrench Lug Pin	21. Hinge Bolt Nut	
6. Cap Screws	14. Cover Plate	22. Lockwasher	
7. Yoke Bolt Bushing	15. Cap Screws	23. Head Hinge Arm	
8. Collar	16. Hub Hinge Arm (RH)	24. Head Handle	



Spare Parts—It is suggested that the following spare parts be stocked for each closure:

Four O-Rings Part No. 26

Two Yoke Bolt Units consisting of:

Parts No's. 7, 8, 9, 10, 11, 12 & 13

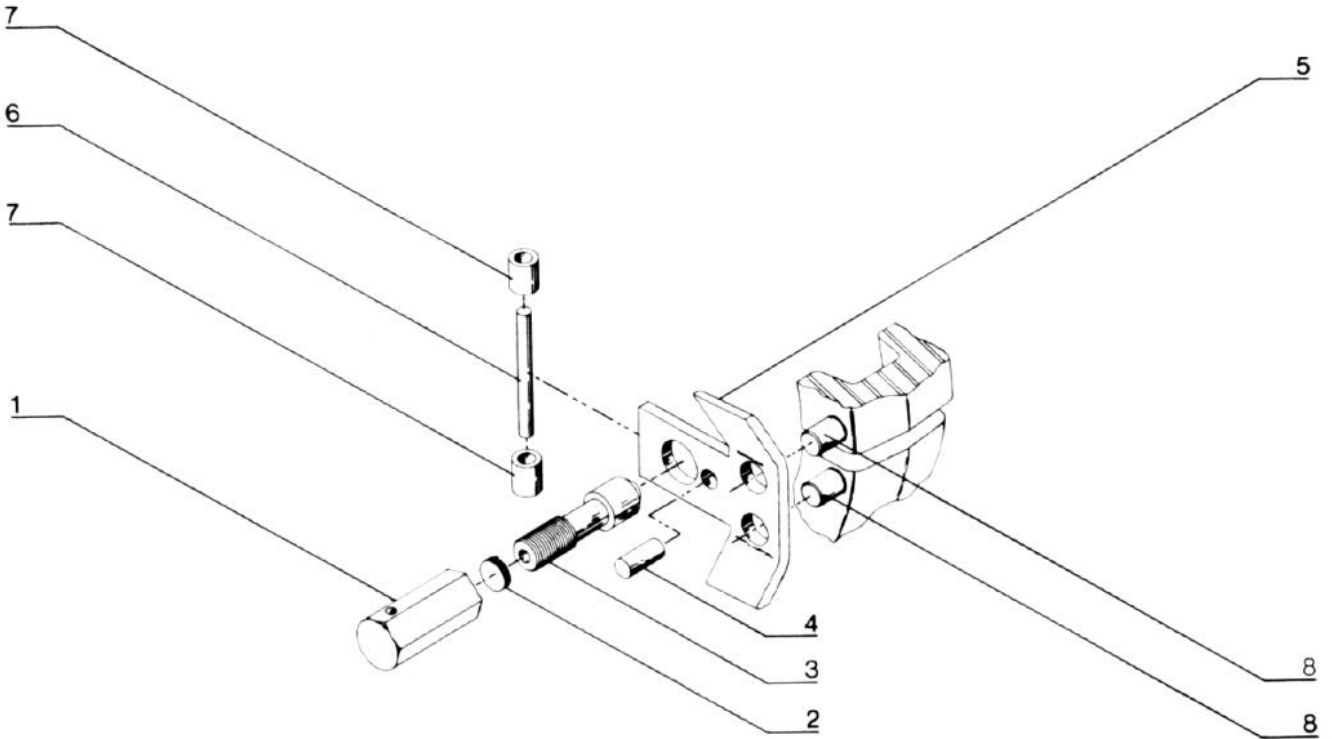
When ordering spare parts, give amount, description, part number and size, pressure class and serial number of closure (located on front of yoke or ASME nameplate).

Example: (1) O-ring - Part Number 26 - 8" CL 600 - S/N 13845

PRESSURE WARNING

Pressure Warning Device Parts List

- | | | |
|----------------|----------------------|---------------------|
| 1. Holding Nut | 4. Plate Stop | 7. Hinge |
| 2. Gasket | 5. Positioning Plate | 8. Positioning Lugs |
| 3. Nipple | 6. Hinge Pin | |
-



See page 8 for further details.