

Rating Conditions

11.1 K Superheat
8.3 K Subcooling
35 °C Ambient Air Over

50 Hz Operation

AIR CONDITIONING

ZPD120KCE-TFD

HFC-410A
COPELAND SCROLL®
TFD 380/420-3-50

Condensing Temperature °C
(Sat. Dew Pt. Pressure, bar)

Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)

	-28.9(2.8)	-23.3(3.5)	-17.8(4.3)	-12.2(5.3)	-6.7(6.4)	-1.1(7.7)	4.4(9.2)	10.0(10.8)	15.6(12.8)	21.1(14.9)	23.9(16)	26.7(17.3)
65.6 (43.3)	C P A M E %							21,100	26,400	32,500		
								12,300	12,100	12,000		
								20.9	20.7	20.6		
								159	195	237		
								1.7	2.2	2.7		
							59.6	65.3	69.7			
60.0 (38.3)	C P A M E %					19,200	24,000	29,600	36,000	43,000	47,000	51,500
						10,800	10,700	10,600	10,500	10,500	10,500	10,600
						18.7	18.6	18.4	18.3	18.3	18.3	18.3
						133	164	200	241	286	311	338
						1.8	2.2	2.8	3.4	4.1	4.5	4.9
					59.4	65.4	70.1	73.0	73.6	72.9	71.5	
54.4 (33.9)	C P A M E %				17,000	21,500	26,600	32,500	39,500	47,000	51,000	55,500
					9,500	9,400	9,300	9,250	9,200	9,250	9,350	9,400
					16.8	16.7	16.6	16.5	16.4	16.5	16.5	16.6
					111	139	169	205	245	289	314	339
					1.8	2.3	2.9	3.5	4.3	5.1	5.5	5.9
				58.8	65.3	70.4	73.7	74.7	72.9	70.7	67.8	
48.9 (29.9)	C P A M E %			14,700	18,800	23,700	29,100	35,500	42,500	50,000	54,500	59,000
				8,350	8,250	8,200	8,150	8,100	8,150	8,250	8,350	8,500
				15.2	15.1	15.0	14.9	14.9	14.9	15.0	15.1	15.2
				91	115	143	173	208	248	291	314	340
				1.8	2.3	2.9	3.6	4.4	5.2	6.1	6.5	7.0
			57.5	64.5	70.2	74.1	75.6	74.1	69.4	65.7	61.1	
43.3 (26.2)	C P A M E %		12,450	16,300	20,600	25,700	31,500	38,000	45,000	53,000	57,500	
			7,300	7,250	7,200	7,150	7,150	7,150	7,250	7,450	7,550	
			13.7	13.7	13.6	13.6	13.6	13.6	13.6	13.8	13.9	
			74	95	119	146	176	210	249	291	314	
			1.7	2.3	2.9	3.6	4.4	5.3	6.2	7.2	7.6	
		55.5	63.2	69.4	73.9	76.0	75.1	70.6	62.6	57.1		
37.8 (22.9)	C P A M E %	10,300	13,750	17,800	22,300	27,500	33,500	40,000	47,500			
		6,350	6,350	6,350	6,300	6,300	6,300	6,350	6,500			
		12.5	12.5	12.5	12.5	12.4	12.4	12.5	12.6			
		59	77	98	122	148	178	211	249			
		1.6	2.2	2.8	3.5	4.4	5.3	6.3	7.3			
	52.8	61.1	68.1	73.2	75.9	75.6	71.7	63.9				
26.7 (17.3)	C P A M E %	9,450	12,650	16,300	20,500	25,200	30,500	36,500	43,500			
		4,780	4,820	4,830	4,820	4,820	4,850	4,930	5,100			
		10.6	10.6	10.6	10.6	10.6	10.6	10.7	10.8			
		49	65	83	103	125	150	178	210			
		2.0	2.6	3.4	4.3	5.2	6.3	7.5	8.6			
	56.7	64.7	70.8	74.7	75.6	73.0	66.2	54.9				
21.1 (14.9)	C P A M E %	10,600	13,850	17,500	21,700	26,400	32,000	38,000				
		4,140	4,170	4,170	4,170	4,190	4,240	4,360				
		9.8	9.9	9.9	9.9	9.9	9.9	10.0				
		53	68	85	104	125	150	177				
		2.6	3.3	4.2	5.2	6.3	7.5	8.7				
	64.0	70.3	74.4	75.8	73.7	67.3	56.4					
10.0 (10.8)	C P A M E %	12,950	16,100	19,600	23,700	28,300						
		2,950	2,960	2,960	2,970	3,020						
		8.6	8.6	8.6	8.6	8.6						
		60	73	88	105	124						
		4.4	5.4	6.6	8.0	9.4						
	80.4	81.4	79.4	73.2	62.2							

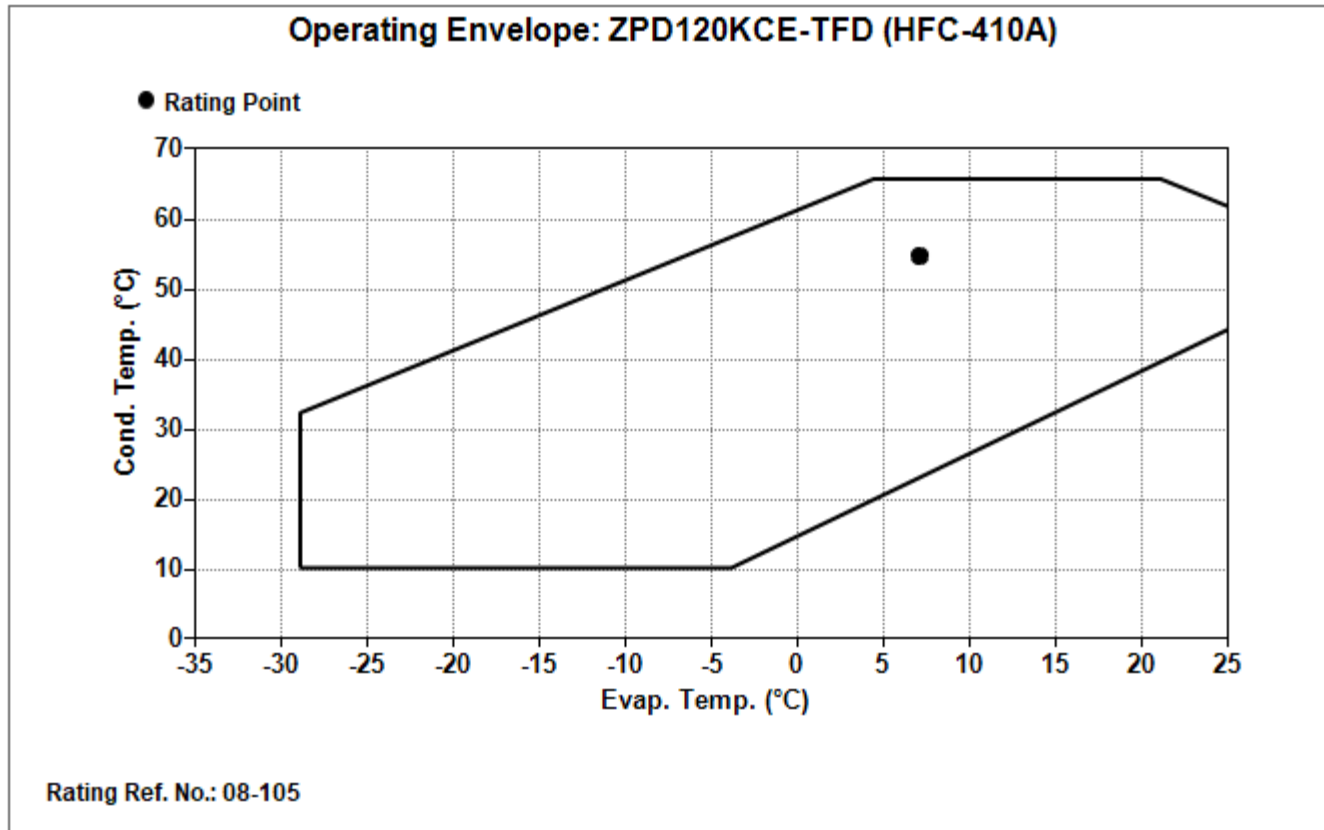
C: Capacity (W), P: Power (W), A: Current (Amps), M: Mass Flow (gm/s), E: COP, %: Isentropic Efficiency (%)

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 380 V

Emerson Climate Technologies

Operating Envelope

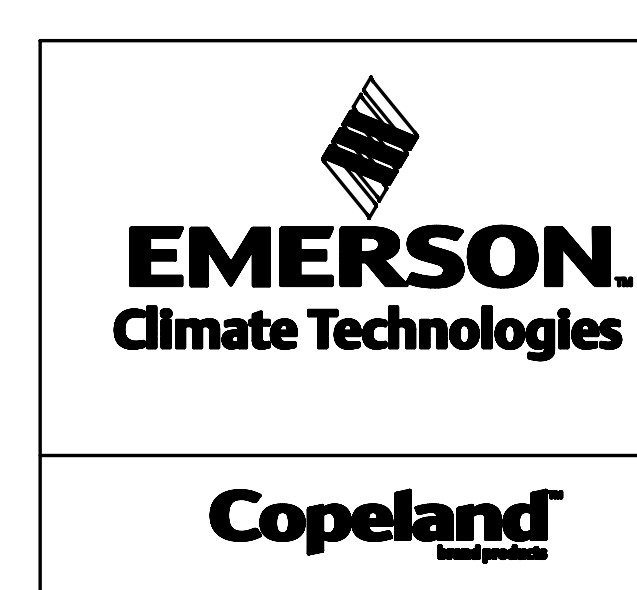
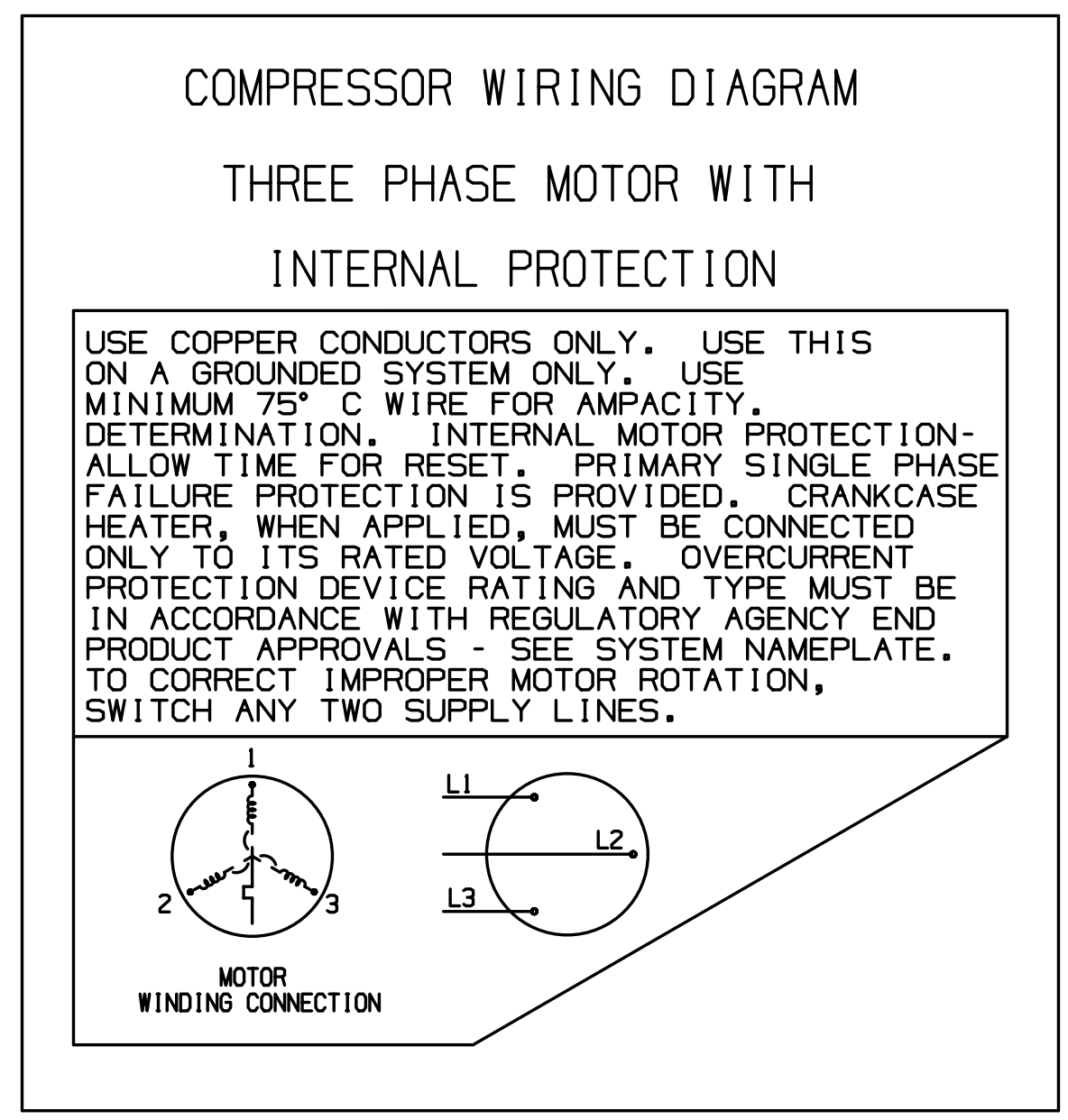
February 22, 2023



PART NUMBER	MODEL NUMBER	CUSTOMER CONNECTIONS	A	B	C	D	E	F	G	H	J	CONNECTOR BLOCK
497-1676-00	ZRD94KC/KCE	BRAZED WITHOUT SIGHTGLASS WITHOUT OIL ADJUSTMENT	476.3 (18.75)	444.3 (17.49)	93.6 (3.69)	201.5 (7.93)	19.1 (0.75)	-	-	28.49-28.67 (1.122-1.129)	211.7 (8.34)	YES
497-1676-01	ZRD94KC/KCE	ROTALOCK WITHOUT SIGHTGLASS WITHOUT OIL ADJUSTMENT	476.3 (18.75)	444.3 (17.49)	93.6 (3.69)	201.5 (7.93)	19.1 (0.75)	-	-	-	211.7 (8.34)	YES
497-1676-02	ZRD125KC/KCE	BRAZED WITHOUT SIGHTGLASS WITHOUT OIL ADJUSTMENT	533.2 (20.99)	501.2 (19.73)	122.1 (4.81)	242.8 (9.56)	19.1 (0.75)	-	-	34.84-35.02 (1.372-1.379)	253.0 (9.96)	YES
497-1676-03	ZRD125KC/KCE	ROTALOCK WITHOUT SIGHTGLASS WITHOUT OIL ADJUSTMENT	533.2 (20.99)	501.2 (19.73)	122.1 (4.81)	242.8 (9.56)	19.1 (0.75)	-	-	-	253.0 (9.96)	YES
497-1676-04	ZRD94KC/KCE	BRAZED WITH SIGHTGLASS WITH OIL ADJUSTMENT	476.3 (18.75)	444.3 (17.49)	93.6 (3.69)	201.5 (7.93)	19.1 (0.75)	67.6 (2.66)	74.3 (2.93)	28.49-28.67 (1.122-1.129)	211.7 (8.34)	YES
497-1676-05	ZRD94KC/KCE	ROTALOCK WITH SIGHTGLASS WITH OIL ADJUSTMENT	476.3 (18.75)	444.3 (17.49)	93.6 (3.69)	201.5 (7.93)	19.1 (0.75)	67.6 (2.66)	74.3 (2.93)	-	211.7 (8.34)	YES
497-1676-06	ZRD125KC/KCE ZPD103KCE ZPD120KCE ZPD137KCE	BRAZED WITH SIGHTGLASS WITH OIL ADJUSTMENT	533.2 (20.99)	501.2 (19.73)	122.1 (4.81)	242.8 (9.56)	19.1 (0.75)	92.3 (3.63)	92.3 (3.63)	34.84-35.02 (1.372-1.379)	253.0 (9.96)	YES
497-1676-07	ZRD125KC/KCE ZPD103KCE ZPD120KCE ZPD137KCE	ROTALOCK WITH SIGHTGLASS WITH OIL ADJUSTMENT	533.2 (20.99)	501.2 (19.73)	122.1 (4.81)	242.8 (9.56)	19.1 (0.75)	92.3 (3.63)	92.3 (3.63)	-	253.0 (9.96)	YES
497-1676-08	ZPD103KCE ZPD120KCE ZPD137KCE	BRAZED WITH SIGHTGLASS WITH OIL ADJUSTMENT	533.2 (20.99)	501.2 (19.73)	122.1 (4.81)	242.8 (9.56)	19.1 (0.75)	92.3 (3.63)	92.3 (3.63)	34.84-35.02 (1.372-1.379)	253.0 (9.96)	NO

SPECIFICATIONS	
ES NO.	DESCRIPTION
ES92-155	CONVERSION-METRIC

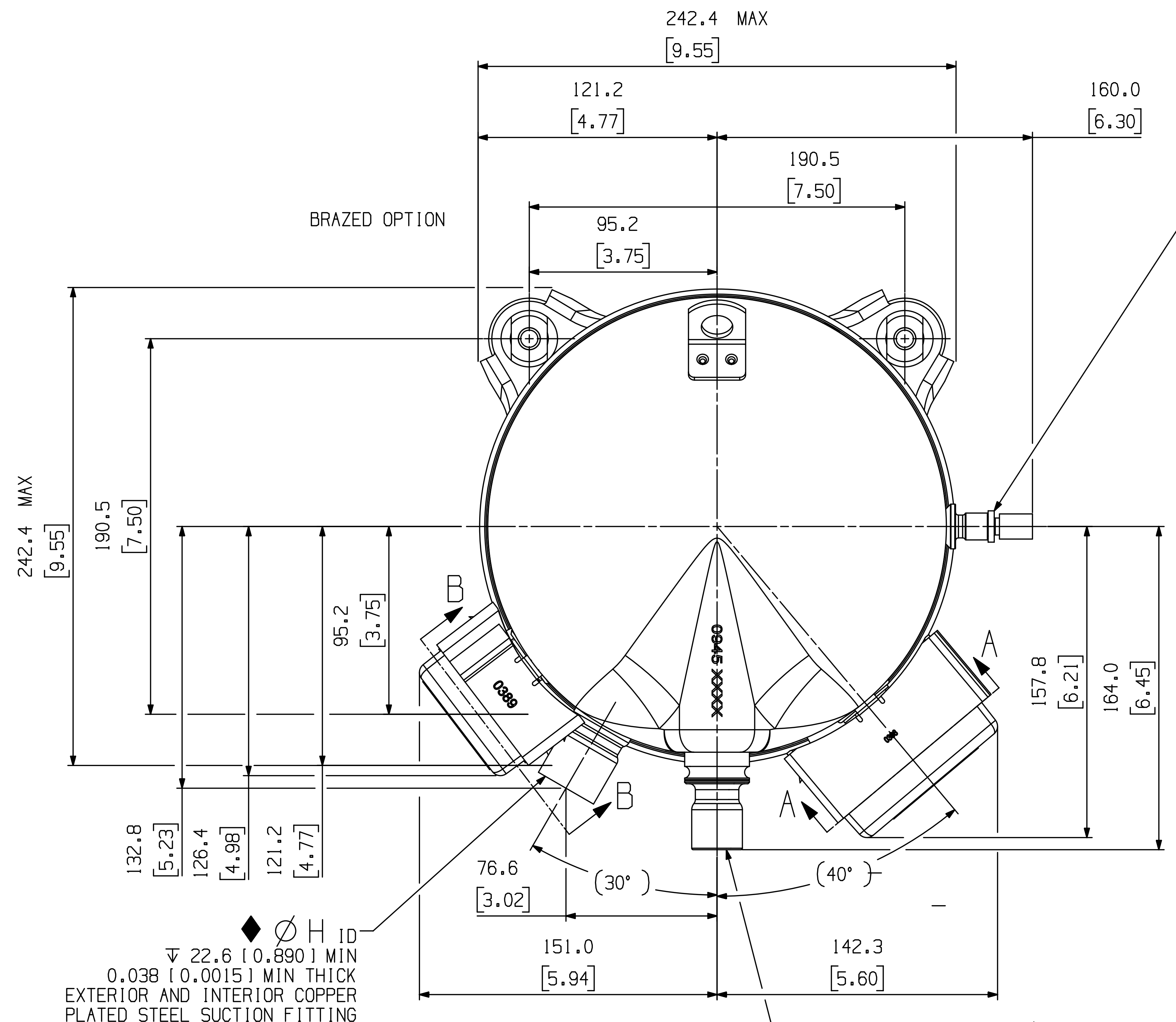
- NOTES:
- 1 ALL TOLERANCES ± 1.5 (0.06) UNLESS OTHERWISE SPECIFIED. DUE TO ACCUMULATED ASSEMBLY TOLERANCES THE LISTED COMPONENTS MAY VARY FROM THE MOUNTING HOLES AS TABULATED.
 - ◆ SUCTION FITTING ± 3.0 (0.12)
 - ◆ DISCHARGE FITTING ± 3.0 (0.12)
 - 2. MOUNTING KIT : 527-0116-00.
 - 3. TUBE ENDS MUST BE PLUGGED.
 - 4 GROUNDING SCREW AND WASHER PER BOM.



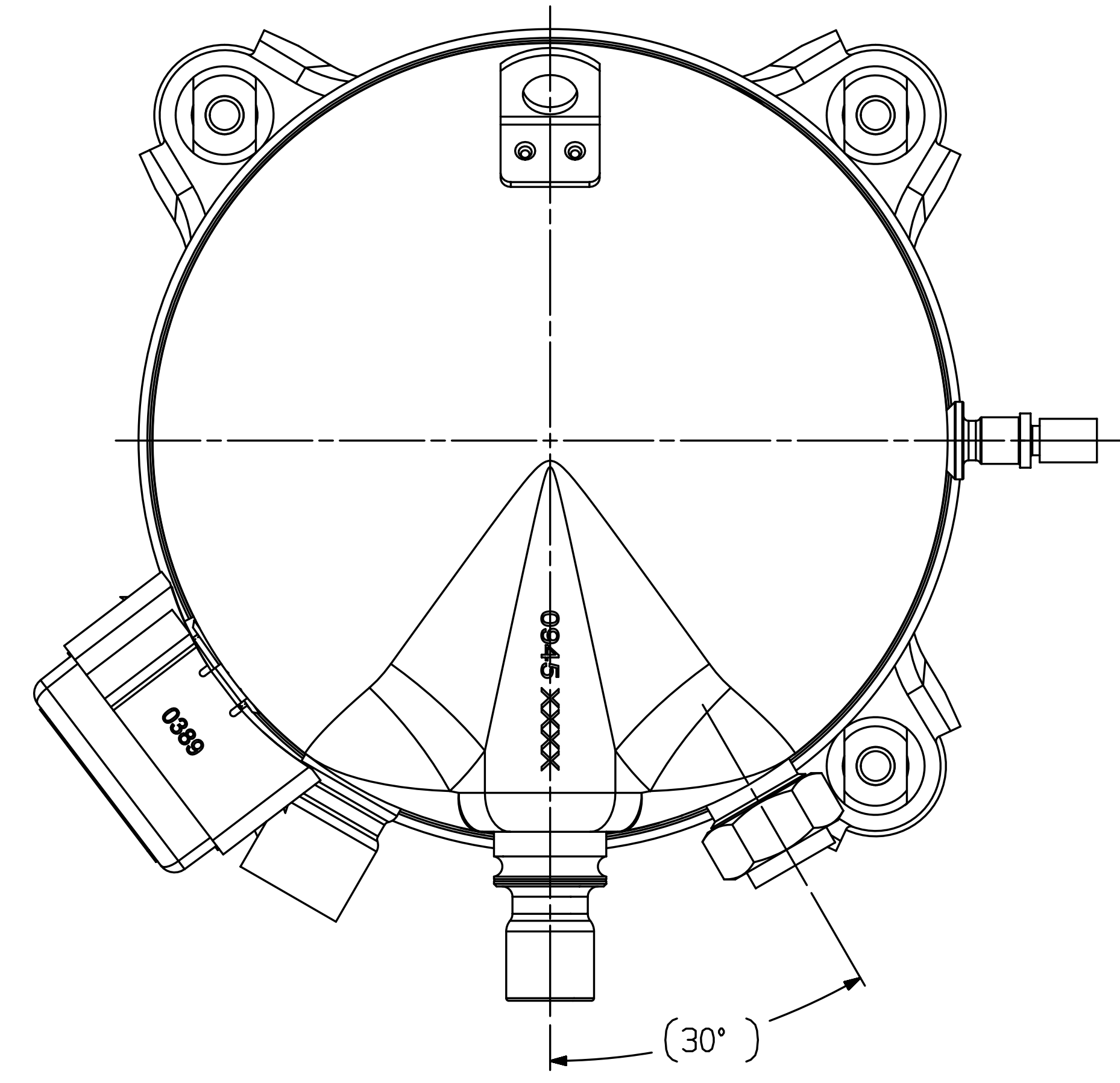
INTERPRET PER ASME Y14.5M-1994 AND EMERSON CLIMATE TECHNOLOGIES, INC. DESIGN STANDARDS DS2002
DO NOT SCALE DRAWING
THIRD ANGLE PROJECTION
CRITICAL PRODUCT CHARACTERISTICS
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE MILLIMETER OR 1 INCH
1-FLANGE
2-FLANGE
ANGULAR

ECN008643	0	RELEASED	06-30-14	VPV	LLB	KJR
ENG NOTICE NO.	REV. NO.	REVISIONS	DATE	BY	CHKD	APPR
CONFIDENTIALITY NOTICE						
15 THIS DRAWING AND INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF EMERSON CLIMATE TECHNOLOGIES, INC. AND SHALL BE RETURNED UPON DEMAND AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART, DISCLOSED TO ANYONE ELSE OR USED, WITHOUT THE WRITTEN CONSENT OF EMERSON CLIMATE TECHNOLOGIES, INC.						
MATERIAL SPECIFICATION		DRAWN BY		SUPERSEDES DWG. NO. / REV. NO.		
N/A		VPV		/		
		DATE		SCALE		
		06-30-14		3:1B		
TITLE		DRAWING NUMBER		DATE FORMAT		
REF DWG-WELD COMP ASSM		497-1676-00		MM-DD-YY		
		SHEET 1 OF 2		SIZE		
		5		5		

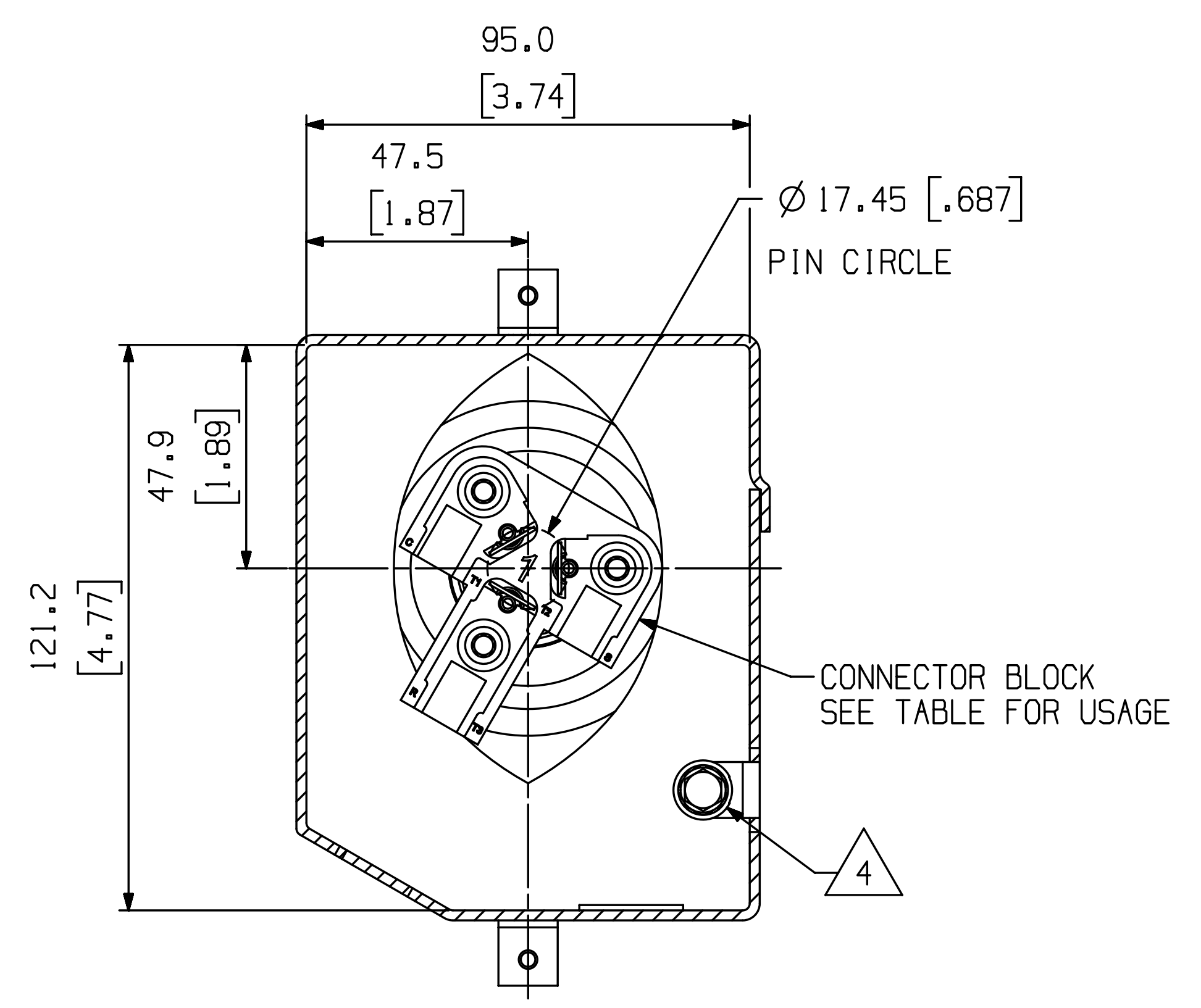
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◈ \varnothing 9.60-9.78 ID
 [\varnothing 0.378-0.385]
 ∇ 9.40 [0.370] MIN
 M9 X 1.25-6G THRU
 0.06 [0.002] MIN THICK EXTERIOR AND 0.038 [0.0015]
 MIN THICK INTERIOR COPPER PLATED STEEL OIL LEVEL
 FITTING. THREADS TO BE FREE OF COPPER PLATING.



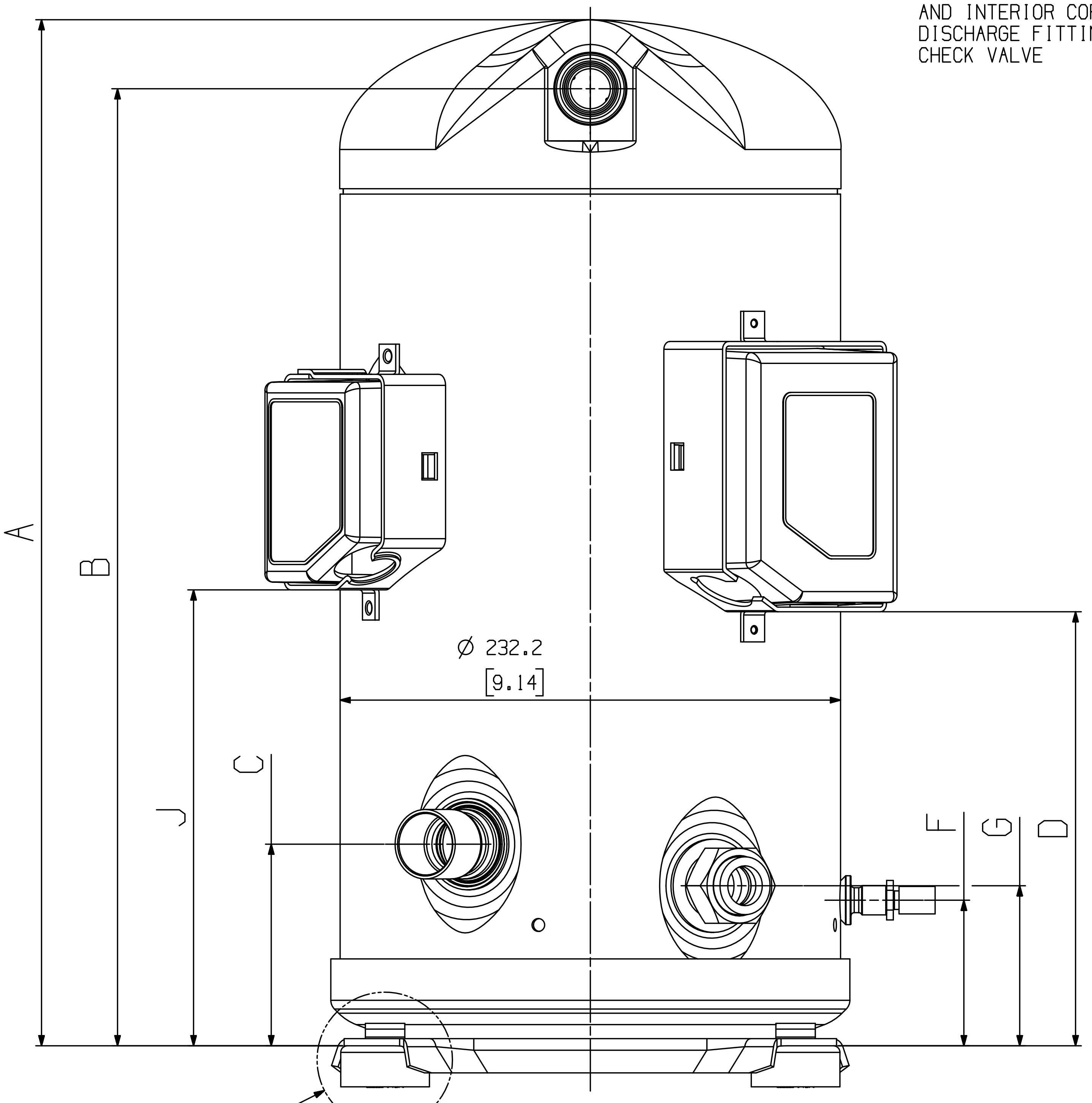
SIGHTGLASS LAYOUT
T-BOX REMOVED



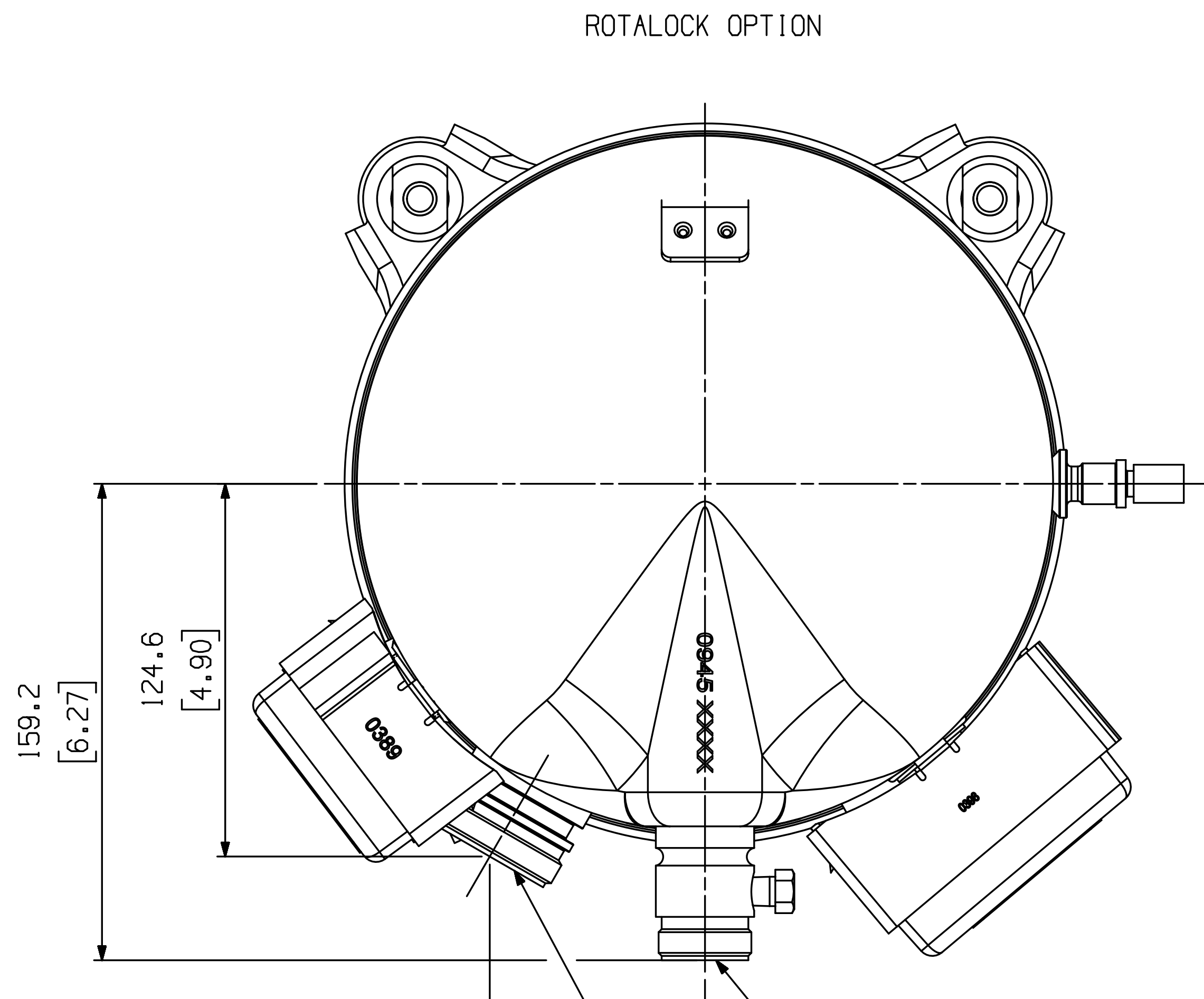
T-BOX LAYOUT STANDARD
SECTION A-A
SCALE 1:1

◈ \varnothing H ID
 ∇ 22.6 [0.890] MIN
 0.038 [0.0015] MIN THICK
 EXTERIOR AND INTERIOR COPPER
 PLATED STEEL SUCTION FITTING

◈ \varnothing 22.30-22.42 [0.878-0.883] ID
 ∇ 20.0 [0.787] MIN.
 0.038 [0.0015] MIN. THICK EXTERIOR
 AND INTERIOR COPPER PLATED
 DISCHARGE FITTING/STEEL
 CHECK VALVE

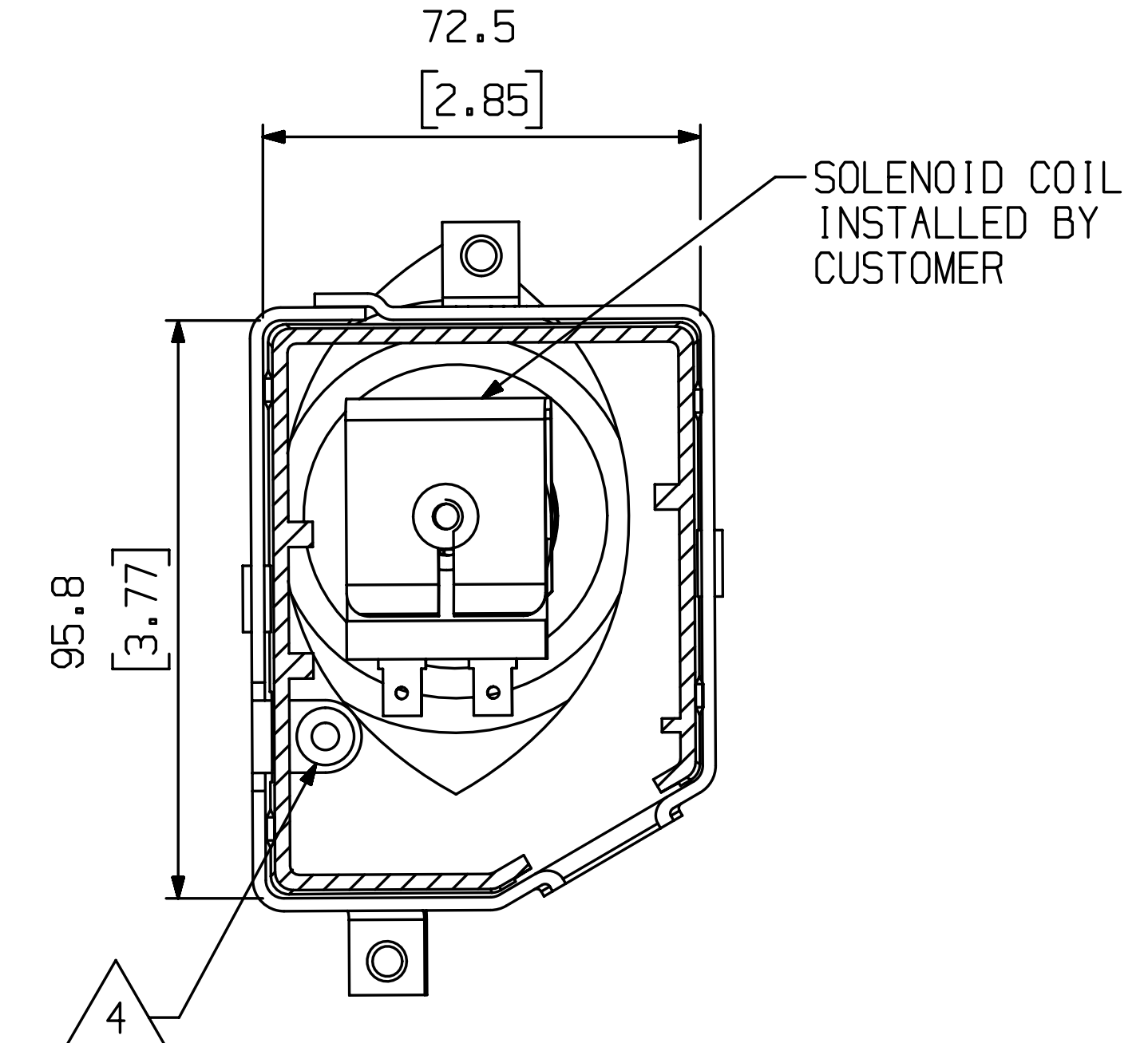


SEE DETAIL Y

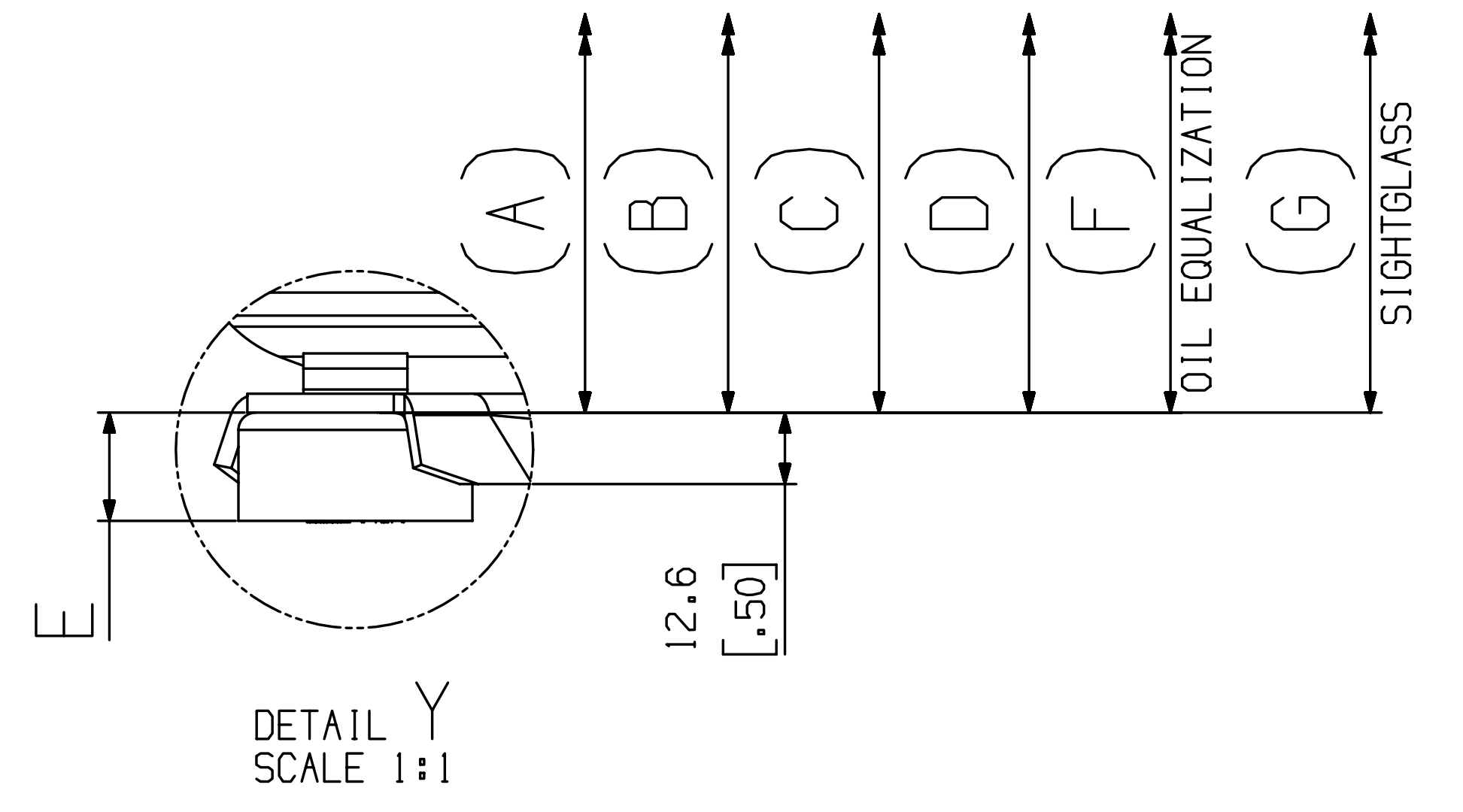


◈ [1.25-12] THREAD ROTALOCK SPUD
 DISCHARGE CHECK VALVE
 TORQUE RANGE 100-110 NEWTON-METERS
 [885-975 IN-LBS]

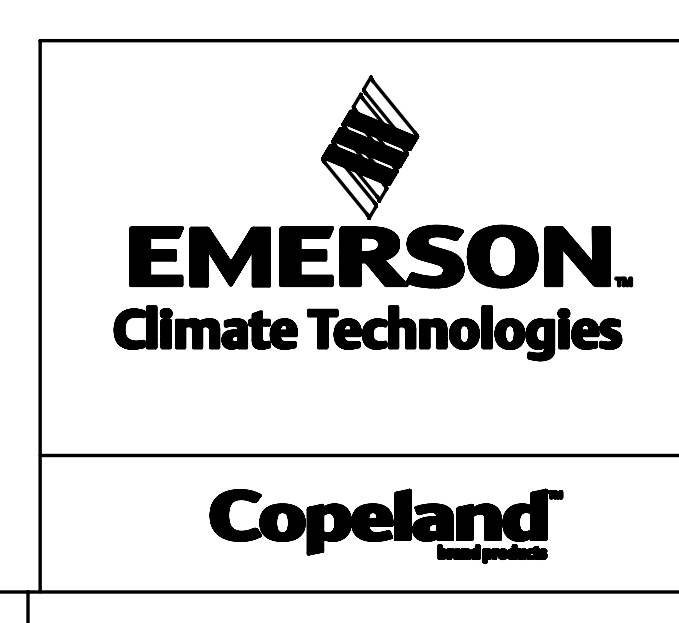
◈ [1.75-12] THREAD ROTALOCK SPUD
 SUCTION FITTING
 TORQUE RANGE 170-180 NEWTON-METERS
 [1500-1590 IN-LBS]



SECTION B-B
SCALE 1:1



DETAIL Y
SCALE 1:1



INTERPRET PER ASME
 Y14.5, 1994 AND
 Y14.19, 1994
 EMERSON CLIMATE
 TECHNOLOGIES, INC.
 DESIGN STANDARDS DS2002
 DO NOT SCALE DRAWING

THIRD ANGLE
 PROJECTION

CRITICAL PRODUCT
 CHARACTERISTICS

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE MILLIMETER OR 1/16 INCH

1-PLACE :
 2-PLACE :
 ANGLAR :

ECN008643	0	RELEASED	06-30-14	VPV	LLB	KJR
ENG NOTICE NO.	REV. NO.	REVISIONS	DATE	BY	CHKD	APPR
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MATERIAL SPECIFICATION		DRAWN BY		SUPERSEDES DWG. NO. / REV. NO.		
N/A		VPV		SCALE		
		DATE		DATE FORMAT		
		06-30-14		MM-DD-YY		
TITLE		DRAWING NUMBER		SHEET 2 OF 2		
REF DWG-WELD COMP ASSM		497-1676-00		5		
UNCONTROLLED - DO NOT MODIFY						

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