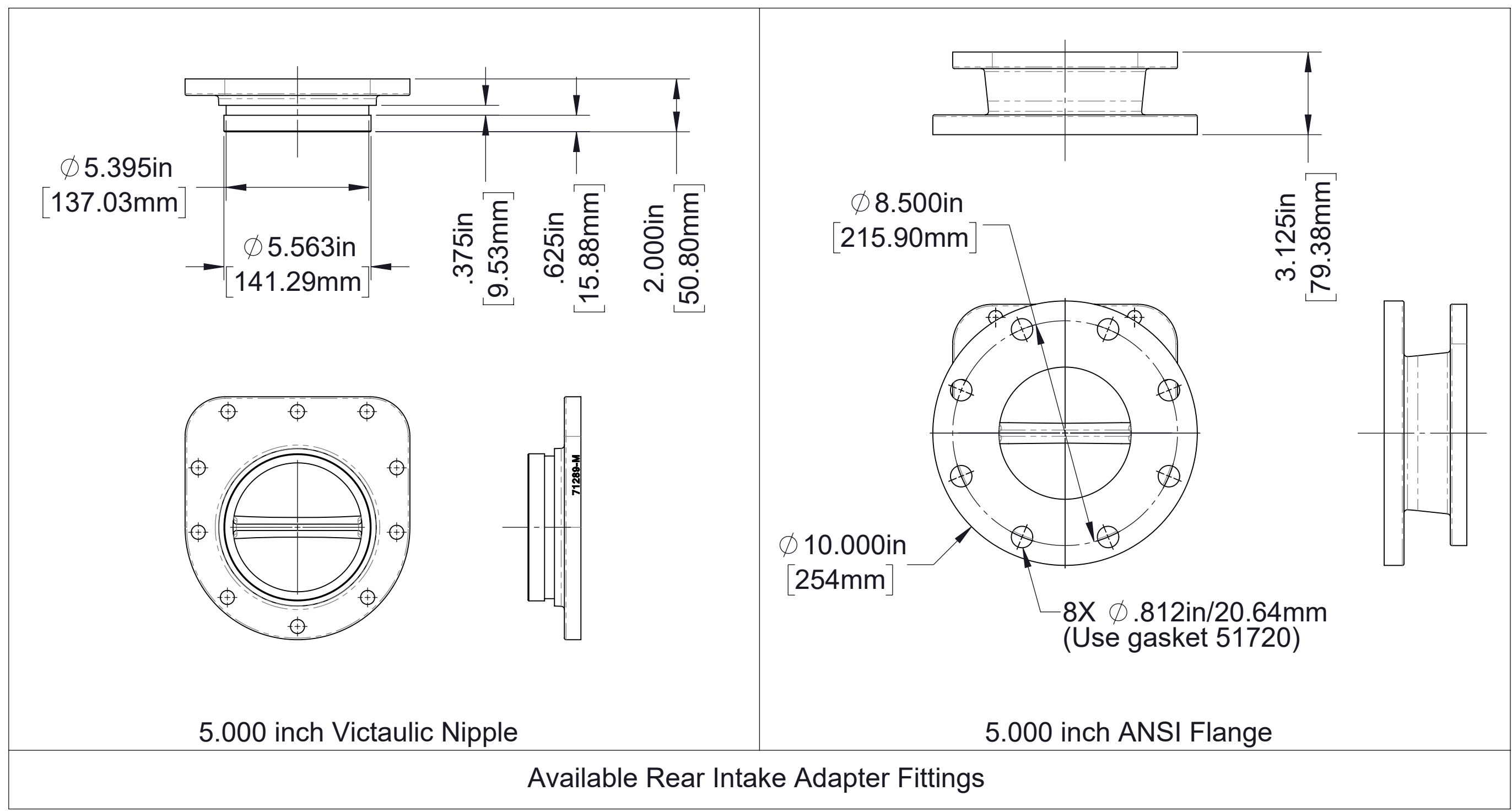
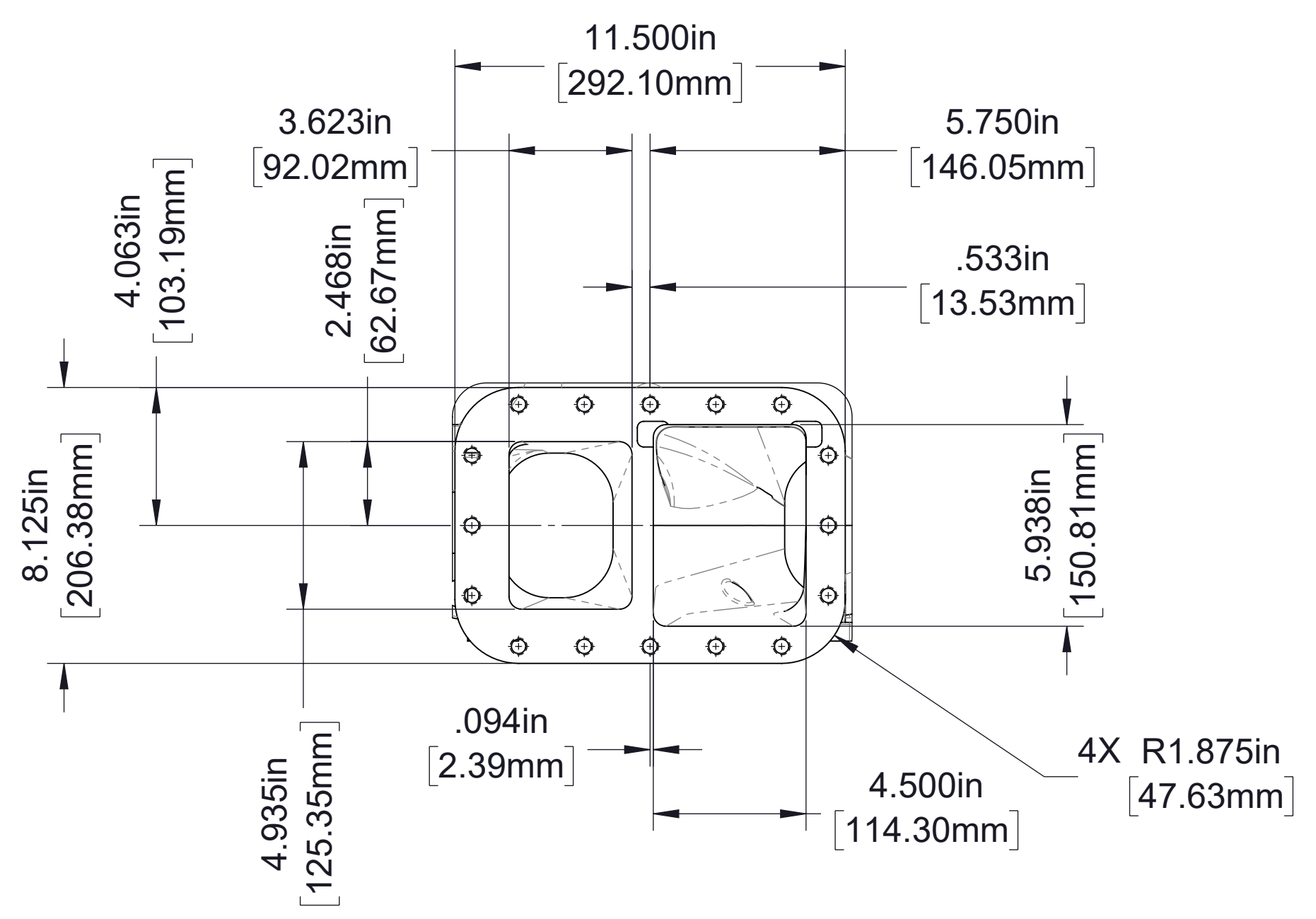
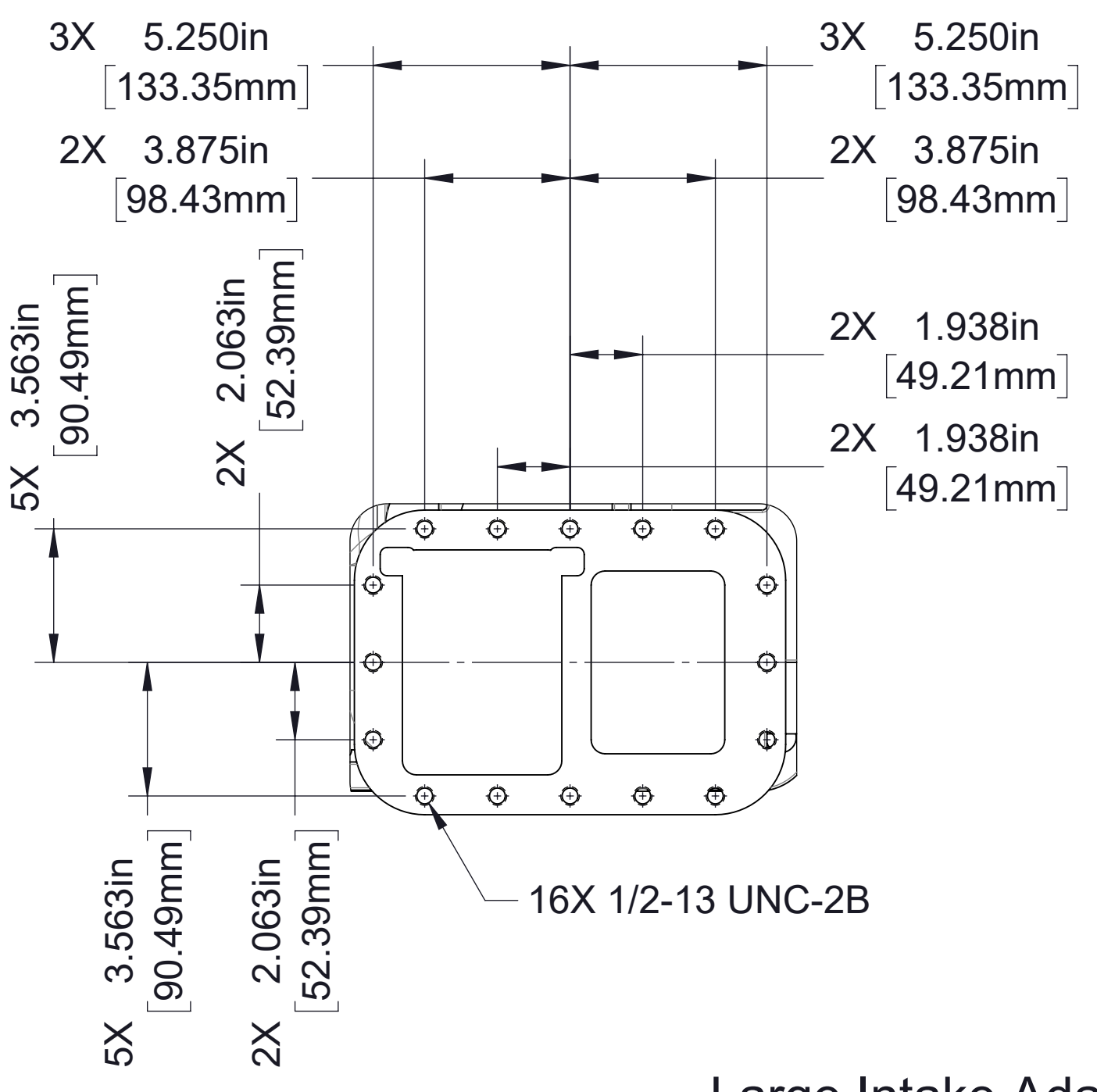


Iron CM Series Fire Pump Dimensional Drawings

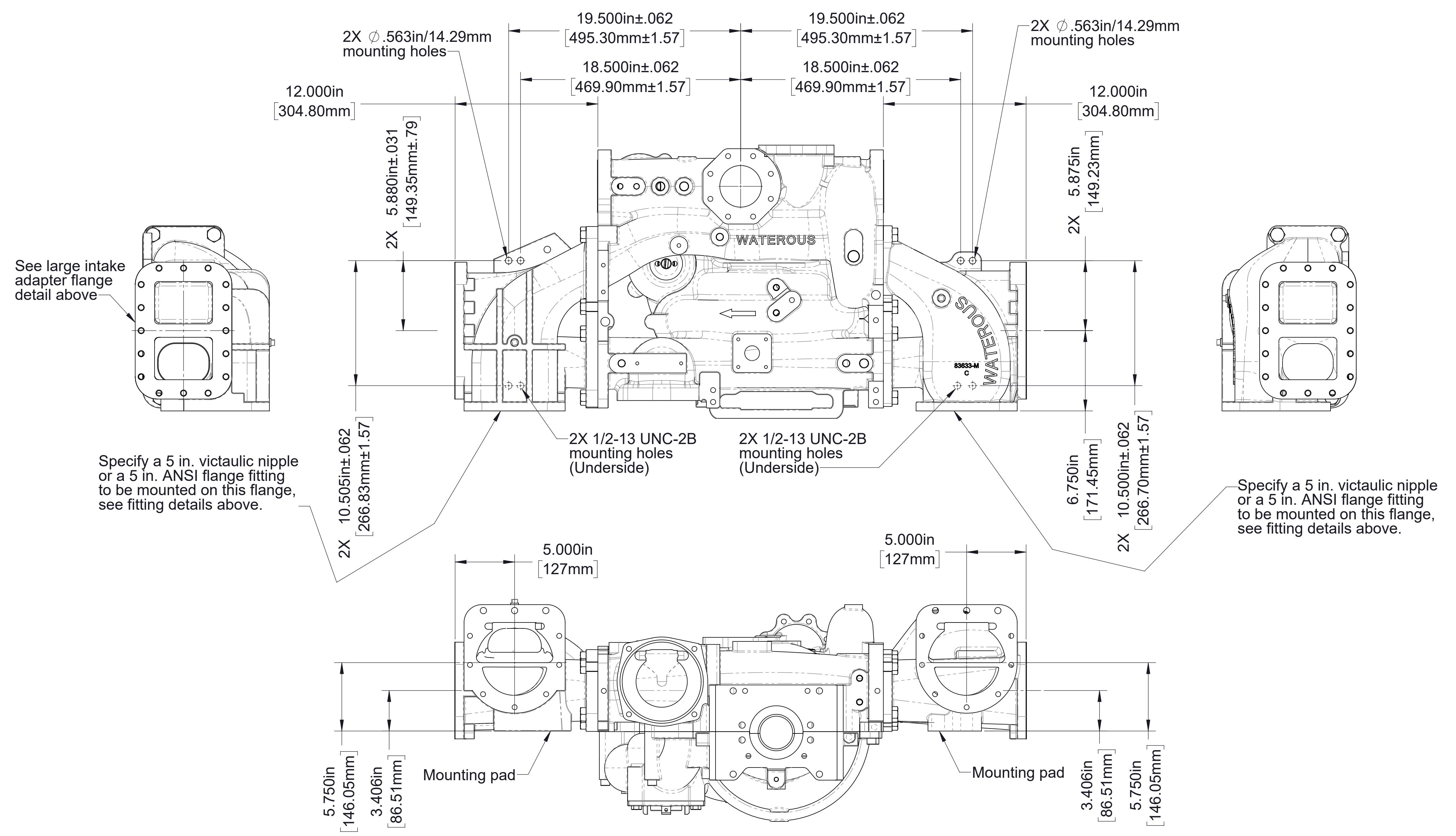
Basic Pump Dimensions (Without Transmission)	
Feature	See Page
Body Dimensions	2
Optional Rear Intake Adapters	3
Intake Fitting Options	4
Tank to Pump Flange Options	5
Discharge Connections	6

Pump and Transmission									
Pump Type	Transmission		Pump Model	Drive			Hydraulic Pump Mounting Provision	See Page	
	Model	Drive		Location	Input Rotation (1)	Driveline Type			
Two stage Series/Parallel (CM, CMU)	C22 Series	Split Shaft, Chain Drive	CMC22B, CMC22C, CMC22D, CMC22E, CMC22F	Rear	CW	Input and Output Shaft	No	7, 13	
						Input Shaft Only	Yes	8, 13	
				Front	CW	Input and Output Shaft	No	9, 13	
						Input Shaft Only	Yes	10, 13	
			CMUC22B, CMUC22C, CMUC22D, CMUC22E, CMUC22F	Split Shaft, Chain Drive	Rear	CW	Input and Output Shaft	N/A	11, 13
							Input Shaft Only	N/A	12, 13
					Front	CW	Input and Output Shaft	No	7, 13
							Input Shaft Only	Yes	8, 13
	K Series	Heavy Duty Two Gear Increaser, PTO Drive	CMK	Rear	CW	-	No	9, 13	
		Extra Heavy Duty K Series, Two Gear Increaser, PTO Drive	CMUK				Yes	10, 13	
	D Series	Direct Drive Connection from P.T.O.	CMD	Front	CW	-	N/A	16	
			CMUD	Rear	CCW				
				Front	CW				
			Rear	CCW					
PA Series	PTO Driven, Chain Drive	CMPA, CMUPA	Rear	CW	-	N/A	17		

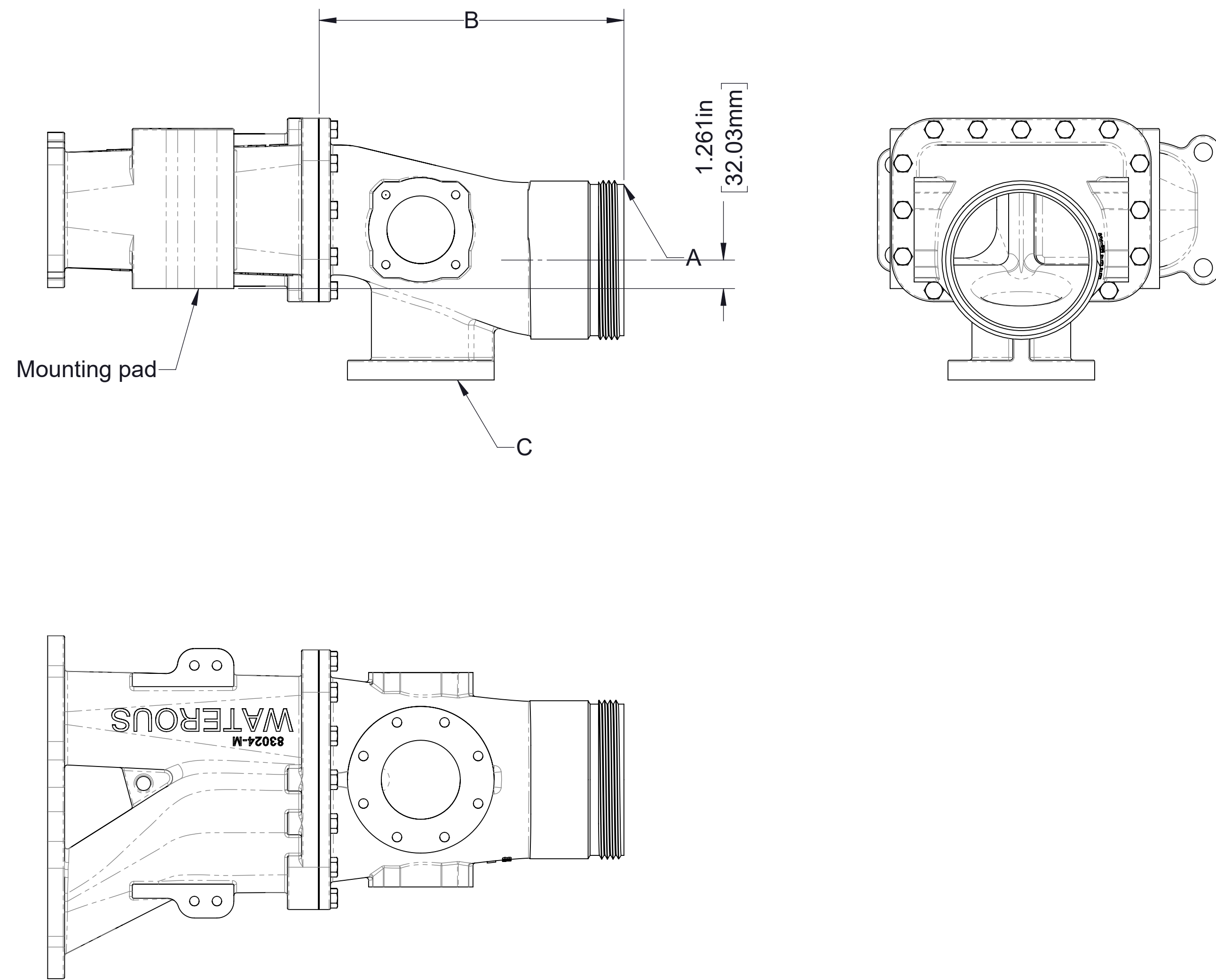
Note:
1. Input rotation is viewed looking directly at the transmission input shaft or direct drive end yoke.



Large Intake Adapter Flange Detail
 Specify intake fittings from page 4

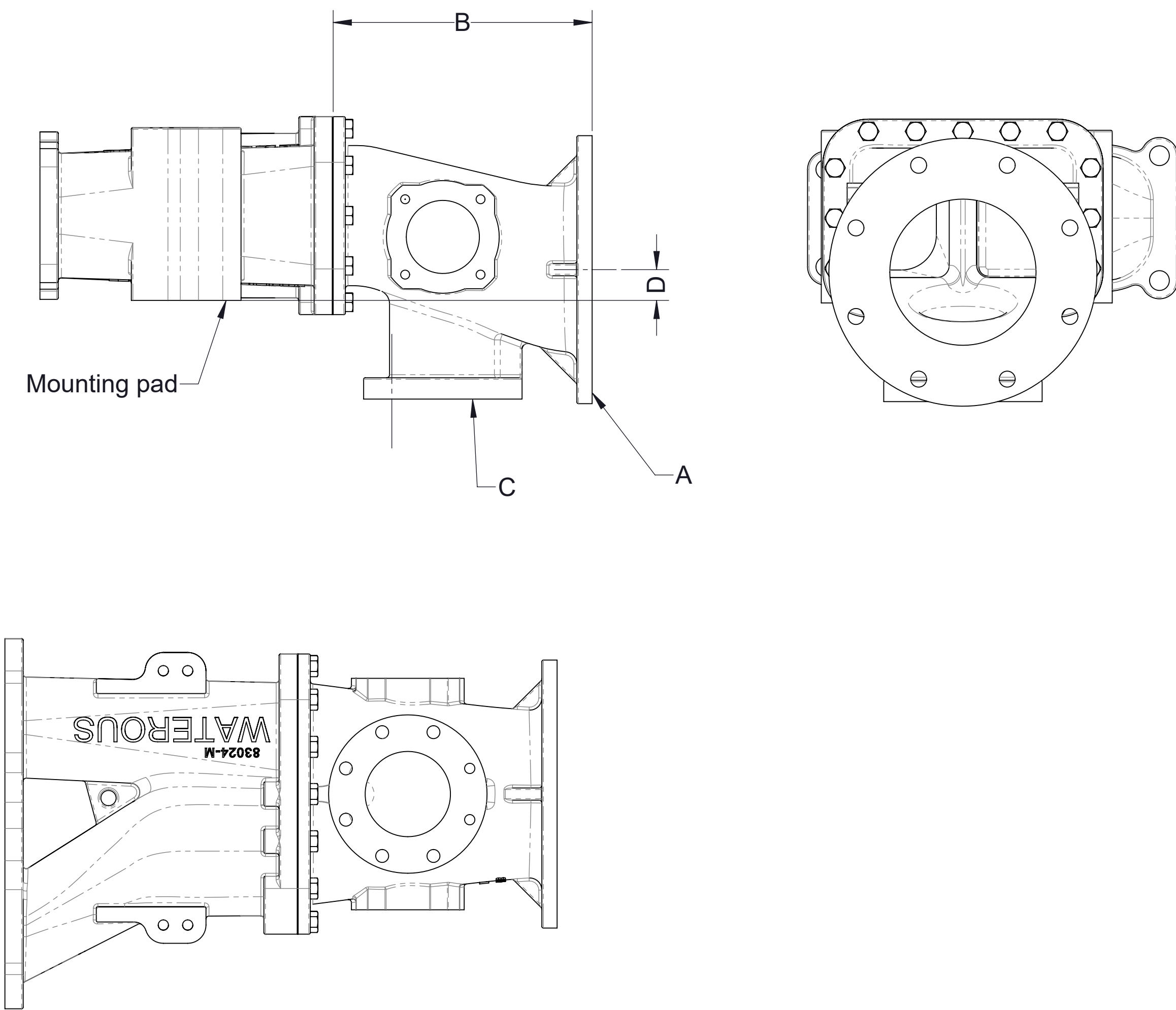


Optional Rear Intake Adapters
 Available with 5.000 inch ANSI flange or 5.000 inch victaulic nipple



Type	End Size A	Length B	Bottom Flange C	Relief Valve	Part Number
Threaded	5 in. NH	13.500in 342.90mm	3-1/2 in. 8 Bolt	No	82768
		15.000in 381.00mm	3-1/2 in. 8 Bolt	No	82767
	6 in. NH	13.500in 342.90mm	3-1/2 in. 8 Bolt	No	81916
			No	Yes	82173
		5 in. ANSI	Yes	82174	
		3-1/2 in. 8 Bolt	No	81915	
		No	Yes	82163	
		5 in. ANSI	Yes	82166	

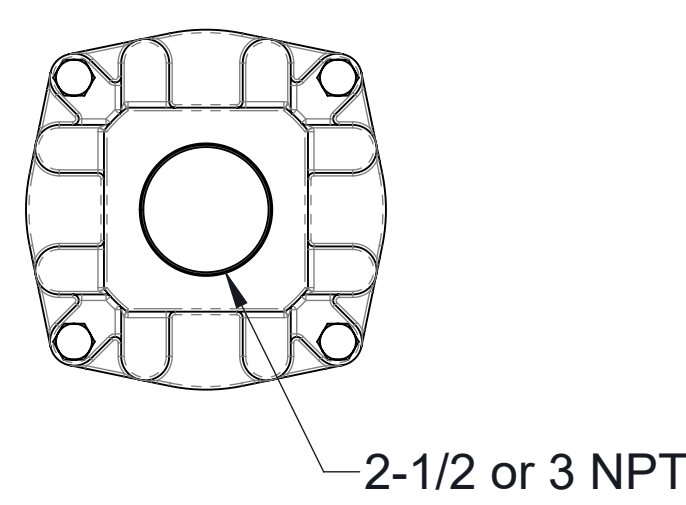
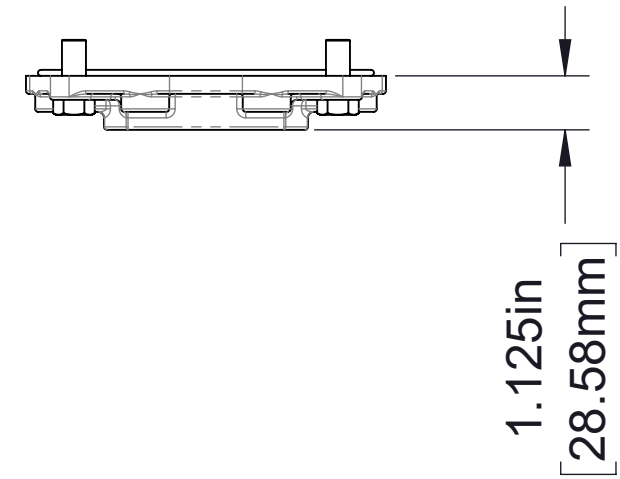
Threaded Intake Fitting
Part 81916 shown



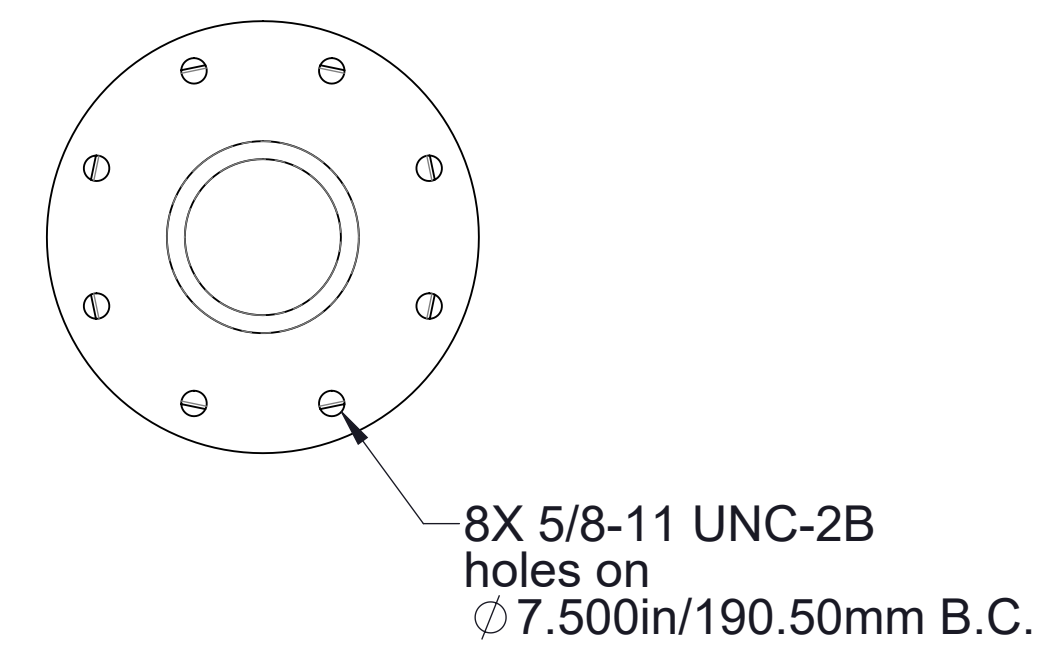
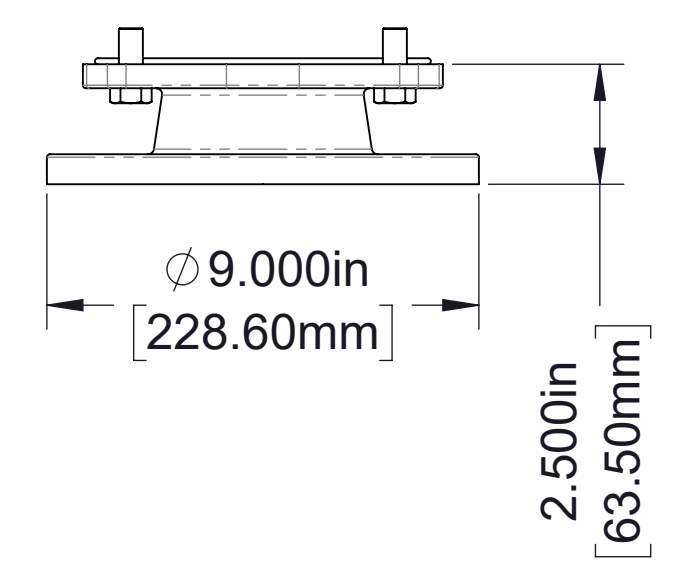
Type	End Size A	Length B	Bottom Flange C	D	Relief Valve	Part Number
Flanged	6 in. ANSI	6.750in 171.45mm	2-1/2 in. 4 Bolt	1.980in 50.29mm	No	82289
			No		Yes	82301
		5 in. ANSI	Yes	82302		
		2-1/2 in. 4 Bolt	No	82011		

Flanged Intake Fitting
Part 82011 shown

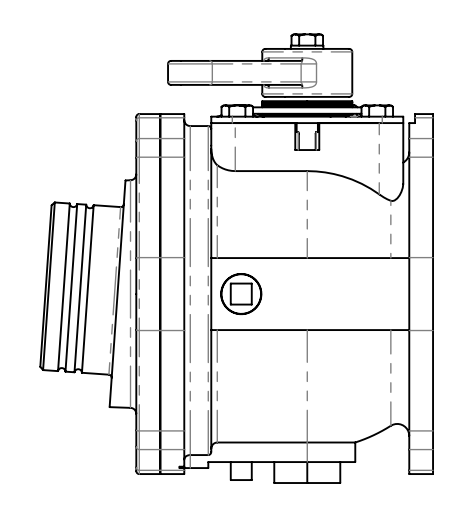
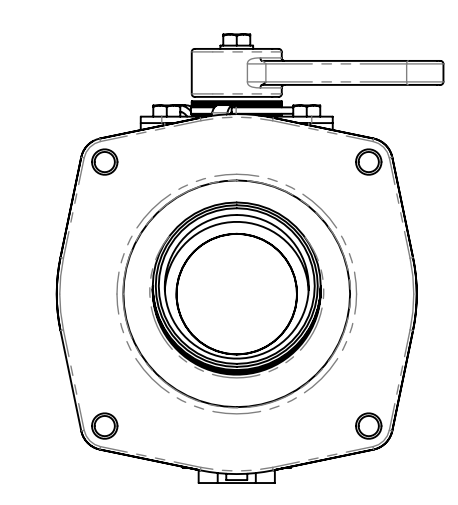
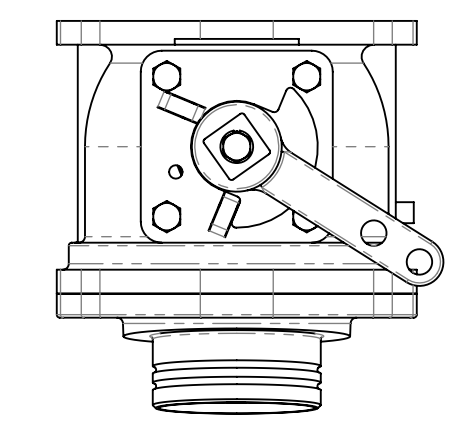
Note:
1. Refer to dimensional DPL81867 for additional intake fitting dimensions and pad details.



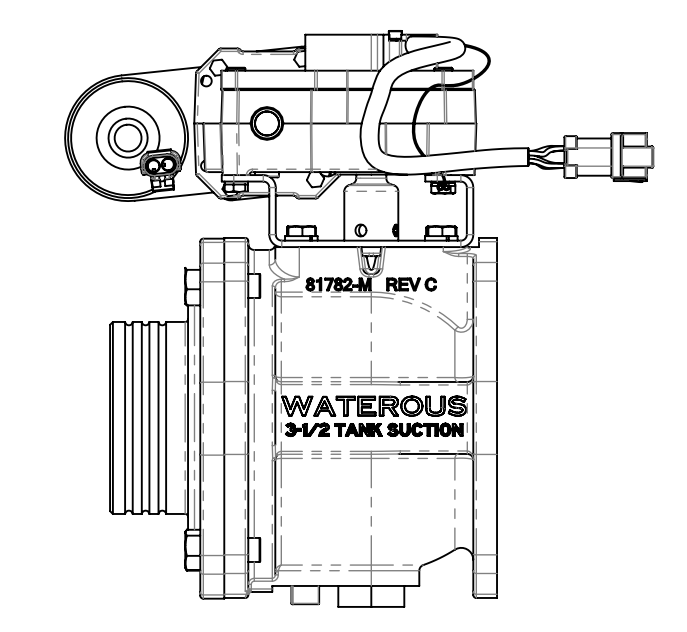
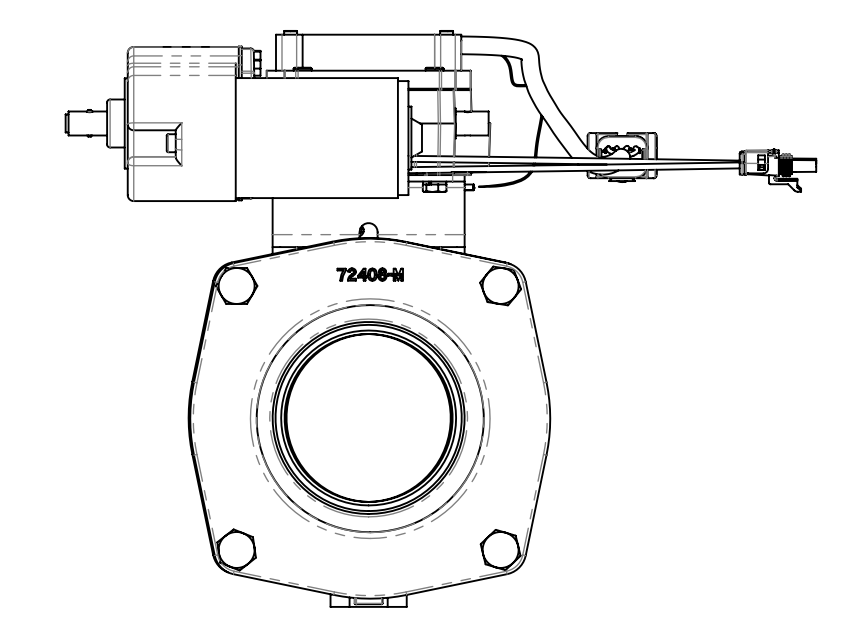
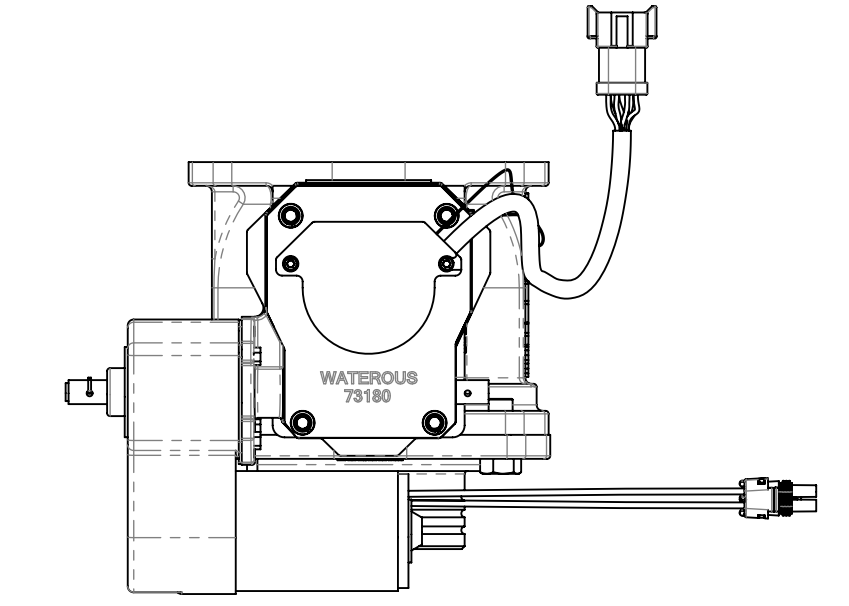
Tapped Flange



4.000 inch ANSI flange
(Note: Not available with PA transmission)

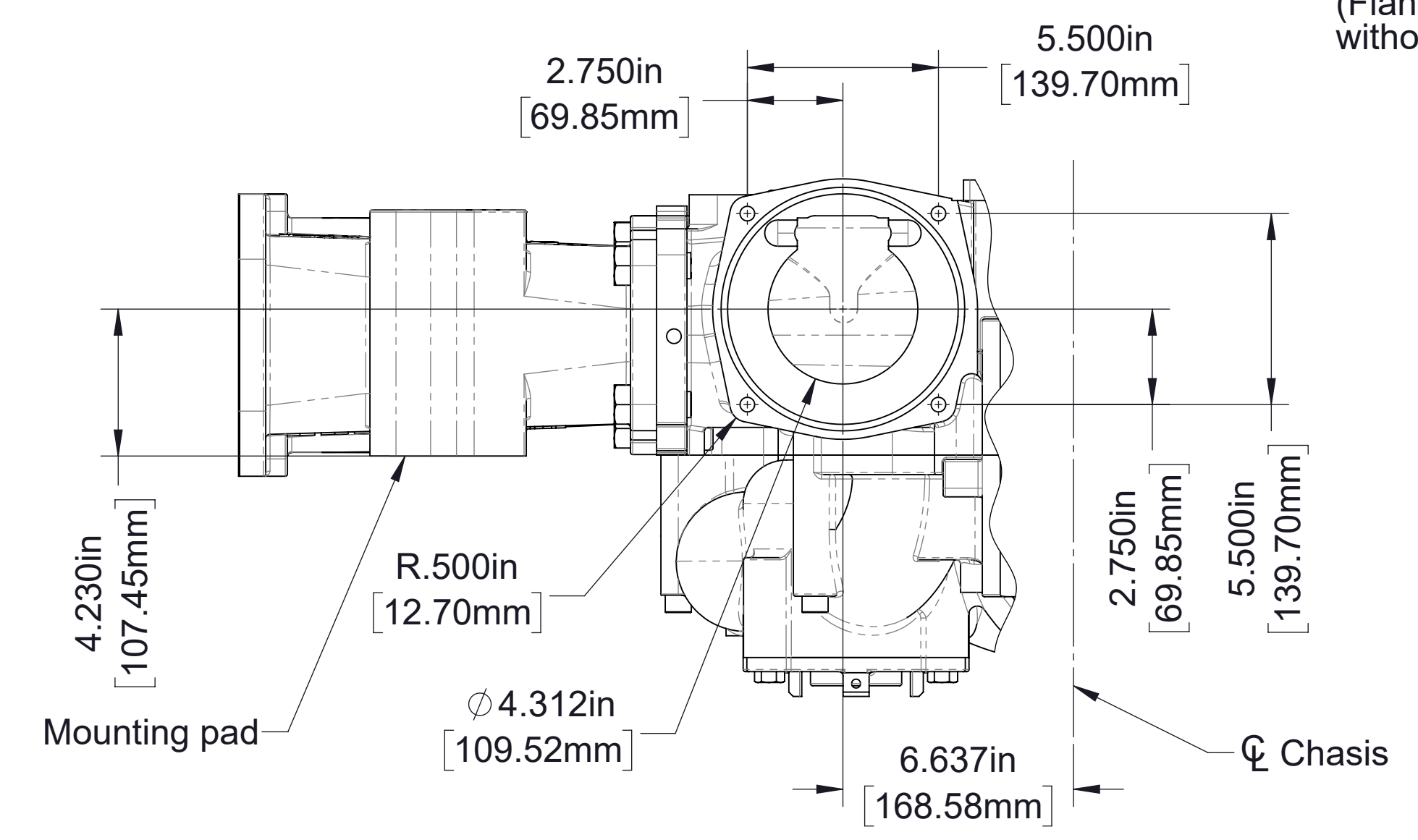
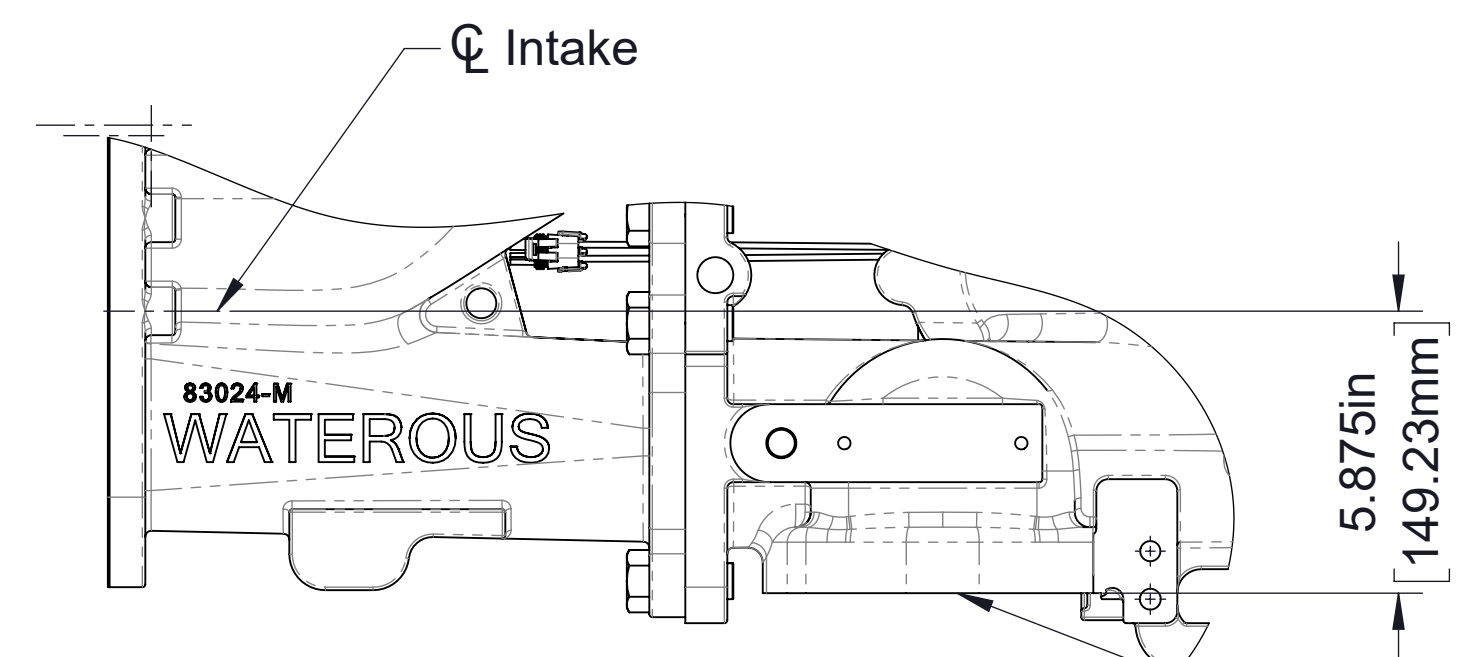


Manual Tank to pump valve
See drawing DPL81962 for ordering details



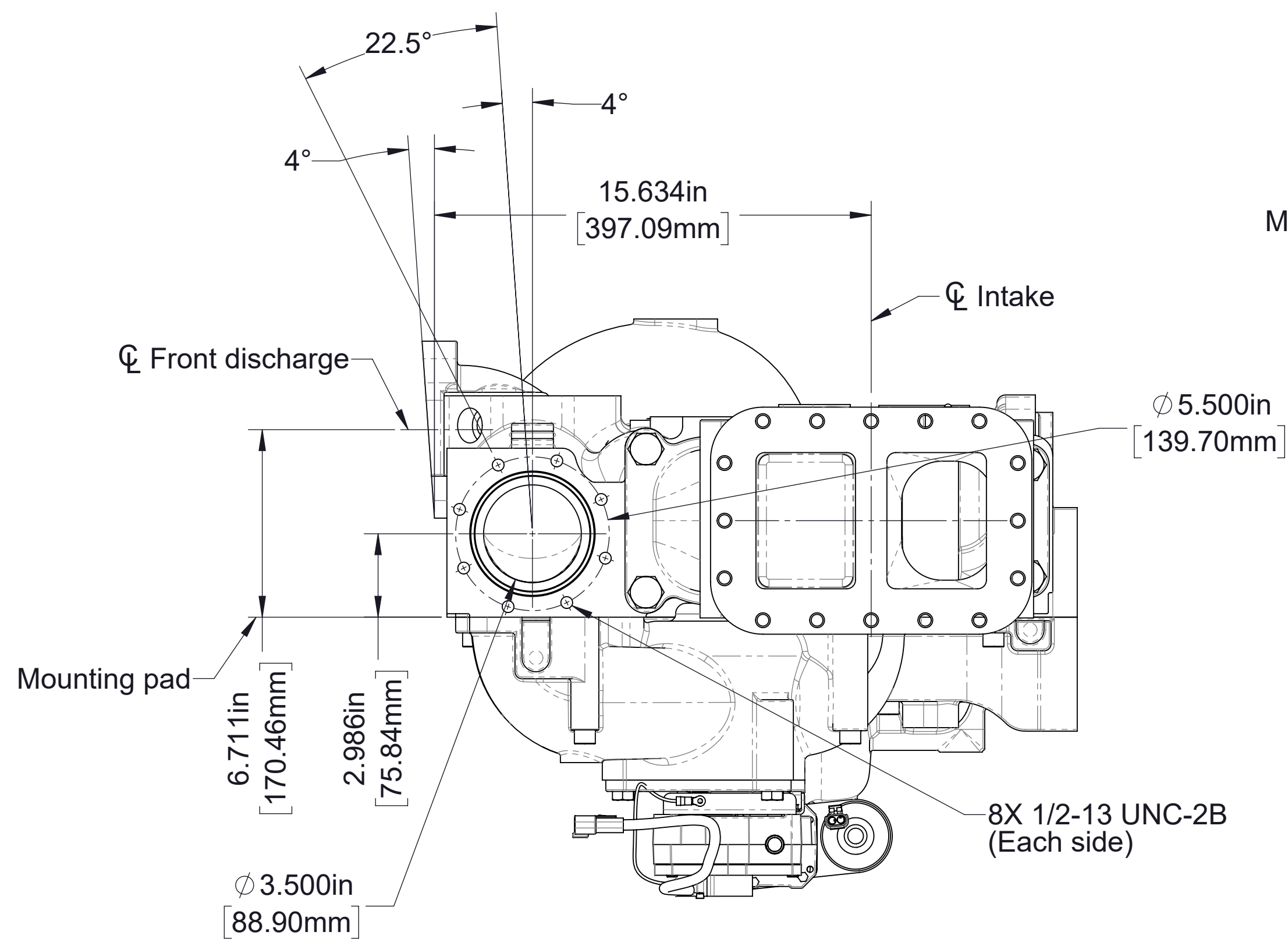
Electric Tank to pump valve with rotary actuator
See drawing DPL82771 for ordering details

Optional Tank to Pump Flange Fittings/Valves

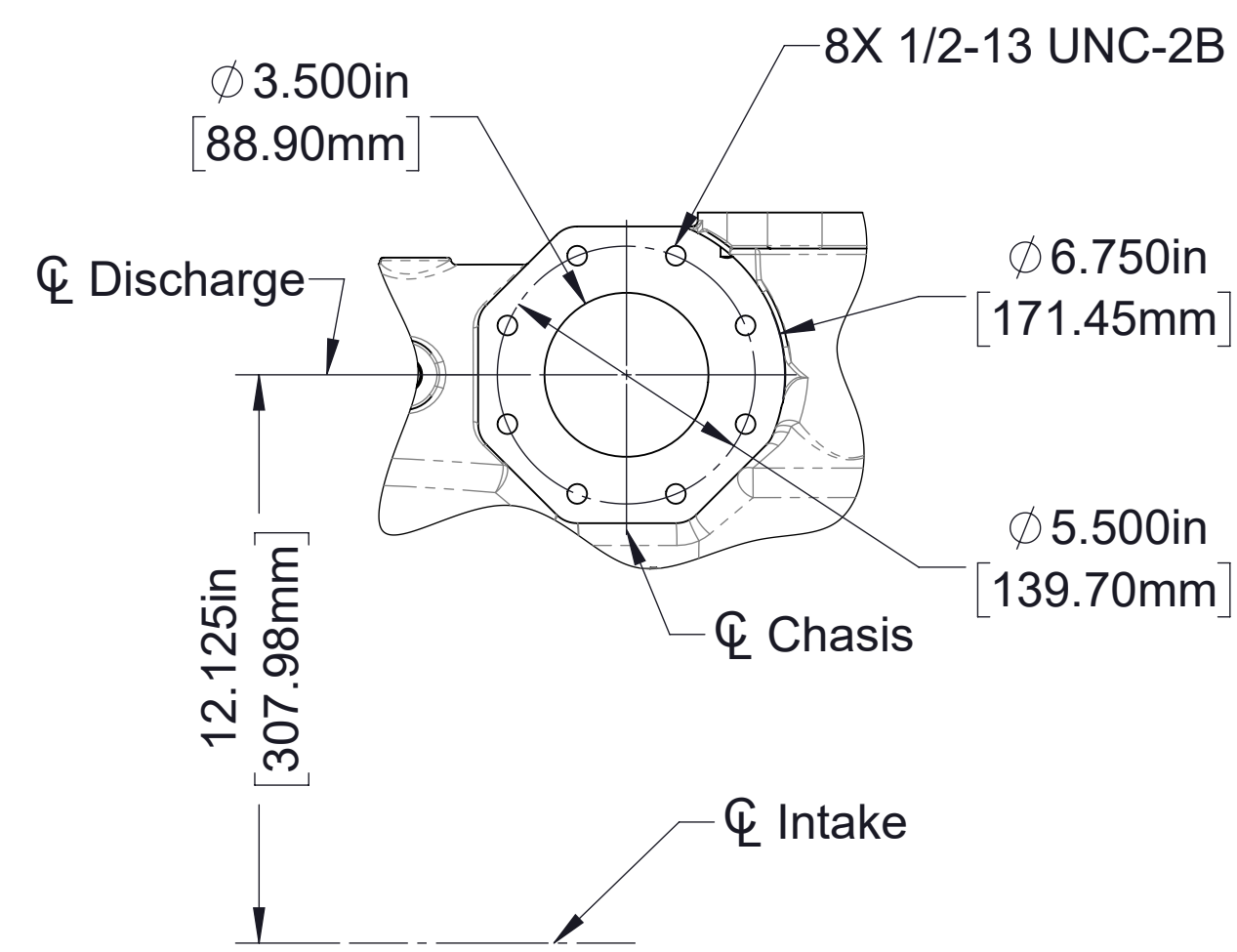
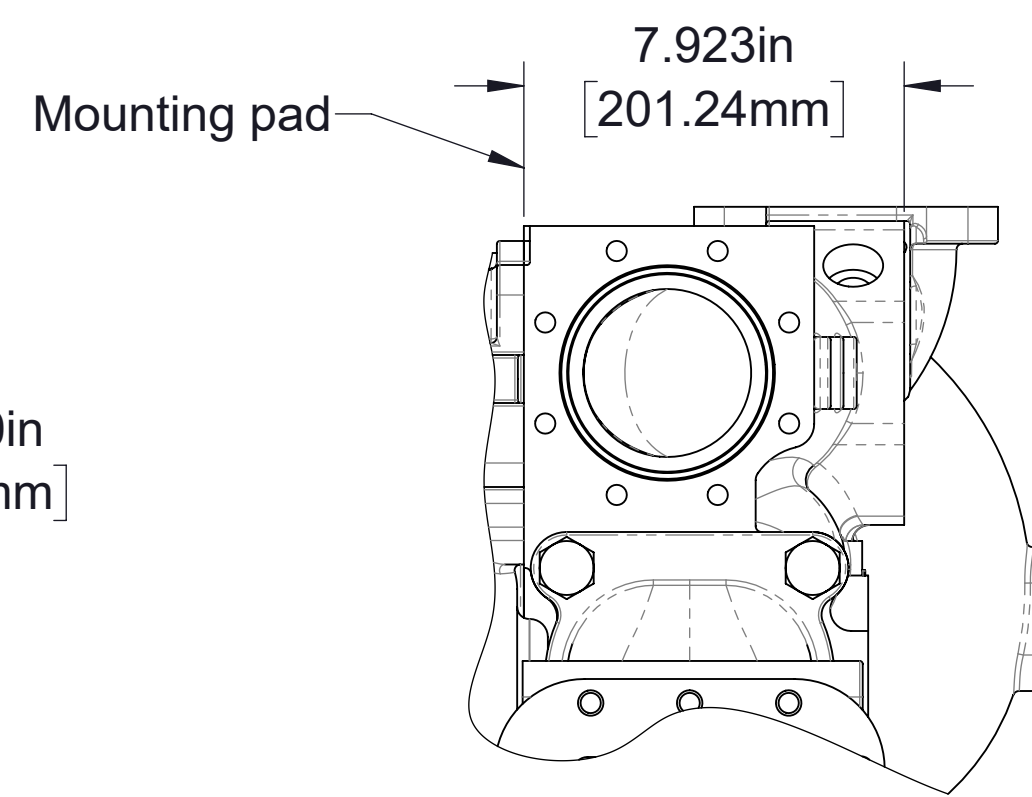


See table for fittings/valves which may be mounted on this flange (Flange may be ordered blank, without fittings or valves)

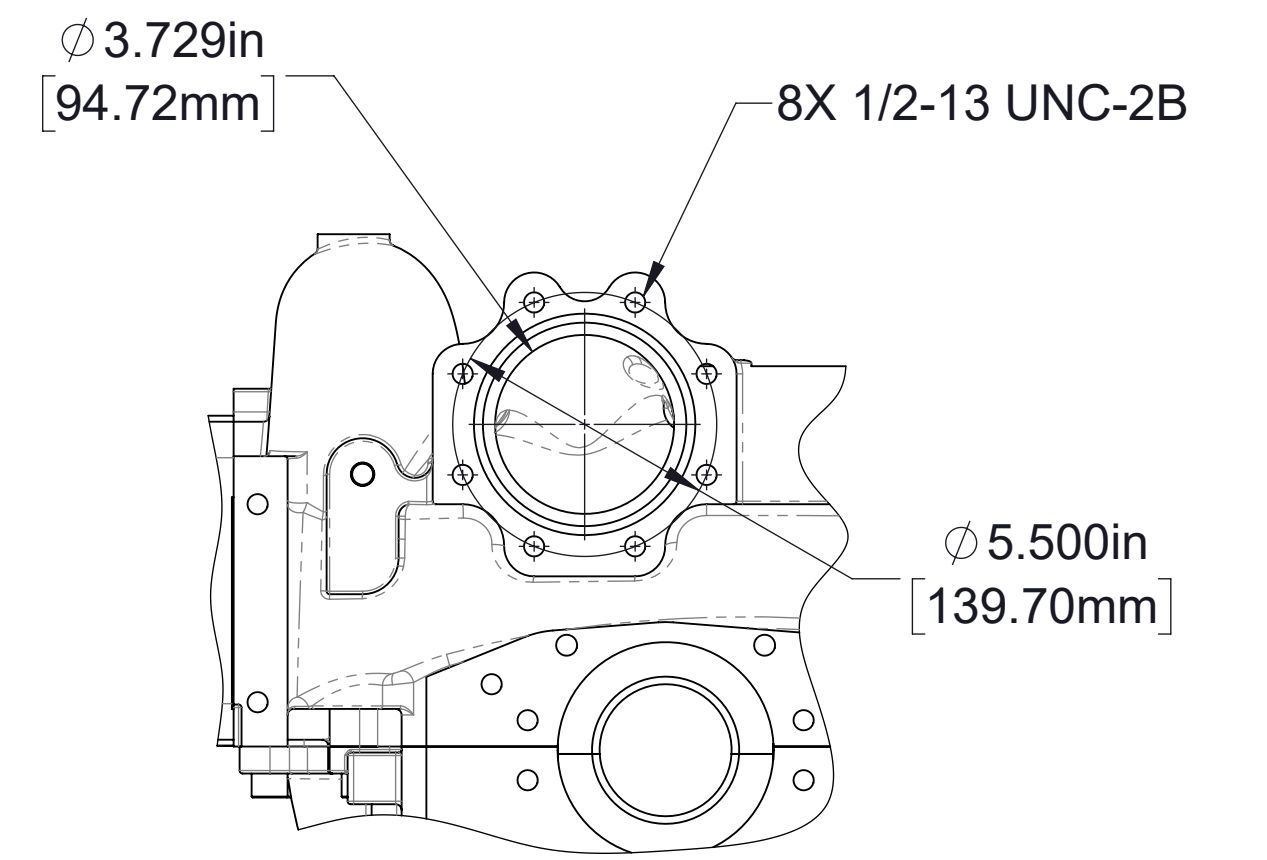
Tank to Pump Flange
use o-ring W37108-4
(available with or without check valve)



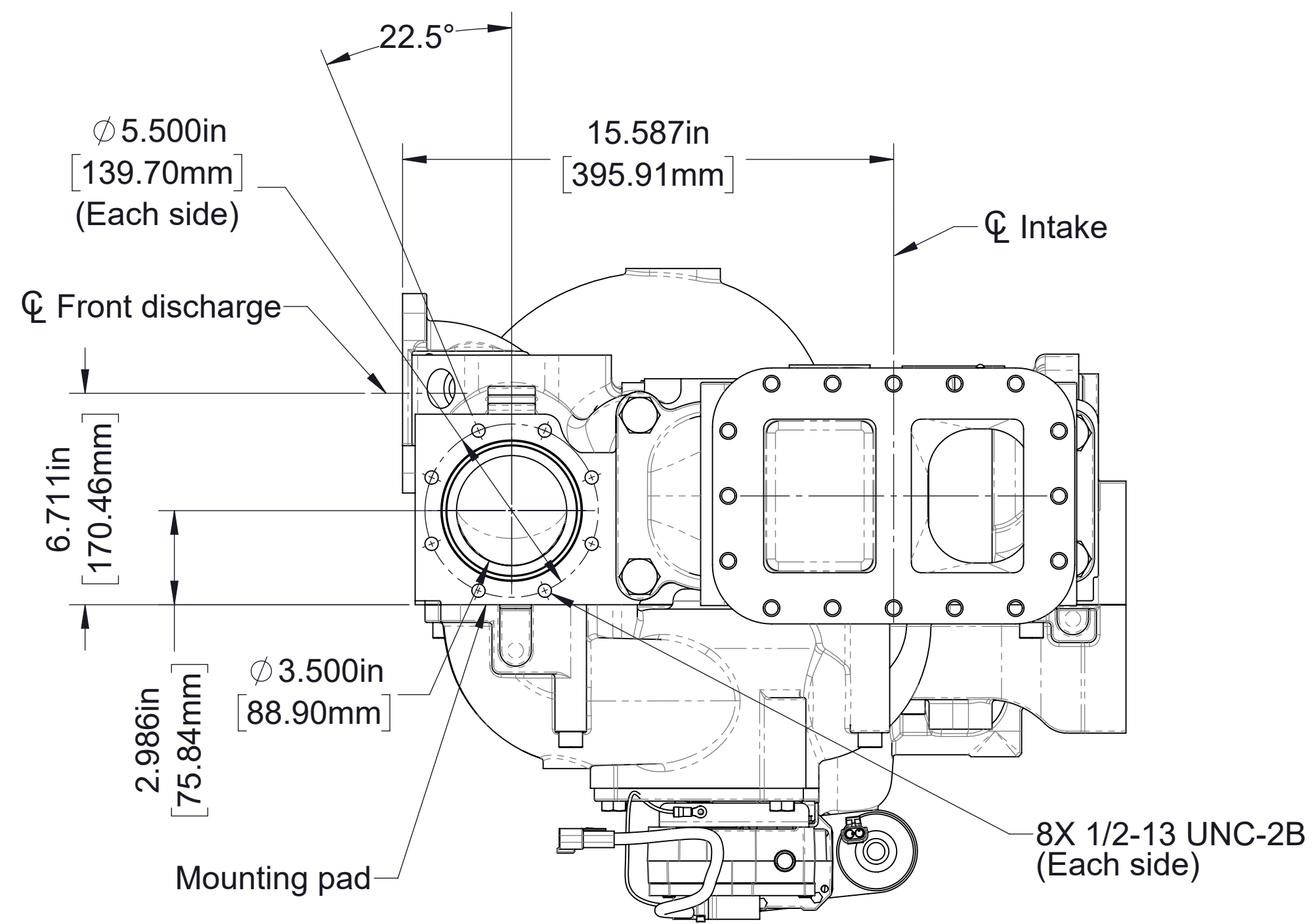
4° Angle Compensated Side and Front Discharge



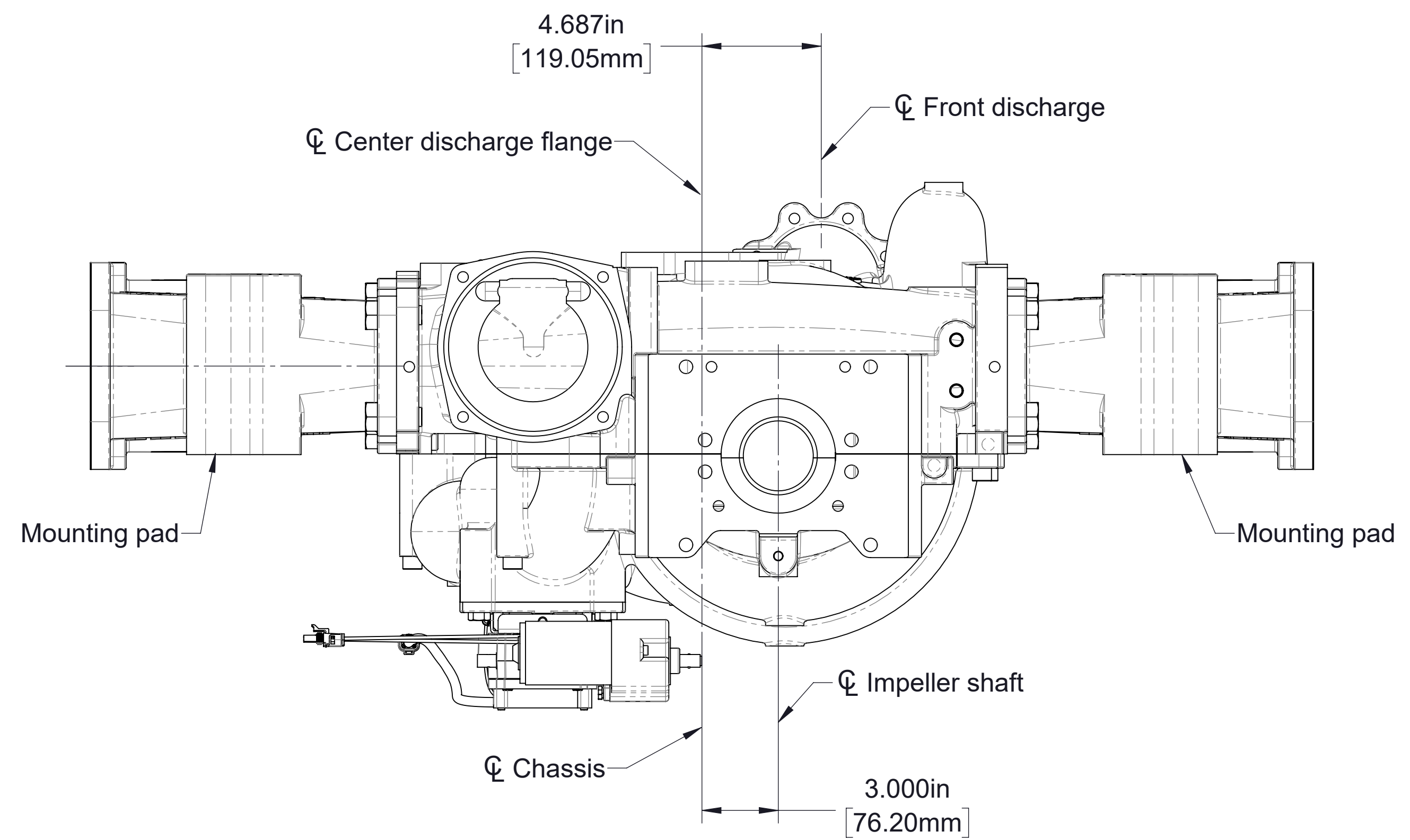
Center Discharge Flange
See drawing DPL82089 for information on ordering discharge fittings or see Waterous "center discharge piping manual" for available existing arrangements



Front Discharge Flange
(Use o-ring W 3770-4)
(Non-angle compensated shown)

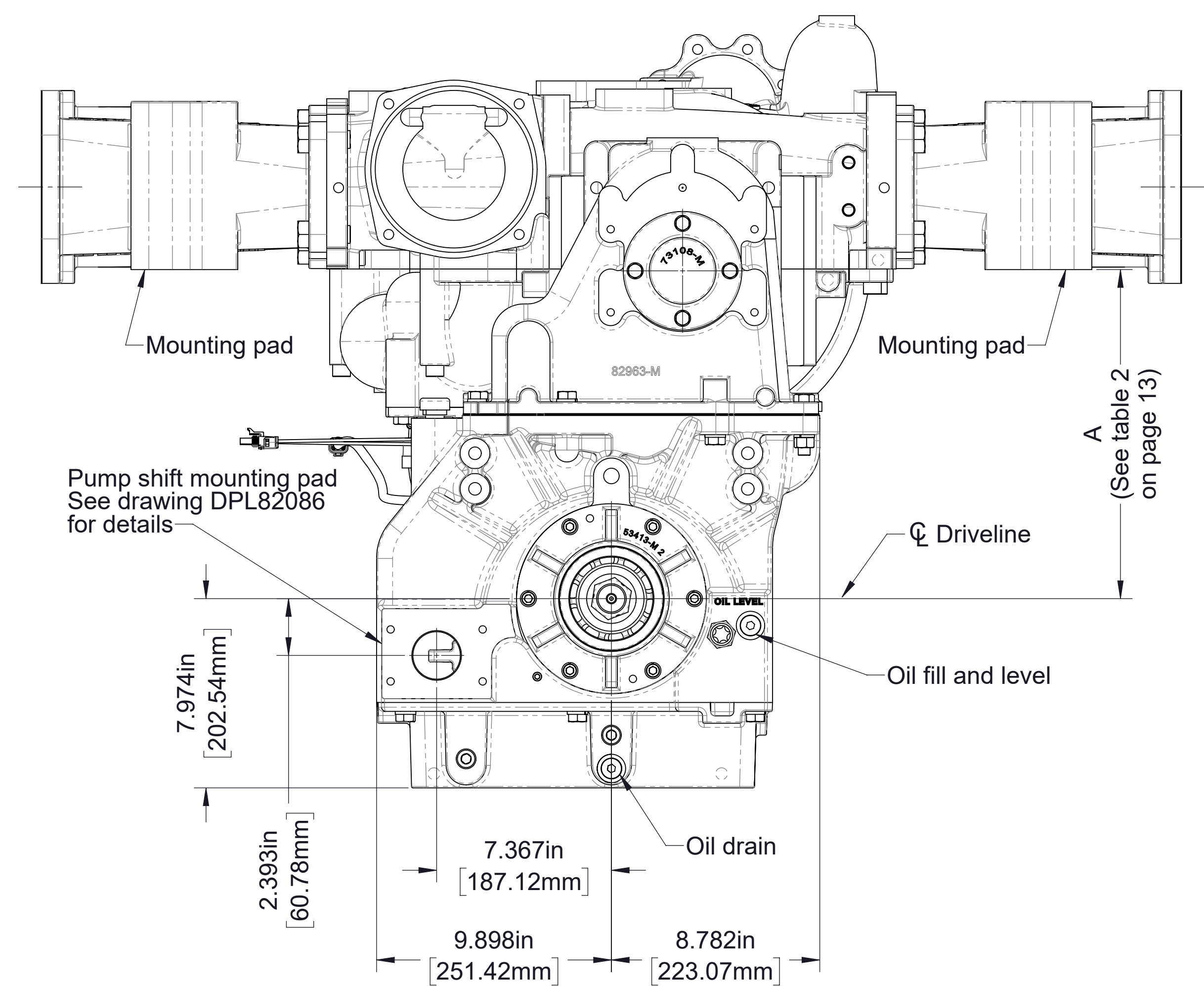
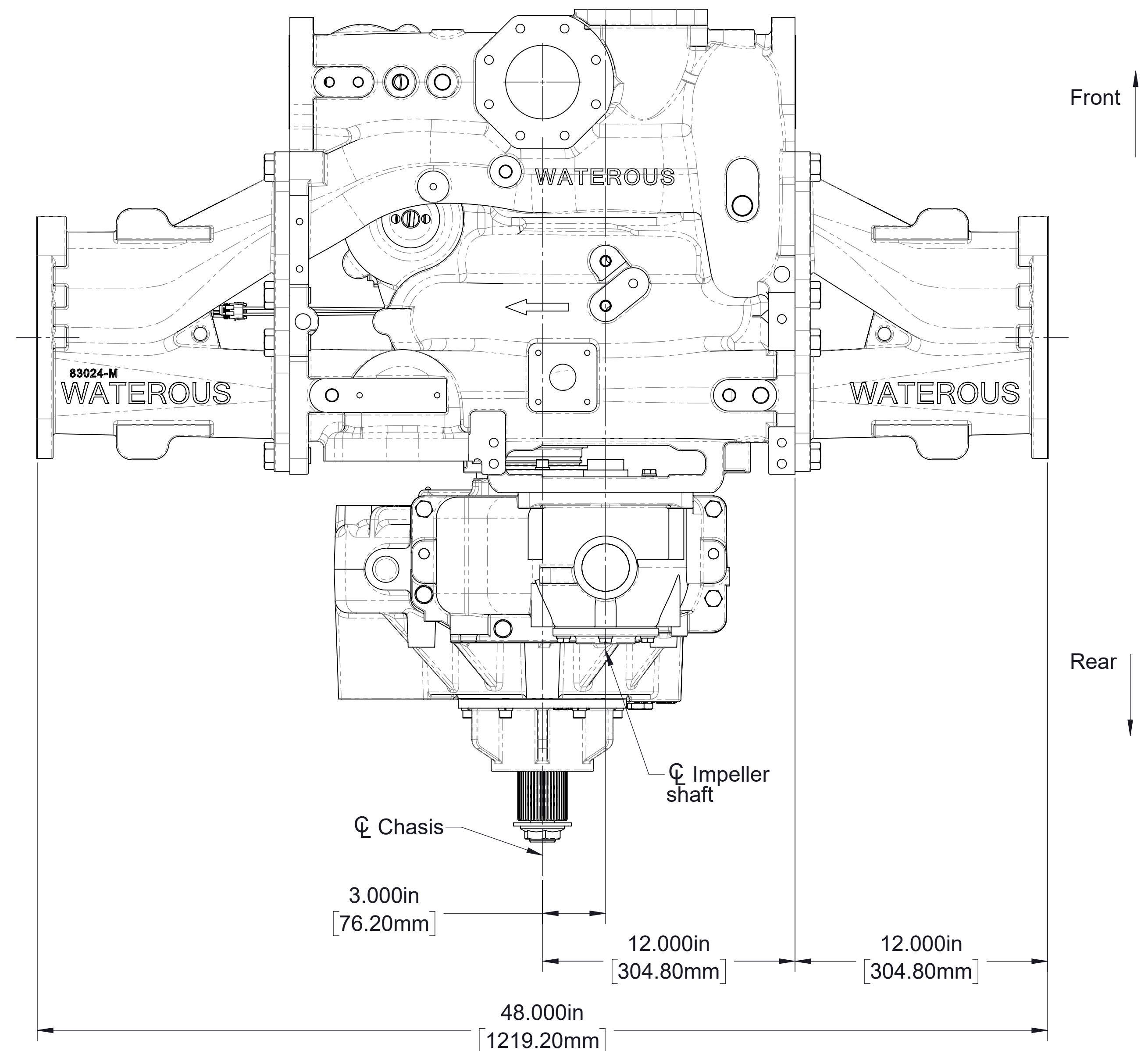
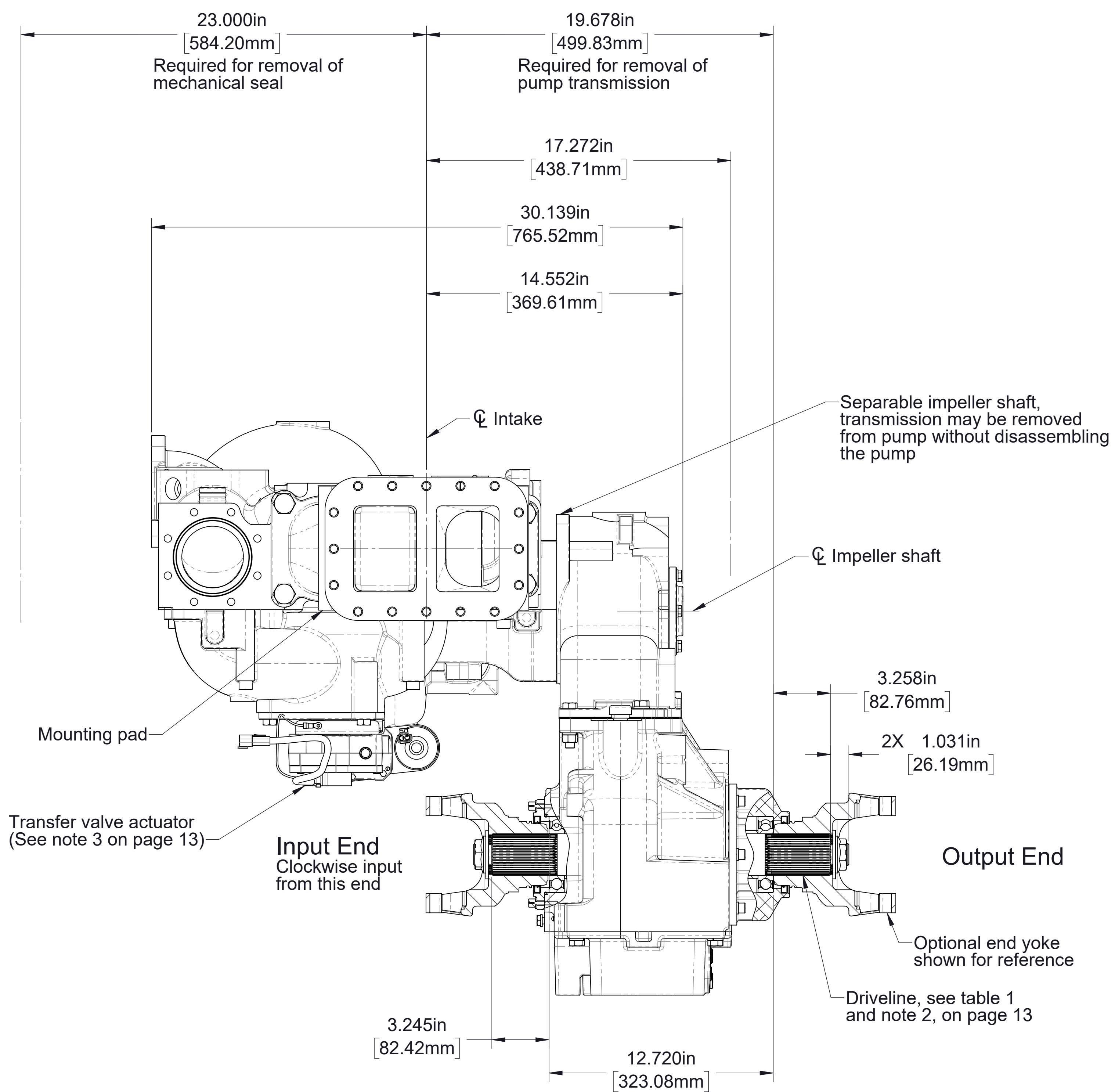


Non-Angle Compensated Side and Front Discharge

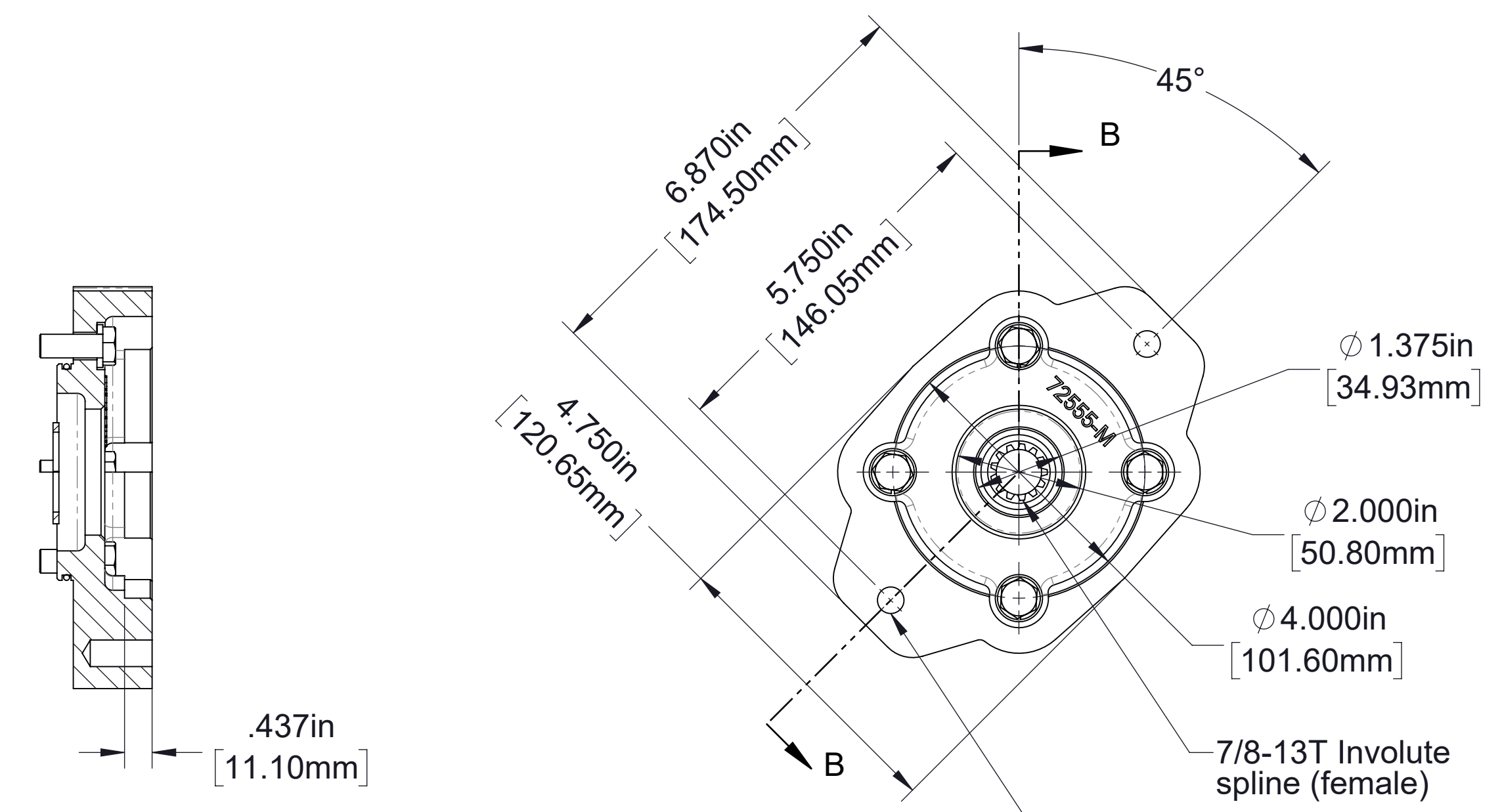


Discharge Flange Configurations
See drawing DPL82085 for information on ordering discharge fittings and valves

Discharge Connectons



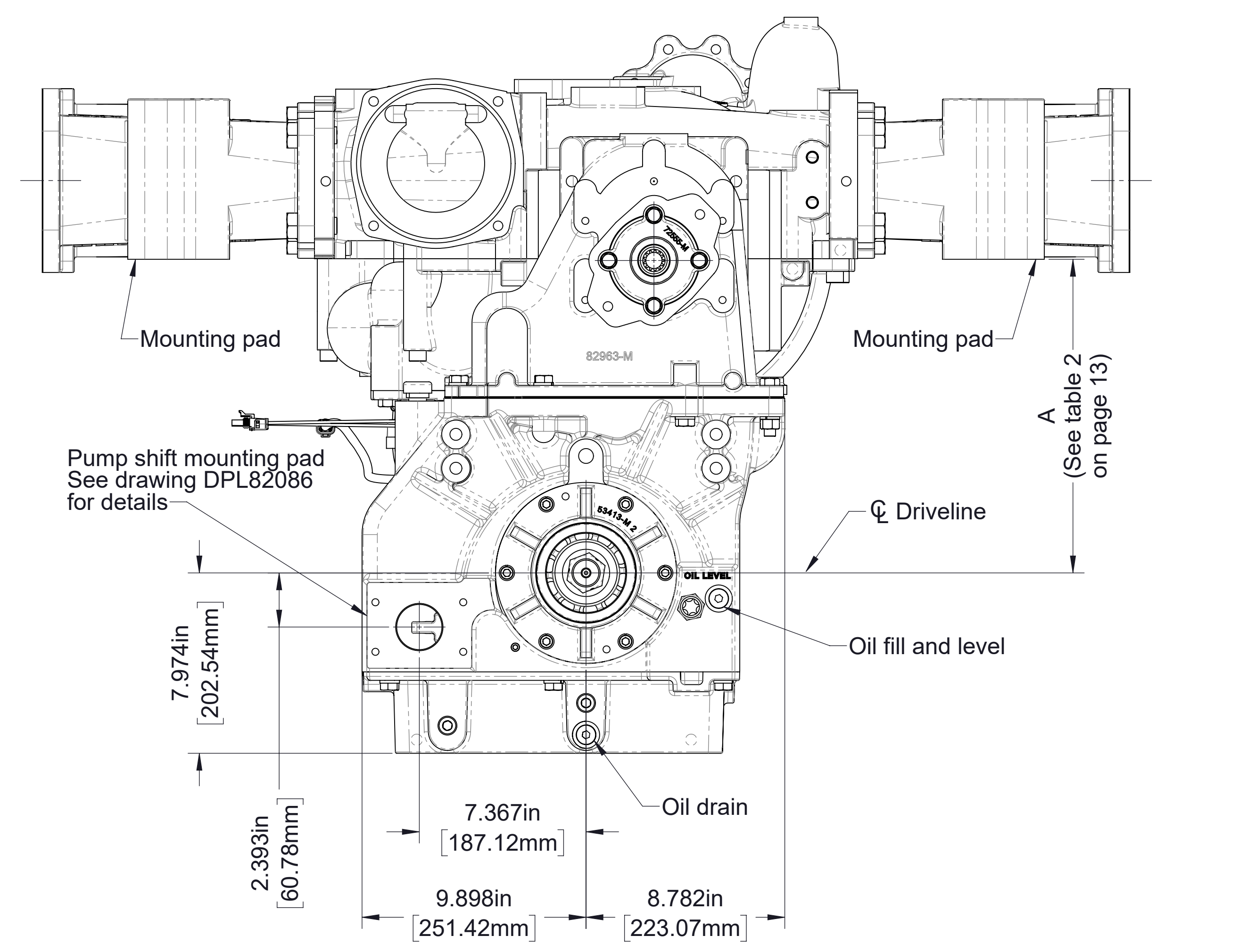
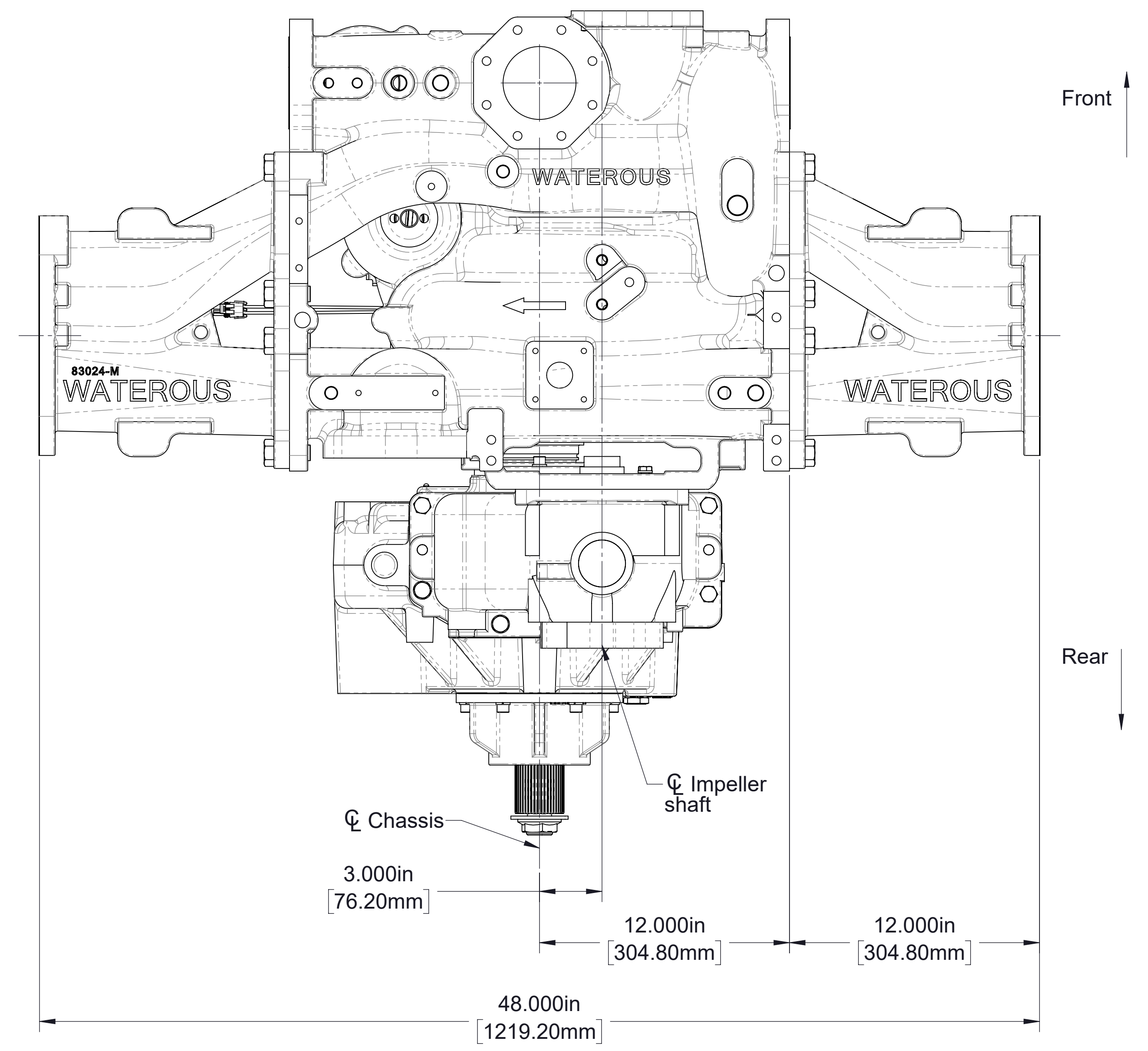
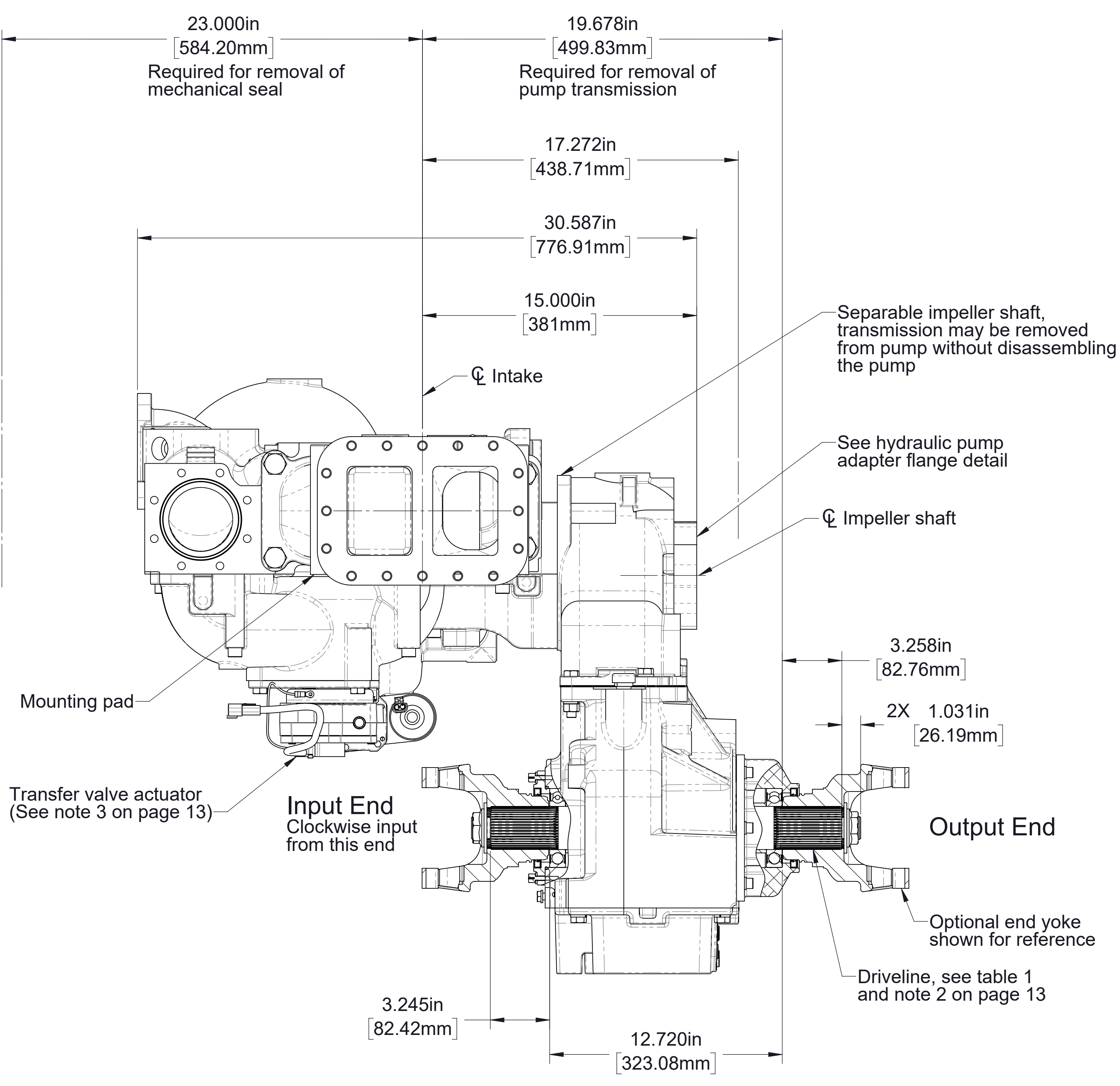
CMC22/CMUC22 Series
 Input and output shaft
 Model CMC22C, 2.27 ratio
 Rear mounted transmission



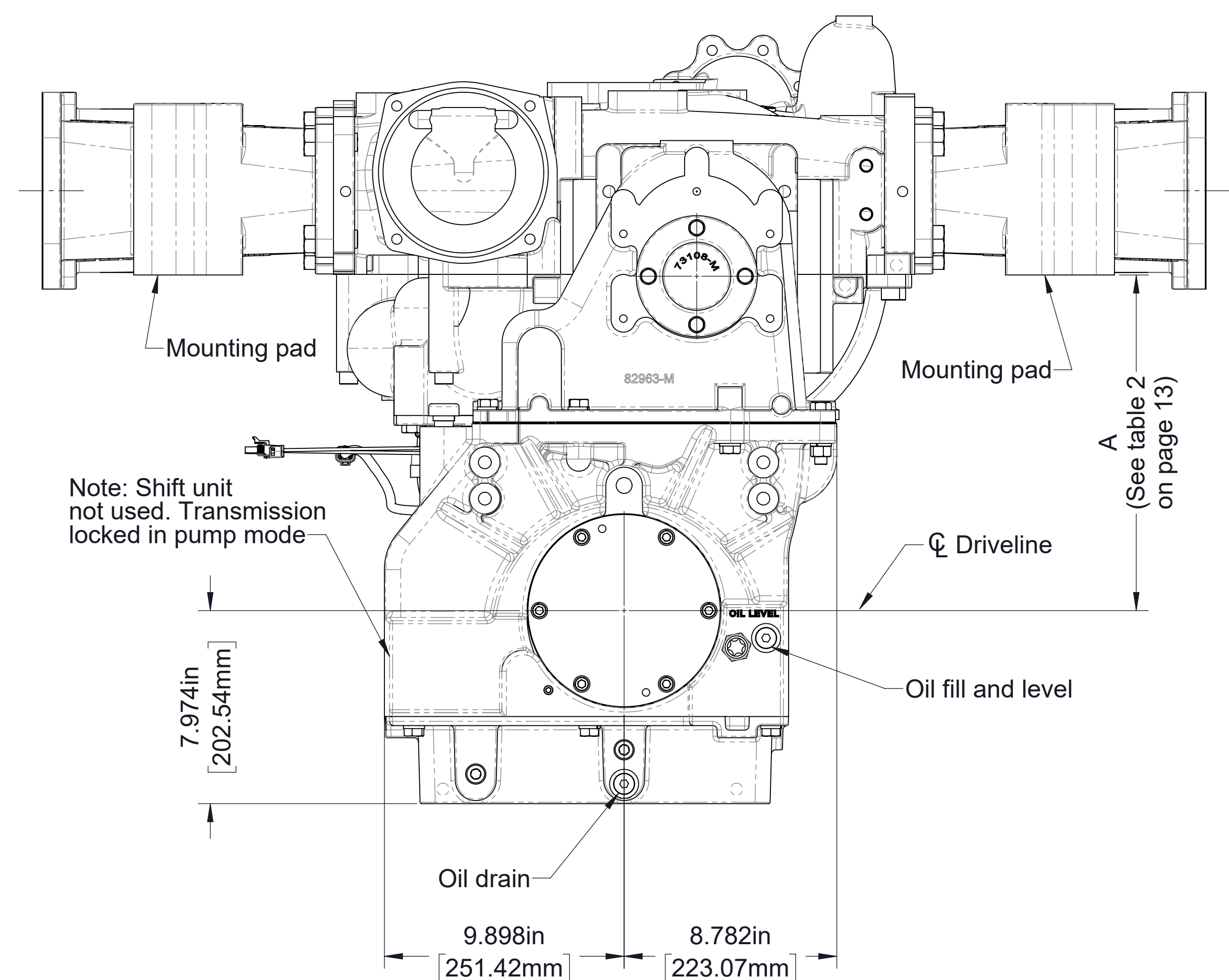
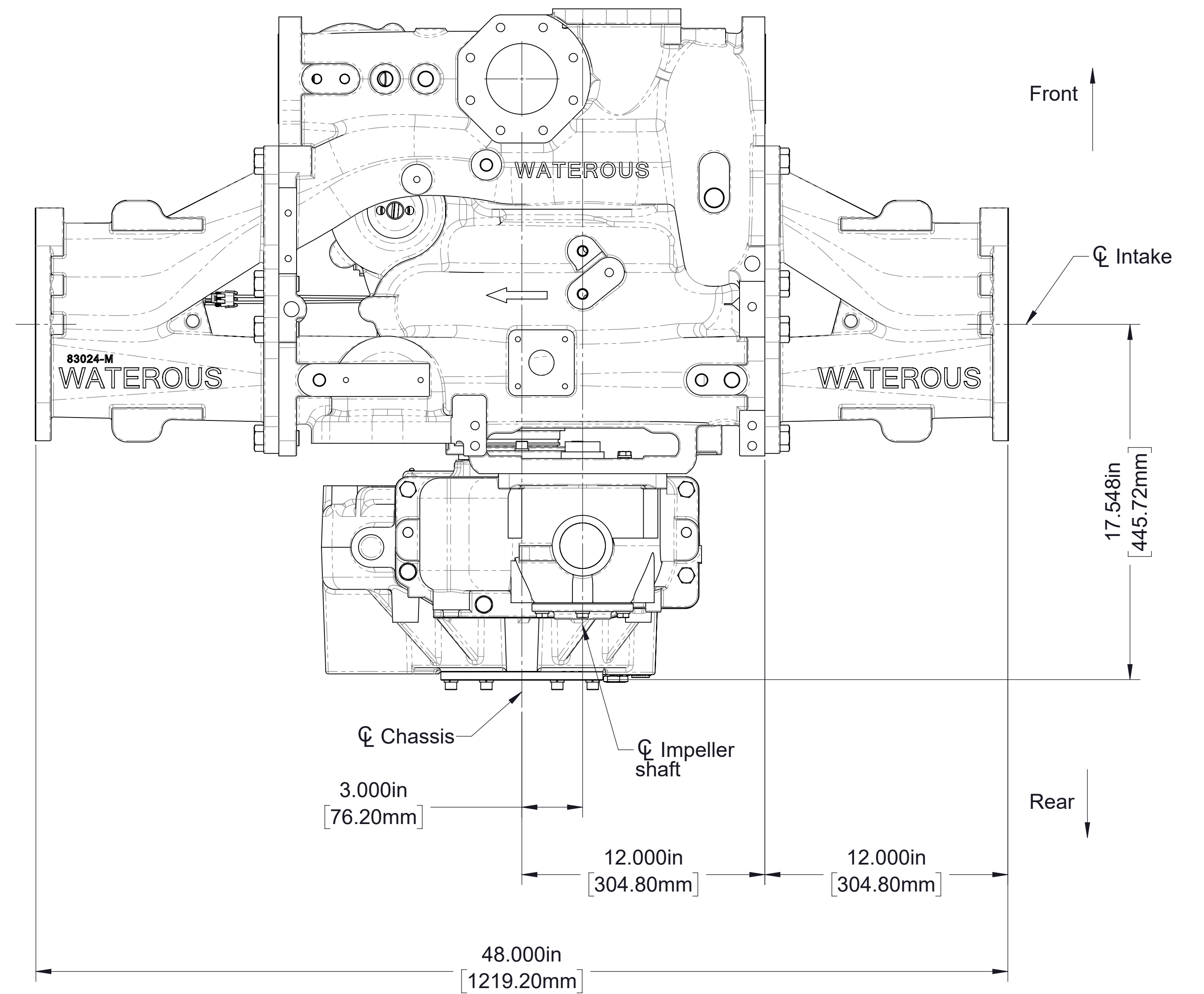
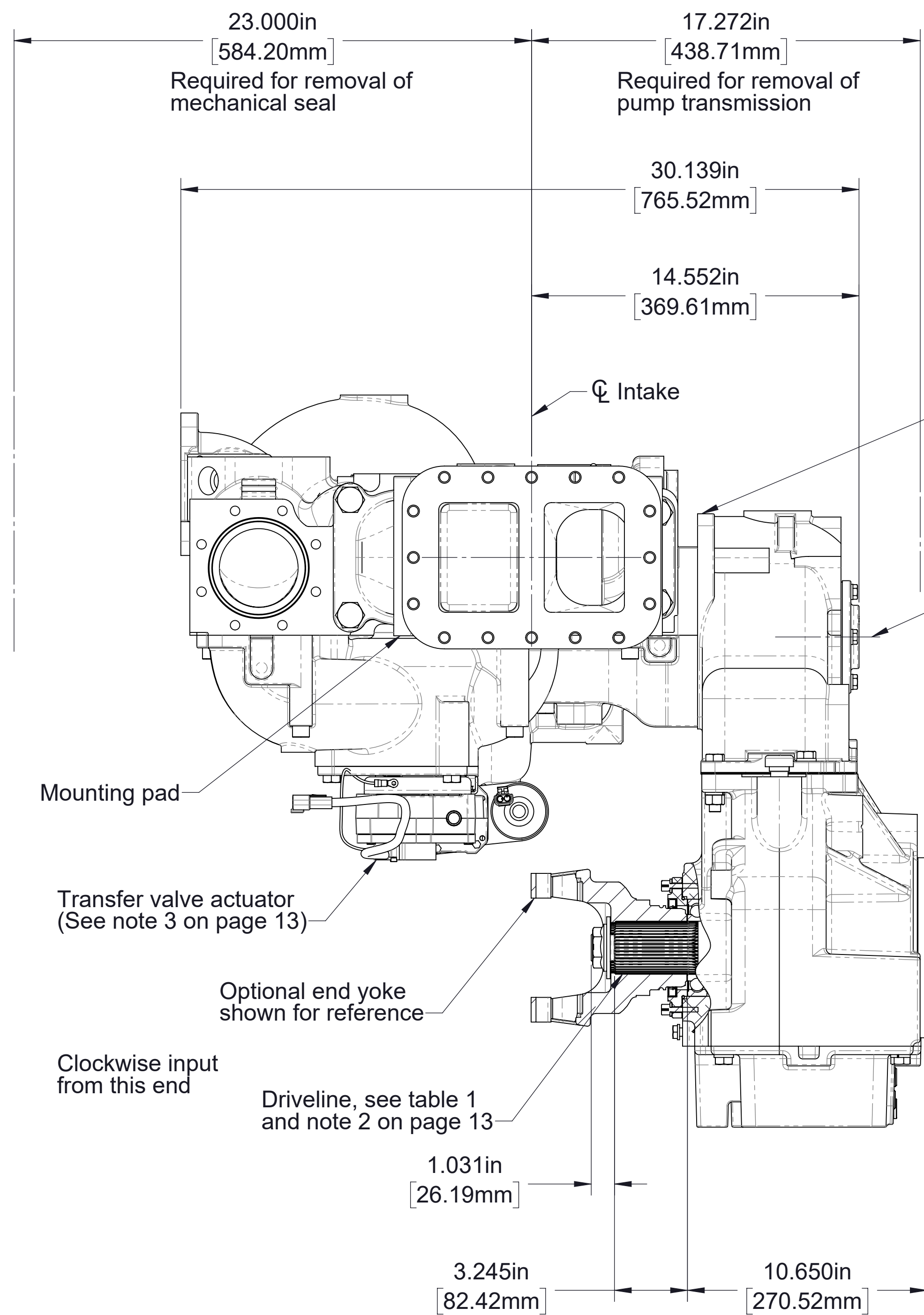
VIEW B-B

Hydraulic Pump Adapter Flange Detail
 Used for SAE J744 class B 2-bolt
 Hydraulic pump with male
 7/8-13T 16/32 pitch involute spline

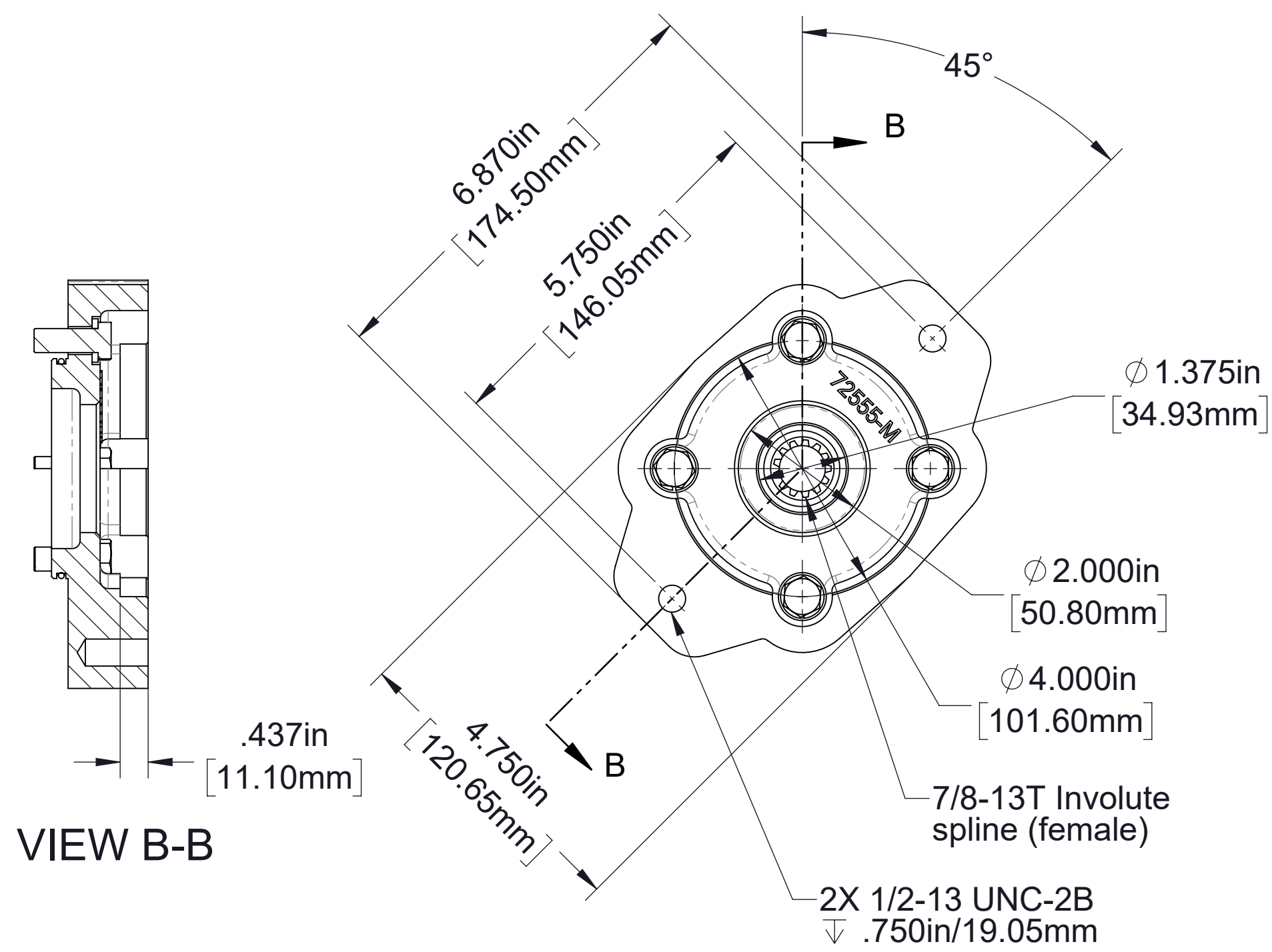
2X 1/2-13 UNC-2B
 .750in/19.05mm



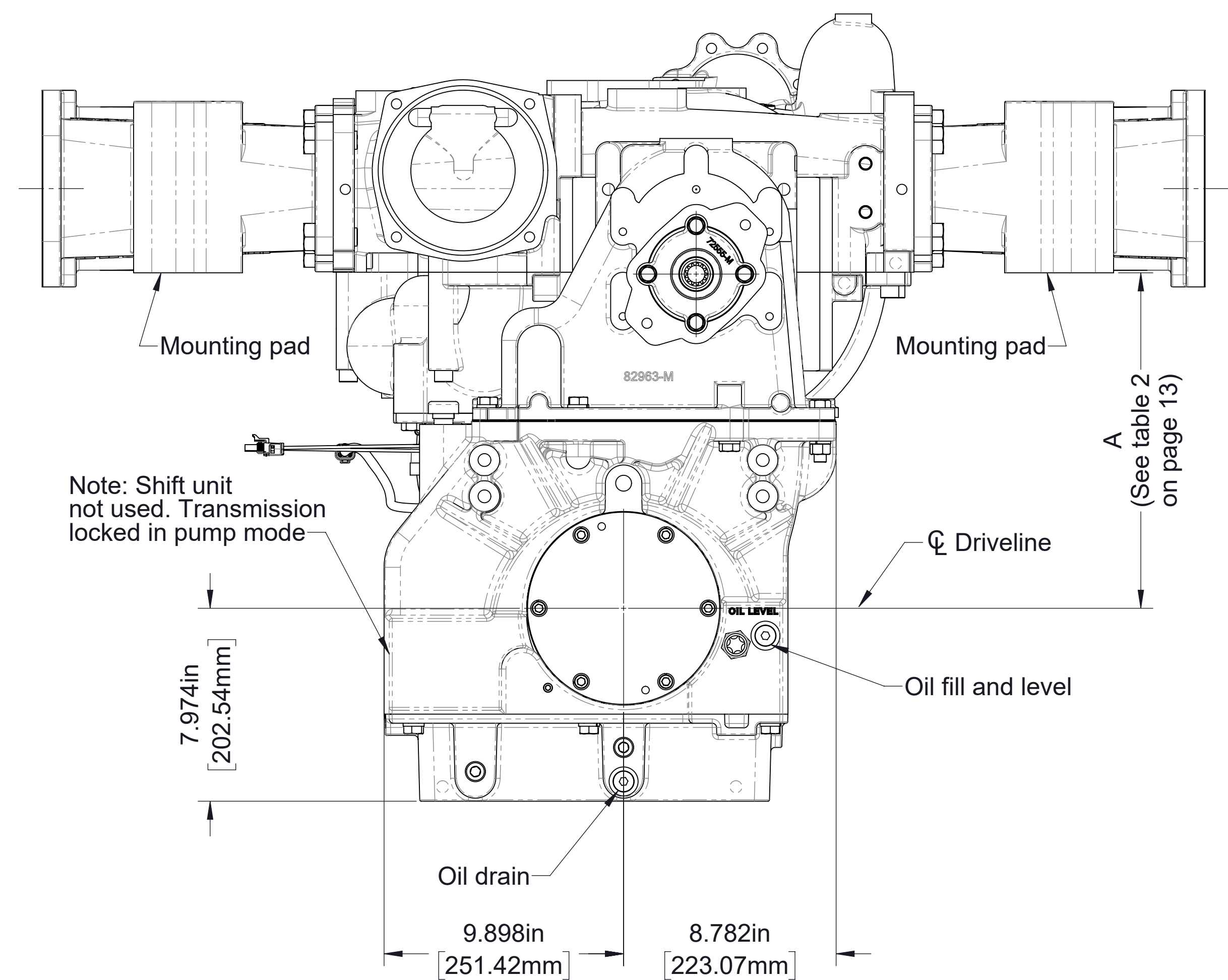
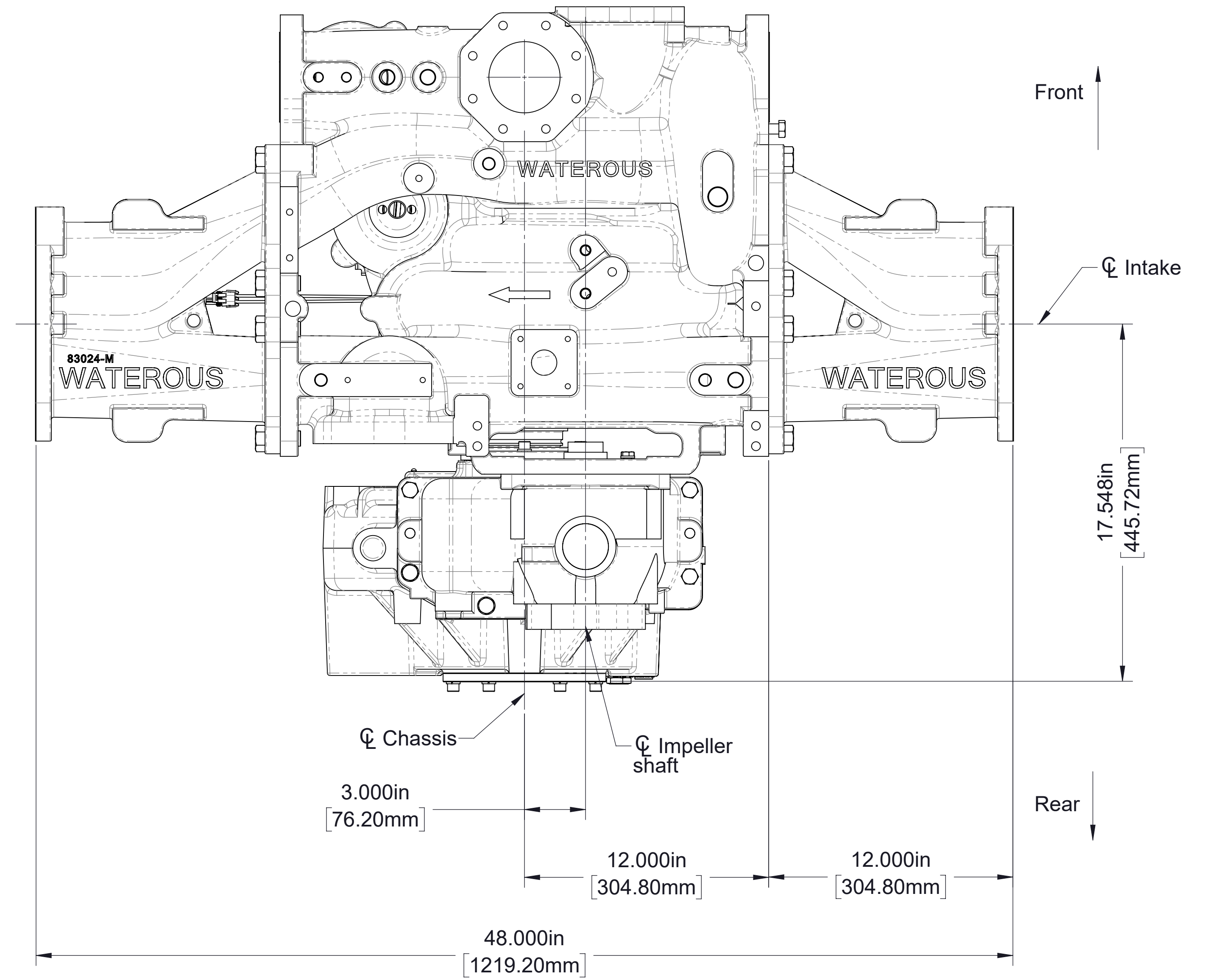
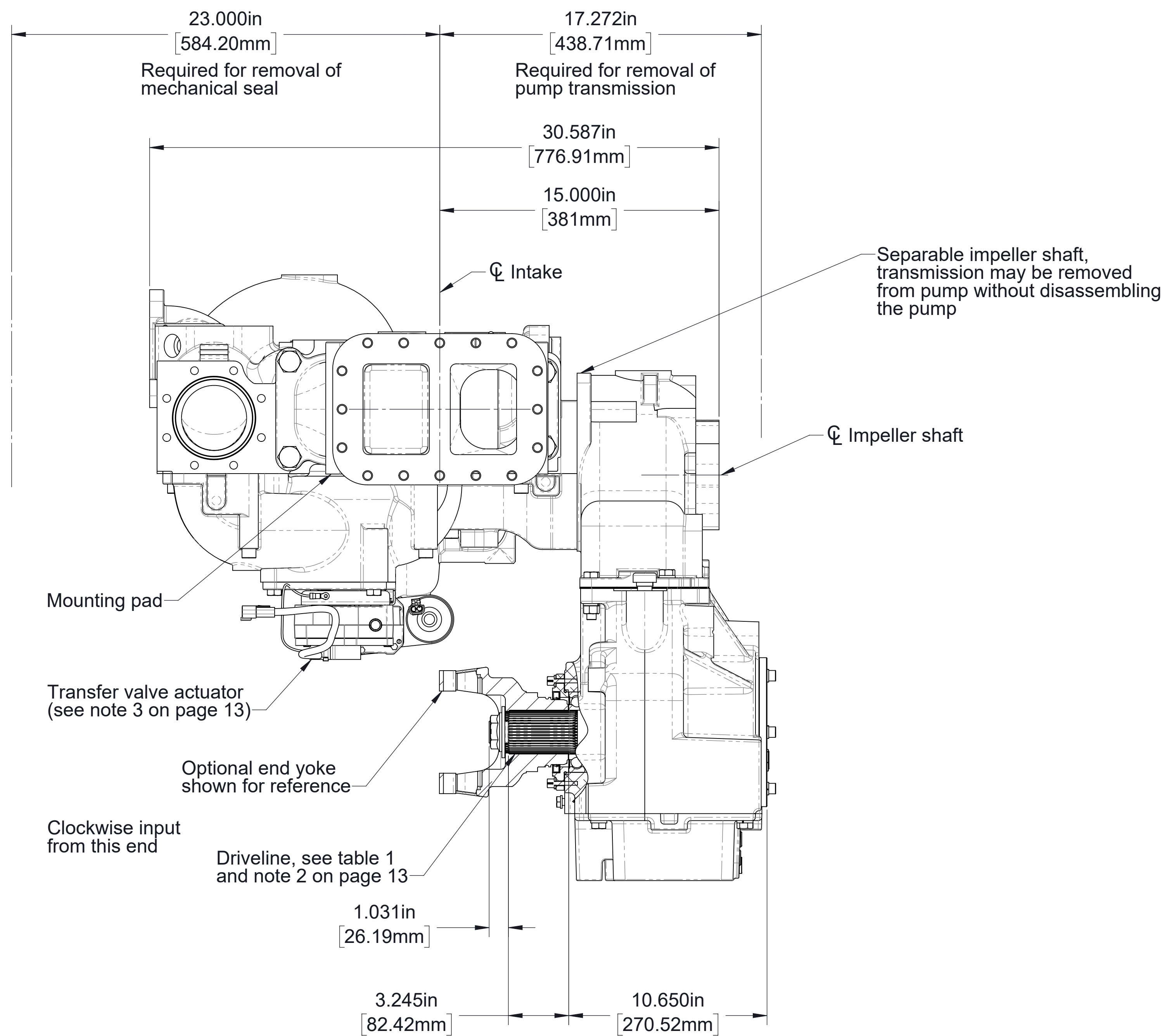
CMC22/CMUC22 Series
 Input and output shaft
 with optional hydraulic motor mount provision
 Model CMC22C, 2.27 ratio
 Rear mounted transmission



CMC22/CMUC22 Series
 Input shaft only
 Model CMC22C, 2.27 ratio
 Rear mounted transmission

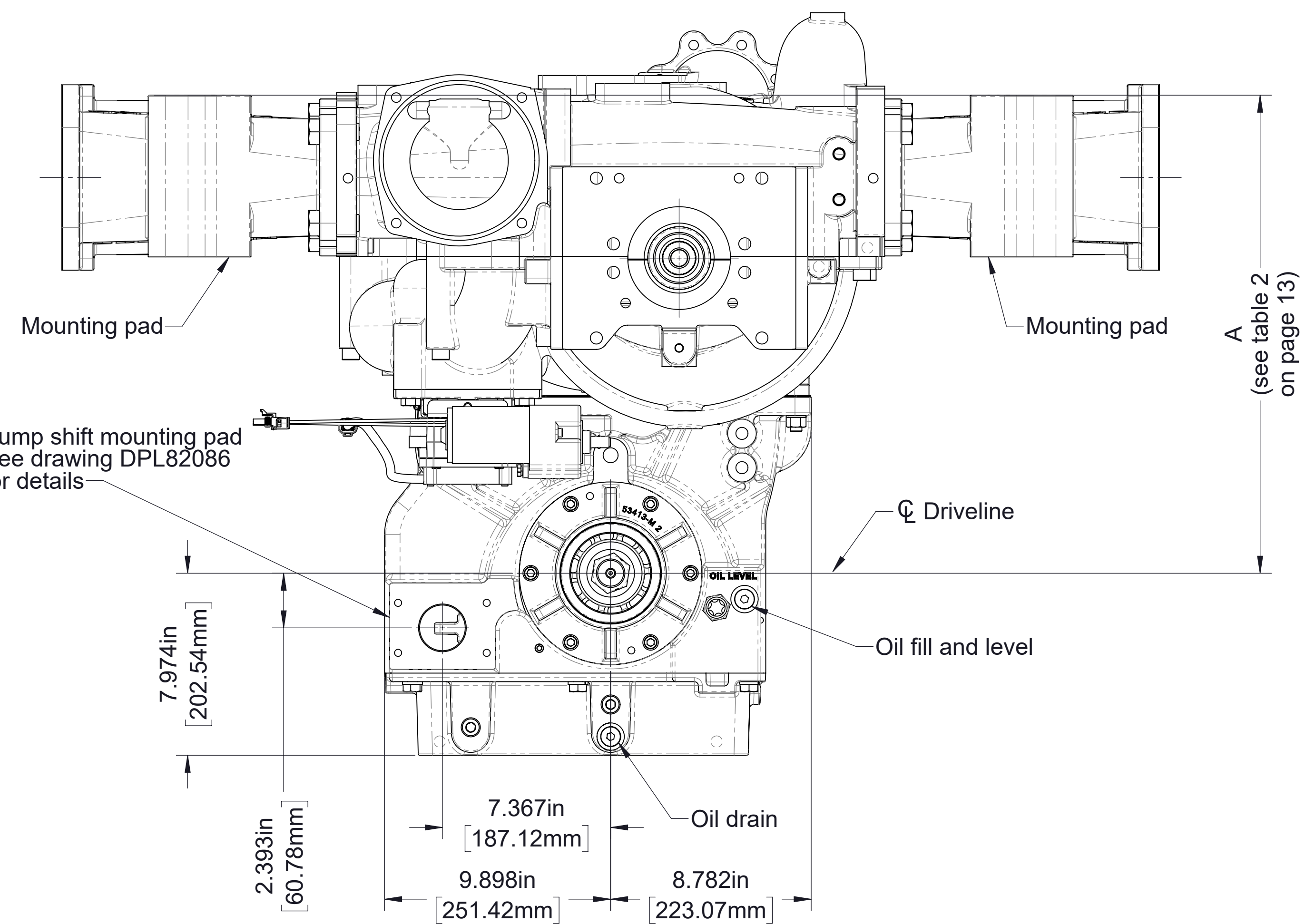
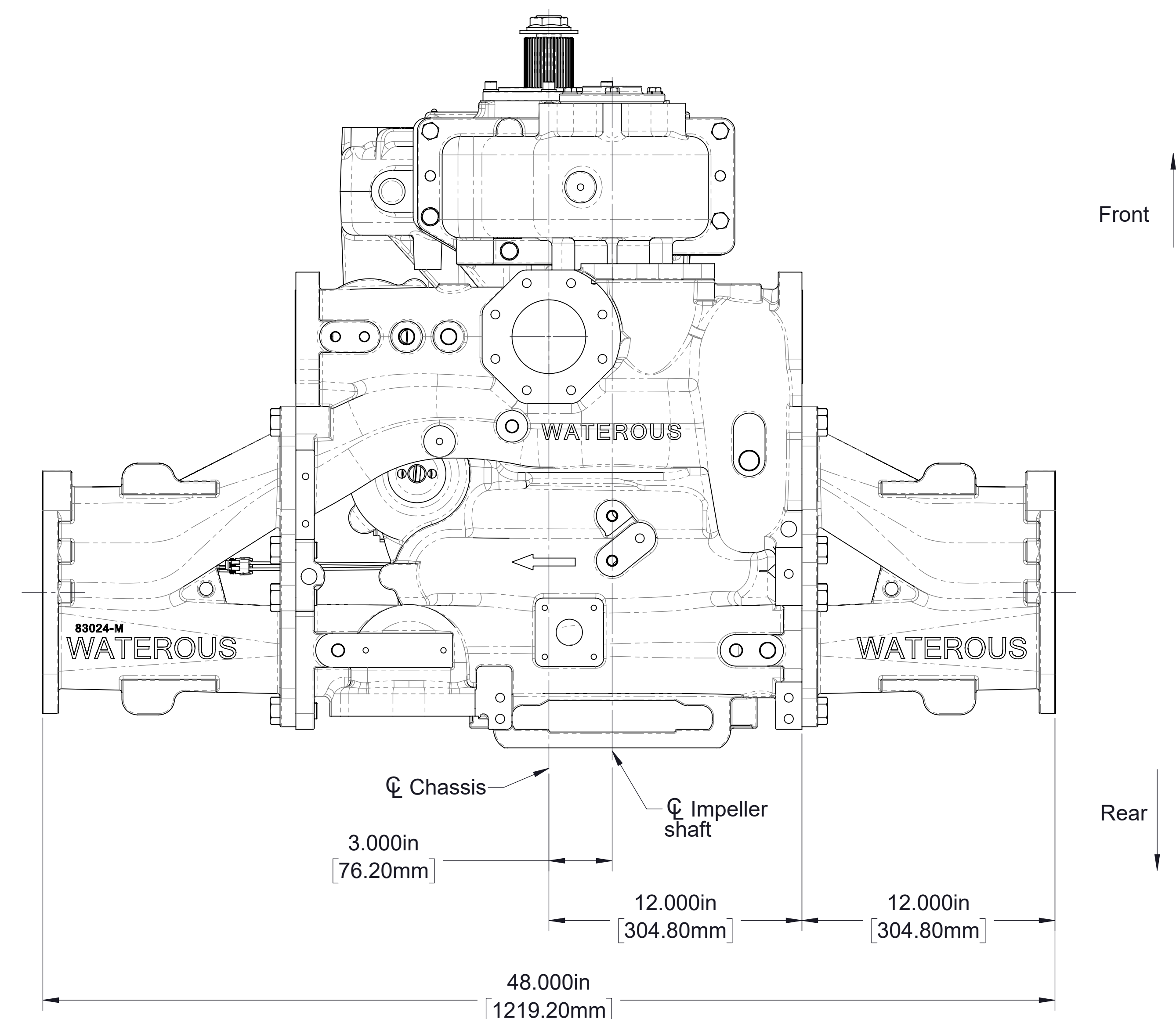
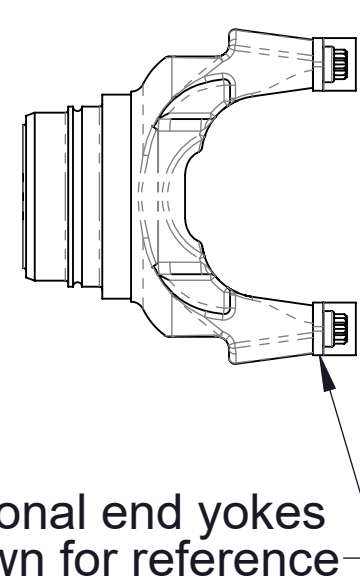
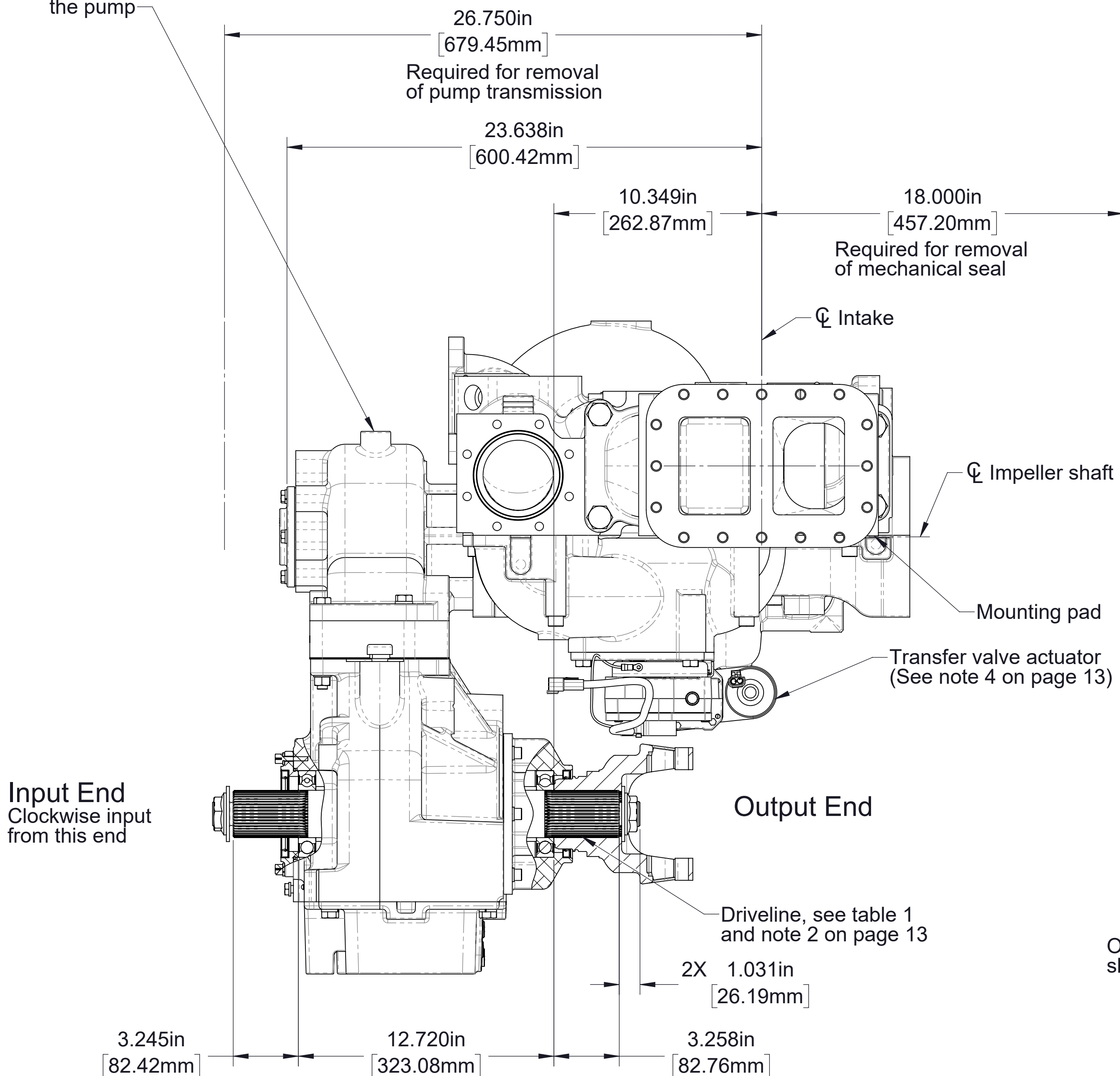


Hydraulic Pump Adapter Flange Detail
 Used for SAE J744 class B 2-bolt
 Hydraulic pump with male
 7/8-13T 16/32 pitch involute spline

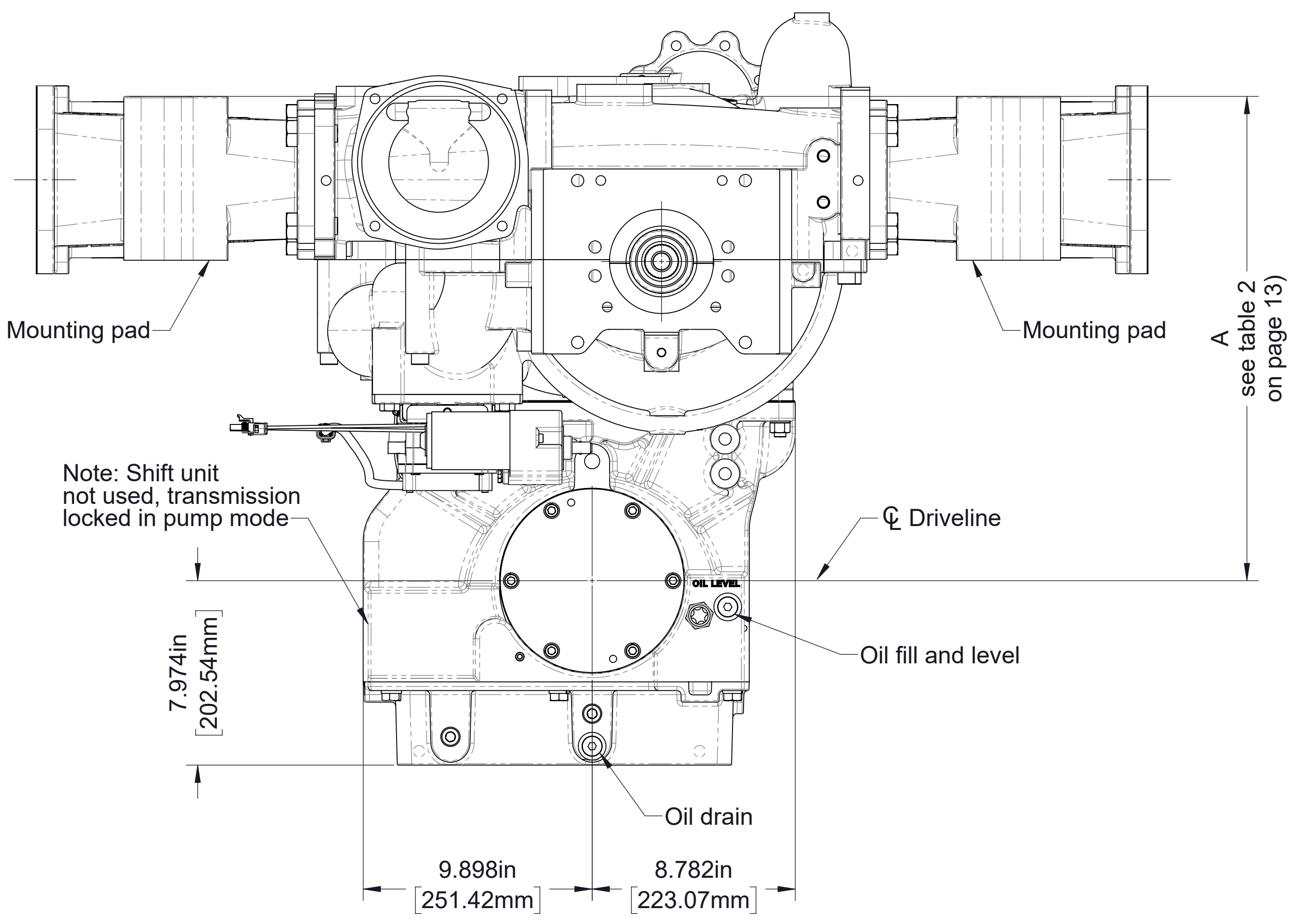
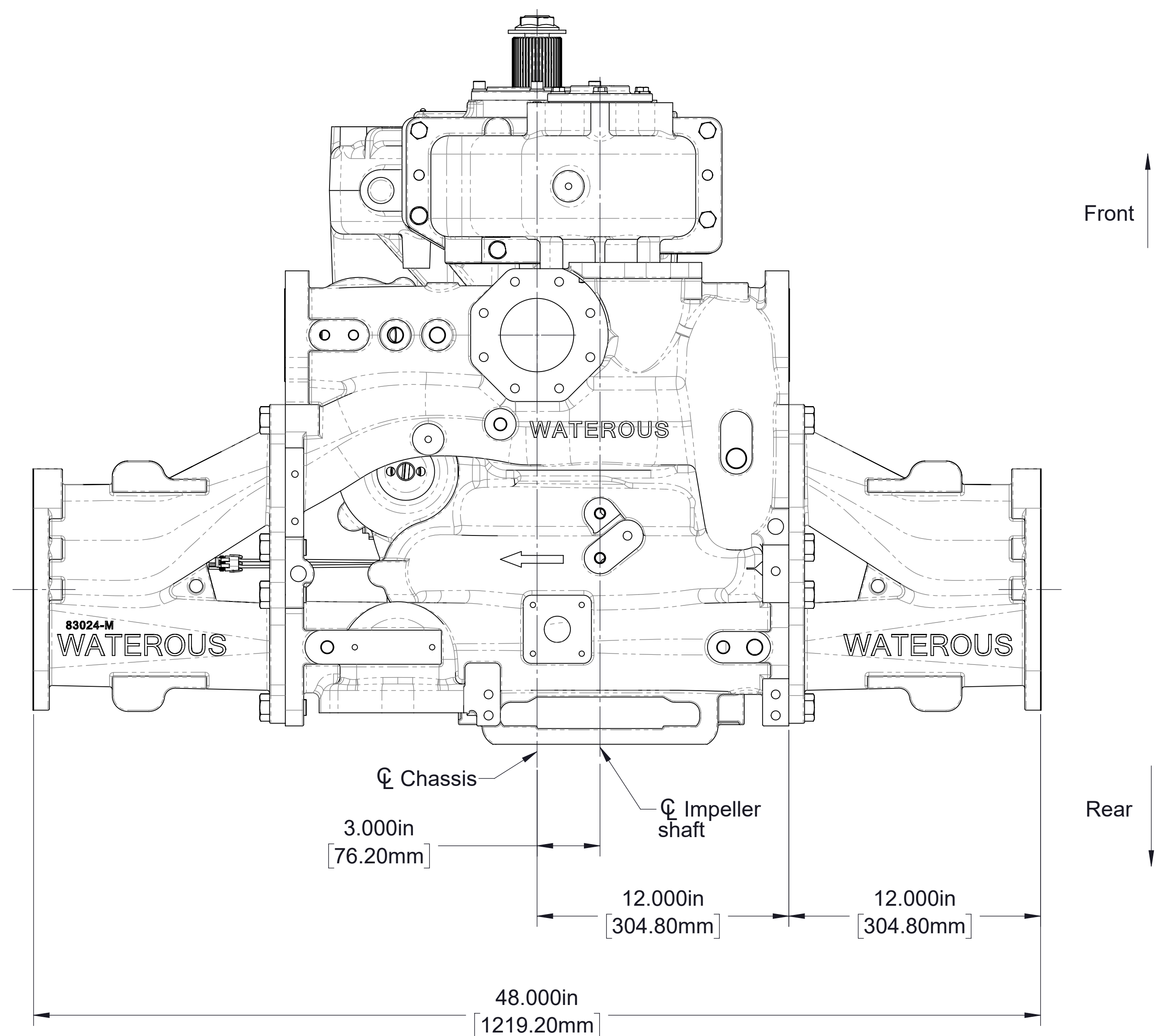
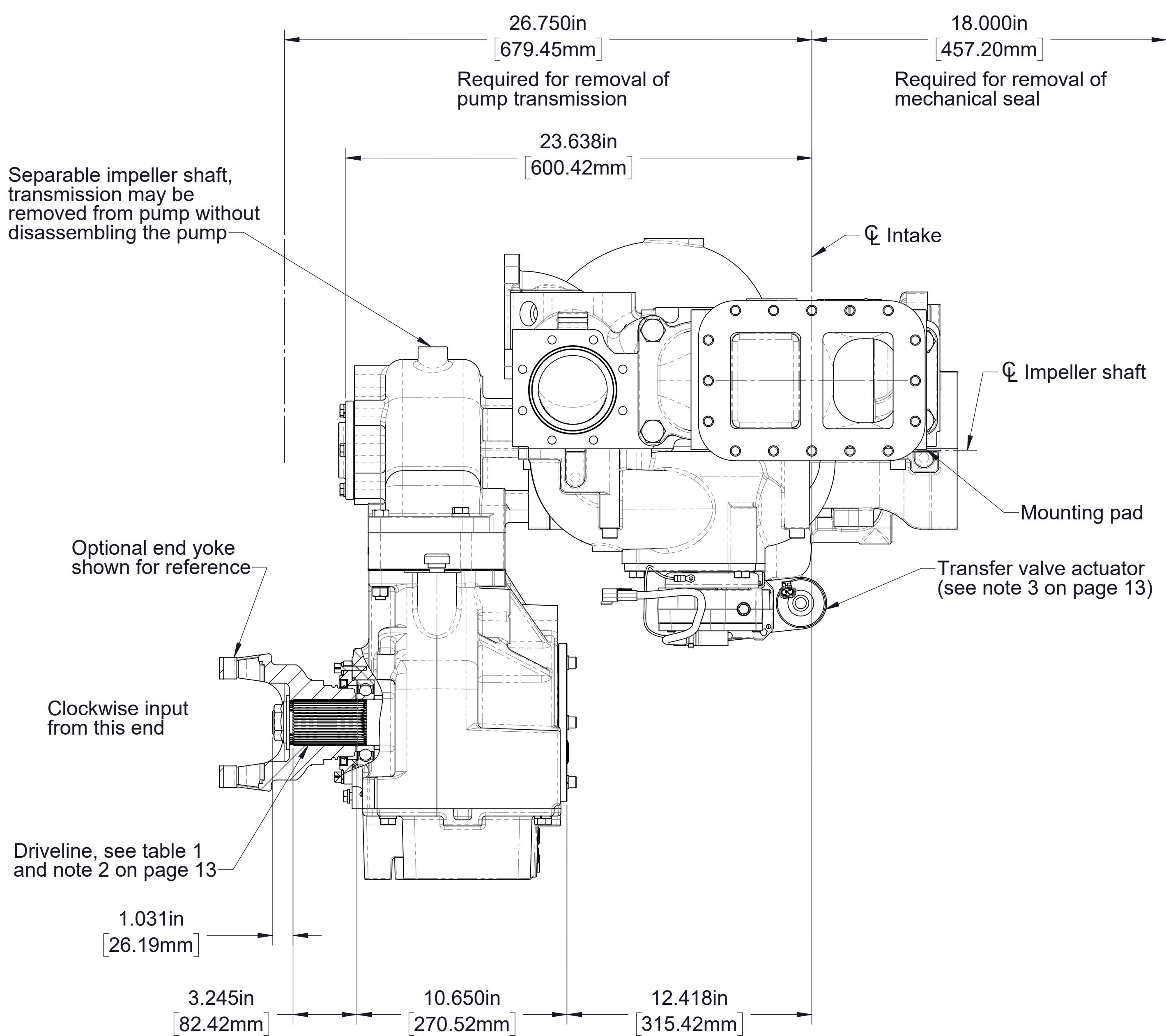


CMC22/CMUC22 Series
 Input shaft only
 with optional hydraulic motor mount provision
 Model CMC22C, 2.27 ratio
 Rear mounted transmission

Separable impeller shaft, transmission may be removed from pump without disassembling the pump



CMC22/CMUC22 Series
Input and output shaft
Model CMC22C, 2.27 ratio
Front mounted transmission



CMC22/CMUC22 Series
 Input shaft only
 Model CMC22C, 2.27 ratio
 Front mounted transmission

Table 1 - Available Drivelines / Models									
Driveline			Optional End Yokes and Companion Flanges Available from Waterous				Pump Models		
Type	Size	Spline	Yoke		Cross and Bearing Kit	Companion Flange		CMC22 Series	CMU22 Series
			Spicer Series	Part Number		Spicer Series	Part Number		
Extra Heavy Duty	2.35 Inch	2.35-46T Involute	1710 BP	V 2837	V 2839	1480/1610	V 3719	CMC22B, CMC22C, CMC22D, CMC22E, CMC22F	CMUC22B, CMUC22C, CMUC22D, CMUC22E, CMUC22F
			1810 BP	V 2838	V 2840				
			1710 HR	V 4101	-	1650/1710	V 3619		
			1810 HR	V 4102	-	-	-		
			SPL140	V 3388	V 3389	-	-		

Table 2 - Available Ratios					
Drive to Driven Ratio	C22B	C22C	C22D	C22E	C22F
	Dimension A	Dimension A	Dimension A	Dimension A	Dimension A
1.27	12.301in 312.45mm	14.363in 364.82mm	14.876in 377.85mm	16.912in 429.56mm	18.943in 481.15mm
1.41	11.891in 302.03mm	13.950in 354.33mm	14.982in 380.54mm	17.022in 432.36mm	19.053in 483.95mm
1.48	12.377in 314.38mm	13.929in 353.80mm	14.958in 379.93mm	17.002in 431.85mm	19.032in 483.41mm
1.58	12.256in 311.30mm	13.807in 350.70mm	14.839in 376.91mm	16.881in 428.78mm	18.912in 480.36mm
1.69	12.341in 313.46mm	13.890in 352.81mm	14.927in 379.15mm	16.974in 431.14mm	19.012in 482.90mm
1.79	12.009in 305.03mm	14.096in 358.04mm	15.123in 384.12mm	17.178in 436.32mm	19.219in 488.16mm
1.88	12.180in 309.37mm	13.741in 349.02mm	14.768in 375.11mm	16.824in 427.33mm	18.860in 479.04mm
1.97	12.357in 313.87mm	13.921in 353.59mm	14.963in 380.06mm	17.021in 432.33mm	19.063in 484.20mm
2.03	11.947in 303.45mm	14.035in 356.49mm	15.079in 383.01mm	17.137in 435.28mm	19.183in 487.25mm
2.27	12.291in 312.19mm	13.862in 352.09mm	14.907in 378.64mm	16.971in 437.01mm	19.022in 483.16mm
2.46	11.992in 304.60mm	14.093in 357.96mm	15.138in 384.51mm	17.205in 437.01mm	19.256in 489.10mm
2.68	12.220in 310.39mm	13.797in 350.44mm	14.844in 377.04mm	16.916in 429.67mm	18.974in 481.94mm

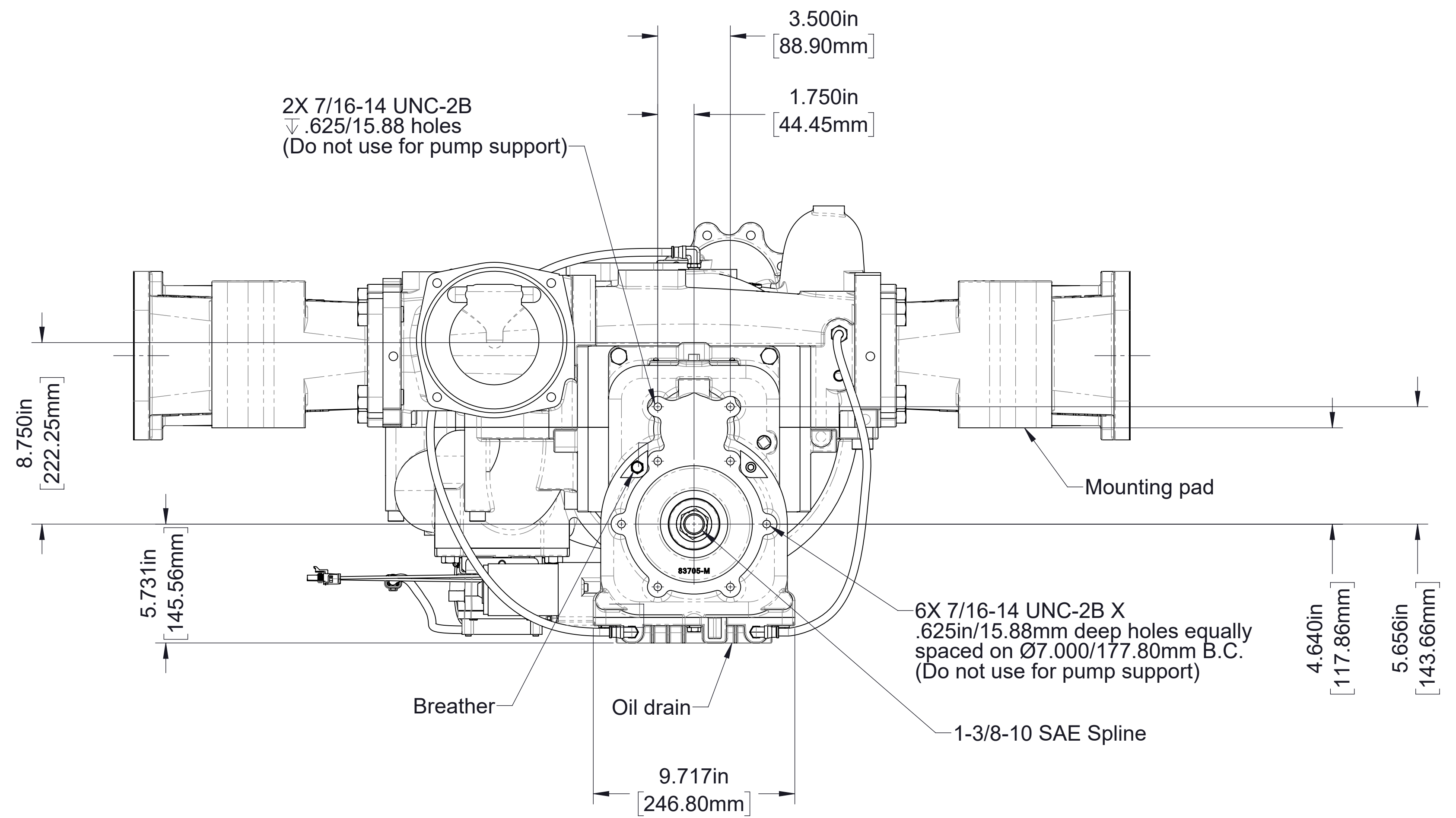
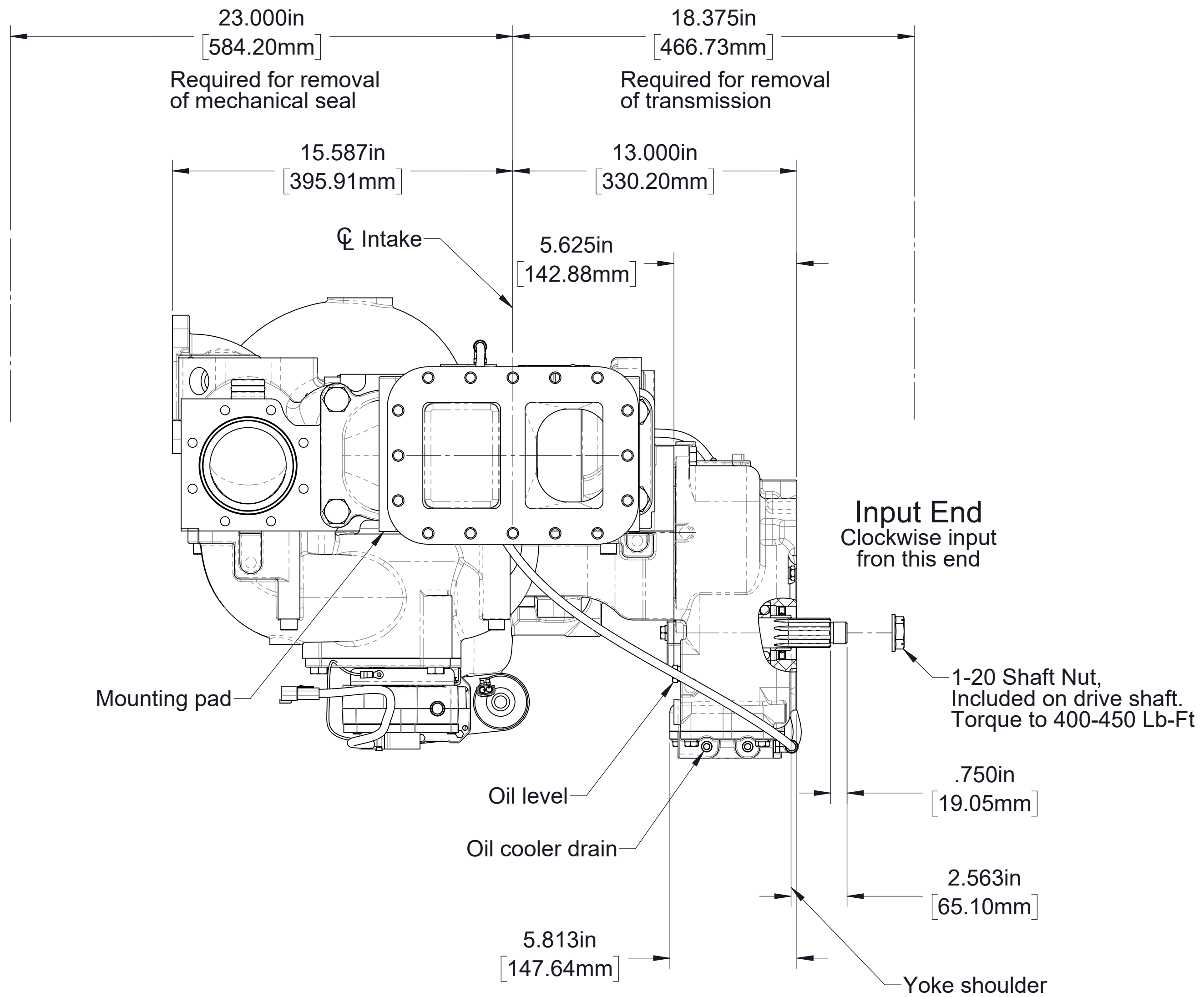
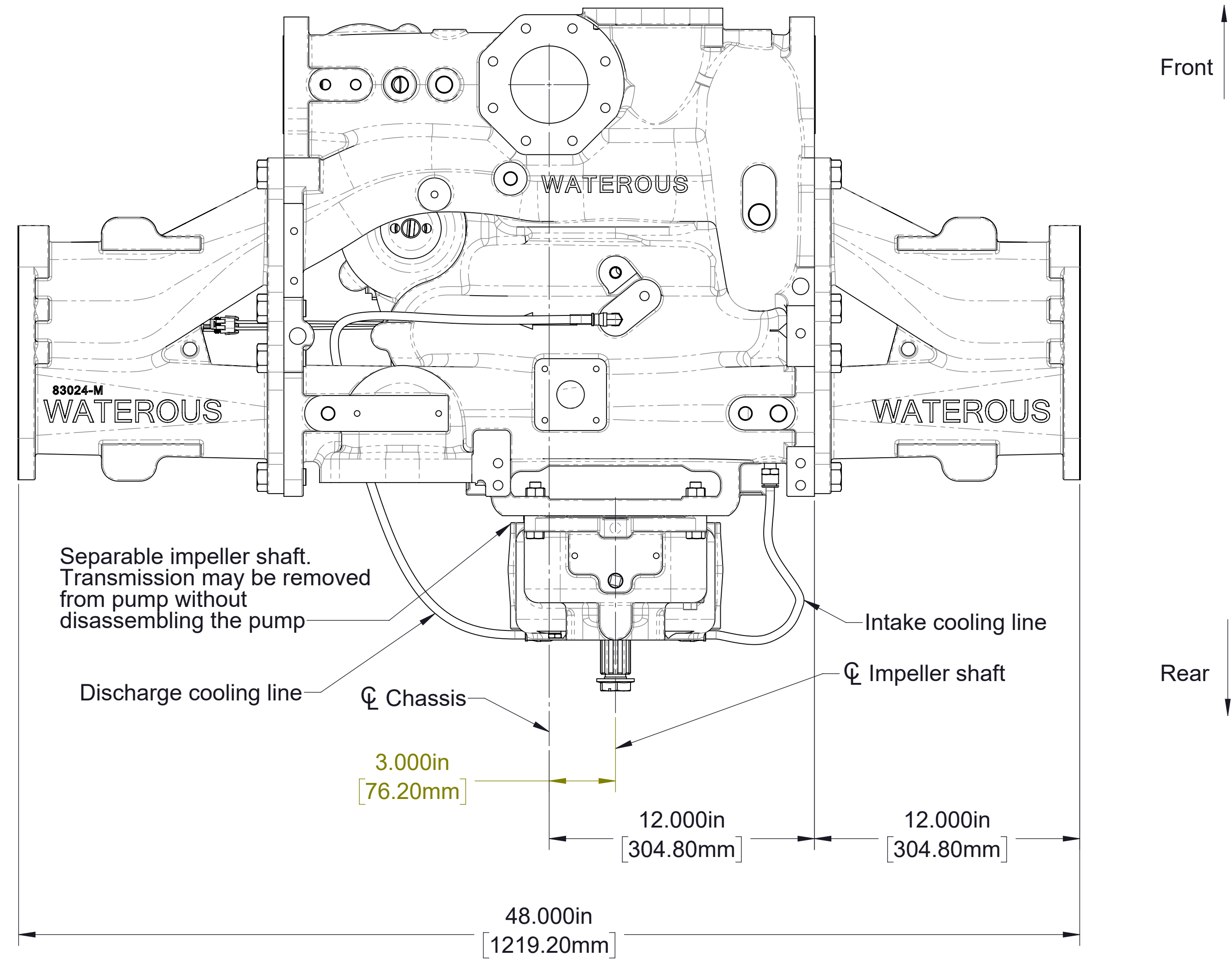
Notes:

1. See drawings DPL82084-1, DPL82084-2, and DPL82084-5 for pressure control systems.
2. Driveline, spline typical on both ends, optional end yokes available.
3. Bottom mounted electric transfer valve actuator is not available with C22B transmission. The driveline end yoke will interfere with the electric motor.

Model CMK Available as follows				
Model	Input	Transmission		Available Ratios
		Location	Mounting	
Heavy Duty K	Clockwise	Rear	Vertical	1.16, 1.30, 1.38, 1.56, 1.65, 1.88, 2.14, 2.45, 2.83

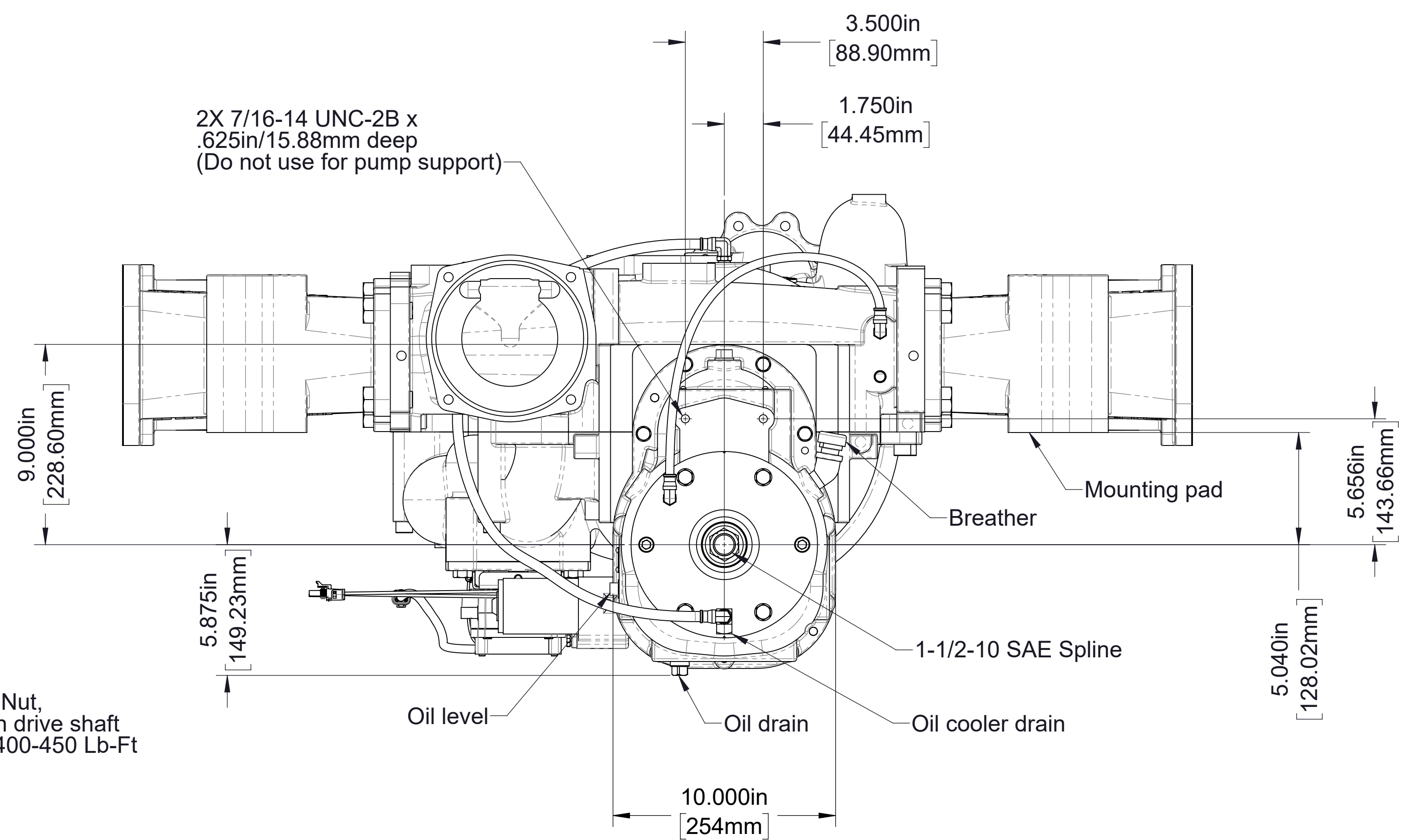
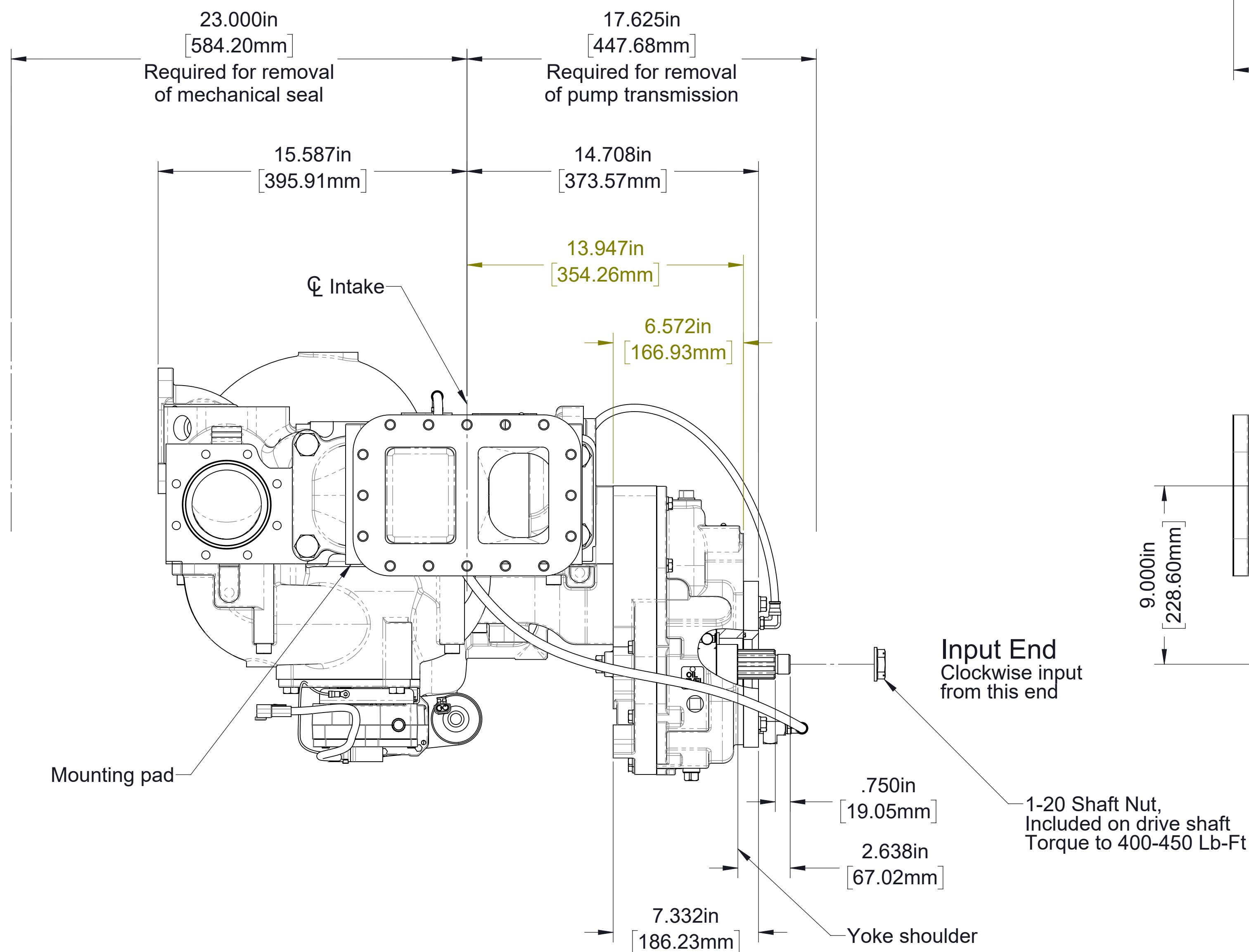
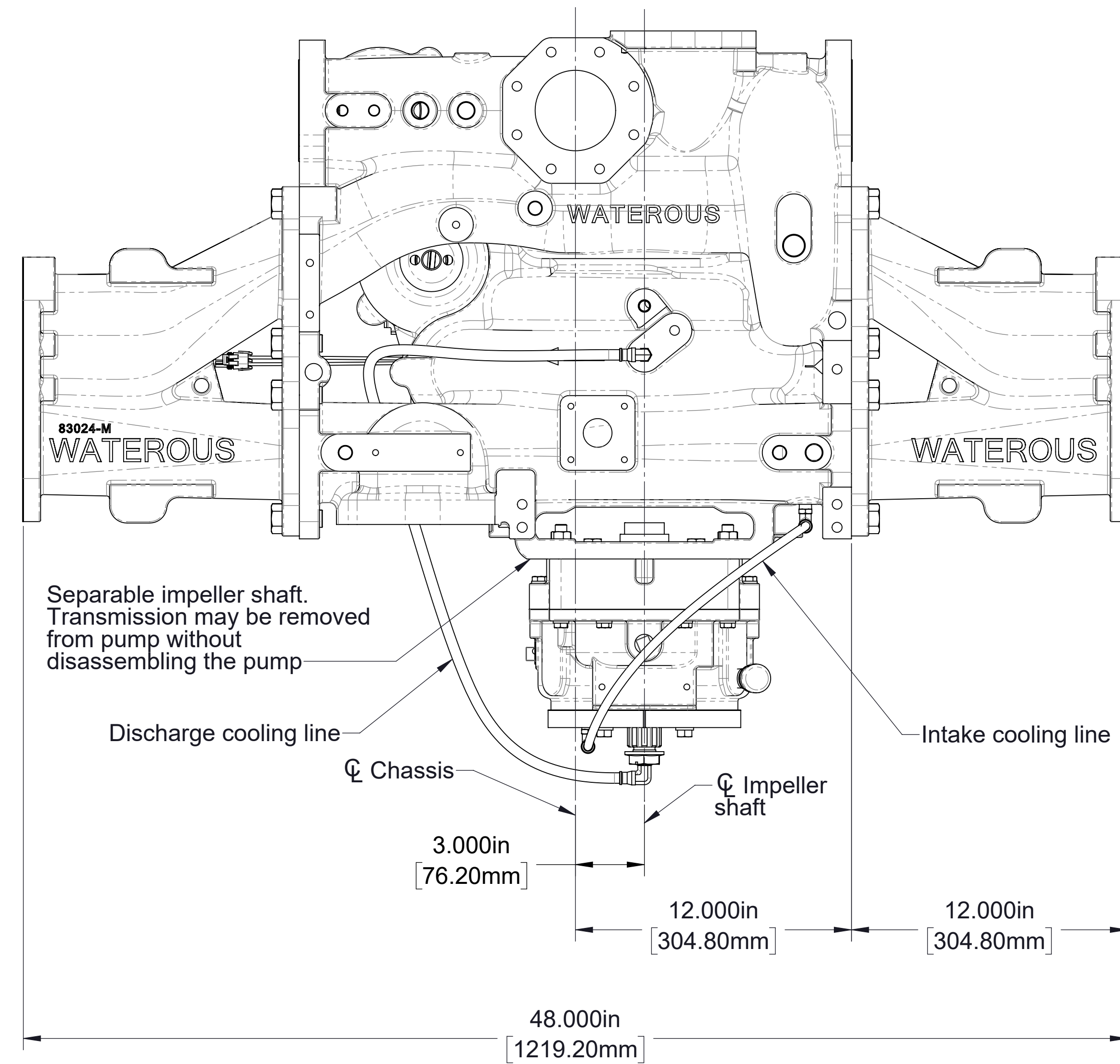
Notes:

1. See drawing DPL82076-1 for additional transmission details.
2. See drawings DPL82083-1 and DPL82084-5 for pressure control systems.



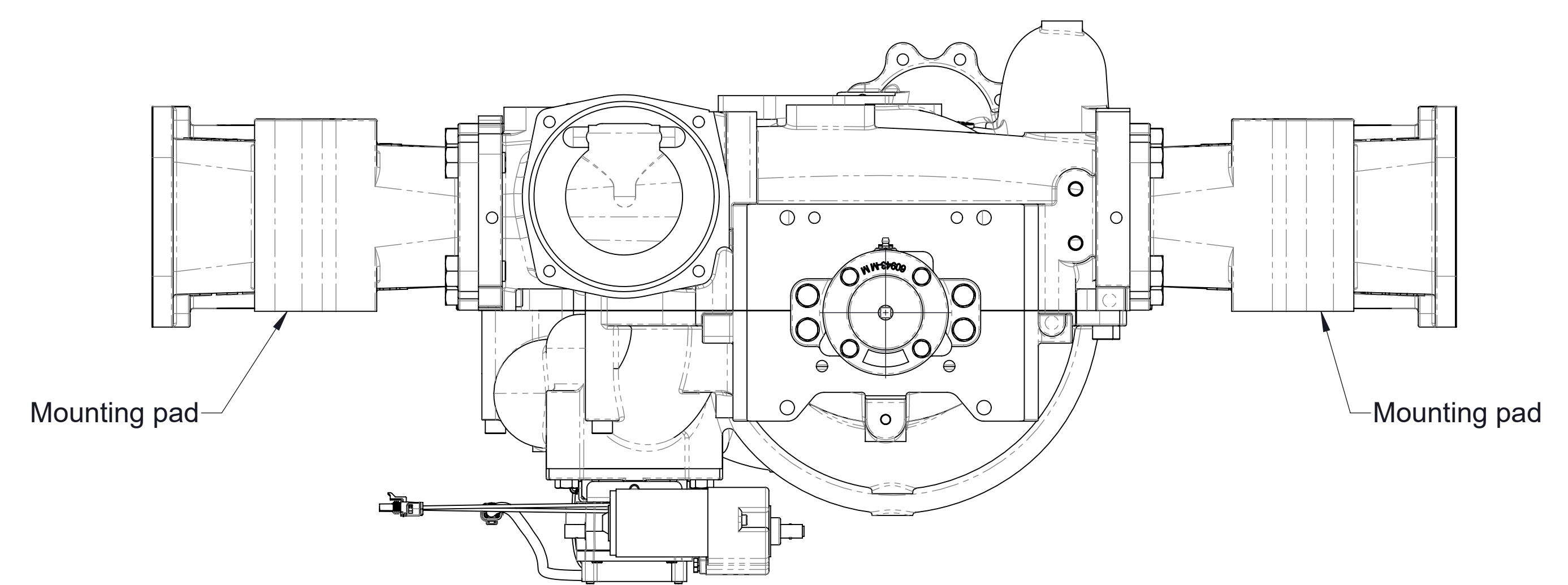
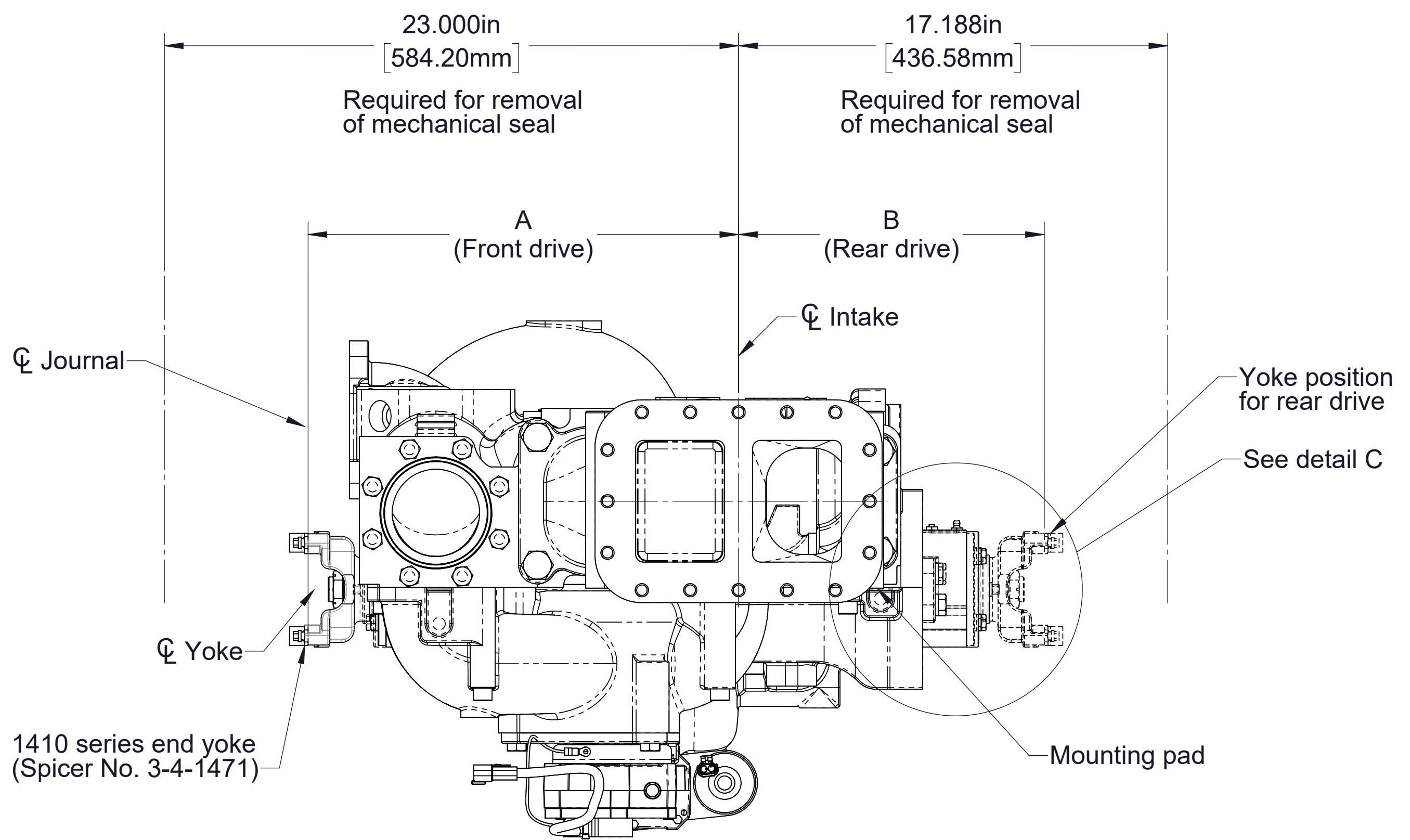
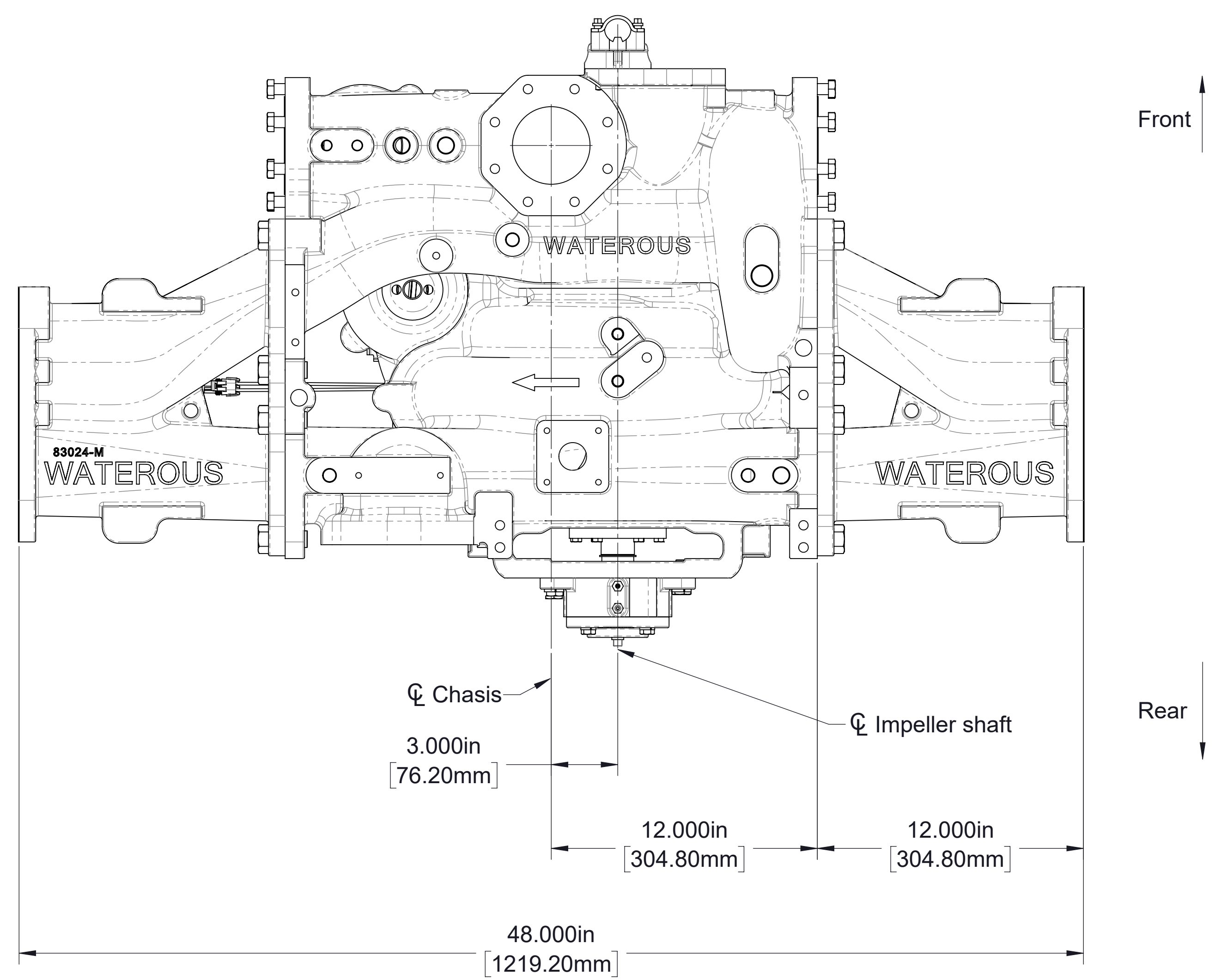
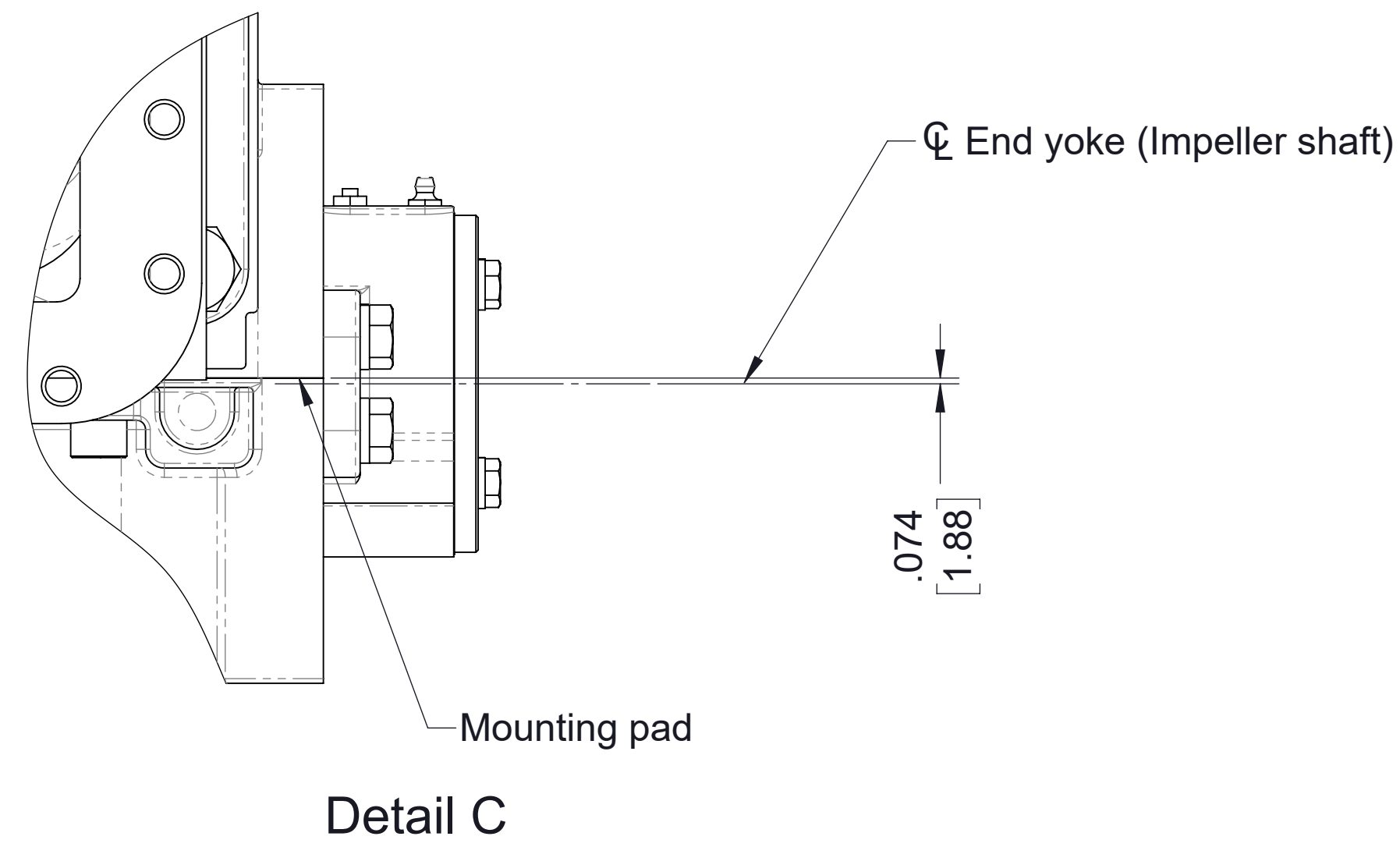
CMUK available as follows				
Model	Input	Location	Mounting	Available Ratios
Extra Heavy Duty K	Clockwise	Rear	Vertical	1.27
				1.42
				1.69
				2.00
				2.12
				2.26
				2.56

Note:
1. See drawings DPL82084-2 and DPL82084-5 for pressure control systems.



Model CMUK

Drive location	Available as follows		Input Rotation (Viewed looking at Yoke)
	Dimension A		
	With Packing	With Mechanical Seals	
Front	18.600in 472.44mm	18.600in 472.44mm	Clockwise
Rear	12.250in 311.15mm	12.250in 311.15mm	Counterclockwise

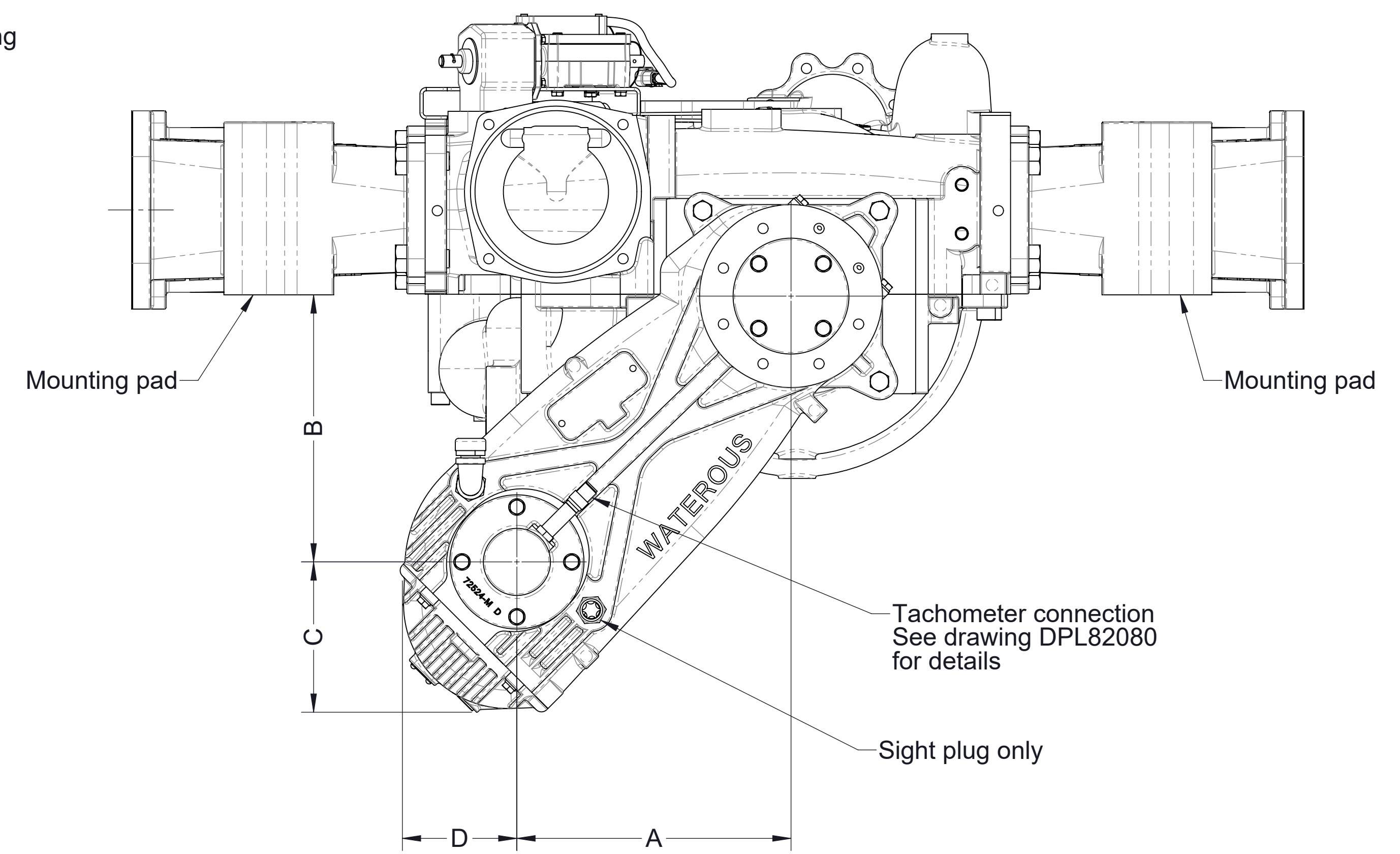
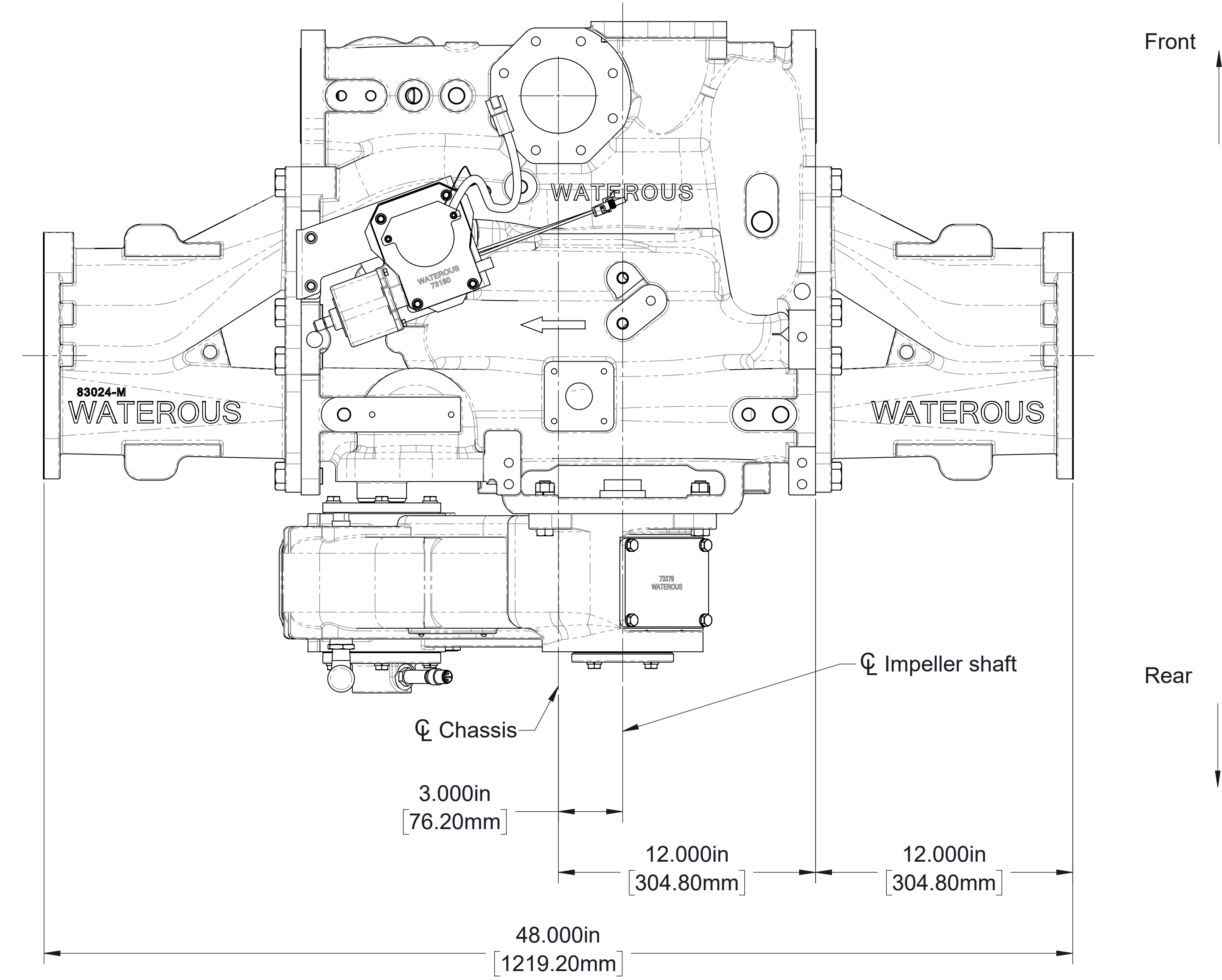
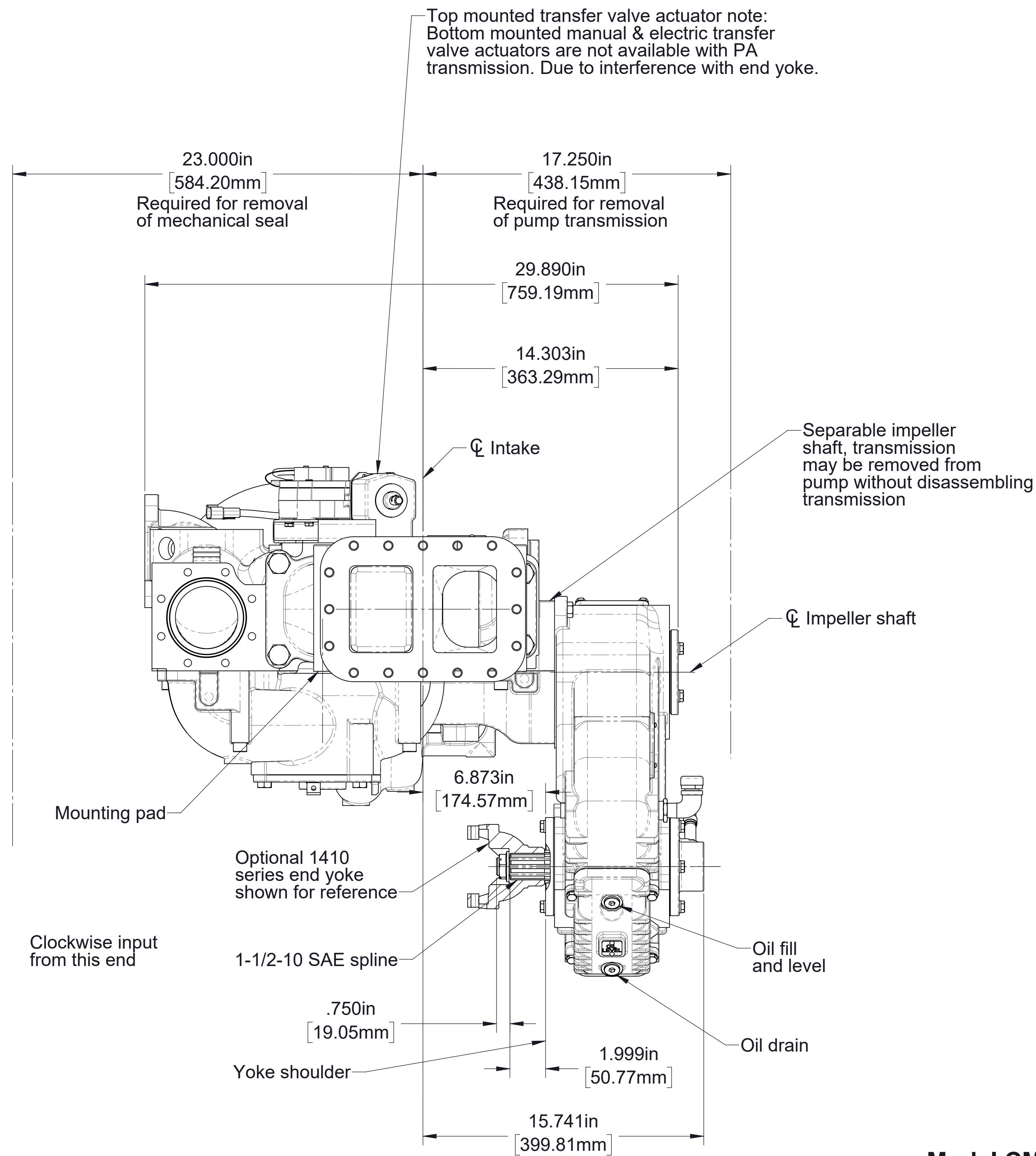


Note:
1. See drawing DPL82084-1, DPL82084-2 and DPL82084-5 for pressure control systems.

CMD/CMUD Model
(Used with TC22 series or other full torque P.T.O.)
(Model CMD, front drive with mechanical seals shown)

Table 1 - Available as follows							
Drive Line		Ratio	Dimension A	Dimension B	Dimension C	Dimension D	Model
Size	Spline						
1-1/2 Inch	1-1/2-10 SAE	1.70	11.288in 286.71mm	10.994in 279.25mm	6.162in 156.51mm	4.737in 120.32mm	CMPA
		1.90	11.269in 286.24mm	10.975in 278.77mm	6.181in 157.00mm	4.755in 120.79mm	
		2.10	11.239in 285.46mm	10.945in 278.00mm	6.211in 157.76mm	4.786in 121.56mm	

- Notes:
 1. See drawing DPL82080 for additional details of P series transmission.
 2. See drawings DPL82084-1, DPL82084-2 and DPL82084-5 for pressure control systems.



Model CMPA & CMUPA
 Model CMPA 2.10 ratio shown