



Document Number	Issue Date	Rev. Date
DPL82062	01/01/96	1/25/22

Bronze CS Series Fire Pump Dimensional Drawings

Basic Pump Dimensions (Without Transmission)		
Feature		See Page
Body Dimensions	CS	3
	CSU	4
Intake Adapters		5
Tank to Pump Flange Options		6

Pump and Transmission Dimensions – See Table on Page 2

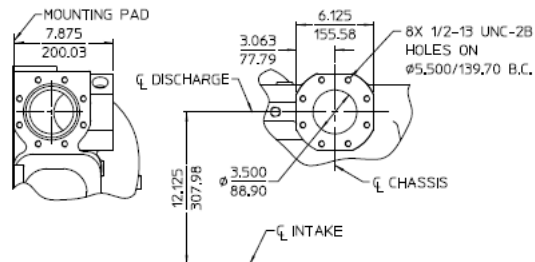
Note: Pump must be installed in accordance with Waterous Installation Instructions.

Bronze CS Series Fire Pump Dimensional Drawings (Continued)

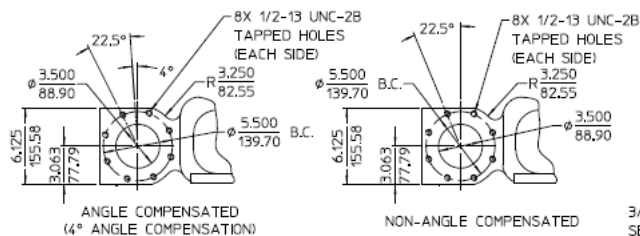
Pump and Transmission								
Pump Type	Transmission		Pump Model	Assembly Number	Drive		Hydraulic Pump Mounting Provision	See Page
	Model	Drive			Input Rotation (1)	Driveline Type		
Single Stage (CS, CSU)	C20 Series	Split Shaft, Chain Drive	CSC20B, CSC20C CSC20D, CSC20E CSC20F	82062	CW	Input and Output Shaft	No	7, 11
							Yes	8, 11
						Input Shaft Only	No	9, 11
							Yes	10, 11
			CSUC20B, CSUC20C CSUC20D, CSUC20E CSUC20F	82064	CW	Input and Output Shaft	No	7, 11
							Yes	8, 11
						Input Shaft Only	No	9, 11
							Yes	10, 11
	K Series	Heavy Duty Two Gear Increaser, PTO Drive	CSK	82062-2	CW	-	N/A	12
	D Series	Direct Drive Connection from PTO	CSD	82062-3	CW (Front Drive) or CCW (Rear Drive)	-	N/A	13
			CSUD	82064-3				
	PA Series	PTO Driven, Chain Drive	CSPA	82062-4	CW	-	N/A	14
			CSUPA	82062-5				

Note:

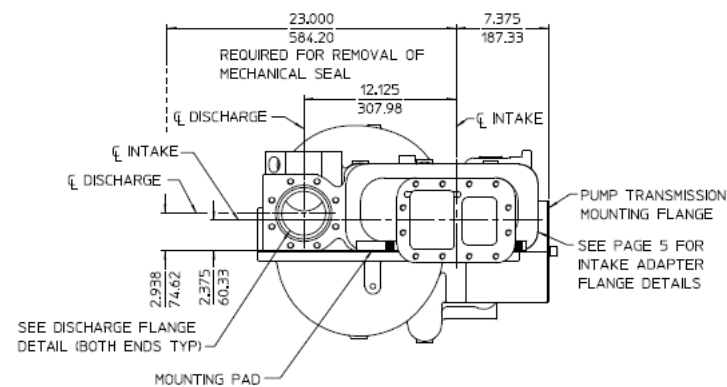
1. Input rotation is viewed looking directly at the transmission input shaft or direct drive end yoke.



CENTER DISCHARGE FLANGE
SEE DRAWING DPL82089 FOR INFORMATION ON ORDERING DISCHARGE FITTINGS
OR SEE WATEROUS 'CENTER DISCHARGE PIPING MANUAL' FOR AVAILABLE
EXISTING ARRANGEMENTS

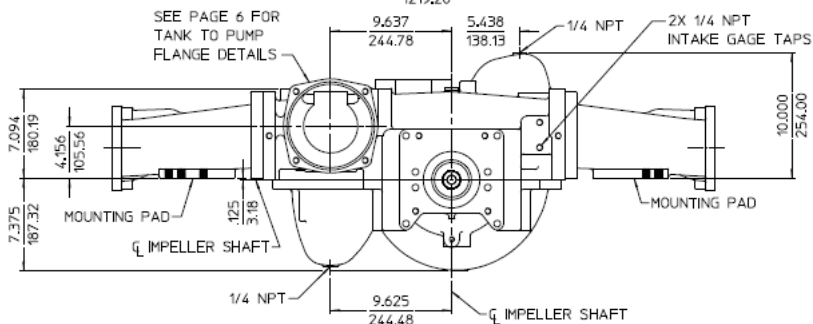
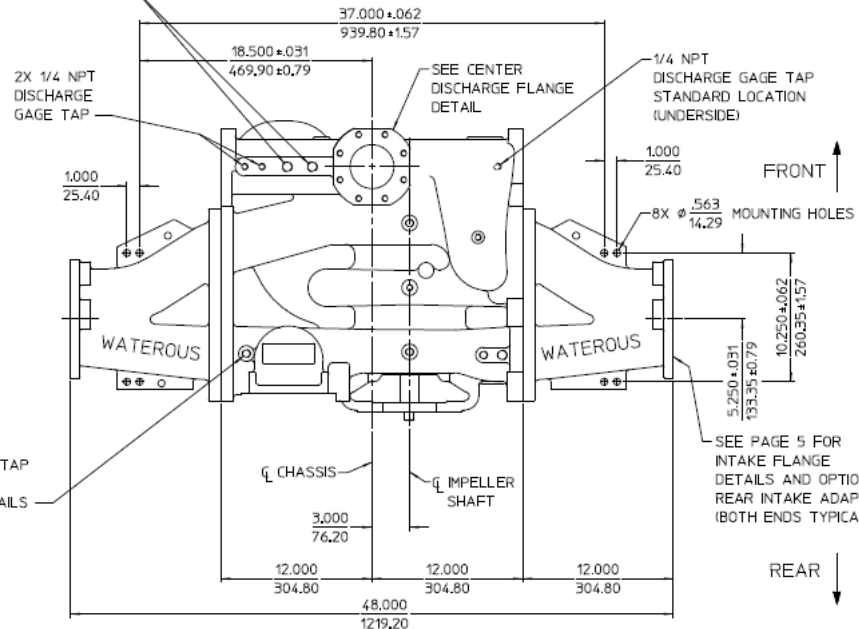


DISCHARGE FLANGE CONFIGURATIONS
SEE DRAWING DPL82085 FOR INFORMATION
ON ORDERING DISCHARGE FITTING AND VALVES

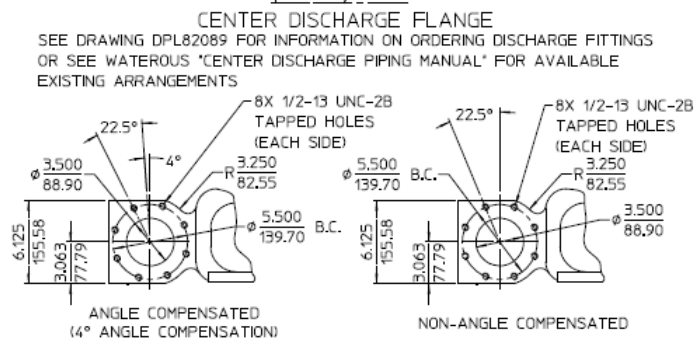


ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH
MILLIMETER)

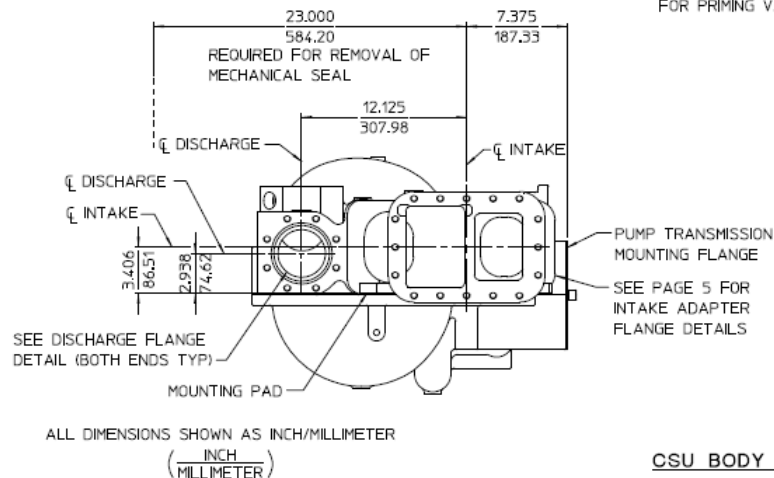
2X 1/2 NPT
PRESSURE GOVERNOR OR
RECIRCULATION LINE
OR THERMAL SWITCH TAP



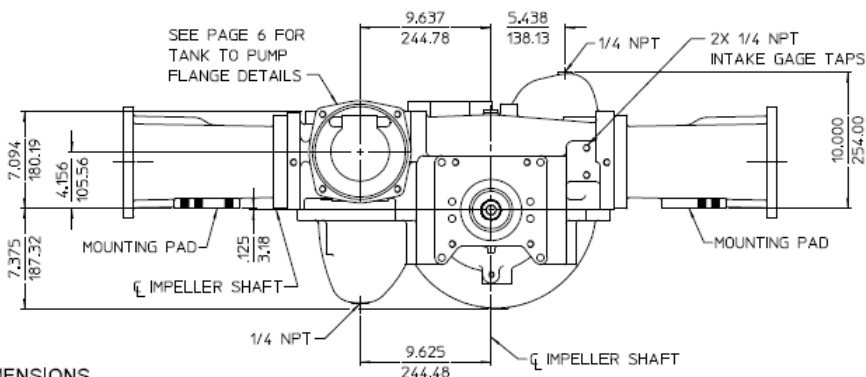
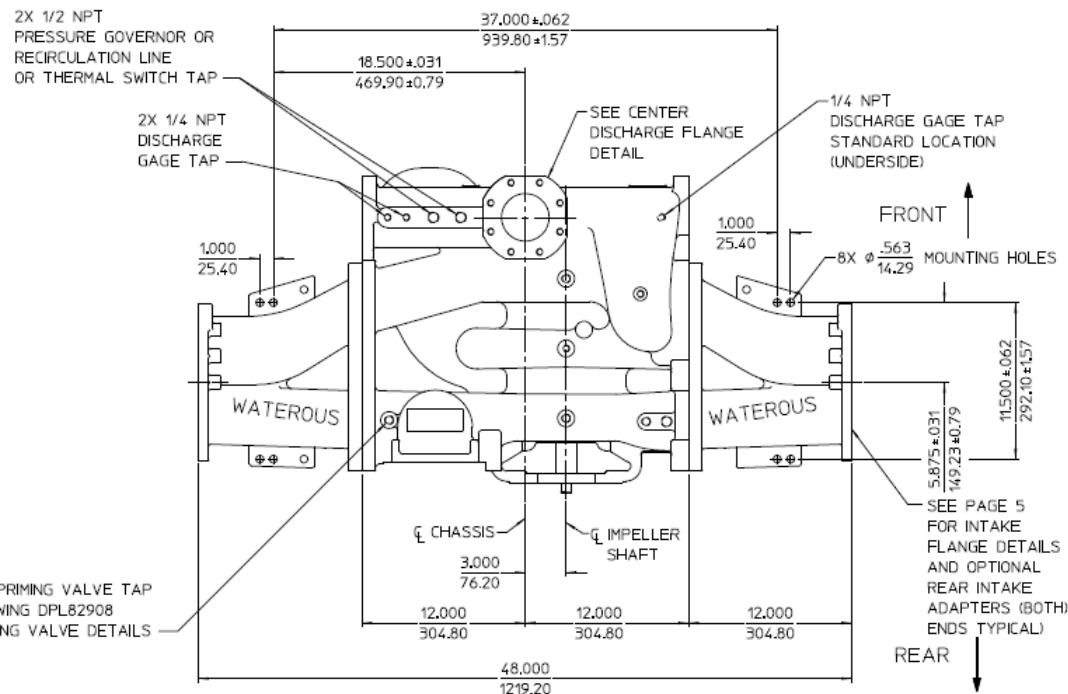
CS BODY DIMENSIONS

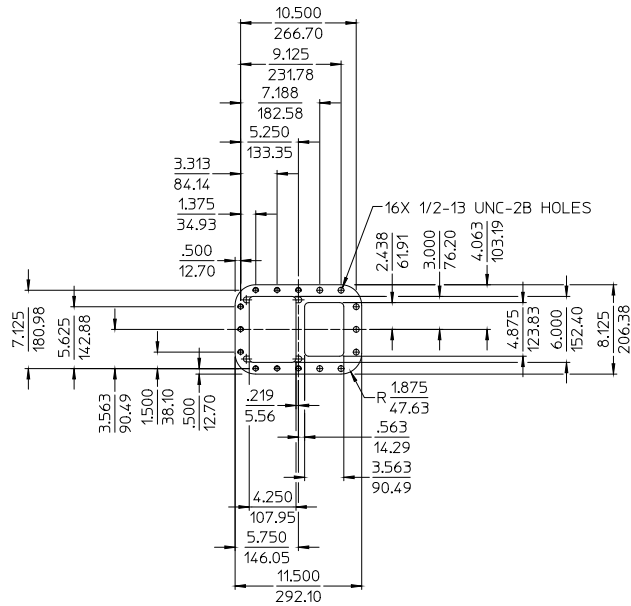


DISCHARGE FLANGE CONFIGURATIONS
SEE DRAWING DPL82085 FOR INFORMATION
ON ORDERING DISCHARGES FITTING AND VALVES

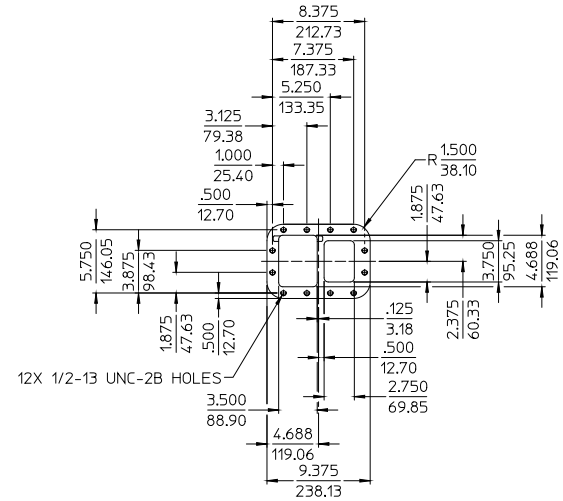


CSU BODY DIMENSIONS

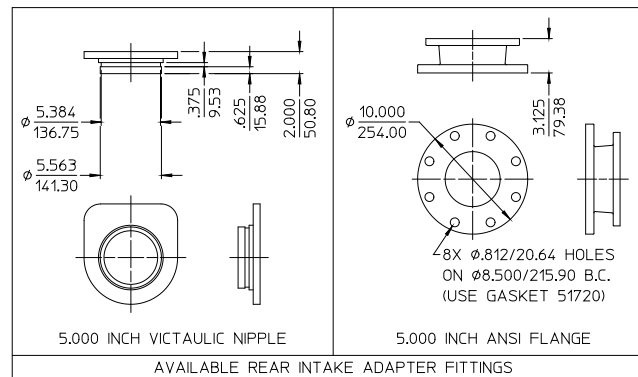




LARGE INTAKE ADAPTER FLANGE DETAIL
SPECIFY INTAKE FITTINGS FROM SECTION 2 OF DRAWING DPL81867

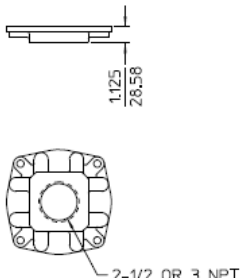
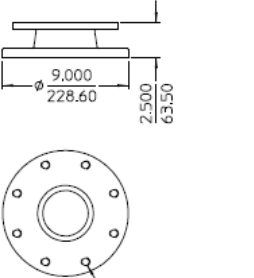
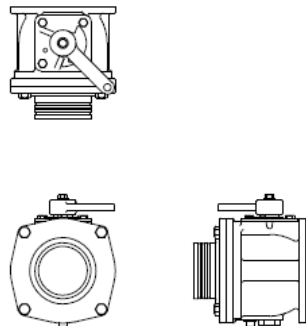
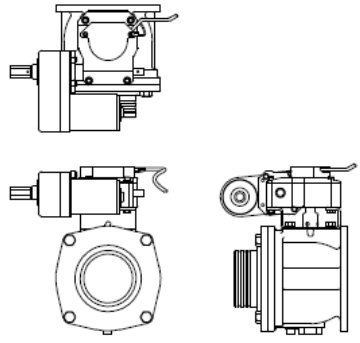


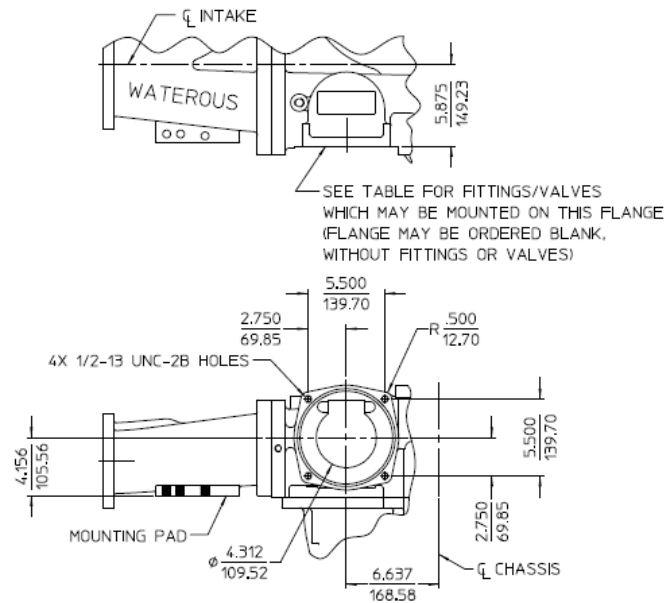
STANDARD INTAKE ADAPTER FLANGE DETAIL
SPECIFY INTAKE FITTINGS FROM SECTION 1 OF DRAWING DPL81867



INTAKE ADAPTERS

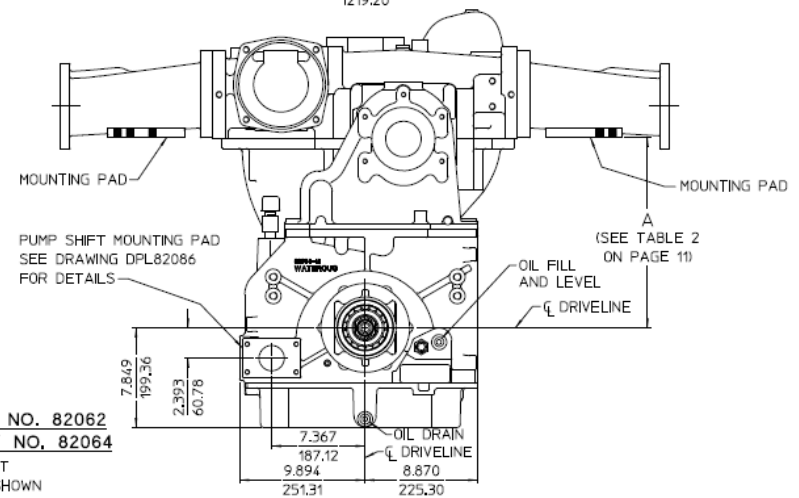
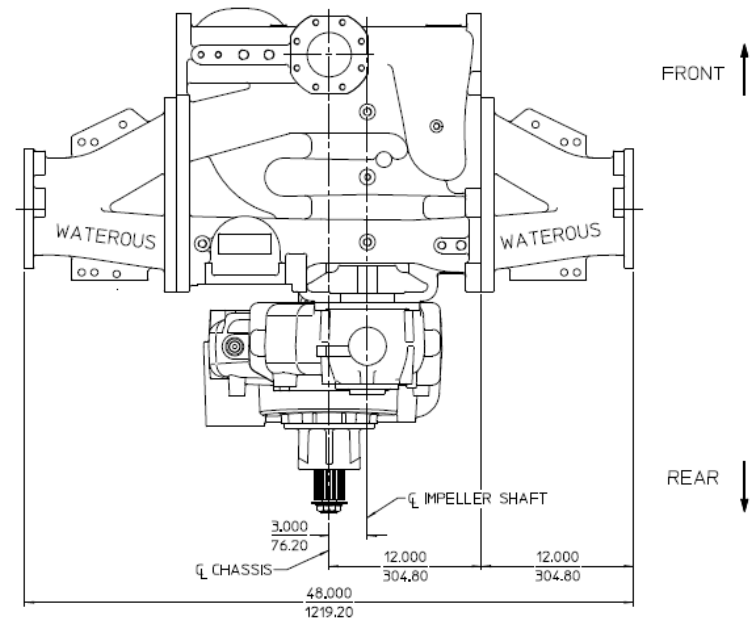
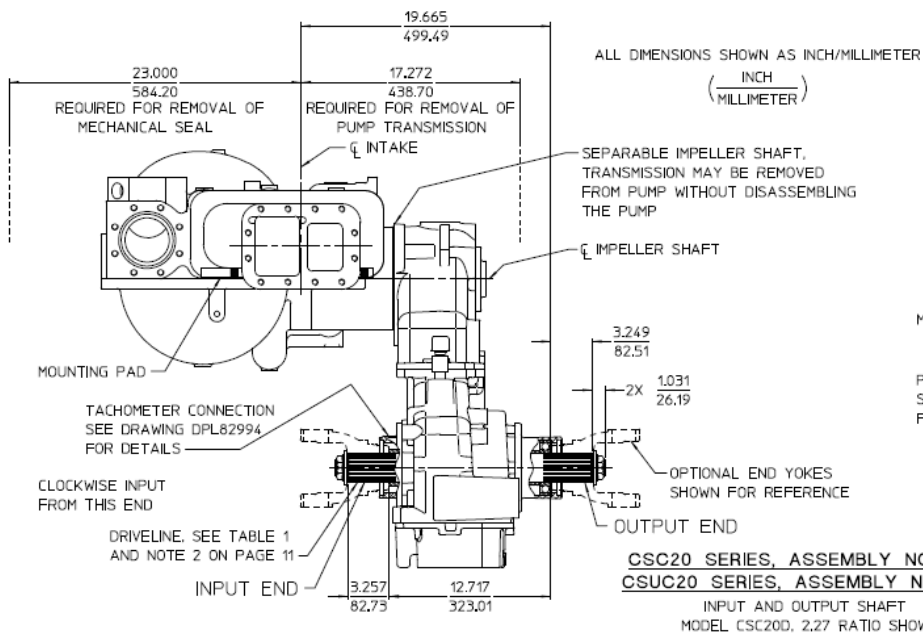
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
($\frac{\text{INCH}}{\text{MILLIMETER}}$)

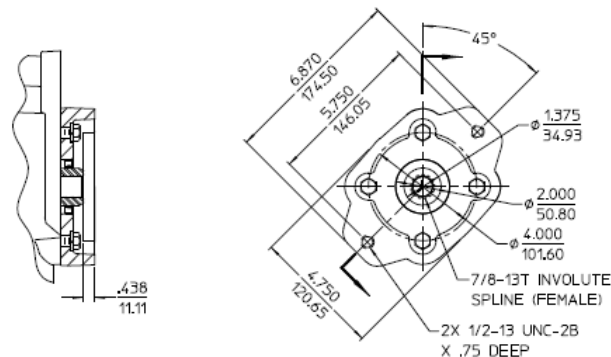
 TAPPED FLANGE	 4.000 INCH ANSI FLANGE (NOTE: NOT AVAILABLE WITH PA TRANSMISSION)	 MANUAL TANK TO PUMP VALVE SEE DRAWING DPL81962 FOR ORDERING DETAILS	 ELECTRIC TANK TO PUMP VALVE WITH ROTARY ACTUATOR SEE DRAWING DPL82771 FOR ORDERING DETAILS
OPTIONAL TANK TO PUMP FLANGE FITTINGS/VALVES			



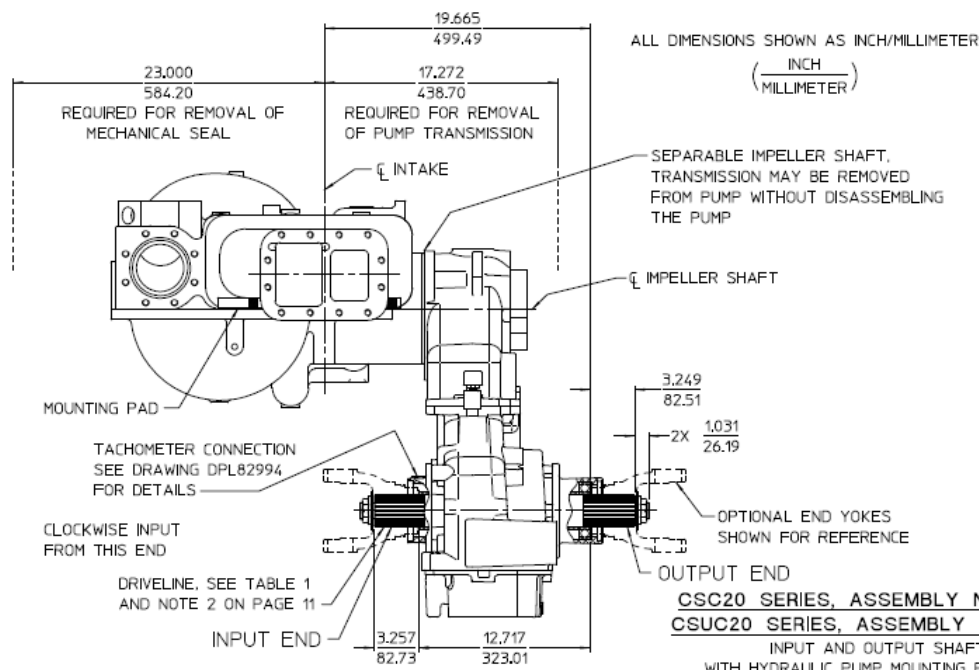
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH
MILLIMETER)

TANK TO PUMP FLANGE
(USE O-RING W37108-4)
(AVAILABLE WITH OR WITHOUT CHECK VALVE)

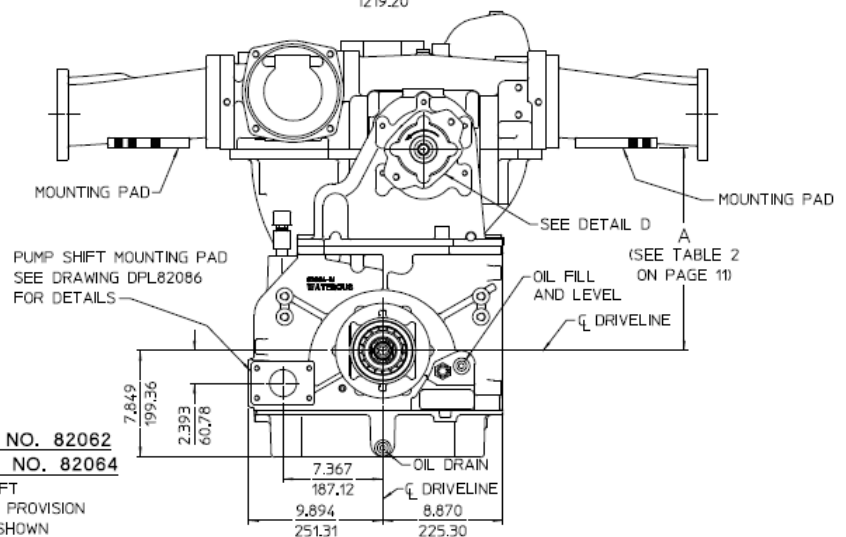
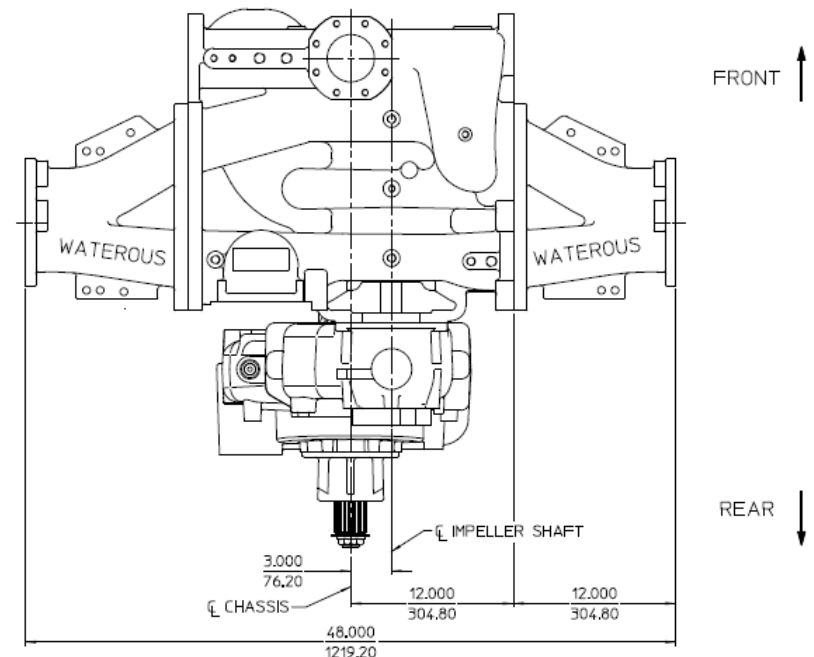


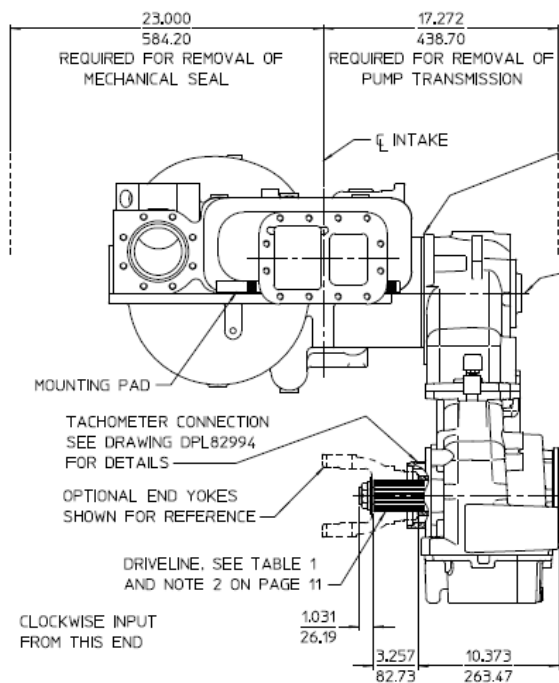


DETAIL D
HYDRAULIC PUMP ADAPTER FLANGE
USED FOR SAE J744 CLASS B 2-BOLT
HYDRAULIC PUMP WITH MALE
7/8-13T 16/32 PITCH INVOLUTE SPLINE



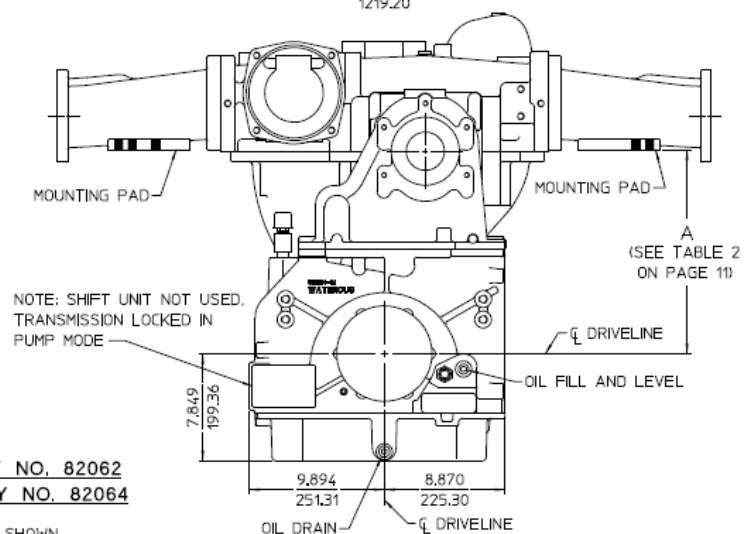
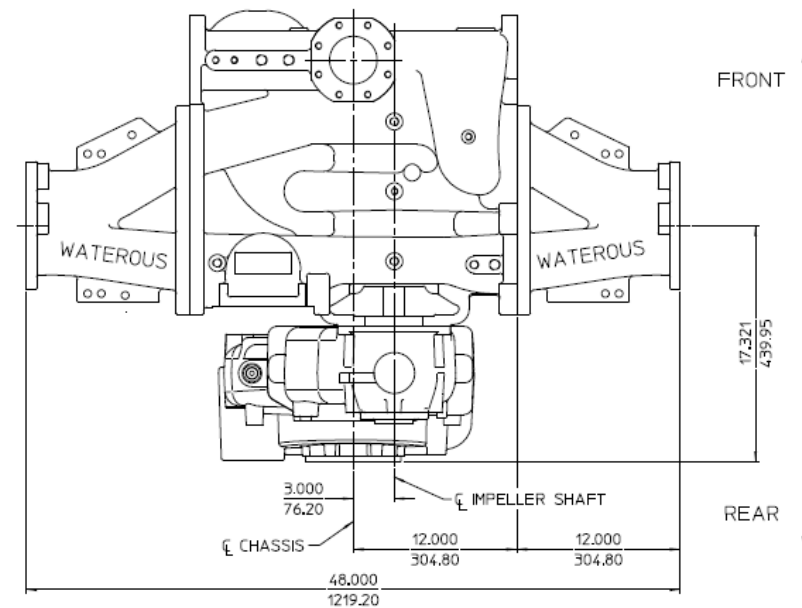
CSC20 SERIES, ASSEMBLY NO. 82062
CSUC20 SERIES, ASSEMBLY NO. 82064
INPUT AND OUTPUT SHAFT
WITH HYDRAULIC PUMP MOUNTING PROVISION
MODEL CSC20D, 2.27 RATIO SHOWN

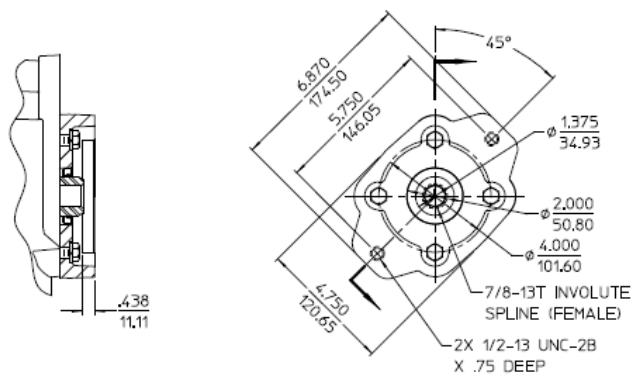




ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH
MILLIMETER)

CSC20 SERIES, ASSEMBLY NO. 82062
CSUC20 SERIES, ASSEMBLY NO. 82064
INPUT SHAFT ONLY
MODEL CSC20D, 2.27 RATIO SHOWN

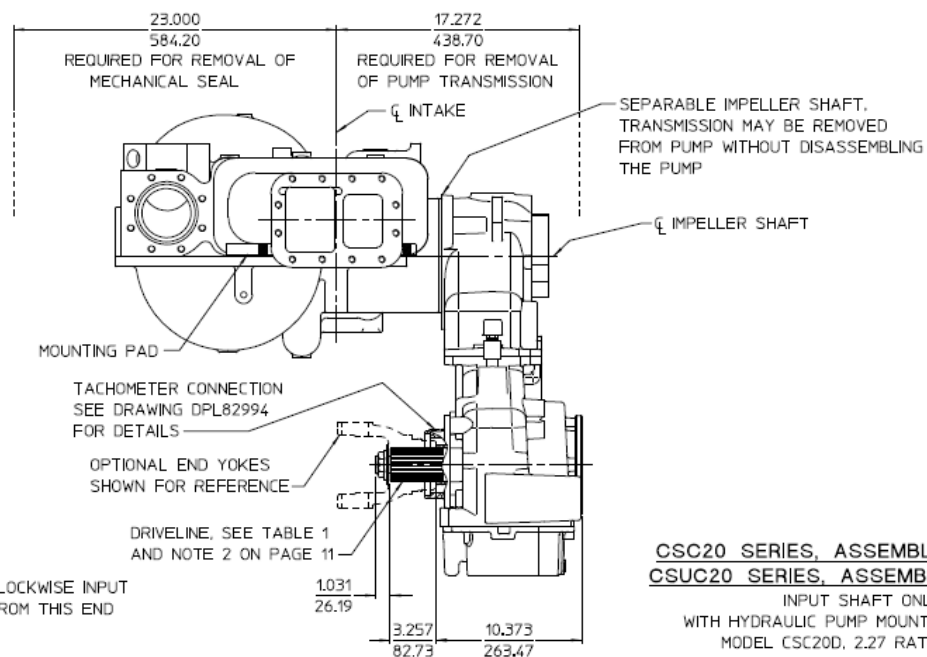




DETAIL D
HYDRAULIC PUMP ADAPTER FLANGE
USED FOR SAE J744 CLASS B 2-BOLT
HYDRAULIC PUMP WITH MALE
7/8-13T 16/32 PITCH INVOLUTE SPLINE

ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(
INCH
MILLIMETER
)



CSC20 SERIES, ASSEMBLY NO. 82062
CSUC20 SERIES, ASSEMBLY NO. 82064
INPUT SHAFT ONLY
WITH HYDRAULIC PUMP MOUNTING PROVISION
MODEL CSC20D, 2.27 RATIO SHOWN

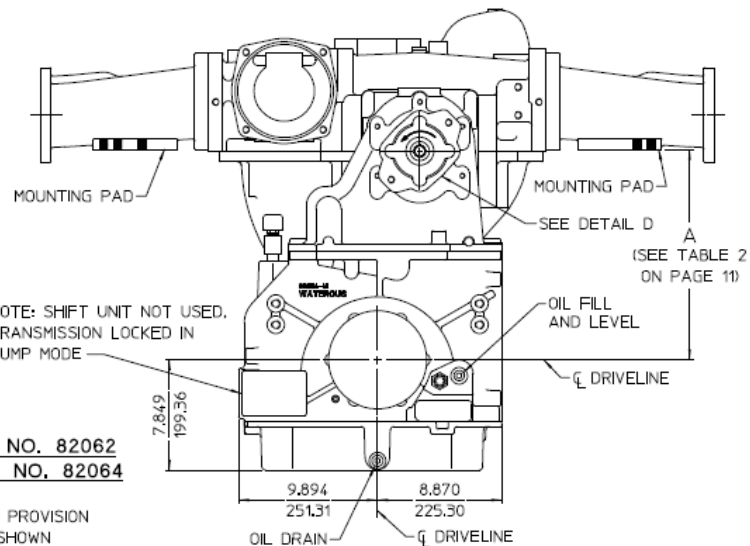
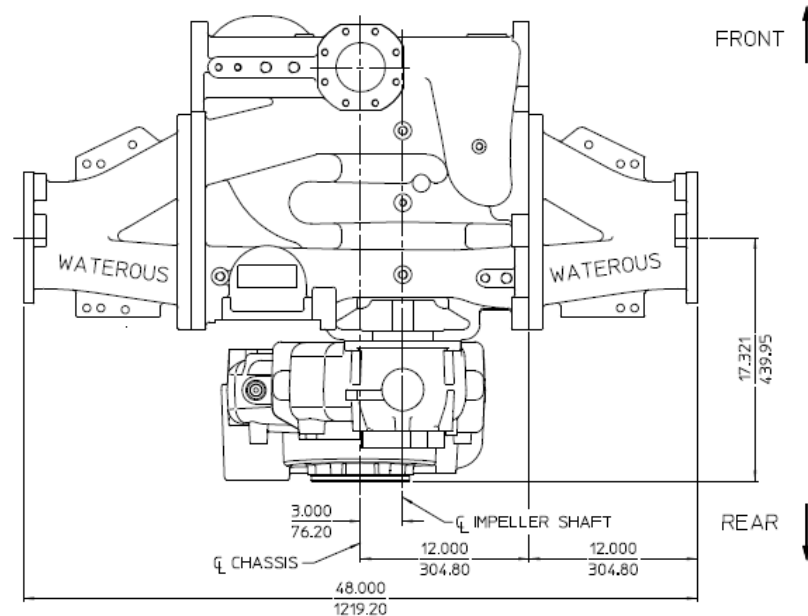


TABLE 1 - AVAILABLE DRIVELINES / MODELS									
DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS					PUMP MODELS	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		CSC20 SERIES	CSUC20 SERIES
			SPICER SERIES	PART NUMBER		SPICER SERIES	PART NUMBER		
EXTRA HEAVY DUTY	2.35 INCH	2.35-46T INVOLUTE	1710 BP	V 2837	V 2839	1480/1610	V 3719	CSC20B, CSC20C, CSC20D, CSC20E, CSC20F	CSUC20B, CSUC20C, CSUC20D, CSUC20E, CSUC20F
			1810 BP	V 2838	V 2840	1650/1710	V 3619		
			1710 HR	V 4101	-				
			1810 HR	V 4102	-	-	-		
			SPL140	V 3388	V 3389				

TABLE 2 - AVAILABLE RATIOS					
DRIVE TO DRIVEN RATIO	C20B	C20C	C20D	C20E	C20F
	DIMENSION A	DIMENSION A	DIMENSION A	DIMENSION A	DIMENSION A
1.27	12.375/314.33	14.437/366.70	14.950/379.73	16.986/431.44	19.017/483.03
1.41	11.965/303.91	14.024/356.21	15.056/382.42	17.096/434.24	19.127/485.83
1.48	12.451/316.26	14.003/355.68	15.032/381.81	17.076/433.73	19.106/485.29
1.58	12.330/313.18	13.881/352.58	14.913/378.79	16.955/430.66	18.986/482.24
1.69	12.415/315.34	13.964/354.69	15.001/381.03	17.048/433.02	19.086/484.78
1.79	12.083/306.91	14.170/359.92	15.197/386.00	17.252/438.20	19.293/490.04
1.88	12.254/311.25	13.815/350.90	14.842/376.99	16.898/429.21	18.934/480.92
1.97	12.431/315.75	13.995/355.47	15.037/381.94	17.095/434.21	19.137/486.08
2.03	12.021/305.33	14.109/358.37	15.153/384.89	17.211/437.16	19.257/489.13
2.27	12.365/314.07	13.936/353.97	14.981/380.52	17.045/432.94	19.096/485.04
2.46	12.066/306.48	14.167/359.84	15.212/386.38	17.279/438.89	19.330/490.98
2.68	12.294/312.27	13.871/352.32	14.918/378.92	16.990/431.55	19.048/483.82

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. SEE DRAWING DPL82994 FOR ADDITIONAL DETAILS OF C20 SERIES TRANSMISSION.

ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

($\frac{\text{INCH}}{\text{MILLIMETER}}$)

CSC20 SERIES, ASS'Y NO. 82062

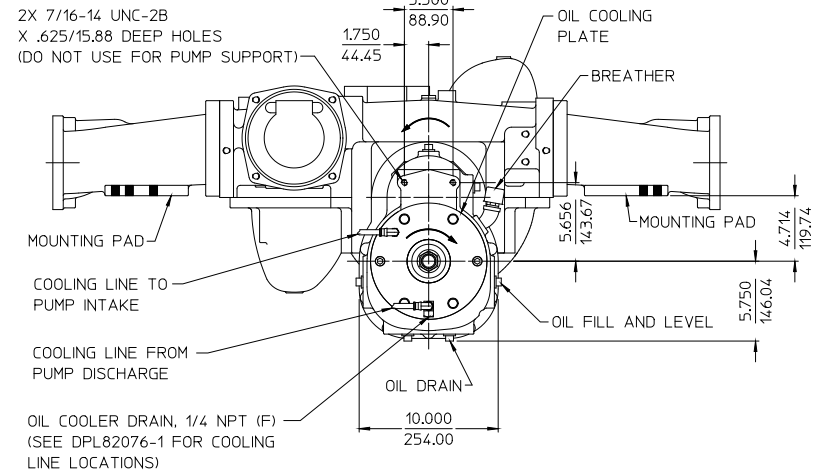
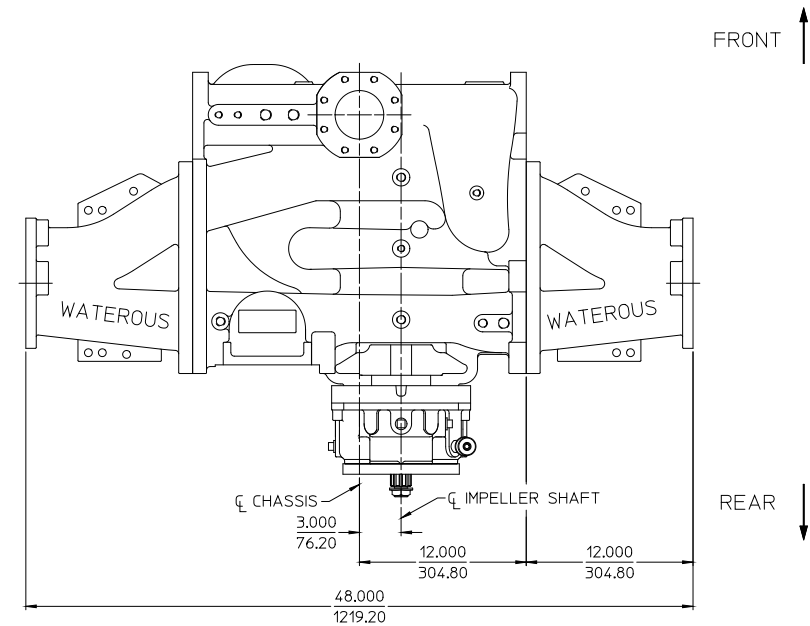
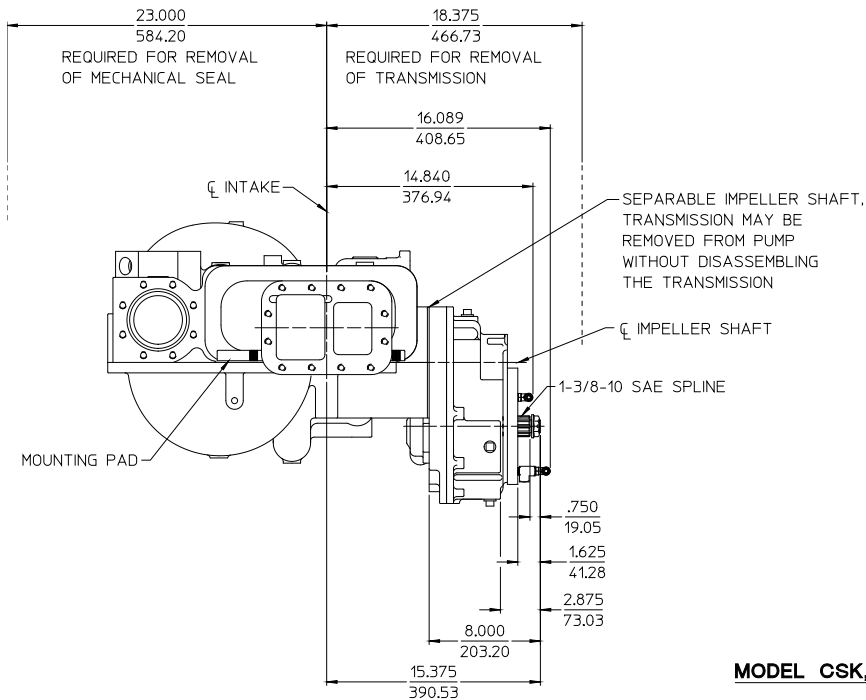
CSUC20 SERIES, ASS'Y NO. 82064

MODEL CSK AVAILABLE AS FOLLOWS				
TRANSMISSION				
MODEL	INPUT	LOCATION	MOUNTING	AVAILABLE RATIOS
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 DPL82084-1 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.

ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
($\frac{\text{INCH}}{\text{MILLIMETER}}$)

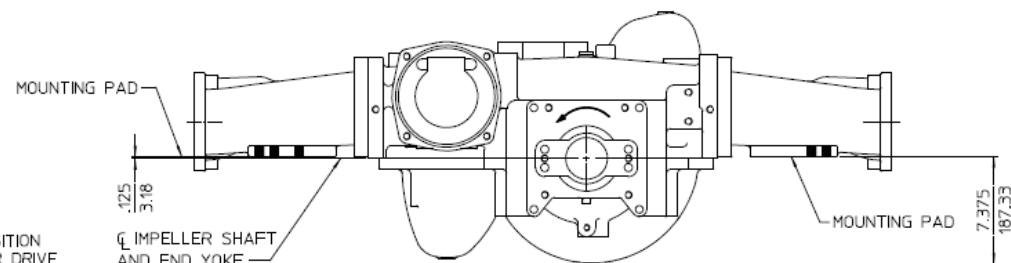
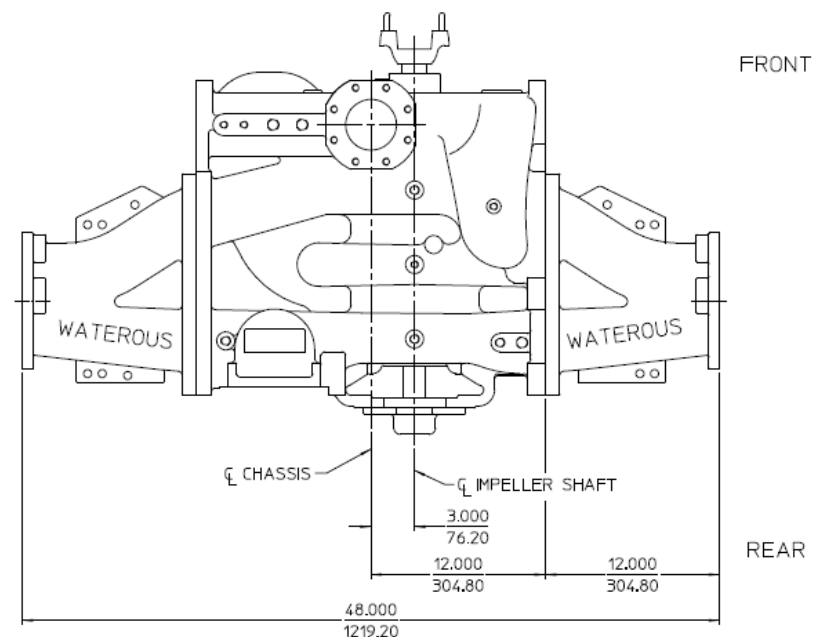
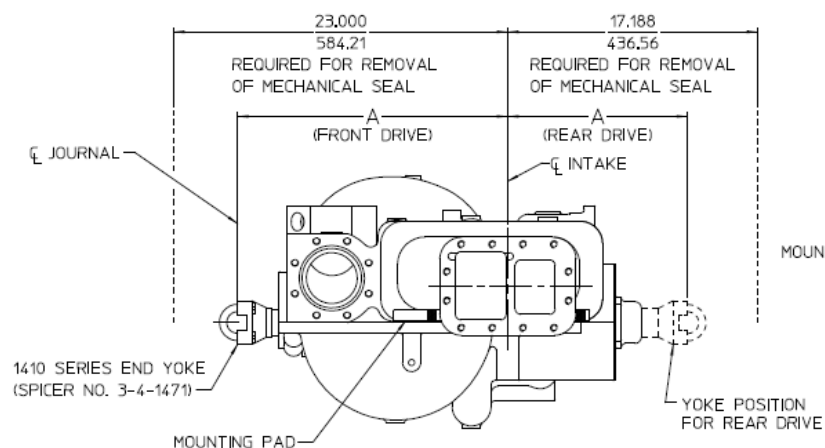


MODEL CSK, ASS'Y NO. 82062-2

AVAILABLE AS FOLLOWS			
DRIVE LOCATION	DIMENSION A		INPUT ROTATION (VIEWED LOOKING AT YOKE)
	WITH PACKING	WITH MECHANICAL SEALS	
FRONT	18.600 472.44	18.600 472.44	CLOCKWISE
REAR	12.250 311.15	12.250 311.15	COUNTERCLOCKWISE

NOTE:

- SEE DRAWINGS DPL82084-1, DPL82084-2 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.



ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(
INCH
MILLIMETER

MODEL CSD, ASS'Y NO. 82062-3
MODEL CSUD, ASS'Y NO. 82064-3
 (USED WITH TC20 SERIES OR OTHER FULL TORQUE P.T.O.)
 (MODEL CSD, FRONT DRIVE WITH MECHANICAL SEALS SHOWN)

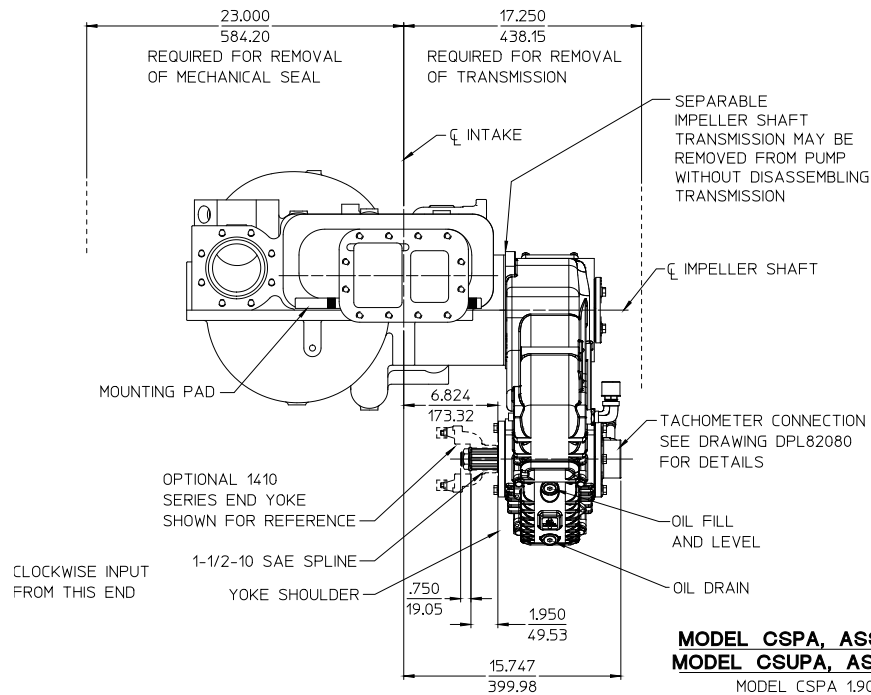
TABLE 1 - AVAILABLE AS FOLLOWS							
DRIVE LINE		RATIO	DIM A	DIM B	DIM C	DIM D	MODEL
SIZE	SPLINE						
1-1/2 INCH	1-1/2-10 SAE	1.00	11.442/290.62	11.325/287.66	5.855/148.71	4.582/116.39	CSPA
		1.70	11.288/286.71	11.068/281.13	6.111/155.22	4.737/120.32	
		1.90	11.269/286.24	11.049/280.64	6.130/155.70	4.755/120.79	
		2.10	11.239/285.46	11.019/279.88	6.160/156.46	4.786/121.56	

NOTES:

1. SEE DRAWING DPL82080 FOR ADDITIONAL DETAILS OF P SERIES TRANSMISSION
2. SEE DRAWING DPL82084-1, DPL82084-2 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.

ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(
INCH
MILLIMETER



MODEL CSPA, ASS'Y NO. 82062-4
MODEL CSUPA, ASS'Y NO. 82062-5
 MODEL CSPA 1.90 RATIO SHOWN

