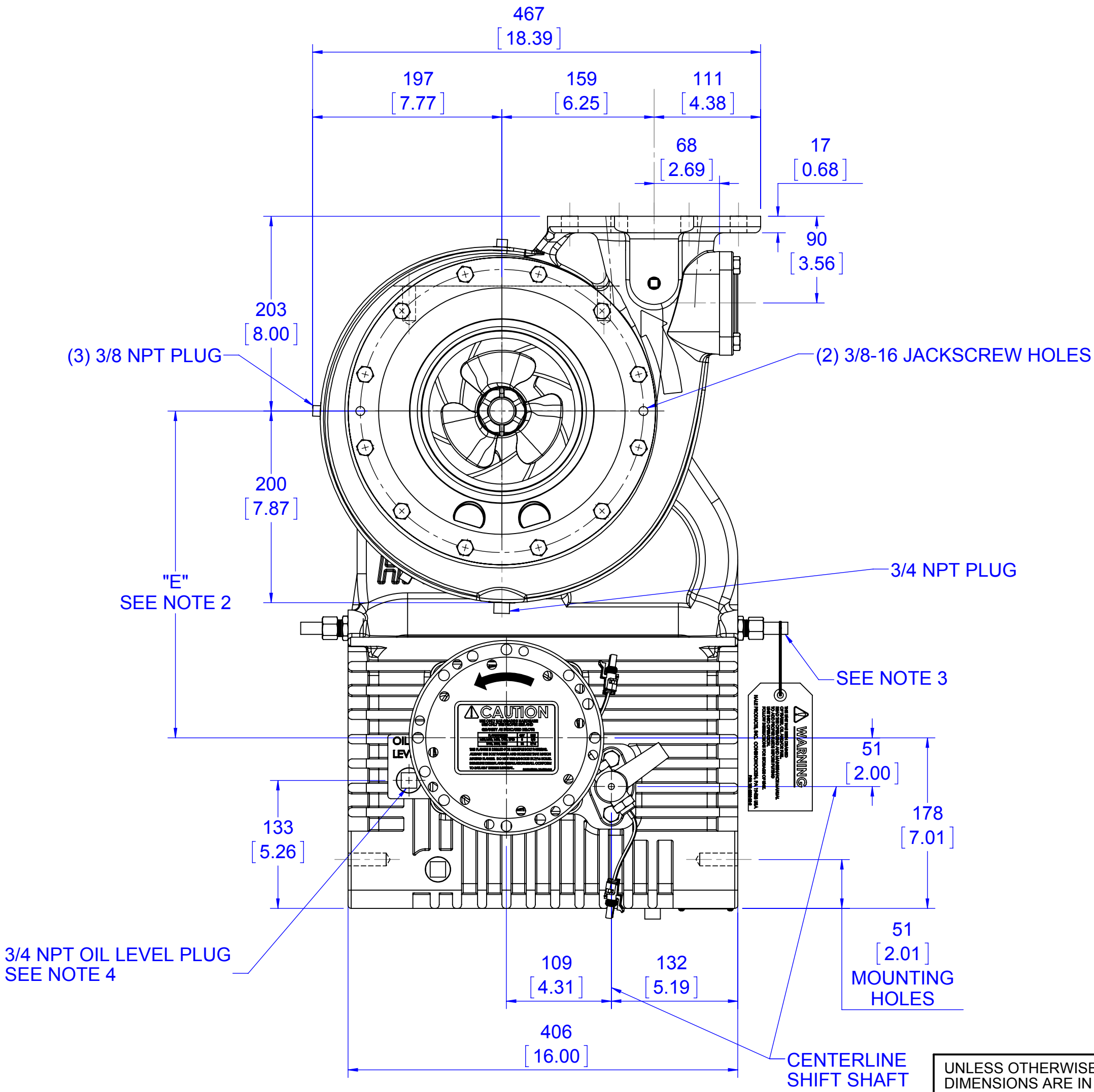
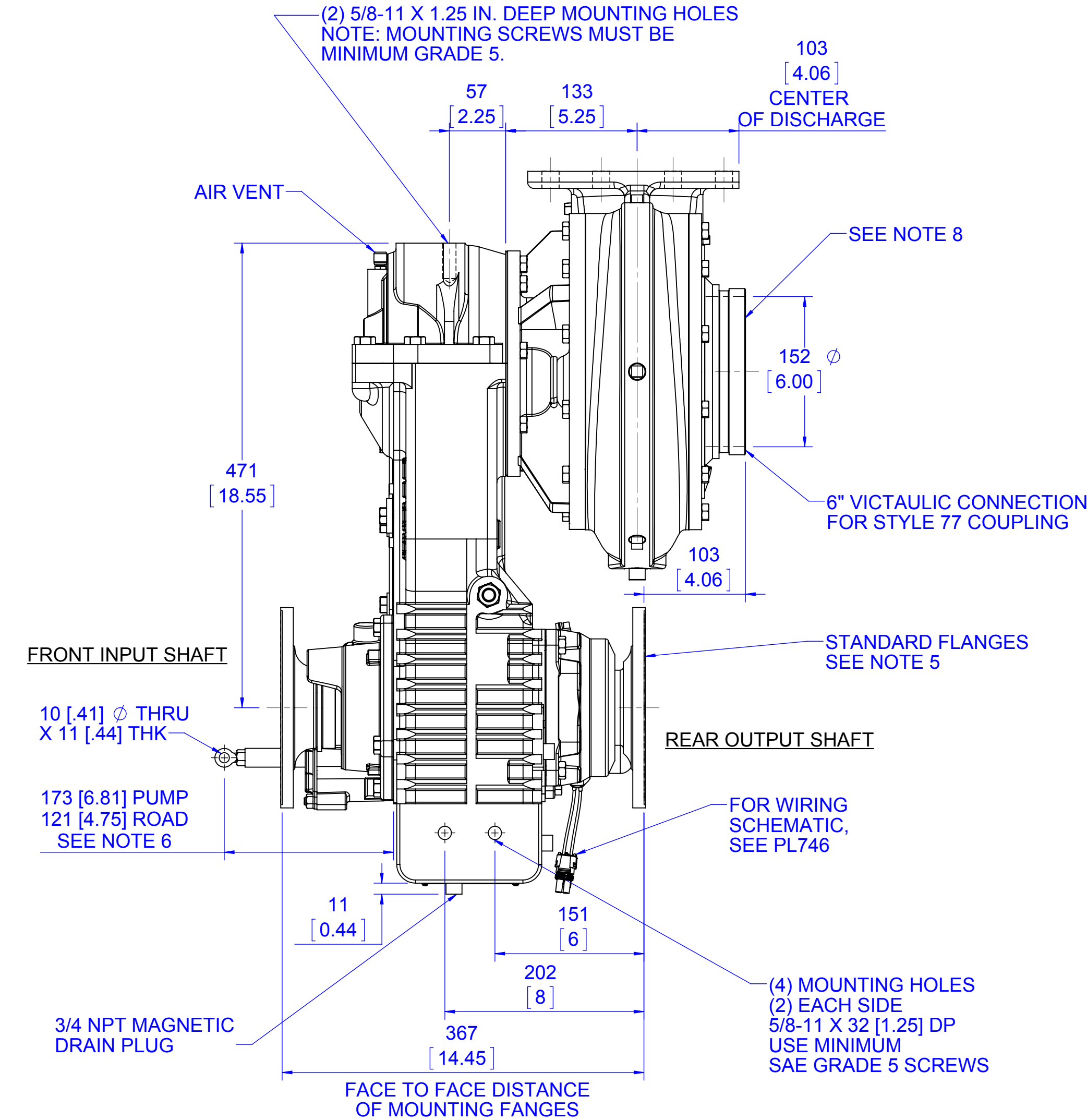


HALE TYPE DSD SERIES PUMP INSTALLATION
WITH "RG" GEARBOX

- NOTES:
1. PRIMING SYSTEM, DISCHARGE & SUCTION VALVES ARE AVAILABLE.
 2. CENTERLINE OF INPUT SHAFT TO CENTERLINE OF IMPELLER.
 3. APPARATUS BUILDER TO CONNECT ONE END OF GEARBOX COOLING TUBE TO PUMP DISCHARGE AND OTHER END TO PUMP SUCTION VIA 3/8 TUBING. A DRAIN VALVE MUST BE PROVIDED FOR THIS COOLING TUBE TO DRAIN SYSTEM IN FREEZING WEATHER.
 4. USE SAE EP-90 OR 80W-90 OIL OR 75-140W SYNTHETIC API GL-5 OIL, AND FILL GEARBOX TO OIL LEVEL PLUG. APPROXIMATE OIL CAPACITY IS 4 QUARTS.
 5. THE HALE COMBINATION FLANGES ARE SIZED FOR SPICER 1600, 1700 AND 1800 SERIES FLANGES.
-1600 SERIES WITH 6-5/8 Ø FEMALE PILOT.
-1700 SERIES WITH 7-3/4 Ø FEMALE PILOT.
-1800 SERIES WITH 7-3/4 Ø FEMALE PILOT.
USE PROPER DRIVELINE HARDWARE AS SPECIFIED BY DRIVELINE MANUFACTURER.
DO NOT PLACE THREADED PORTION OF FASTENER IN SHEAR.
 6. VPS POWER SHIFT (SEE PL533) AND VPS CONTROL VALVE (SEE PL595)
 7. SEE PL790 FOR PUMP ASSEMBLY DETAIL.
 8. TO REDUCE PRE-ROTATION AT LOW FLOW, IT IS RECOMMENDED THAT A STRAIGHT SUCTION VANE BE ADDED TO THE PUMP SUCTION MANIFOLD LEADING UP TO THE VICTAULIC PUMP SUCTION CONNECTION.

(23L MODEL SHOWN)



PROJECTION:

TABLE "A" - GEAR RATIOS & PUMP DIMENSIONS		
PUMP MODEL	GEAR RATIO	E
DSD*-23R	2.28	340 [13.38]
DSD*-21R	2.05	344 [13.56]
DSD*-19R	1.86	349 [13.75]
DSD*-17R	1.71	354 [13.94]
DSD*-15R	1.58	359 [14.13]

THE HALE TYPE DSD PUMP IS AVAILABLE IN 750, 1000, 1250 & 1500 GPM AND 3000, 4000, 5000 & 6000 L/S NFPA RATINGS.
THE COMPLETE PUMP MODEL NUMBER IS FORMED AS FOLLOWS:

FOR EXAMPLE, A DSD PUMP IS REQUIRED TO HAVE A 1250 GPM RATING WITH A 2.28 GEAR RATIO. THE PUMP MODEL NUMBER WOULD BE AS SHOWN:

PUMP MODEL	RATED CAPACITY	PUMP RATIO	GEARBOX TYPE
DSD 125-23 R			




TABLE "B" - MAXIMUM INPUT RPM	
WARNING EXCEEDING THESE LIMITS OR FAILURE TO FOLLOW THE RECOMMENDATIONS OUTLINED ON THIS DRAWING COULD DAMAGE THE PUMP AND RESULT IN PERSONAL INJURY. MAXIMUM GEARBOX SHAFT TORQUE (ROAD) = 16,000 LBS-FT [21,693 N-m]	
PUMP MODEL	MAX GEARBOX INPUT RPM
DSD-23R	2630
DSD-21R	2920
DSD-19R	3220
DSD-17R	3500
DSD-15R	3800
SEE HALE TORQUE LIMIT CHART F-72 FOR ADDITIONAL DATA. MAXIMUM ALLOWABLE HYDRODYNAMIC PRESSURE: 400 PSIG MAXIMUM ALLOWABLE HYDROSTATIC PRESSURE: IRON: 600 PSIG BRONZE: 500 PSIG	

TABLE "C" - OPTIONS AND ACCESSORIES	
OPTION	DRAWING NUMBER
ESP PRIMING PUMP	PL821
PVG PRIMING VALVE	PL480
SPV PRIMING VALVE	PL828
SPEED COUNTER ADAPTER	PL910
PUMP SHIFT INDICATOR LIGHTS	PL746
LG/XG GEARBOX ASSEMBLY	PL914

TABLE "D" - "K" PORT FLANGE OPTIONS	
BLANK (STANDARD)	
1-1/4" NPT	
2" NPT	
2-1/2" NPT	
3" NPT	
TRV & TRV-L	
ALLOY OR MAGNESIUM ANODE*	
* ANODE REQUIRES SPACER. SEE PL790 FOR PART NUMBER DETAILS.	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS [INCHES ARE FOR REFERENCE, ONLY] TOLERANCE FOR MILLIMETER DIMENSIONS:
X: ±1
X.X: ±0.5
X.XX: ±0.25
X.XXX: ±0.125
ANGLES: ±0.25°
SURFACE TEXTURE IN µm Ra REMOVE ALL SHARP EDGES, 0.25MAX

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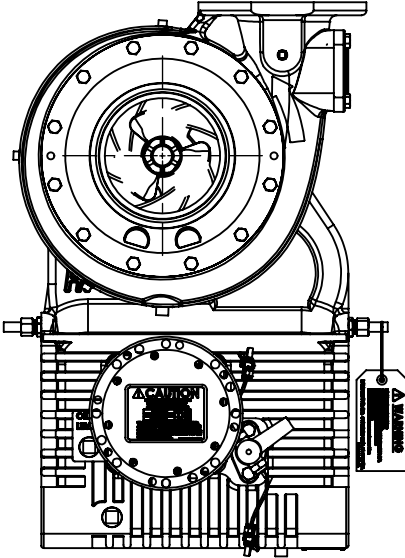
FSG OF IDEX IDEX CORPORATION		  				
MATERIAL		TITLE				
MADE FROM		HALE TYPE DSD SERIES PUMP WITH RG GEARBOX				
FINISH		DRAWN	DPL	SIZE	DRAWING NUMBER PL918	REV
PROJECT		APPROVED	MD	D		D
		DATE	06AUG1999	SCALE 1:4		SHEET 1 OF 2

REVISIONS					
ECN	REV.	ZONE	CHANGED FROM	BY	DATE
CFL3300	D	--	REDRAWN IN SOLIDWORKS; REDRAWN ON FSG BORDER	JRH	27OCT2014
				JRP	

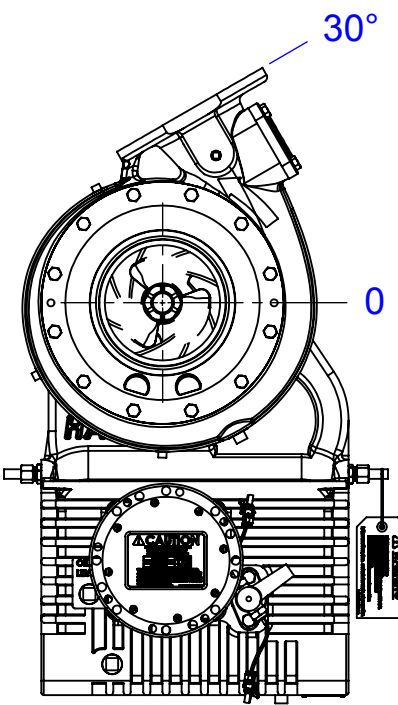
HALE TYPE DSD SERIES PUMP INSTALLATION
WITH "RG" GEARBOX

PROJECTION: 

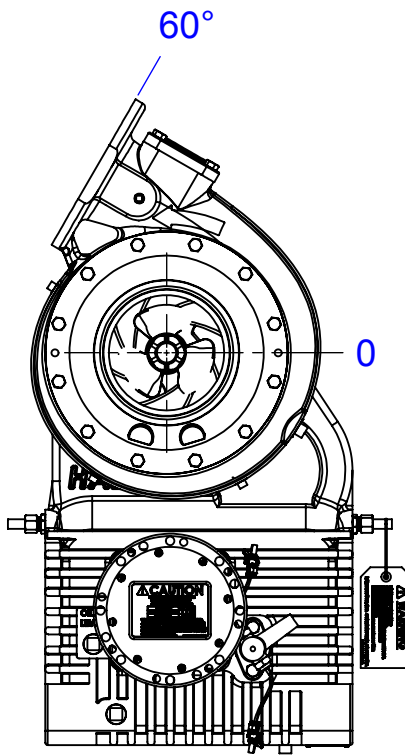
VOLUTE POSITIONS



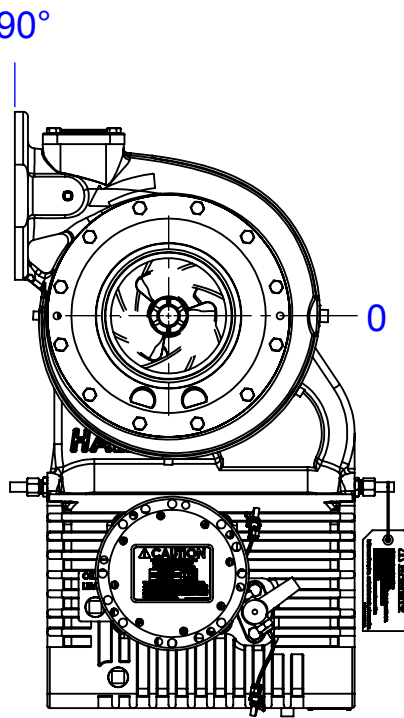
POSITION 21
(STANDARD)



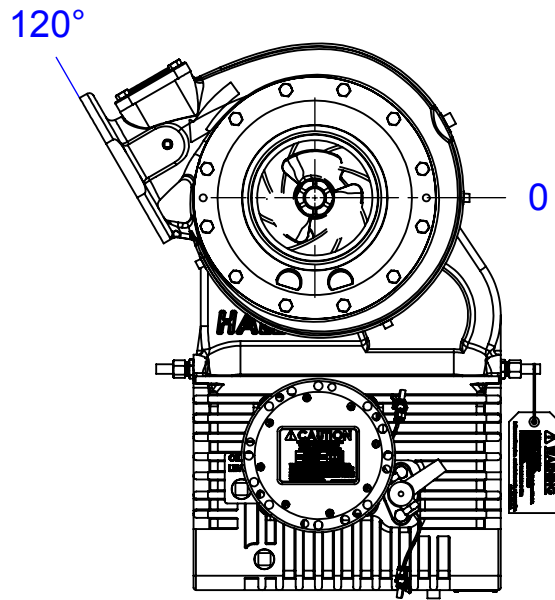
POSITION 22



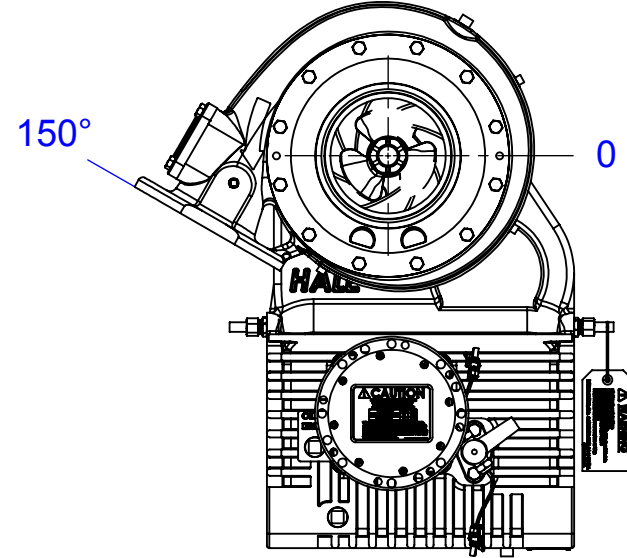
POSITION 24



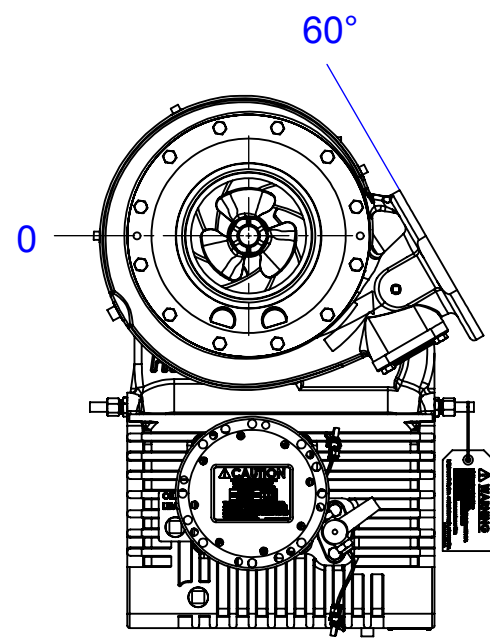
POSITION 25



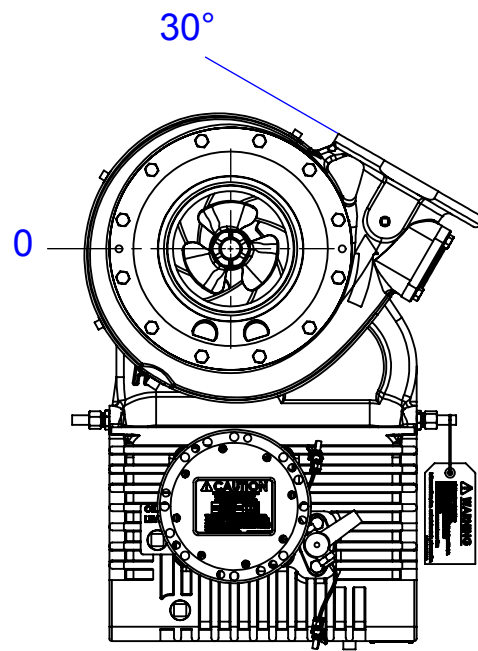
POSITION 26



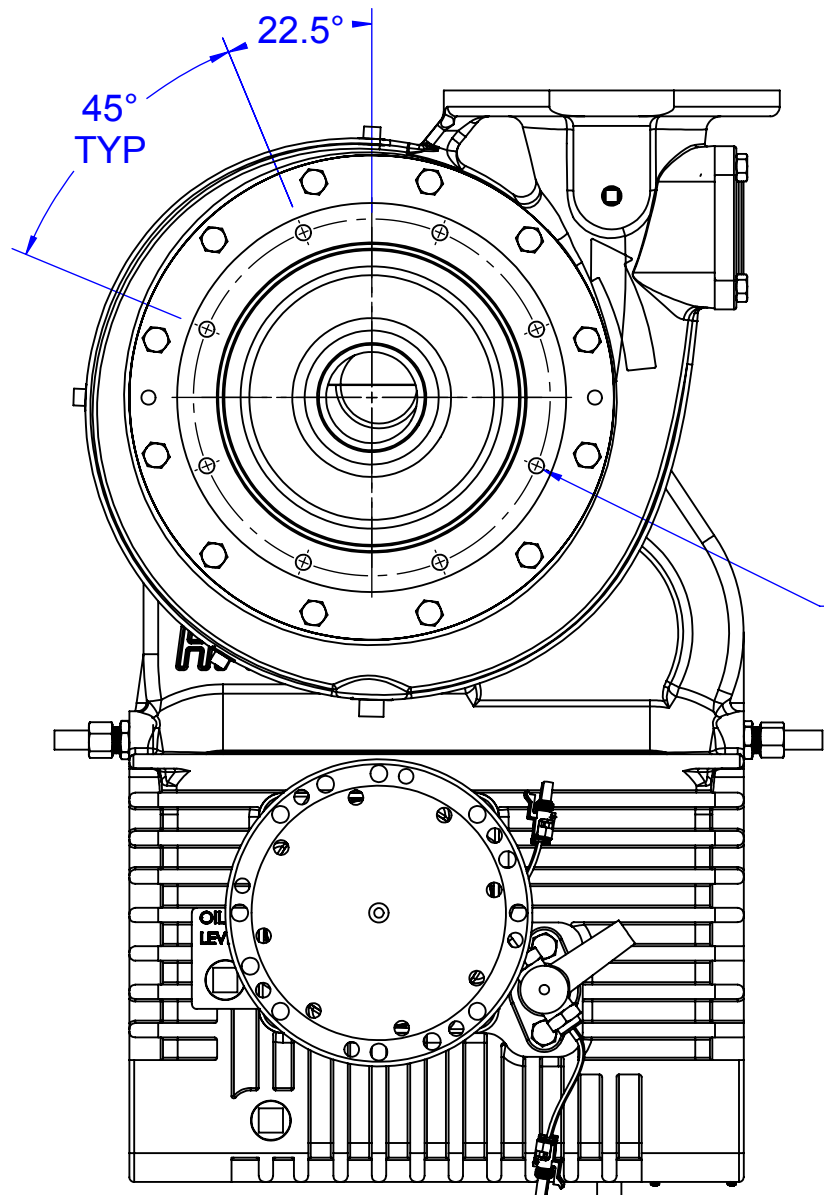
POSITION 27



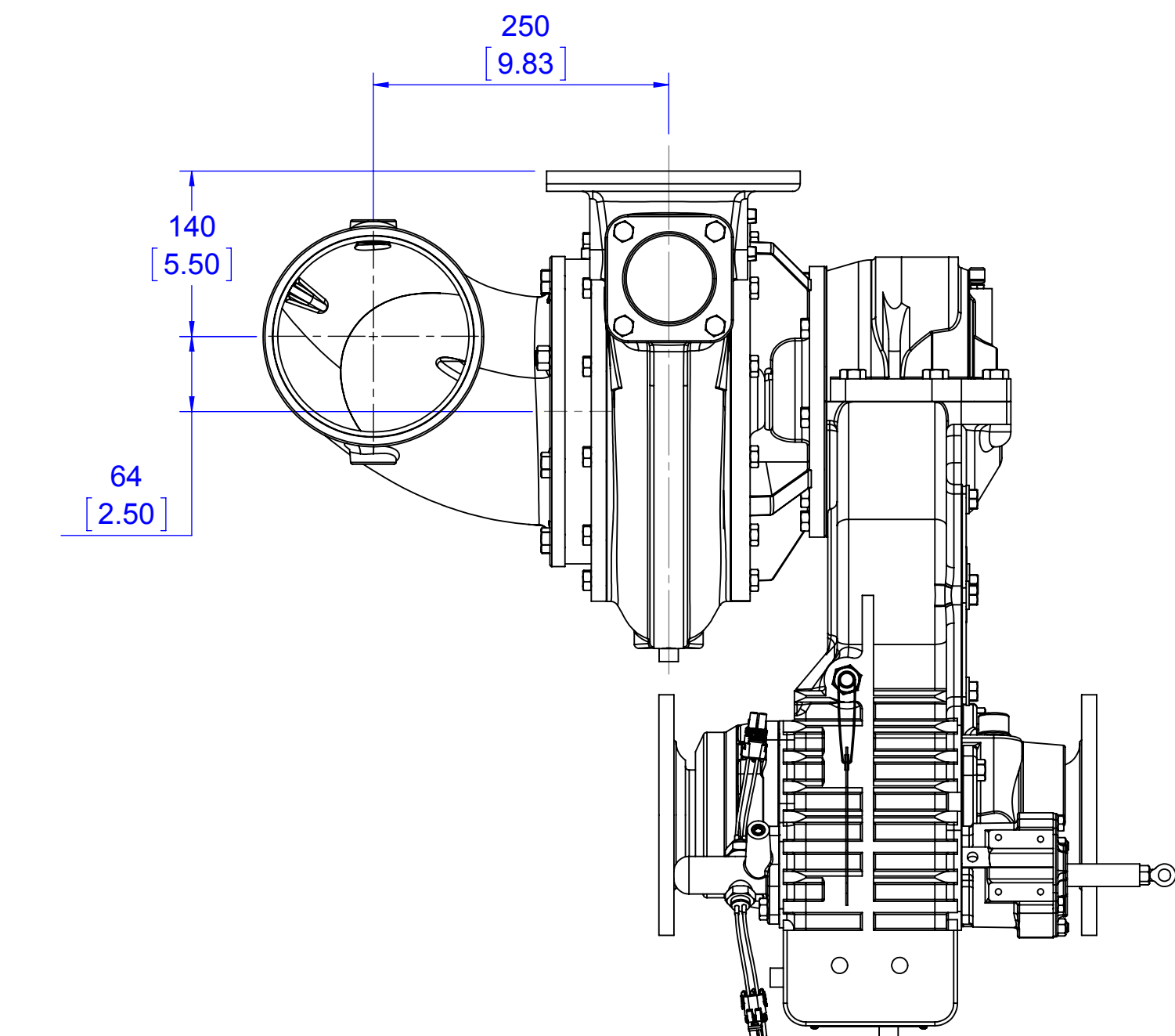
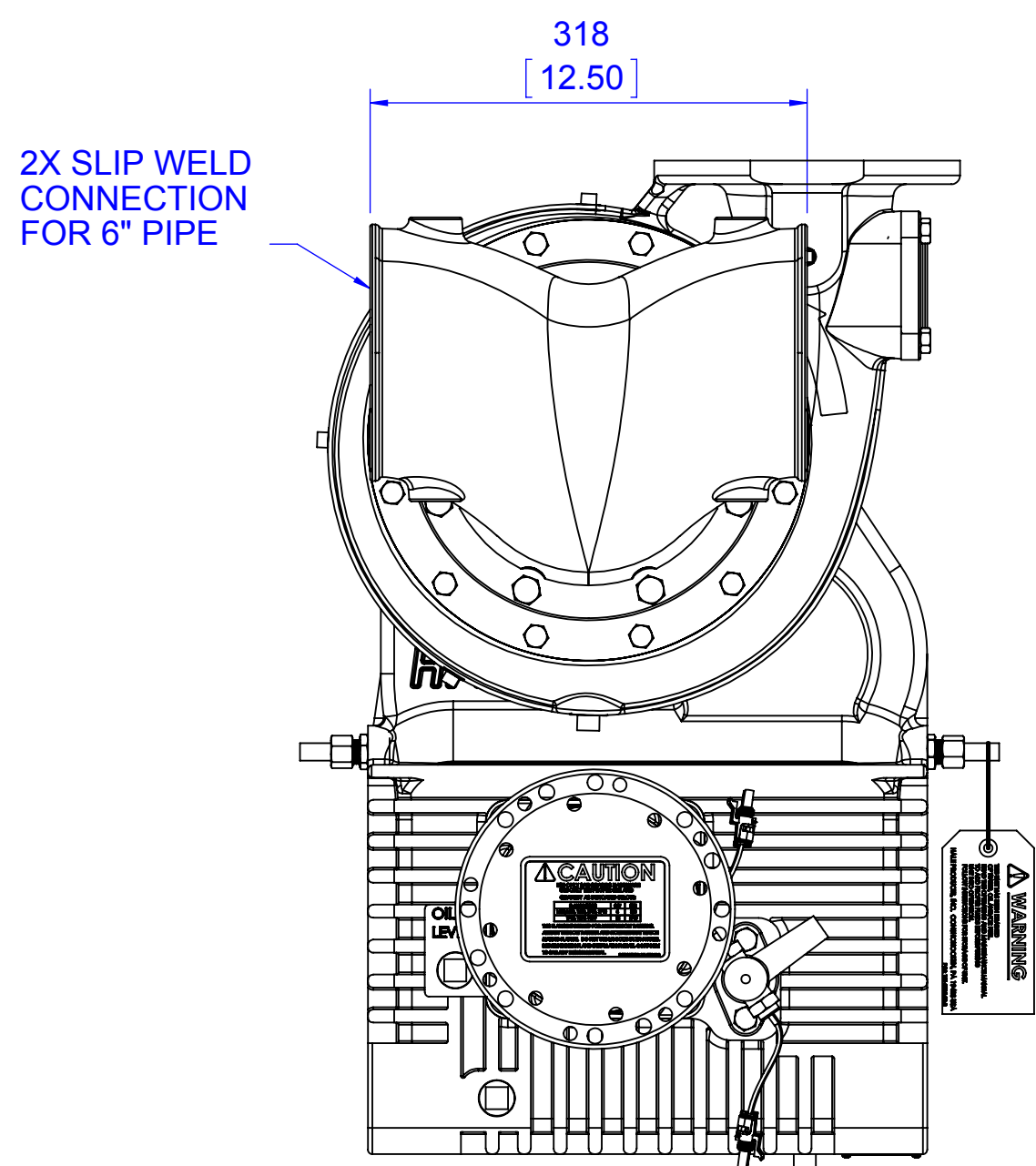
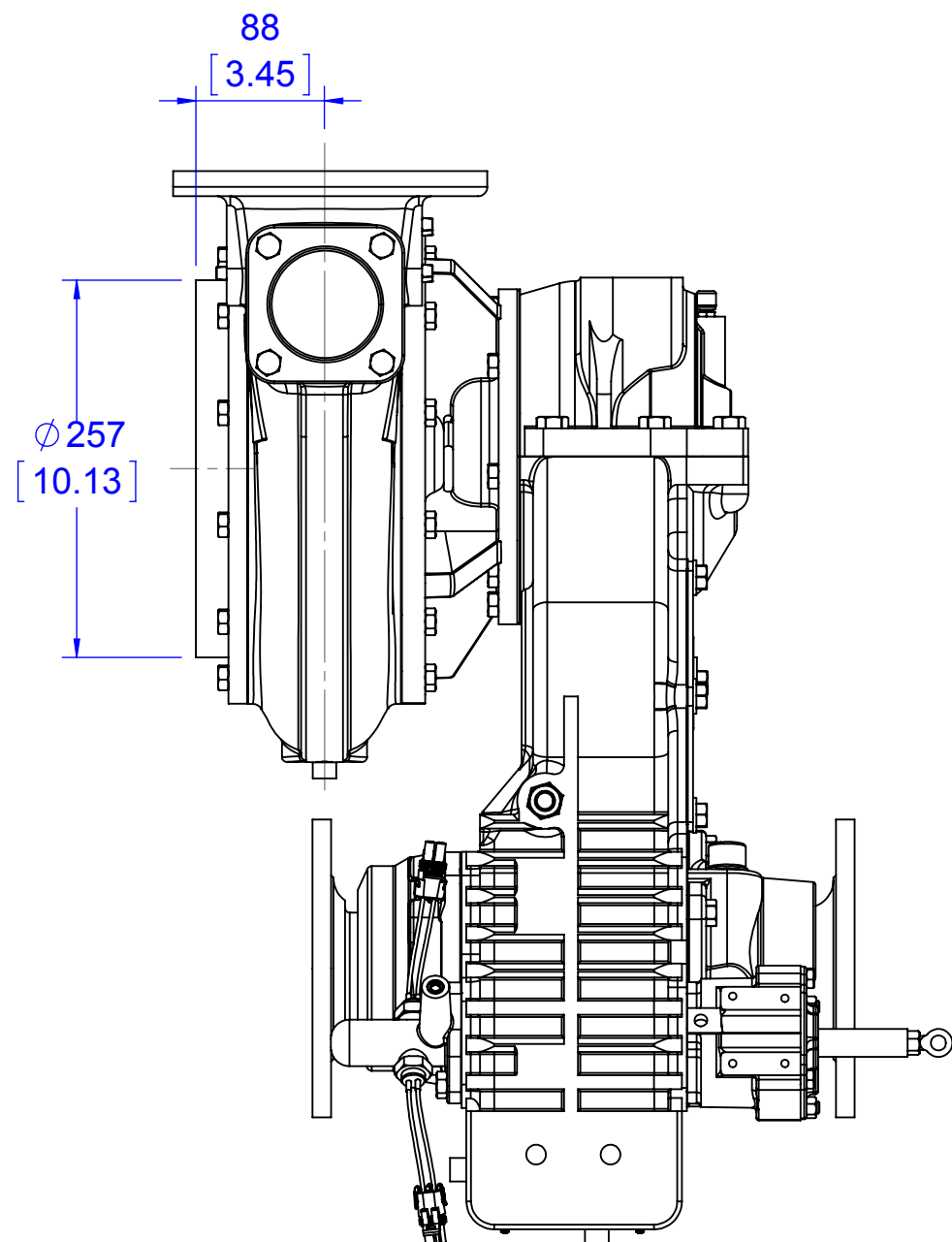
POSITION 35



POSITION 36



METRIC SUCTION HEAD OPTION







METRIC SUCTION HEAD
WITH RAM'S HORN OPTION

REVISIONS					
ECN	REV.	ZONE	CHANGED FROM	BY	DATE
CFL3300	D	--	REDRAWN IN SOLIDWORKS; REDRAWN ON FSG BORDER	JRH	27OCT2014

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<div>FSG OF</div> <div></div> <div>IDEX CORPORATION</div>		<div>  </div>					
MATERIAL		TITLE					
MADE FROM		HALE TYPE DSD SERIES PUMP WITH RG GEARBOX					
FINISH		DRAWN	DPL	SIZE	DRAWING NUMBER		REV
PROJECT		APPROVED	MD	D	PL918		D
		DATE	06AUG1999	SCALE			1:10
							2 OF 2