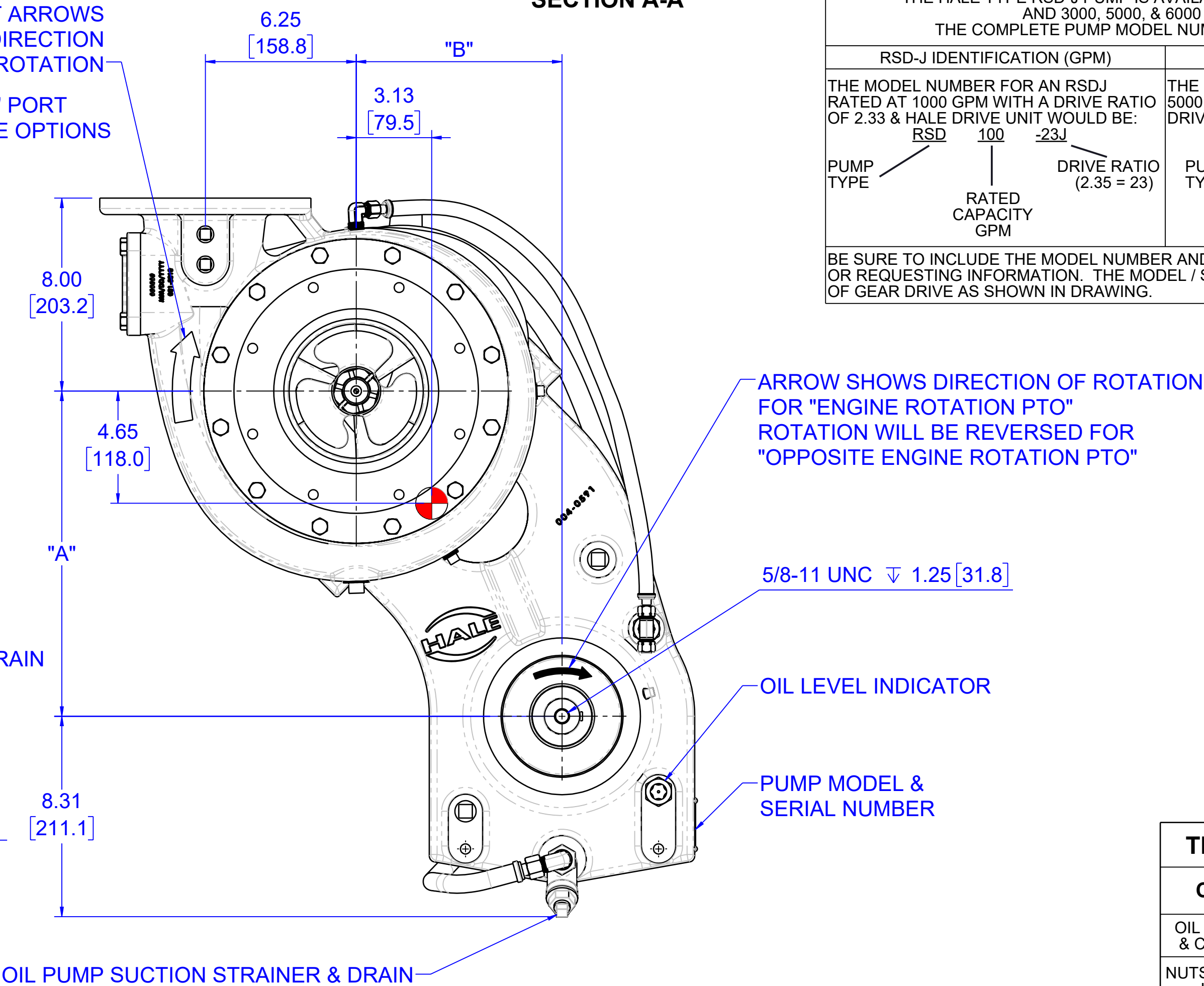
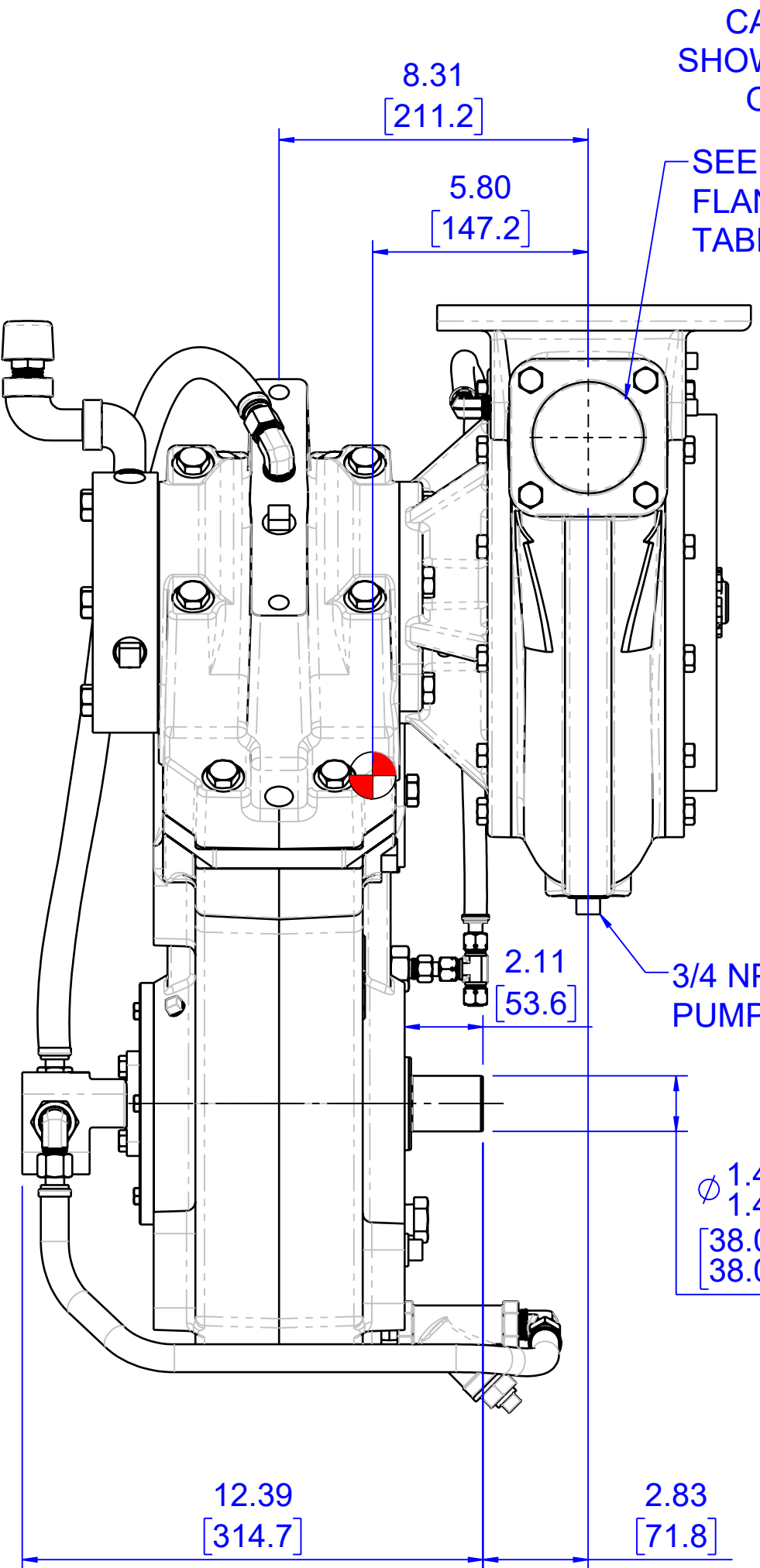
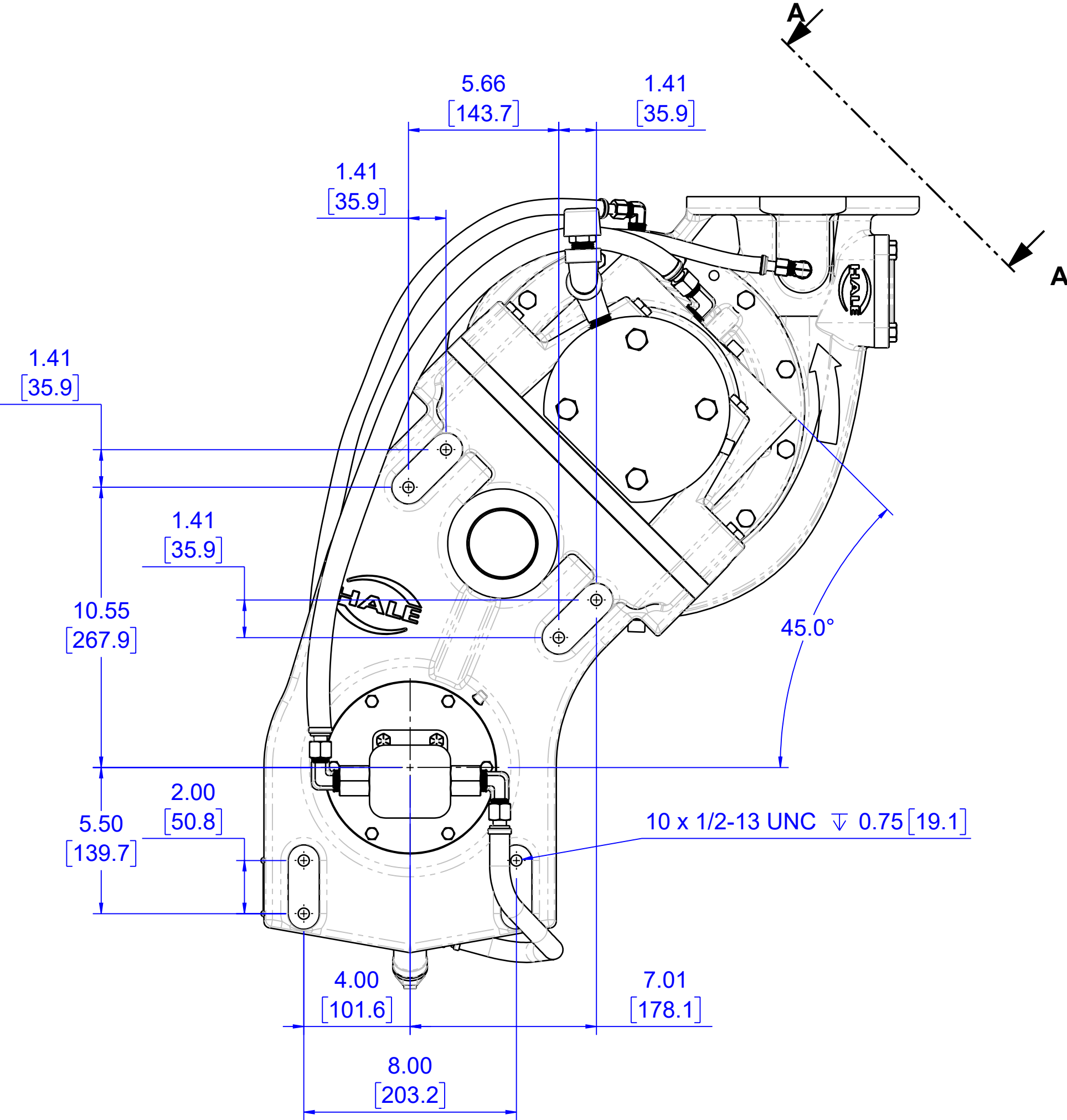
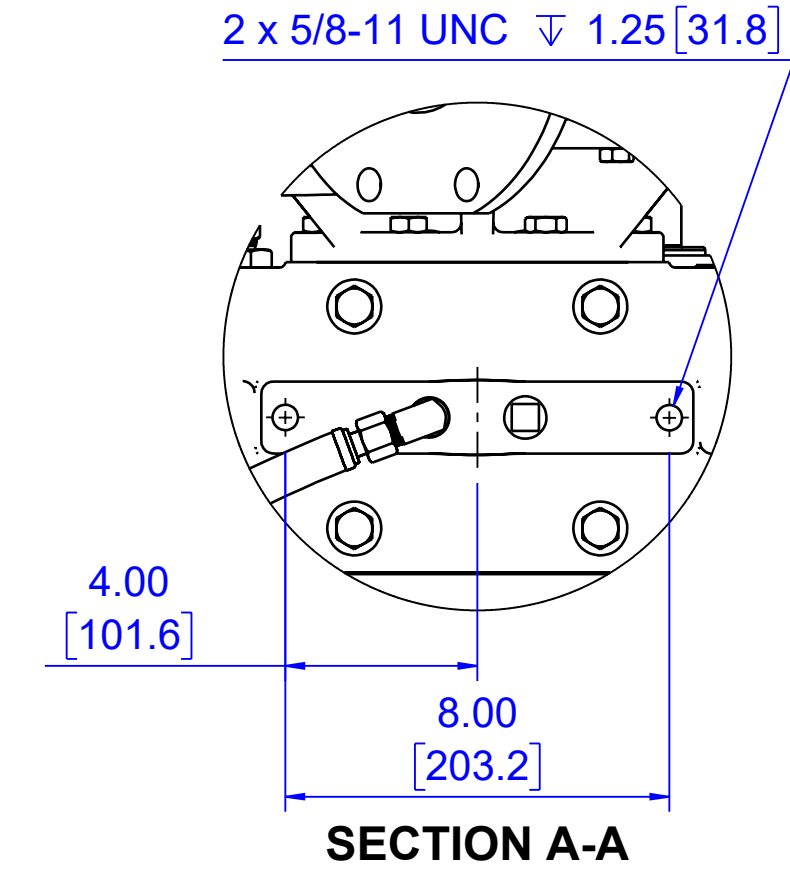
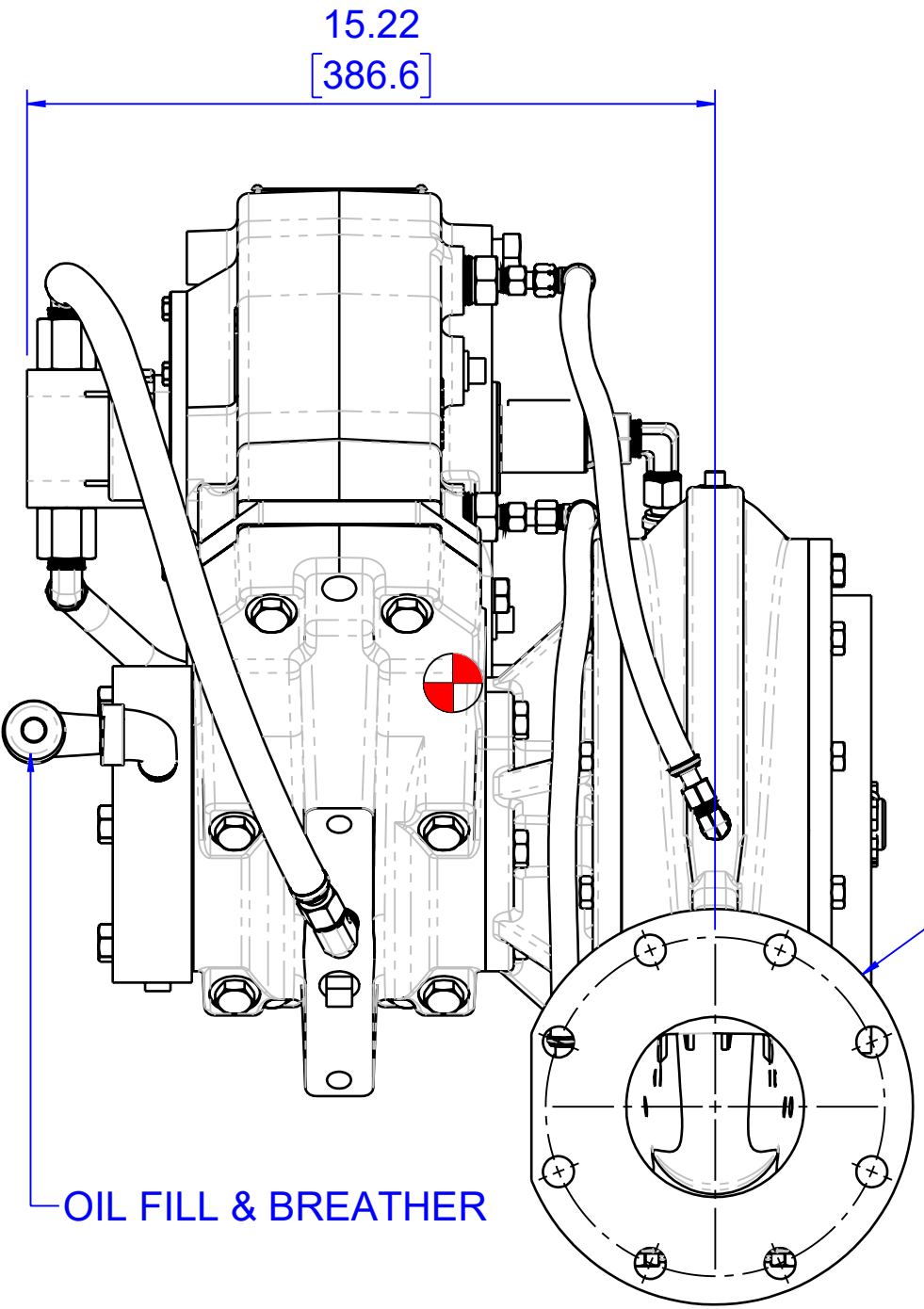


HALE RSD-J SERIES PUMP

DISCHARGE POSITION - 1, ENGINE ROTATION SHOWN

NOTES:

1. PRIMING SYSTEM, DISCHARGE & SUCTION VALVES, PRESSURE RELIEF VALVES & CONTROLLERS AND THERMAL RELIEF VALVES ARE AVAILABLE.
2. USE ONE OF THE FOLLOWING OIL TYPES:
 - SAE 50 SYNTHETIC
 - 80W-90
 - 75W-80
 - ISO 68 SYNTHETIC
3. FILL GEARBOX UNTIL OIL LEVEL INDICATOR WINDOW IS 1/2 - 3/4 FULL. APPROXIMATE OIL CAPACITY IS 2.0 QUART [1.89 LITER].
4. ALL METRIC FASTENERS TO HAVE A MINIMUM PROPERTY CLASS 8.8. ALL SAE FASTENERS TO HAVE A MINIMUM GRADE 8 SPECIFICATION.
5. PUMP ASSEMBLY MOUNTING:
 1. MOUNTING SHOULD BE FROM BOTH VOLUTE AND GEARBOX.
 2. PUMP MOUNTING SUPPORT SHOULD BE VIA THE PUMP VOLUTE MOUNTING HOLES.
 3. GEARBOX MOUNTING SUPPORT SHOULD BE TO THE HOLES SHOWN.
 4. CONSIDERATION MUST BE TAKEN NOT TO TRANSMIT LOADS OR TWISTING MOMENTS TO OR THROUGH PUMP ASSEMBLY FROM CHASSIS, FRAME, BODY WORK, SUCTION AND DISCHARGE PIPING CONNECTIONS.
6. REFER TO "MAXIMUM TORQUE VALUES" AND "THREAD LOCKS & SEALANTS" TABLES WHEN INSTALLING THREADED COMPONENTS.



"K" PORT FLANGE OPTIONS
BLANK (STANDARD)
1-1/4" NPT
2-1/2" NPT
3" NPT
TRV & TRV-L
ALLOY OR MAGNESIUM ANODE*
*ANODE REQUIRES SPACER

OPTIONS AND ACCESSORIES	
OPTION	DRAWING NUMBER
ESP PRIMING PUMP	PL821
PVG PRIMING VALVE	PL480
SPV PRIMING VALVE	PL828
PUMP SHIFT INDICATOR LIGHTS	PL825
THERMAL RELIEF VALE (TRV)	PL729
ANODE (ALLOY & MAGNESIUM)	PL869
RSD-J PUMP ASSEMBLY	PL1202

GEAR RATIOS & PUMP MODELS			
PUMP MODEL	GEAR RATIO	A	B
RSD*-23J	2.35	13.06 [331.7]	8.11 [206.0]
RSD*-21J	2.08	13.27 [337.2]	8.32 [211.4]
RSD*-19J	1.93	13.41 [340.5]	8.46 [214.8]
RSD*-17J	1.74	13.55 [344.1]	8.60 [218.4]
RSD*-16J	1.64	13.67 [347.3]	8.72 [221.5]

PROJECTION:

CONFORMANCE NOTES:
16 CFR 128.6 These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for which the ultimate consignee is indicated herein. They may not be re-export, transferred, or otherwise disposed of to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government and otherwise authorized by U.S. laws and regulations. The term "ultimate consignee" means the person or entity to whom the item is being transferred for its final use. These drawings are trademarks and copy without intellectual property of IDEX and its subsidiaries, and may not be reproduced or modified without the express written consent of IDEX Corp.

PUMP WEIGHT (DRY):
445 LBS (202 KG)

CENTER OF GRAVITY

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.

PUMP MODEL	MAX GEARBOX INPUT RPM	PUMP MODEL	MAX GEARBOX INPUT RPM
RSD-23J	2280	RSD-17J	3050
RSD-21J	2550	RSD-16J	3240
RSD-19J	2750		

SEE HALE TORQUE LIMIT CHART F-72 FOR ADDITIONAL DATA.
MAX ALLOWABLE HYDRODYNAMIC PRESSURE: 400 PSIG [2.76 MPa]
MAX ALLOWABLE HYDROSTATIC PRESSURE (IRON): 600 PSIG [4.14 MPa]

MAX POWER INPUT FOR PUMPING: 300 HP [225 kW]
MAX TORQUE ON PUMP SHAFT: 2300 LBS-FT [3120 N-m]

HALE TYPE RSD-J PUMP MODEL IDENTIFICATION

THE HALE TYPE RSD-J PUMP IS AVAILABLE IN 750, 1000, 1250, & 1500 GPM AND 3000, 5000, & 6000 LPM NFPA RATINGS. THE COMPLETE PUMP MODEL NUMBER IS FORMED AS FOLLOWS:

RSD-J IDENTIFICATION (GPM)		RSD-J IDENTIFICATION (LPM)	
THE MODEL NUMBER FOR AN RSDJ RATED AT 1000 GPM WITH A DRIVE RATIO OF 2.33 & HALE DRIVE UNIT WOULD BE:	THE MODEL NUMBER FOR AN RSDJ RATED AT 5000 LPM WITH A DRIVE RATIO OF 2.33 & HALE DRIVE UNIT WOULD BE:		
RSD 100 -23J	RSD 500 M -23J		
PUMP TYPE	RATED CAPACITY GPM	PUMP TYPE	RATED CAPACITY LPM
	DRIVE RATIO (2.35 = 23)		DENOTES METRIC RATING
			DRIVE RATIO (2.35 = 23)

BE SURE TO INCLUDE THE MODEL NUMBER AND SERIAL NUMBER WHEN ORDERING PARTS OR REQUESTING INFORMATION. THE MODEL / SERIAL NUMBER PLATE IS LOCATED ON TOP OF GEAR DRIVE AS SHOWN IN DRAWING.

THREAD LOCKS & SEALANTS	
COMPONENT	LOCTITE # (OR EQUIVALENT)
OIL SEALS, END CAPS, & CLEARANCE RINGS	680
NUTS & BOLTS WITHOUT LOCKWASHERS	243
NPT / BSP FITTINGS & PLUGS	580

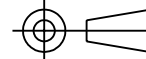
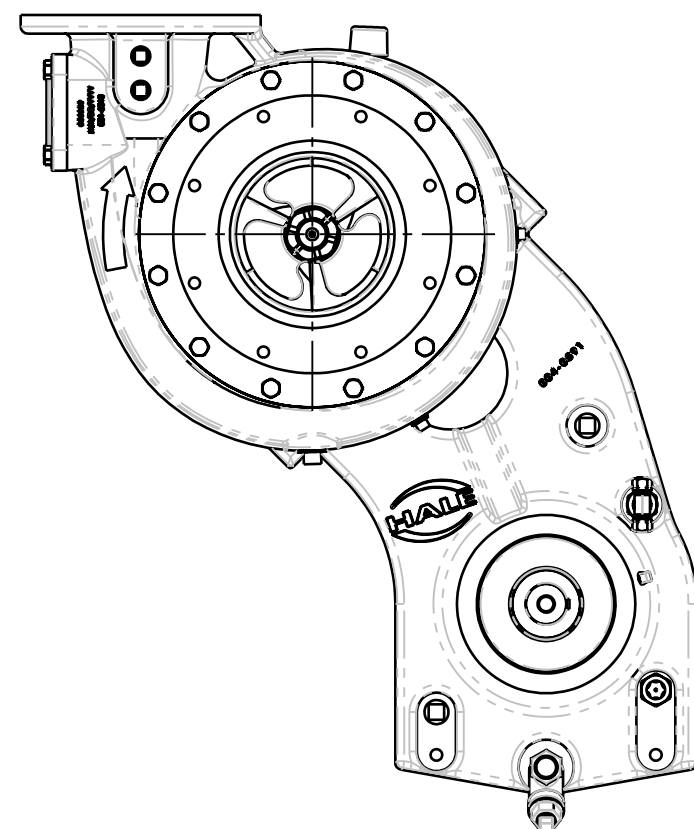
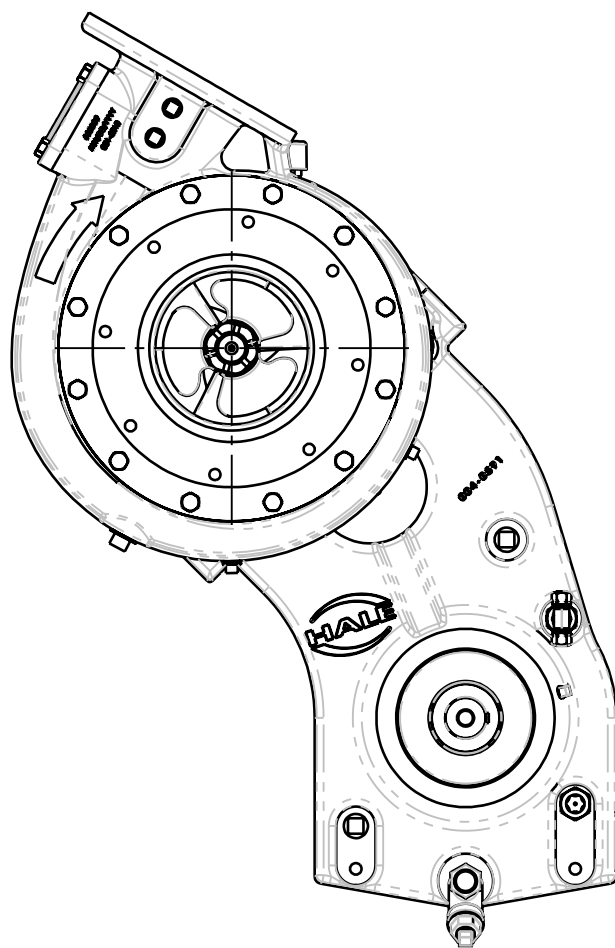
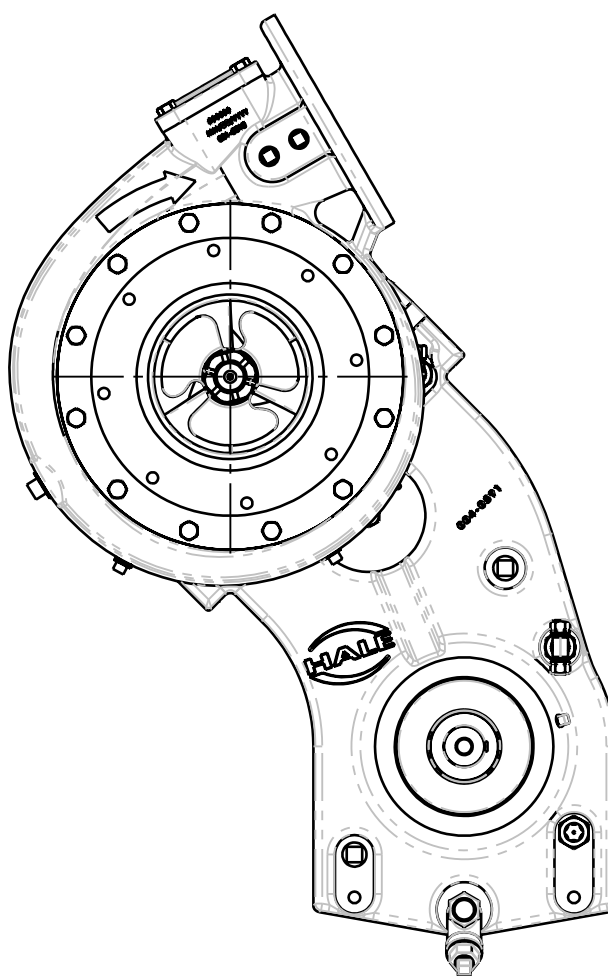
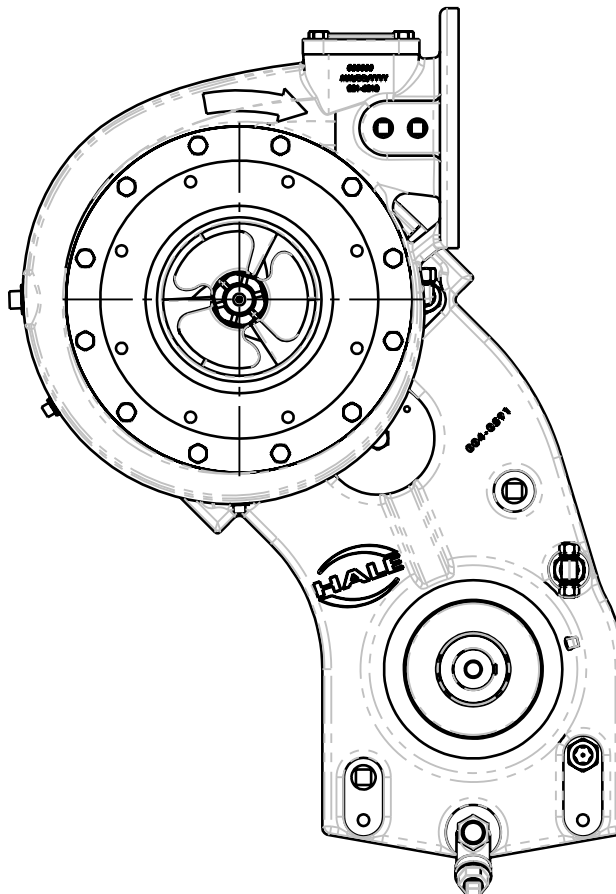
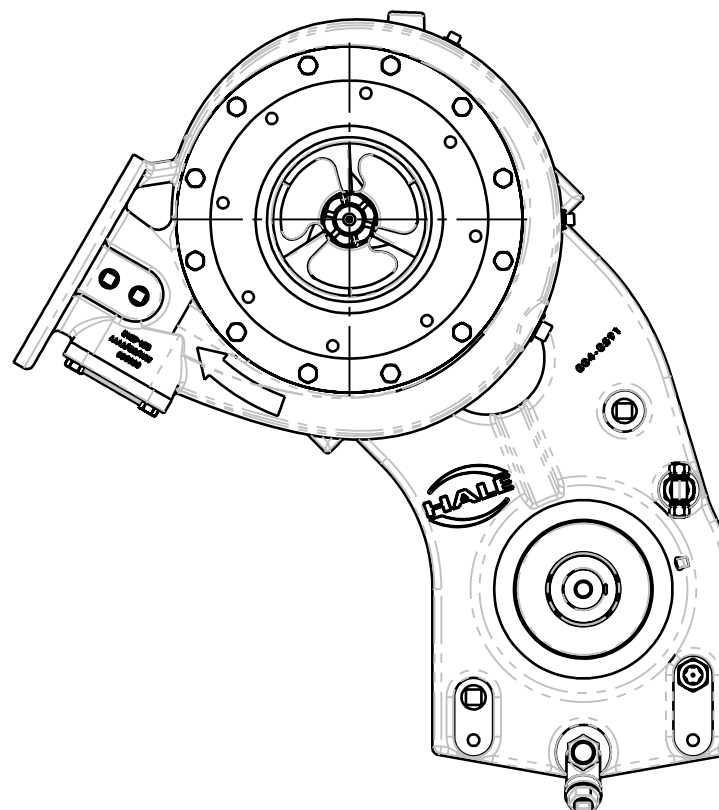
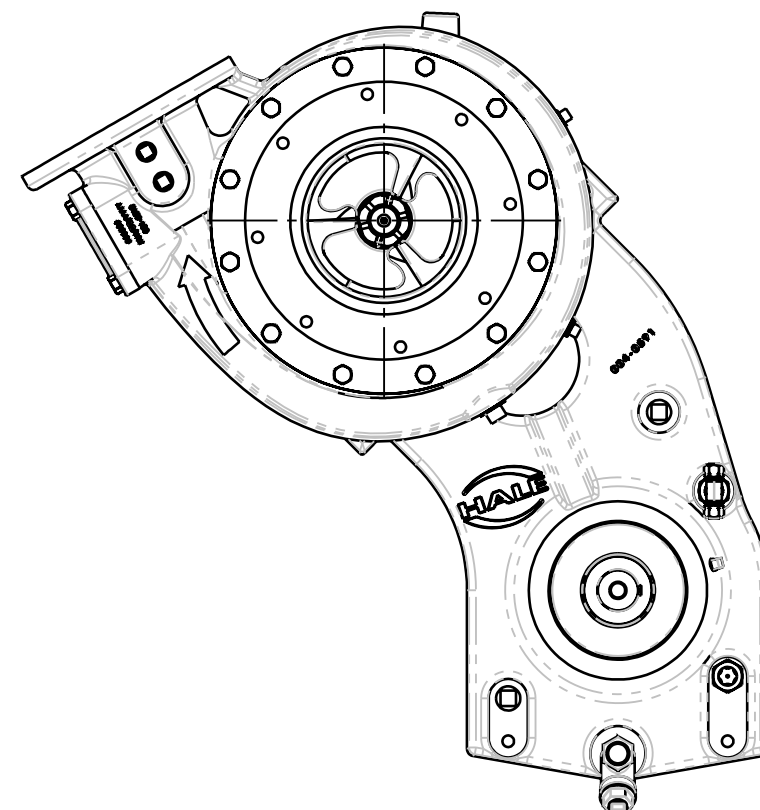
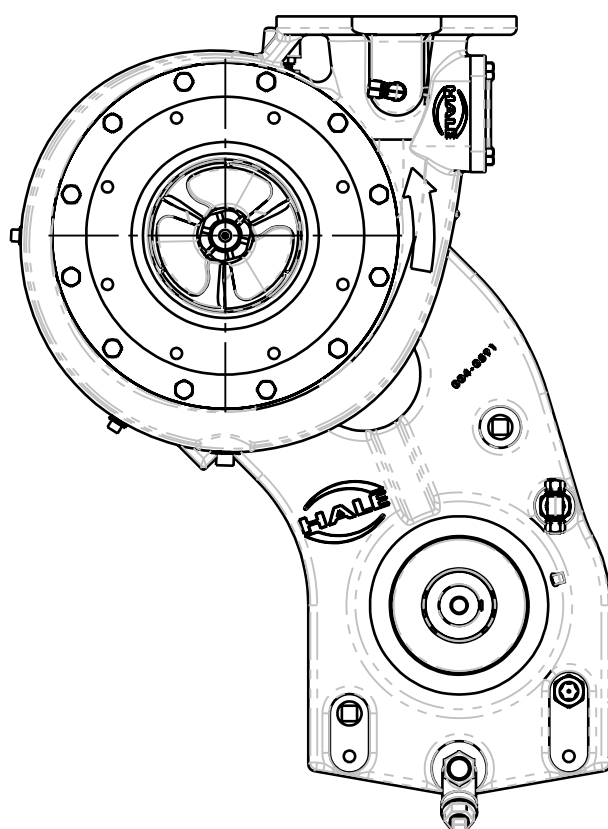
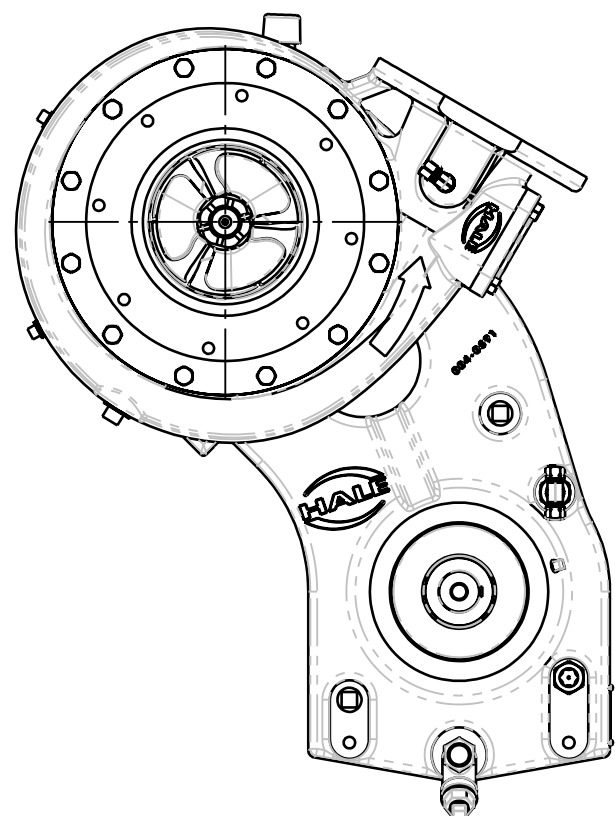
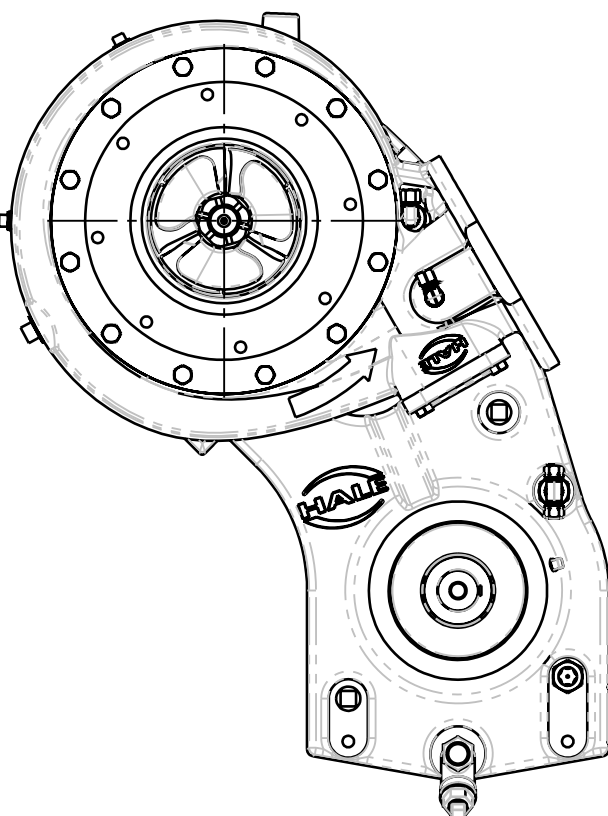
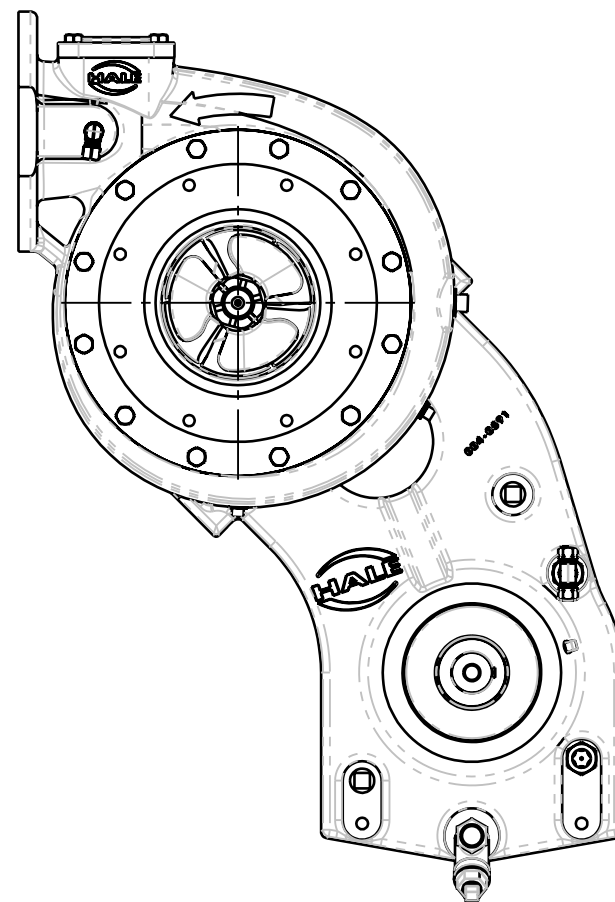
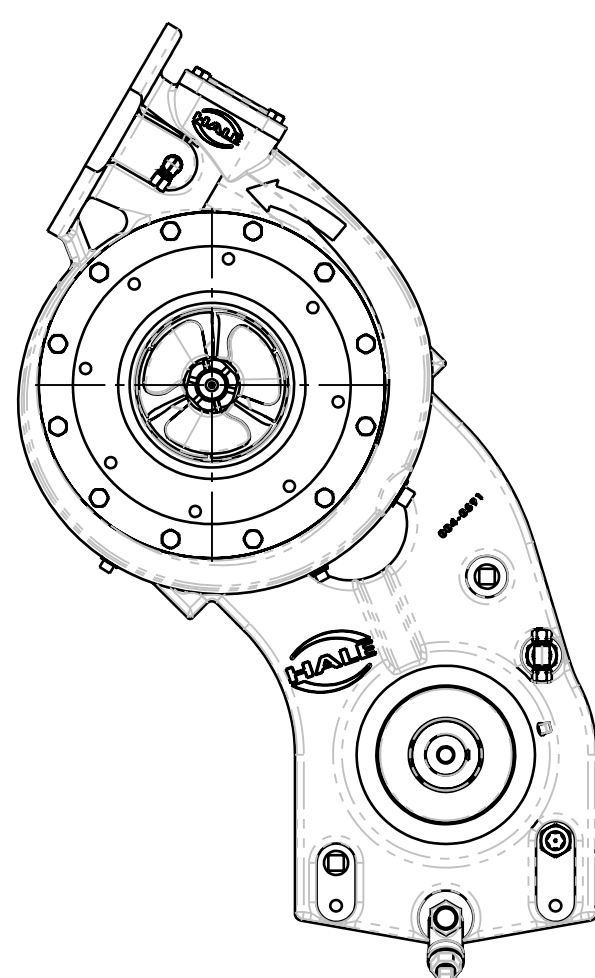
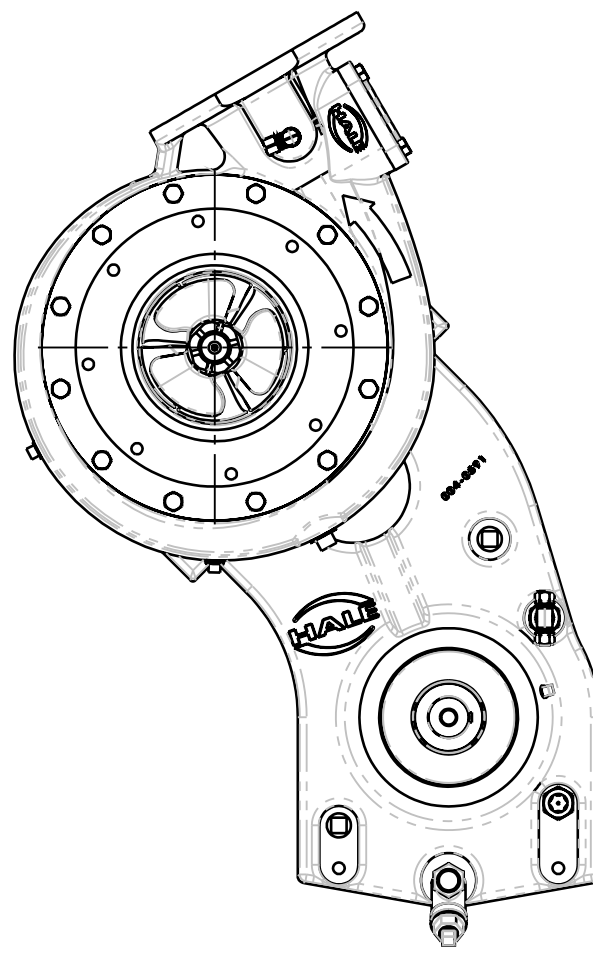
INSTALLATION

REVISIONS					
ECN	REV.	ZONE	CHANGED FROM	BY	DATE
4355	C		ALTERED VOLUTE ROTATIONS	DMB	20FEB2018
5761	D		UPDATED SOLIDWORKS FORMAT, REMOVED LEFT GEARBOX & REAR VOLUTE OPTIONS, REMOVED 25J RATIO, CORRECTED "A" & "B" DIMENSIONS	KTN	13APR2022
5800	E	J1, L2	REMOVED 18 RATIO, ADDED 17 AND 19 RATIOS, UPDATED 23, 21, 16 RATIO DIMENSIONS	DMB	04OCT2022

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE FOR INCHES DIMENSIONS:
X: ±0.04
X.X: ±0.02
X.XX: ±0.01
X.XXX: ±0.005
ANGLES: ±1°
SURFACE TEXTURE IN µin Ra
REMOVE ALL BURRS AND SHARP EDGES, 0.01MAX

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FSG OF IDEX CORPORATION		HALE GODIVA class1	
MATERIAL		TITLE	
MADE FROM		RSD-J PUMP SERIES	
FINISH		DRAWN	KDF
PROJECT		APPROVED	MAL
		DATE	07OCT2011
		SIZE	D
		SCALE	1:4
		DRAWING NUMBER	PL1201
		REV	E
		SHEET	1 OF 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
A	IF IN DOUBT ASK															<div>PROJECTION:</div> <div><small>COMPLIANCE NOTE: 15 CFR 758.6 These items are controlled by the U.S. Government and authorized for export only for the security of certain installations for use by the ultimate consignee or end-user(s) herein identified. They may not be re-export, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated in other items, without first obtaining approval from the U.S. government or an otherwise authorized by U.S. law and regulations. This item, technical data, reports, records and drawings (including computer readable data) are controlled under the license required (15 CFR). These drawings are trademarks and copy without intellectual property of IDEX and its subsidiaries, and may not be reproduced or replicated without the express written permission of IDEX Corp.</small></div>	
B	ENGINE ROTATION VOLUTE POSITION																
C																	
D	POSITION 1			POSITION 2			POSITION 3			POSITION 4			POSITION 11			POSITION 12	
E																	
F																	
G	OPPOSITE ENGINE ROTATION VOLUTE POSITION																
H																	
J	POSITION 13			POSITION 14			POSITION 15			POSITION 22			POSITION 23			POSITION 24	
K																	
L																	
M	<div>DISCHARGE POSITIONS</div>																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

VICTAULIC SUCTION HEAD		
	750-1250 GPM	1500 GPM
ADAPTER	002-5181-00-0	002-5401-00-0
CLEARANCE RING	321-5080-00-0	321-0040-00-0

018-1812-25-0
(12) 7/16-14 X 1.25 LG SCREW

6.0" SUCTION CONNECTION
FOR #77 STYLE VICTAULIC COUPLING
(INSTALL ANTI-ROTATION BAFFLE IN
MATING PIPE)

4.33
[109.9]

19.55
[496.5]

METRIC SUCTION HEAD		
	750-1250 GPM	1500 GPM
ADAPTER	002-5580-00-0	002-5570-00-0
CLEARANCE RING	321-5080-00-0	321-0042-00-0

(8) M12 X 1.75 TAPPED HOLES
EQUALLY SPACED ON $\varnothing 9.29$ [236] B.C.

3.45
[87.7]

18.67
[474.2]

RAMS HORN WELD TEE - 6.0" SST
REQUIRES METRIC SUCTION HEAD

12.50
[317.5]

2.50
[63.5]

178-0470-00-0
RAM'S HORN TEE

218-1215-02-0
(6) M12 X 30 SCREW
MS50/30
(2) M12 X 30 STUD

210-1200-02-0
(2) M12 NUT

60840
O-RING

9.83
[249.6]

25.05
[636.2]

SUCTION OPTIONS

IF IN DOUBT ASK

45.0°

40.0°

10.0°

22.5°

$\varnothing 3.75$
[95.3]

4X $\varnothing 0.44$
[11.2]

$\varnothing 4.75$
[120.7]

4X $\varnothing 0.51$
[12.9]

$\varnothing 6.13$
[155.6]

8X $\varnothing 0.38$
[9.6]

DETAIL B
SCALE 1 : 2

SIZED FOR 1410 & 1610 SERIES
DRIVE FLANGE

018-2414-25-0
5/8-11 X 1.50 LG SCREW

097-3220-00-0
WASHER

115-1710-00-0
COMPANION FLANGE

2.06
[52.3]

13.16
[334.3]

DRIVE FLANGE OPTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE FOR INCHES DIMENSIONS:
X: ± 0.04
X.X: ± 0.02
X.XX: ± 0.01
X.XXX: ± 0.005
ANGLES: $\pm 1^\circ$
SURFACE TEXTURE IN $\mu\text{in Ra}$
REMOVE ALL BURRS AND SHARP
EDGES, 0.01MAX

FSG OF
IDEX
IDEX CORPORATION

MATERIAL

MADE FROM

FINISH

PROJECT

HALE

GODIVA

Class 1

TITLE

RSD-J PUMP SERIES

DRAWN

KDF

SIZE
D

DRAWING NUMBER

APPROVED

MAL

SCALE
1:7

PL1201

DATE

07OCT2011

REV
E

SHEET
3 OF 3

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