

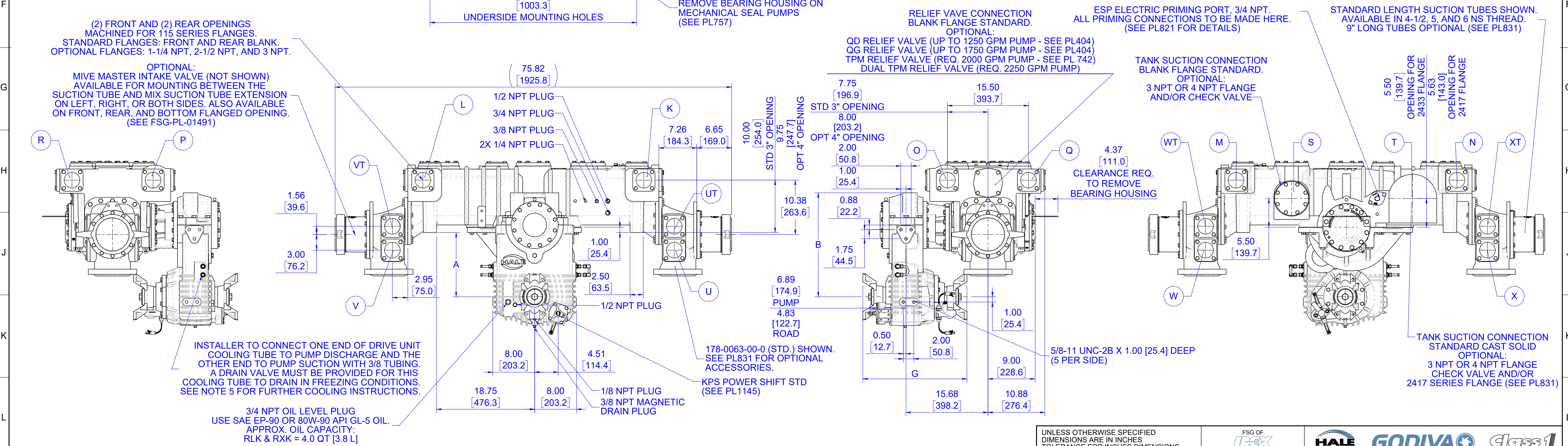
| NOTES: | | | | | |
|--------|----|---|--|--|--|
| A | 1. | REFER TO HALE PUMP/ENGINE COMBINATION LIST 029-0020-52-0 TO SELECT PROPER RATIO TO MATCH PUMP WITH ENGINE. | | | |
| | 2. | WEIGHT OF STANDARD QMAX 1500 GPM PUMP AS SHOWN LESS PRIMING PUMP APPROXIMATELY 1400 LBS [635 KG] W/ RLK GEARBOX; 1440 LBS [653 KG] W/ RXK GEARBOX. | | | |
| | 3. | APPLY LOCTITE #246 HIGH TEMPERATURE THREAD LOCK OR EQUIVALENT TO SCREW THREADS AND TORQUE SCREWS PER HALE ENGINEERING STANDARD ES018-002. | | | |
| | 4. | UNLESS OTHERWISE INDICATED, FASTENERS ARE GRADE 8 ZINC PLATED STEEL. | | | |
| | 5. | FOR PUMP COOLING, AN ADDITIONAL 3/8 LINE SHOULD BE INSTALLED BETWEEN THE PUMP DISCHARGE AND BOOSTER TANK. THIS COOLING LINE SHOULD BE CONTROLLED BY A PANEL MOUNTED BALL VALVE AND A CHECK VALVE (HALE P/N: 038-1550-00-0 OR EQUIV) SHOULD BE INSTALLED IN THE BOOSTER TANK END OF THE COOLING LINES. | | | |

| DIMENSIONS | |
|---------------|----------------------------------|
| G | YOKES |
| 21.20 [538.5] | 115-1450-03-0 (17T HALF ROUND) |
| | 115-1450-04-0 (17N FULL ROUND) |
| 21.87 [555.5] | 115-1450-01-0 (18T HALF ROUND) |
| | 115-1450-06-0 (18N FULL ROUND) |
| 21.68 [550.7] | 115-1450-02-0 (176T HALF ROUND) |
| 20.68 [525.3] | 115-1450-05-0 (176N FULL ROUND) |
| | 115-1450-00-0 (RPL25 HALF ROUND) |

| 10 | | 11 | | 12 | | 13 | |
|--|------------|------------------|---------------|------------------|--|------------------|--|
| PUMP MODEL | GEAR RATIO | GEARBOX TYPE** | DIMENSIONS | | | | |
| | | | A | B | | | |
| QMAX*-23 | 2.30 | LONG (RLK) | 12.28 [311.9] | 19.87 [503.9] | | | |
| | | EXTRA LONG (RXK) | 14.58 [370.3] | 22.14 [562.4] | | | |
| QMAX*-21 | 2.04 | LONG (RLK) | 12.59 [319.8] | 19.87 [503.9] | | | |
| | | EXTRA LONG (RXK) | 14.89 [378.2] | 22.14 [562.4] | | | |
| QMAX*-19 | 1.89 | LONG (RLK) | 12.78 [324.6] | 19.87 [503.9] | | | |
| | | EXTRA LONG (RXK) | 15.08 [383.0] | 22.14 [562.4] | | | |
| QMAX*-17 | 1.71 | LONG (RLK) | 12.96 [329.2] | 19.87 [503.9] | | | |
| | | EXTRA LONG (RXK) | 15.26 [387.6] | 22.14 [562.4] | | | |
| QMAX*-16 | 1.60 | LONG (RLK) | 13.15 [334.0] | 19.87 [503.9] | | | |
| | | EXTRA LONG (RXK) | 15.45 [392.4] | 22.14 [562.4] | | | |
| *RATED CAPACITY 1000, 1250, 1500, 1750, 2000 AND 2250 GPM; 4000, 5000, 6000, 7000 AND 8000 LPM | | | | | | | |
| EXAMPLE: THE MODEL NUMBER FOR A 1500 GPM RATED PUMP WITH A 2.30 GEAR RATIO & SHORT, FRONT MOUNTED GEARBOX WOULD BE QMAX150-23RLK. | | | | | | | |
| DRIVE LINE RECOMMENDATIONS | | | | | | | |
| APPARATUS BUILDER SUPPLIED DRIVE LINES SHALL BE OF APPROPRIATE SIZE TO MATCH THE CHASSIS AND PUMP REQUIREMENTS WITH INDIVIDUAL JOINT CANCELLATION AND PHASING BEFORE AND AFTER THE PUMP. DRIVE SHAFT BALANCE (INCLUDING YOKES) SHALL NOT EXCEED THE RECOMMENDED LIMIT OF EITHER THE DRIVE SHAFT OR CHASSIS TRANSMISSION MANUFACTURER'S SPECIFICATIONS. DRIVE SHAFT FULL RANGE OPERATING SPEEDS SHALL NOT EXCEED 42% OF ITS CRITICAL SPEED. | | | | | | | |
| WARNING | | | | | | | |
| EXCEEDING THE LIMITS OR FAILURE TO FOLLOW THE RECOMMENDATIONS OUTLINED ON THIS DRAWING COULD DAMAGE THE GEARBOX AND RESULT IN PERSONAL INJURY. | | | | | | | |
| QMAX MIDSHIP MAXIMUM PUMP PRESSURE: HYDROSTATIC = 600 PSI [41.4 BAR] (500 PSI [34.5 BAR] BRONZE) HYDRODYNAMIC = 400 PSI [27.6 BAR] | | | | | | | |
| MAXIMUM POWER INPUT FOR PUMPING = 525 HP [392 kW] MAXIMUM TORQUE ON PUMP SHAFT = 2300 LBS-FT [3120 N-m] MAXIMUM GEARBOX SHAFT TORQUE (ROAD) = 18,500 LBS-FT [25,800 N-m] | | | | | | | |
| PUMP MODEL | | QMAX*-23 RLK/RXK | | QMAX*-21 RLK/RXK | | QMAX*-19 RLK/RXK | |
| MAX GEARBOX INPUT | | 2530 | | 2780 | | 3030 | |

| OPTIONAL DISCHARGE FLANGES | | |
|----------------------------|----------|-------------------------------|
| STANDARD | OPTIONAL | STD. CAST HOLE |
| A | BLANK | 1-1/4, 2-1/2, 3 & 4 NPT |
| B | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| C | BLANK | 1-1/4, 2-1/2, 3 & 4 NPT |
| D | BLANK | 1-1/4, 2, 2-1/2, & 3 NPT |
| E | BLANK | 1-1/4, 2, 2-1/2, & 3 NPT |
| F | BLANK | 1-1/4, 2, 2-1/2, & 3 NPT |
| G | BLANK | 1-1/4, 2, 2-1/2, & 3 NPT |
| H | BLANK | 1-1/4, 2-1/2, 3 & 4 NPT |
| K | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| L | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| M | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| N | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| O | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| P | BLANK | 1-1/4, 2-1/2, 3 & 4 NPT |
| Q | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| R | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| S | BLANK | 3, 4 NPT OR CHECK VALVE |
| T | - | 3, 4 NPT, CHECK VALVE OR 2417 |
| U | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| UT | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| V | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| VT | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| W | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| WT | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| X | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |
| XT | BLANK | 1-1/4, 2, 2-1/2 & 3 NPT |

| FOR ADDITIONAL OPTIONS AND ACCESSORIES REFER TO THE FOLLOWING DRAWINGS | |
|--|----------------|
| OPTION | DRAWING NUMBER |
| ESP PRIMING PUMP | PL821 |
| PVG PRIMING VALVE | PL480 |
| SPV PRIMING VALVE | PL819 |
| PUMP SHIFT INDICATOR LIGHTS | PL746 |
| K GEARBOX ASSEMBLY | PL978 |
| SUCTION & DISCHARGE ADAPTERS | PL831 |



HALE TYPE QMAX SERIES PUMP INSTALLATION (WITH RK GEARBOX)

| REVISIONS | | | | | |
|-----------|-----|------|------------------|-----|-----------|
| ECN | REV | ZONE | CHANGED FROM | BY | DATE |
| 5722 | A | | ORIGINAL RELEASE | KTN | 18FEB2022 |

| | | | | |
|---|--------------|---|--|-----------------|
| 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: ±0.25° SURFACE TEXTURE IN µm Ra REMOVE ALL BURRS AND SHARP EDGES, 0.01MAX | | FSG OF DEX IDEAL CORPORATION | TITLE QMAX SERIES PUMP WITH RK GEARBOX | |
| MATERIAL | | MADE FROM | | |
| FINISH | | PROJECT | | |
| DRAWN | KTN | APPROVED | TAM | DATE 02/21/2022 |
| SIZE D | SCALE 1:9 | DRAWING NUMBER FSG-PL-01484 | REV A | SHEET 1 OF 1 |