| DRAWING No. | ISSUE | MODIFICATIONS: |
|---|---|---|
| GA-268011-1 | G | A.- ORIGINAL ISSUE B.- COMMENTS ADDED -NCV- 032522 C.- FINAL -NCV- 040822 D. ADD ONE SET SCREW E.- COMMENTS ADDED -NCV- 070122 F.- COMMENTS ADDED -NCV- 093022 G.- COMMENTS ADDED -NCV- 070723 |

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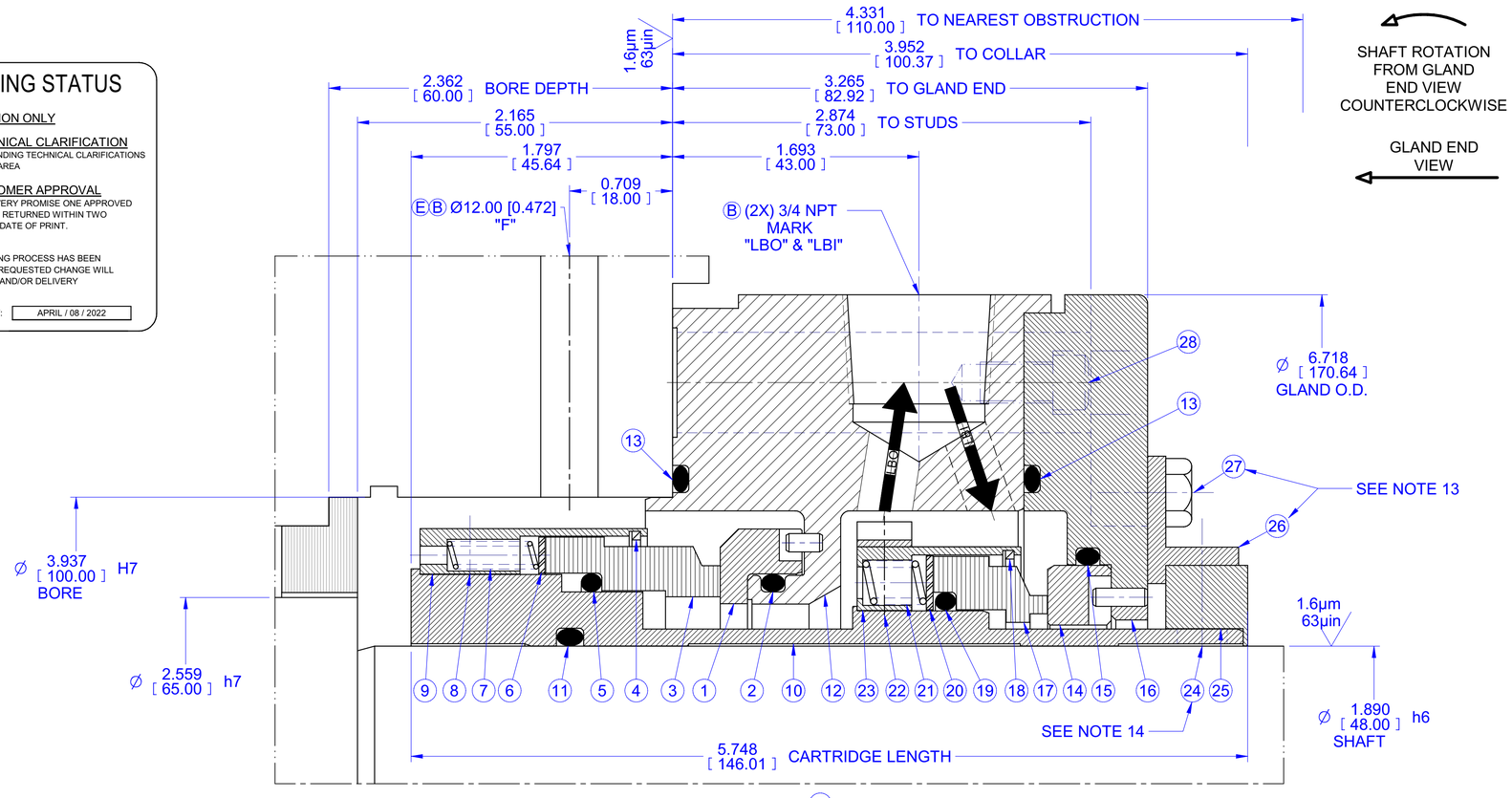
## DRAWING STATUS

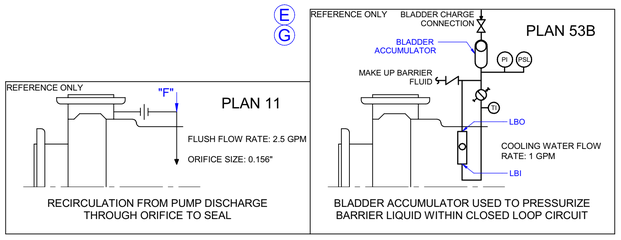
- ☐ INFORMATION ONLY
- ☐ FOR TECHNICAL CLARIFICATION
  THERE ARE PENDING TECHNICAL CLARIFICATIONS BY THE SALES AREA
- ☐ FOR CUSTOMER APPROVAL
  TO MEET DELIVERY PROMISE ONE APPROVED COPY MUST BE RETURNED WITHIN TWO WEEKS AFTER DATE OF PRINT.
- ■ FINAL
  MANUFACTURING PROCESS HAS BEEN STARTED ANY REQUESTED CHANGE WILL AFFECT PRICE AND/OR DELIVERY PROMISE

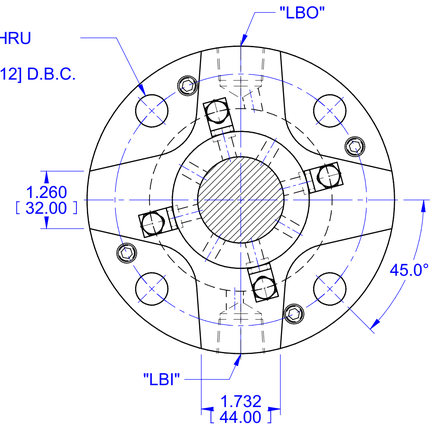
DATE OF PRINT: APRIL / 08 / 2022




**FLOW DIRECTION** Ⓕ

Ⓔ Ⓖ




Ⓔ MAX. ALLOWABLE DYNAMIC PRESSURE: 375 PSI
MAX. ALLOWABLE STATIC PRESSURE: 500 PSI

UNITS: in [mm]

## ADDITIONAL NOTES:

13. SPACER (ITEM # 26) IS ONLY FOR THE PURPOSE OF PROPERLY LOCATING SEAL. AFTER GLAND PLATE, BEARING, SHAFT, & SEAL ARE LOCKED IN PLACE, TIGHTEN ALL SET SCREWS IN DRIVE COLLAR. PRIOR TO UNIT STARTUP, ROTATE SPACERS CLEAR OF ROTATING PARTS AND LOCK IN PLACE WITH CAP SCREWS (ITEM # 27) PROVIDED.

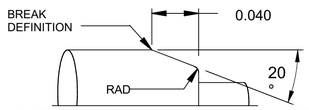
14. TO AVOID MOVEMENT OF THE SLEEVE IN RELATION TO THE SHAFT, SPOTFACE THE SHAFT UNDER TWO SET SCREWS. (MIN. 2X 180° C.C.) "WHEN APPLICABLE"

15. GLAND PLATE MUST BE IN CONTACT WITH HOUSING. DO NOT OVERSTRESS.

16. THE PLAN 53B PRESSURE MUST BE 30 PSI ABOVE THAN THE SEAL CHAMBER PRESSURE ALWAYS.

## THE FOLLOWING NOTES ARE IMPORTANT AND MUST BE OBSERVED FOR CORRECT SEAL INSTALLATION AND OPERATION

1. REMOVE ALL SHARP EDGES ON SHAFT & / OR SLEEVE BEFORE INSTALLATION OF SEAL.
2. SURFACE OF SHAFT OR SLEEVE ON WHICH SEAL IS INSTALLED MUST BE MACHINED TO 63 RA FINISH OR BETTER.
3. LUBRICATE SHAFT/SLEEVE & SEAL WEDGE RING/O-RING/BELLOW TO ASSIST INSTALLATION OF SEAL WITH LUBE OIL.
4. FOR NON-CARTRIDGE SEALS, LUBRICATE MATING RING(SEAT), SEALING MEMBER, AND HOUSING TO ASSIST INSTALLATION.
5. PRODUCT MUST BE CIRCULATED AROUNG PRIMARY RING (SEAL)/THROUGH MATING RING (SEAT) ( AT NOT LESS THAN 2 .5 GPM ) IN ORDER TO REMOVE HEAT GENERATED, OR SEAL FAILURE MAY OCCUR.
6. WHEN SHAFT IS SLEEVED THROUGH STUFFING BOX, SLEEVE MUST BE LIQUID TIGHT THROUGH BORE.
7. SHAFT OR SLEEVE MUST BE CORROSION RESISTANT MATERIAL WITH A HARDNESS OF 125 BRINELL MINIMUM & BE MACHINED TO DIMENSIONS & TOLERANCES STATED.
8. END OF SEAL CHAMBER & AXIS OF SHAFT MUST BE AT 90° TO EACH OTHER WITHIN 0.002 F.I.M.
9. DUAL PRESSURIZED SEAL, PRESSURE IN SEAL CHAMBER MUST BE MAINTAINED AT 20 PSI MINIMUM ABOVE MAXIMUM PRESSURE GENERATED AT INNER SEAL.
10. FOR NON-CARTRIDGE SEALS, PRIOR TO COMPLETING SEAL INSTALLATION, WIPE LAPPED SURFACES OF MATING RING (SEAT) & PRIMARY RING (SEAL FACE) PERFECTLY CLEAN.
11. VENT GAS ENTRAPMENT BEFORE STARTUP.
12. ALL SHOULDERS OVER WHICH SEAL MUST PASS WHEN FITTING, TO BE PREPARED AS DIAGRAM BELOW.




ALL DIMENSIONS ARE INCHES UNLESS OTHERWISE SPECIFIED.

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| ITEM | Ⓒ DRAWING No. | MAT'L CODE | DESCRIPTION | MATERIAL | SPARES QTY | |
|---|---|---|---|---|---|---|
| 1 | H-2625-786 | 1903 | MATING RING | SILICON CARBIDE | 1 | X |
| 2 | 0000 231 | 3779 | O-RING | PERFLUOROELASTOMER | 1 | X |
| 3 | C48-2875-007 | 8270 | PRIMARY RING | CARBON | 1 | X |
| 4 | A9-2625-060 | 0690 | SNAP RING | ALLOY C-276 | 1 | |
| 5 | 0000 231 | 3779 | O-RING | PERFLUOROELASTOMER | 1 | X |
| 6 | A9T-2875-066 | 0690 | DISC | ALLOY C-276 | 1 | |
| 7 | 4957 | 0690 | SPRING | ALLOY C-276 | 8 | X |
| 8 | 11252005000 | 0690 | SET SCREW | ALLOY C-276 | 4 | |
| 9 | C48-2875-008 | 0690 | RETAINER | ALLOY C-276 | 1 | |
| 10 | H-1875-6215 | 0690 | SLEEVE | ALLOY C-276* | 1 | |
| 11 | 0000 225 | 3779 | O-RING | PERFLUOROELASTOMER | 1 | X |
| 12 | H-2875-5545 | 0690 | INNER GLAND | ALLOY C-276* | 1 | |
| 13 | 0000 242 | 3779 | O-RING | PERFLUOROELASTOMER | 2 | X |
| 14 | H-2125-931 | 1903 | MATING RING | SILICON CARBIDE | 1 | X |
| 15 | 0000 234 | 3779 | O-RING | PERFLUOROELASTOMER | 1 | X |
| 16 | H-1875-2833 | 0690 | OUTER GLAND | ALLOY C-276* | 1 | |
| 17 | C48-2375-006 | 8270 | PRIMARY RING | CARBON | 1 | X |
| 18 | A9-2375-066 | 0690 | SNAP RING | ALLOY C-276 | 1 | |
| 19 | 0000 229 | 3779 | O-RING | PERFLUOROELASTOMER | 1 | X |
| 20 | H-2375-482 | 0690 | DISC | ALLOY C-276 | 1 | |
| 21 | 7446 | 0690 | SPRING | ALLOY C-276 | 8 | X |
| 22 | 11252005000 | 0690 | SET SCREW | ALLOY C-276 Ⓓ | 4 | X |
| 23 | H-2375-6455 | 0690 | RETAINER / PR. ASSY | ALLOY C-276 | 1 | |
| 24 | 17312408000 | 0690 | SET SCREW | ALLOY C-276 | 8 | X |
| 25 | H-1876-406 | 0690 | COLLAR | ALLOY C-276 | 1 | |
| 26 | H-0000-228 | 0570 | SPACER | SINTERED 316L SS | 4 | X |
| 27 | 22252008000 | 0550 | SET SCREW | 316 S.S. | 4 | X |
| 28 | 21252008000 | 0690 | CAP SCREW | ALLOY C-276 | 4 | X |
| 29 | TAB-1081-0190 | 0550 | 3/4 NPT PLUG | 316 S.S. | 2 | |

*MATERIAL WITH CMTR, PMI & NACE MR-0103

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| | |
|---|---|
| SERVICE: | STRIPPER REFLUX PUMPS |
| PURCHASER: | 4505551384 |
| END USER: | WORLD ENERGY PARAMOUNT |
| CUSTOMER P.O.: | 4505551384 |
| JOB/PROJECT: | WORLD ENERGY RENEWABLES PROJECT |
| INSTALLED AT: | PARAMOUNT, CA, USA |
| PUMP TAG NO.: | 18-P-355A/B |
| SULZER ORDER NO.: | 100456527-0010 |
| PUMP SERIAL NO.: | 649501 / 649502 |

SEAL ASS'Y NO.
IN : A48-2875-008
OUT: A48-2375-1126

BILL OF MATERIALS NUMBER

| | | |
|---|---|---|
| ASSEMBLY | | |
| SEAL HEAD | | |
| SPARES KIT | | |
| DESCRIPTION | ITEMS | NUMBER |

| EQUIPMENT REFERENCE Ⓔ | SEAL DATA |
|---|---|
| OEM: **SULZER** | API PLAN: **11/53B** / API CODE: **23A-PIN-048-11/53B** |
| EQUIPMENT TYPE: **PUMP** | INSTRUCTION MANUAL REF. |
| MODEL, FRAME / SIZE: **OHH, 2X3X7.5A** | MATERIAL CODE: Ⓑ **X61 P147 H X61 D81 H HC/HC - INB** |
| SERIAL / DRAWING No.: **649501 / 649502** | **X61 P147 H X61 D81 H HC/HC - OUT** |
| CUSTOMER INFORMATION | SERVICE DATA |
| CUSTOMER: **AIR PRODUCTS MANUFACTURING LLC.** | FLUID: **STRIPPER REFLUX** |
| P.O. NUMBER: **4505551384** / PLANT ITEM NO: **18-P-355 A/B** | BARRIER FLUID: **DURACLEAR 5-F** |
| END USER: **WORLD ENERGY PARAMOUNT** | CHAMBER PRESSURE: **51.97 NORM / 133.57 MAX PSIG** |
| LOCATION: **PARAMOUNT, CA, USA** | SUCTION PRESSURE: **24.6 NORM / 106.2 MAX PSIG** |
| SERVICE: **STRIPPER REFLUX** | DISCHARGE PRESSURE: **82.6 PSIG** |
| REFERENCE DATA: OV015691 / OV46254 P10 & P20, GA-211933-1, 2-204500890 Rev. F | PROCESS TEMPERATURE: **110 NORM / 300 MAX °F** |
| | SHAFT SPEED: **3520 RPM** / VAPOUR PRESSURE: **35.2 PSIA** |
| IPROJECTS NO: 460668-MX01EN | SPECIFIC GRAVITY: **0.665** / VISCOSITY: **0.44 CP** |
| SEAL SIZE: **Ø2.875" / Ø2.375"** | DE / NDE DRG NO: **N/A** |
| SEAL TYPE: **3648 DUAL CARTRIDGE** | |

| SCALE | DATE | DRAWN | CHECKED | APPROVED | DESIGN AUTH. |
|---|---|---|---|---|---|
| 2:1 | 03/09/22 | NCV | LJM | JRMB | MX01EN |

john crane

DRAWING No. GA-268011-1 ISSUE G

AM 2M01004585270010431 .222 000 1704vm di-sep-3 TOREJM 2023-07-10T12:14:31 1.000 NP