

1. Manufactured and certified by Industrial Alloy Fabricators, Inc. 2345 Quince St. Forest Grove, OR 97116
(name and address of manufacturer)
2. Manufactured for SWENSON PROCESS EQUIPMENT INC. HARVEY, ILLINOIS
(name and address of purchaser)
- Location of Installation RHONE POULENC, INC. INSTITUTE, WEST VIRGINIA
(name and address)
4. Type: VERTICAL Tank D-1710 NA D-1710 REV OA 1478 1992
(horiz., vert., or sphere) (Tank, separator, etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 1989 Edition, A91 NA NA
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)

Items 6-11 Incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): 2 (b) Overall length (ft & in.): 20'-0"

Course(s)			Material		Thickness		Long Joint (Cat A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
2	108" OD	20'-0"	SA-240 316L		3/8"	1/16"	1	SPOT	85%	1	SPOT	85%	NONE	NA
NA														
NA														

7. Heads: (a) SA-240 316L (b) SA-240 316L
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp
- | | Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|-----|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | TOP | 3/8" | 1/16" | NA | NA | NA | 60 DEG | NA | NA | NA | NA | 1 | SPOT | 85% |
| (b) | BOTTOM | 3/8" | 1/16" | NA | NA | NA | 60 DEG | NA | NA | NA | NA | 1 | SPOT | 85% |

If removable, bolts used (describe other fastening) NA

8. Type of jacket NA Jacket closure (Mat'l Spec. No., Grade, Size, No.)
(Describe as ogee & weld, bar, etc.)
- If bar, give dimensions NA If bolted, describe or sketch.
- VAWP 50 15 psi at max. temp. 237 150 deg F Min. design metal temp. -20 deg F at 50-15 psi.
(internal) (external) (internal) (external)

10. Impact test No Impact test required per: UHA-51
(Indicate yes or no and the component(s) impact tested)

11. Hydro., Pneu., or comb. test press. Hydro @ 91 psi Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: NA
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- NA
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment
13. Tubes: NA
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14-18 Incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): NA (b) Overall length (ft & in.):

Course(s)			Material		Thickness		Long Joint (Cat A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
NA														
NA														
NA														

15. Heads: (a) NA (b) NA
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp
- | | Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|-----|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | NA | | | | | | | | | | | | | |
| (b) | NA | | | | | | | | | | | | | |

If removable, bolts used (describe other fastening) NA

Similar to form obtained from:
The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Ave., Columbus, OH 43229

(Mat'l Spec. No., Grade, Size, No.)

NB-26
Rev. 10

16. M P NA (internal) (external) psi at max. temp. (internal) (external) deg F Min. design metal temp. deg F at psi.

17. Impact test NA

18. Hydro., Pneu., or comb. test press. NA (Indicate yes or no and the component(s) impact tested)
Proof test

Vozzies, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.	Material	Nozzle	Flange	
(2) VAPOR OUTL	1	18"	150# LJ	SA-240 316L	SA-105	3/8"	1/16"	INTEGRAL	WELD	LOOSE	NA
(7&8) PH WASH	2	4"	150# LJ	SA-403 316L	SA-105	.337"	1/16"	INTEGRAL	WELD	LOOSE	NA
(15&16) DIFF. PR.	2	2"	150# LJ	SA-312 316L	SA-105	.343"	1/16"	INTEGRAL	WELD	LOOSE	NA
(7&8) PH PADS	2	4"	8PCL PADS	SA-240 316L	NA	1-1/2"	1/16"	INTEGRAL	WELD	NA	NA
(14) PR. TR.	1	2"	150# LJ	SA-312 316L	SA-105	.343"	1/16"	INTEGRAL	WELD	LOOSE	NA
(19) VAC. BRK.	1	2"	150# LJ	SA-312 316L	SA-105	.343"	1/16"	INTEGRAL	WELD	LOOSE	NA
(67) PR. SNS.	1	2"	150# LJ	SA-312 316L	SA-105	.343"	1/16"	INTEGRAL	WELD	LOOSE	NA

20. Supports: Skirt No (Yes or No) Lugs 4 (No.) Legs NA (No.) Others NA (Describe) Attached SHELL/WELD (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
(List the name of part, item number, mfg's, name and identifying number)

MANWAYS BY BETTS INDUSTRIES 7415-6 & 7433-2

NA

22. Remarks: **SEE ATTACHED U-4 FORM THIS REPORT COVERS ONE DTB CRYSTALLIZER. EQUIP. NO. C-5210**

Hydro Tested in the: **Horizontal Position Inspection Openings PER UG-46 (f) (3)**

Shell Side has: **16 RINGS & MISC INTERNALS**

AGITATOR SUPPORT CONE IS BOLTED TO BOTTOM FLANGE

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1,

U Certificate of Authorization No. 12,619 Expires April 30, 19 93

Date 11/18/92 Name Industrial Alloy Fabricators, Inc. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of OR and employed by The Building Codes Agency of OREGON have inspected the pressure vessel described in this Manufacturer's Data Report on 11/18, 1992, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 11/18/92 Signed [Signature] Commissions "A"
(Authorized Inspector) (NB # 6869 OR # 507)
(Nat'l Board Incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,

U Certificate of Authorization No. NA Expires NA, 19 NA

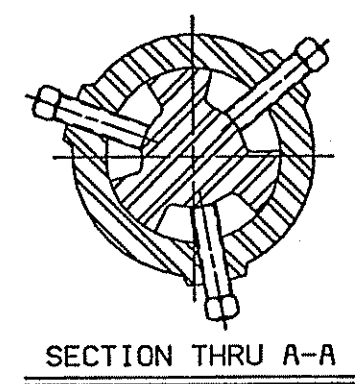
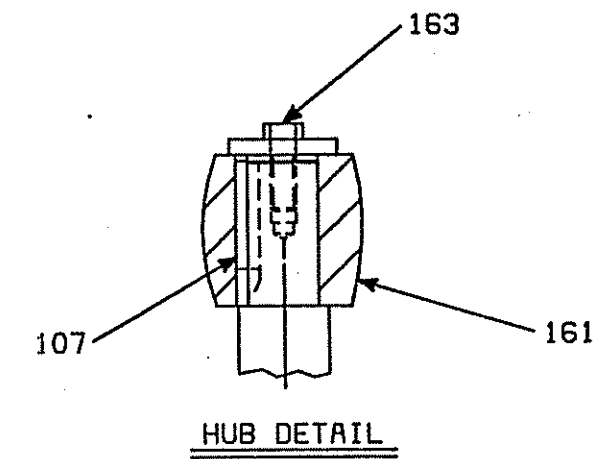
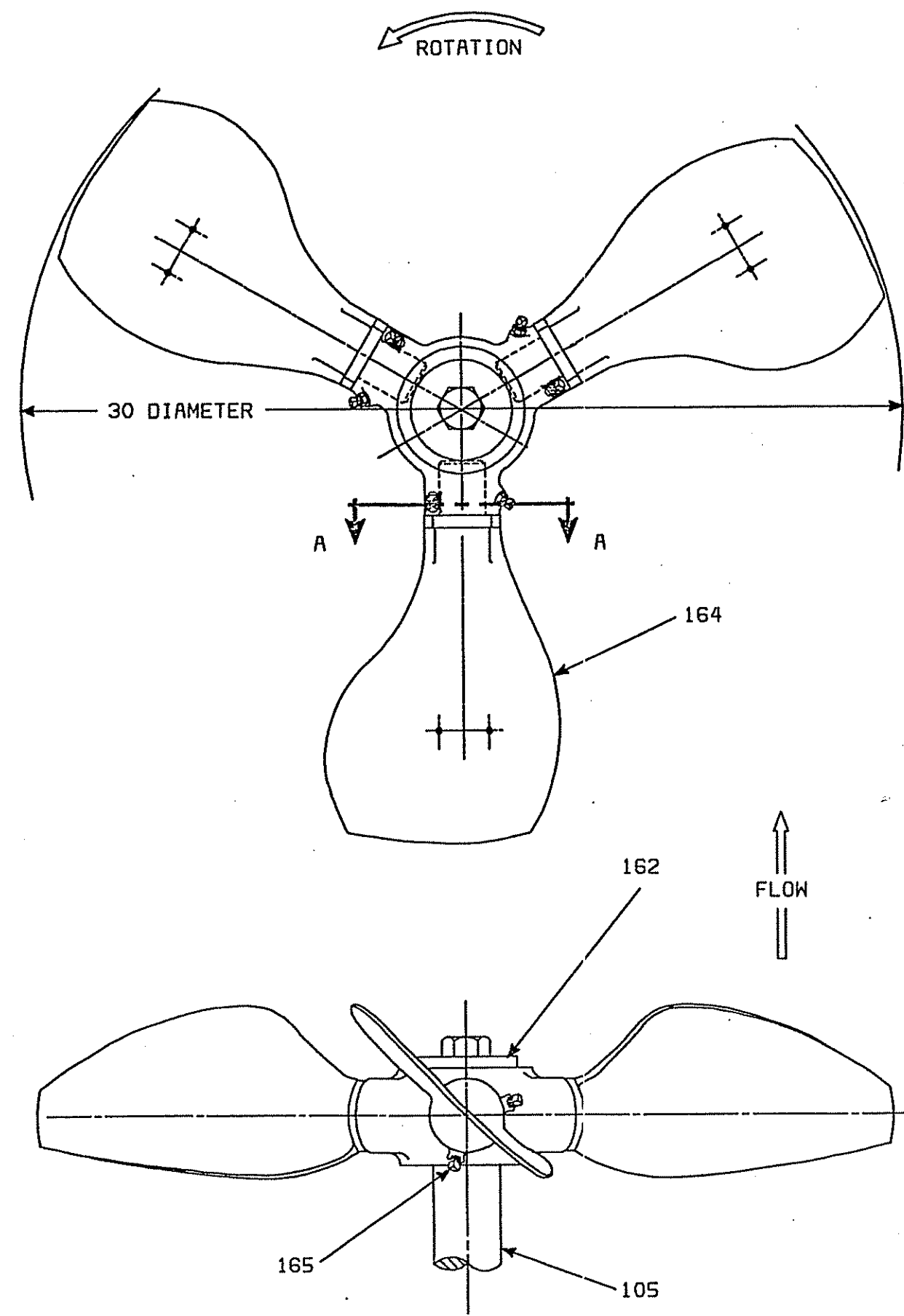
Date NA Name NA Signed NA
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of NA and employed by NA of NA have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items NA, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of NA psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date NA Signed NA Commissions NA
(Authorized Inspector) (Nat'l Board Incl. endorsement, State, Province and No.)

ITEM NO.	PART NAME
105	IN-TANK SHAFT
107	KEY
161	PROPELLER HUB
162	THRUST PLATE
163	HEX HEAD CAP SCREW (NYLOK)
164	PROPELLER BLADE
165	SQUARE HEAD SET SCREW



- ☒ APPROVED
- ☐ APPROVED AS NOTED
- ☐ RETURNED FOR CORRECTION

LIFE SCIENCES, INC.

DATE 8/31/92

SIGNATURE *David Gross*

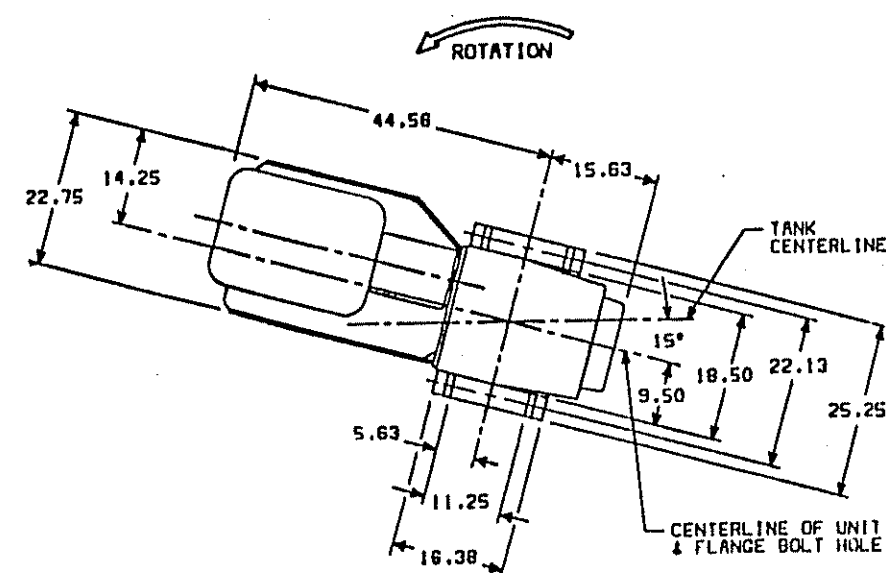
ALL DETAILS AND DIMENSIONS ARE THE RESPONSIBILITY OF THE VENDOR. PROCEED WITH FABRICATION. THIS APPROVAL DOES NOT RELIEVE VENDOR OF THE OBLIGATION TO MEET SPECIFICATIONS AND ALL OTHER TERMS AND CONDITIONS OF THE SUBCONTRACT OR PURCHASE ORDER.

WHEN ORDERING PARTS SPECIFY ITEM NO., PART NAME, DRAWING NO. AND SERIAL NO.

△			
△			
△			
△			
REV.	DATE	BY	CHANGES
ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW ARE CONFIDENTIAL AND THE PROPERTY OF LIGHTNIN. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT WRITTEN PERMISSION.			
P.O. NO. 55-1051 TAG NO. ITEM NO. Y-5211 CHRYSTALLIZER AGITATOR			
LIGHTNIN A UNIT OF GENERAL SIGNAL ADJUSTABLE PITCH PROP DRAWING			
DRN. HALE DATE 7-21-92	CK'D.	DWG. NO. A93095-E	REV. △

VP 490018-Y5211-7A

102284



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW ARE CONFIDENTIAL AND THE PROPERTY OF LIGGIN. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT WRITTEN PERMISSION.

ALL DETAILS AND DIMENSIONS AND THE RESPONSIBILITY OF THE VENDOR, NOTED WITH THE CATION THIS APPROVAL DOES NOT IMPLY ENDORSEMENT OF THE QUALITY, TOLERANCE SPECIFICATIONS AND ALL OTHER TERMS AND CONDITIONS OF THE SUBCONTRACT OR PURCHASE ORDER.

AUXILIARY EQUIPMENT SUPPLIED BY
SWENSON DIVISION, HARVEY, ILLINOIS
YOUR ORDER NO. 8549-490018
OUR REQUISITION NO. 92008-12
QTY. 5-5986
CRYSTALLIZER AGITATOR
ITEM NO. Y-5211

TAG NO.: 84 85 50		CASE SIZE: 84
GEAR DRIVE REDUCTION: DOUBLE		RATIO: 6.07
LIGHTNIN A UNIT OF GENERAL SIGNAL INSTALLATION DRAWING FOR: SWENSON PROC. EQUIP. CO. TAG NO.: SEE ABOVE P.O. NO.: 55-1051 REFERENCE DWG.: 1		
CERTIFIED:	DWG. NO.: A93095-A	REV.:

VP 490018-V5211-3A

NAT'L. BD. NO.

1478



W

RT-3



CERTIFIED BY

INDUSTRIAL ALLOY
FABRICATORS INC.

FOREST GROVE, ORE.

SHELL SIDE

MAWP

50/-15

PSI AT

237/150

OF

MDMT

-20

°F AT

50/-15

PSI

TUBE /JKT SIDE

MAWP

N A

PSI AT

N A

OF

MDMT

N A

°F AT

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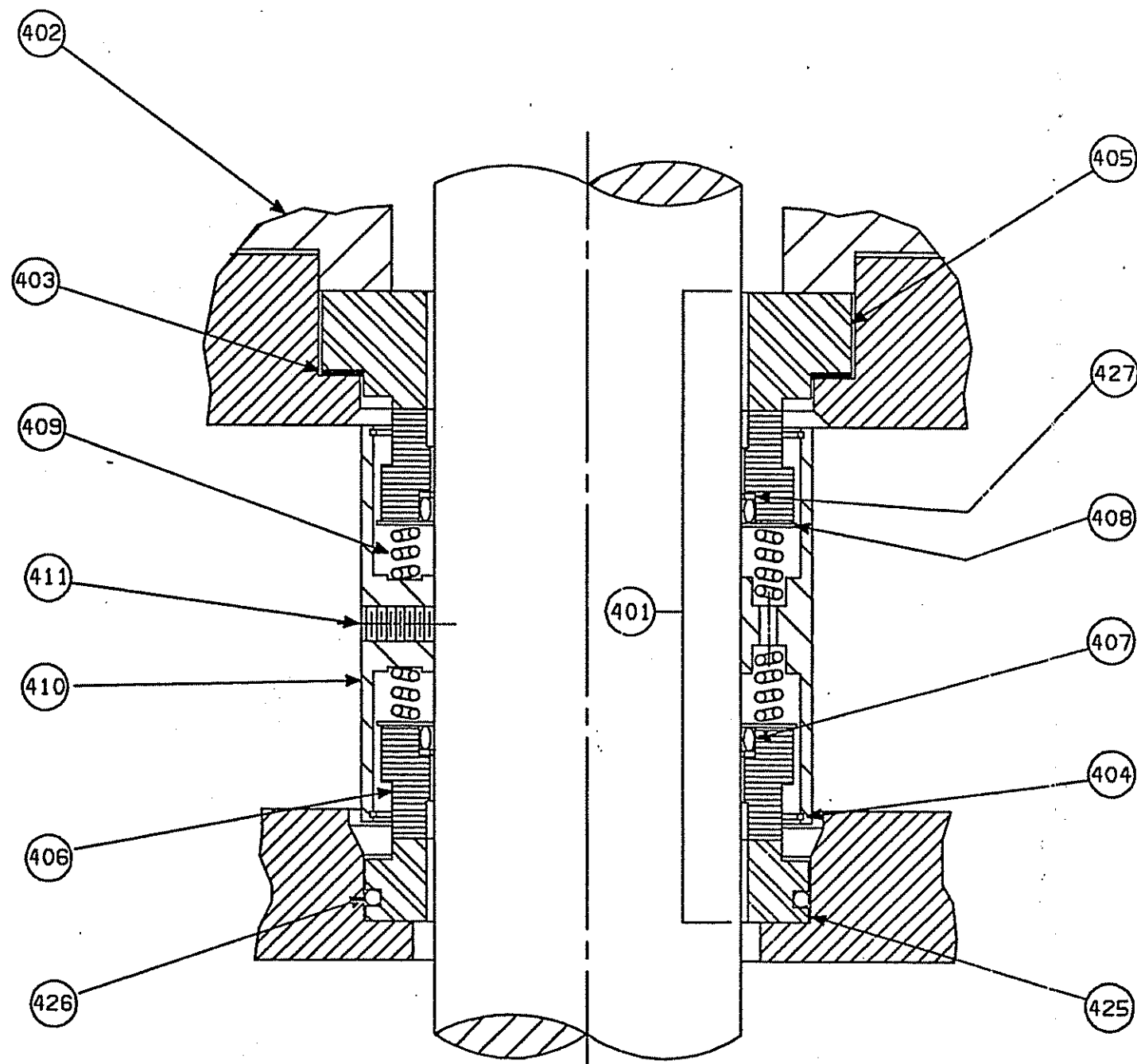
PSI

SERIAL

D-1710

YR

1992



ITEM	PART NAME	MATERIAL
401	SEAL ASSEMBLY	STANDARD
402	END CAP	316 SS
403	SEALING RING	TEFLON
404	RETAINING RING	316 SS
405	STATIONARY SEALING FACE (INBOARD)	TUNGSTEN CARBIDE
406	ROTARY SEALING FACE (2)	SILICON CARBIDE
407	SHAFT SEAL RING	EPDM
408	COMPRESSION RING	316 SS
409	MULTIPLE SPRING	316 SS
410	SEAL CASE	316 SS
411	SET SCREW	316 SS
425	STATIONARY SEALING FACE (OUTBOARD)	TUNGSTEN CARBIDE
426	O-RING	EPDM
427	ANTI-EXTRUSION RING	GLASS FILLED TEFLON

- ☒ APPROVED
☐ APPROVED AS NOTED
☐ RETURNED FOR CORRECTION

LIFE SCIENCES, INC.

DATE 8/31/92

SIGNATURE *Harold Gross*

ALL DIMENSIONS AND DIMENSIONS ARE THE RESPONSIBILITY
OF THE USER. PROCEED WITH FABRICATION. THIS
APPROVAL DOES NOT RELIEVE VENDOR OF THE OBLIGATION
TO MEET SPECIFICATIONS AND ALL OTHER TERMS AND
CONDITIONS OF THE PURCHASE ORDER.

WHICH END IS
INBOARD?

VP490018-Y5211-6A

APPROVED FOR PURCHASE ORDER			
REV.	DATE	BY	CHANGES
ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW ARE CONFIDENTIAL AND THE PROPERTY OF LIGHTNIN. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT WRITTEN PERMISSION.			
P.O. NO. 55-1051 TAG NO. ITEM NO. Y-5211 CHRYSTALLIZER AGITATOR			
LIGHTNIN A UNIT OF GENERAL SIGNAL MECHANICAL SEAL ASSEMBLY			
DRN. HALE DATE 7-21-92	CK'D.	ENG. NO. A93095-D	REV. △

8001
0107

102284