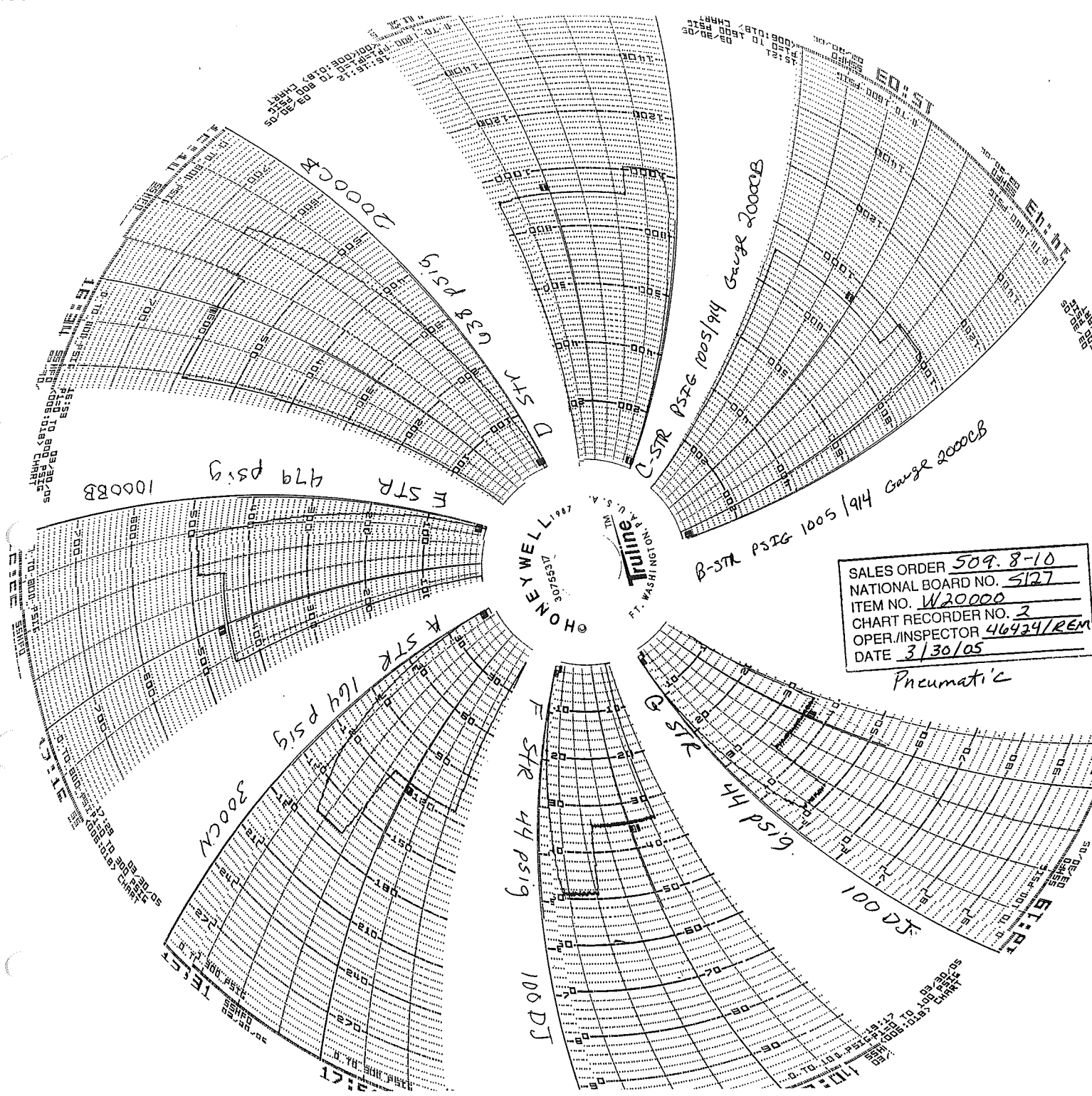


Hydro test

SALES ORDER	<u>58810</u>
NATIONAL BOARD NO.	<u>5127</u>
ITEM NO.	<u>W26000</u>
CHART RECORDER NO.	<u>5</u>
OPER./INSPECTOR	<u>46353/1/C</u>
DATE	<u>3-19-55</u>



SALES ORDER 509.8-10
NATIONAL BOARD NO. 5127
ITEM NO. W20000
CHART RECORDER NO. 3
OPER./INSPECTOR 46424/REM
DATE 3/30/05

Pneumatic



Chart Heat Exchangers
Chart Industries, Inc.

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM A BACKGROUND 8.1×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: A-F STREAM = 8.6×10^{-7} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

@ 78 °F

Rev. 10/23/03
3/29/00

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Gerald A. Bonsack
Sr. Principle Mfg. Engineer



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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 41 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 5.0×10^{-8}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: B-D STREAM = 5.0×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 7161054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM E

2. STREAM VACUUM VALUE 38 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 6.8×10^{-8}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: B-E STREAM = 7.1 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 7161054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 7.4×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: B-F STREAM = 7.6×10^{-7} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 7161054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 41 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 6.2×10^{-8}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: C-D STREAM = 6.2×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

@ 78 °F



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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM E

2. STREAM VACUUM VALUE 38 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 1.0×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: C-E STREAM = 1.1 $\times 10^{-7}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 7.2×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: C - F STREAM = 7.6×10^{-7} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM D BACKGROUND 6.6×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: D-F STREAM = 1.6×10^{-6} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 41 MICRONS

3. STREAM WITH HELIUM E BACKGROUND 5.0×10^{-8}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: E-D STREAM = 5.0×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348 Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM F BACKGROUND 7.0×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: E-F STREAM = 7.0×10^{-7} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 761054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-10

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 55 MICRONS

3. STREAM WITH HELIUM G BACKGROUND 8.5×10^{-7}

FOR EXTERNAL TESTS, HELIUM CONCENTRATION START N/A

END N/A

4. ACCEPTABLE LEAK RATE
(FROM ASSY. DRAWING) 1.0×10^{-3}

5. TEST TIME: 20 MINUTES

6. RESULT: G - F STREAM = 8.7×10^{-7} STD - CC/SEC

7. TEST COMPLETION DATE: 3/23/05 OPERATOR: 46348-Chuck

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

CALIBRATED LEAK, SERIAL #: 7161054 LEAK RATE OF STD: 1.1×10^{-7} std cc/sec

RECALIBRATION DATE: 9/8/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

@ 78^D °F

Rev. 10/23/03
3/29/00

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This letter certifies that the Core as identified has been cleaned and inspected for oxygen services per Chart Standard Engineering Specification Section 9 No. 9-14.00.

Sales Order 509.8-10 Core No. _____
National Board No. 5127 Core Serial No. 509.8-10
Chart Inspector 20 H h
Date Inspected 3-31-05

CHART HEAT EXCHANGER L.P.

QUALITY DEPARTMENT

- (1) Attach White Original to Core Nameplate
- (1) One Copy to Quality Files