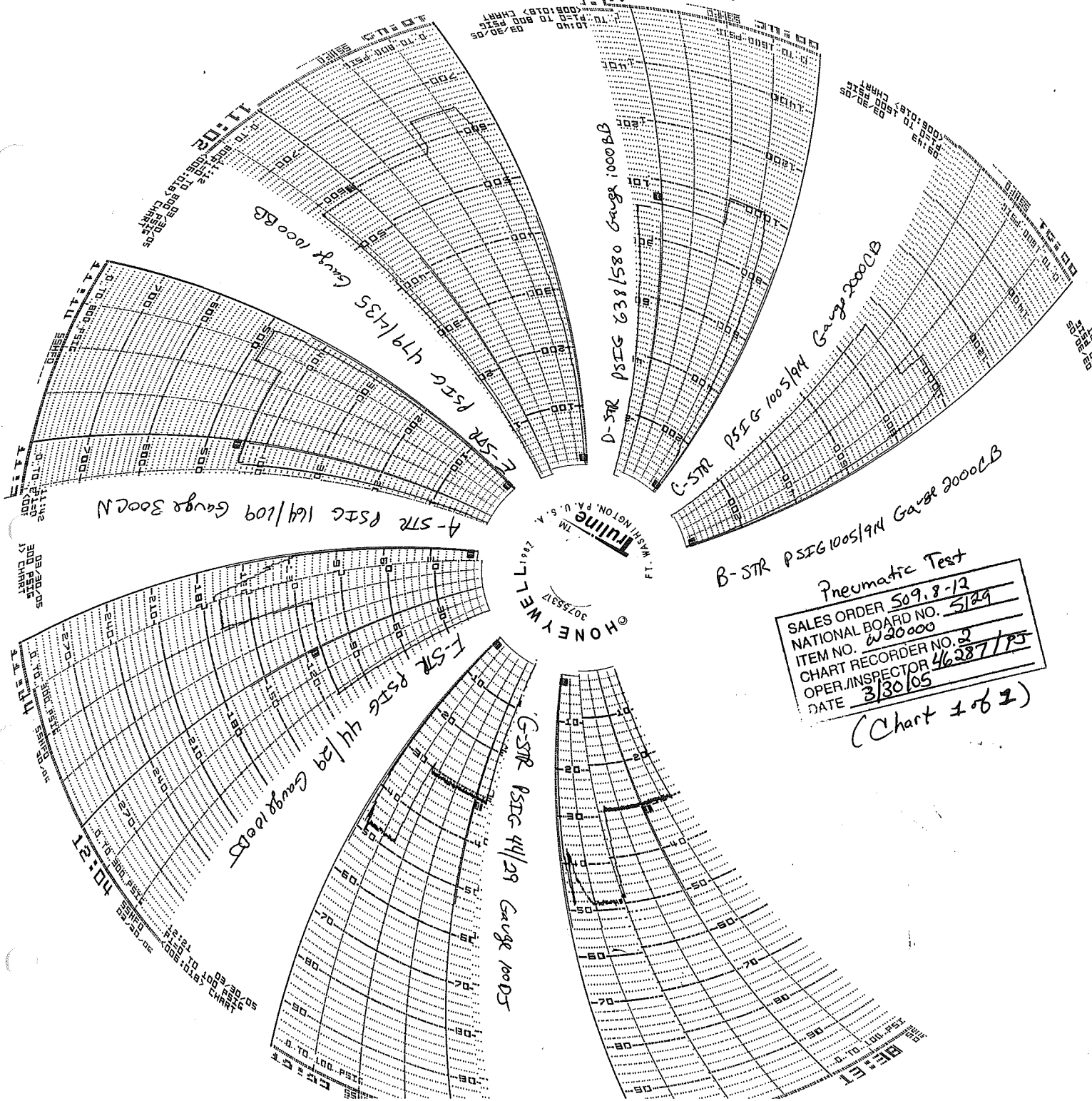


SALES ORDER	509.8-12
NATIONAL BOARD NO.	5129
ITEM NO.	W20000
CHART RECORDER NO.	5
OPER./INSPECTOR	46447 /SV
DATE	3-18-05

Hydro



Pneumatic Test

SALES ORDER	509.8-12
NATIONAL BOARD NO.	5129
ITEM NO.	W20000
CHART RECORDER NO.	2
OPER./INSPECTOR	46387/PJ
DATE	3/30/05

(Chart 1 of 2)



Chart Heat Exchangers
Chart Industries, Inc.

2191 Ward Avenue, La Crosse, WI 54601 USA
Phone: 608.787.3333 Fax: 608.787.2226
www.chart-ind.com

HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 28 MICRONS

3. STREAM WITH HELIUM A BACKGROUND

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 = 7.50×10^{-9} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 OPERATOR: 46424

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

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

RECALIBRATION DATE: 9/9/05 DISPLAYED LEAK: 0.98^{-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. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 50 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 1.2×10^{-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: B - D STREAM = 1.6×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.12×10^{-7} std cc/sec

@ 80 °F

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

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM E

2. STREAM VACUUM VALUE 48 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 2.0×10^{-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-E STREAM = 3.6×10^{-5} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.12×10^{-7} std cc/sec

@ 80 °F

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

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 38 MICRONS

3. STREAM WITH HELIUM B BACKGROUND 1.2×10^{-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: B-F STREAM = 1.4×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.12×10^{-7} std cc/sec

@ 80 °F

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 50 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 1.2×10^{-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 = 1.2 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM E

2. STREAM VACUUM VALUE 48 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 1.2×10^{-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-E STREAM = 2.2 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 38 MICRONS

3. STREAM WITH HELIUM C BACKGROUND 9.4×10^{-9}

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 = 1.2×10^{-8} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 37 MICRONS

3. STREAM WITH HELIUM D BACKGROUND 1.0×10^{-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: D-F STREAM = 1.0 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM D

2. STREAM VACUUM VALUE 50 MICRONS

3. STREAM WITH HELIUM E BACKGROUND 1.4×10^{-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 = 1.4 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 38 MICRONS

3. STREAM WITH HELIUM E BACKGROUND 1.0×10^{-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 - F STREAM = 1.0 $\times 10^{-8}$ STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 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: 9/9/05 DISPLAYED LEAK: 1.1×10^{-7} std cc/sec

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HELIUM LEAK TEST REPORT

SALES ORDER NO. 509.8-12

DRAWING NO. 15770A Rev. A

1. STREAM UNDER VACUUM F

2. STREAM VACUUM VALUE 28 MICRONS

3. STREAM WITH HELIUM G BACKGROUND 6.75×10^{-9}

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: 25 MINUTES

6. RESULT: G-F STREAM = 4.90×10^{-4} STD - CC/SEC

7. TEST COMPLETION DATE: 3/21/05 OPERATOR: 46424

8. MASS SPECTROMETER, IDENTIFICATION #: Edwards #2

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

RECALIBRATION DATE: 9/9/05 DISPLAYED LEAK: 0.98^{-7} std cc/sec

@ 78 °F

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

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www.altec-intl.com

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 509.8-12 Core No. _____

National Board No. 5129 Core Serial No. 509.8-12

Chart Inspector Jeffrey M. Hallinitch

Date Inspected 4-1-05

CHART HEAT EXCHANGER L.P.

QUALITY DEPARTMENT

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