SO# 101535B-1 **MODEL: EP-3080**
JOB# 200841

TOWERS	**NAT'L. BD. NO. 13974**	**NAT'L.BD. NO. 13975**
SHELL	B3H602-A03	B3H602-A03
HEADS	BECM / BECM	BECM / BECM
PIPE	5-57493	5-57493
PIPE	3HQAW	3HQAW
HH	317350	317350

AFTERFILTER	**NAT'L. BD. NO. 13965**	**NAT'L.BD. NO. 13966**
SHELL	G78261	G78261
HEADS	BEDR / BEDR	BEDR / BEDR
PIPE	5-57493	5-57493
PIPE	SP41488	SP41488
SKIRT		

PREFILTER	**NAT'L. BD. NO. 13983**	**NAT'L.BD. NO. 13984**
SHELL	449345	449345
HEADS	BDRL / BDRL	BECM / BECM
PIPE	5-57493	5-57493
RINGS	2602315-06	3601989-04

SEPARATOR	**NAT'L. BD. NO._____**	**NAT'L.BD. NO._____**
SHELL		
HEADS		
PIPE		

NATIONAL BOARD NUMBERS 13974

13974

CERTIFIED BY
HENDERSON ENGINEERING CO. INC.
SANDWICH, ILLINOIS

MAWP 150 PSI AT 500 °F

U

20 °F AT 150 PSI
MIN. DESIGN METAL TEMP.

MFG SERIAL NO 108535B-IL

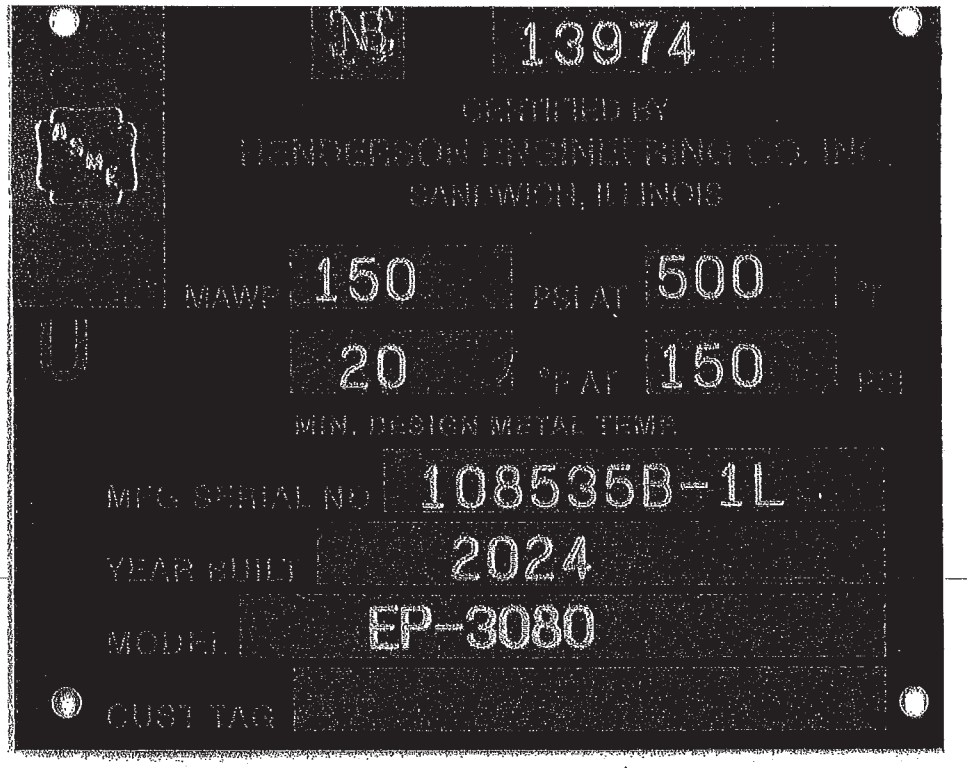
YEAR BUILT 2024

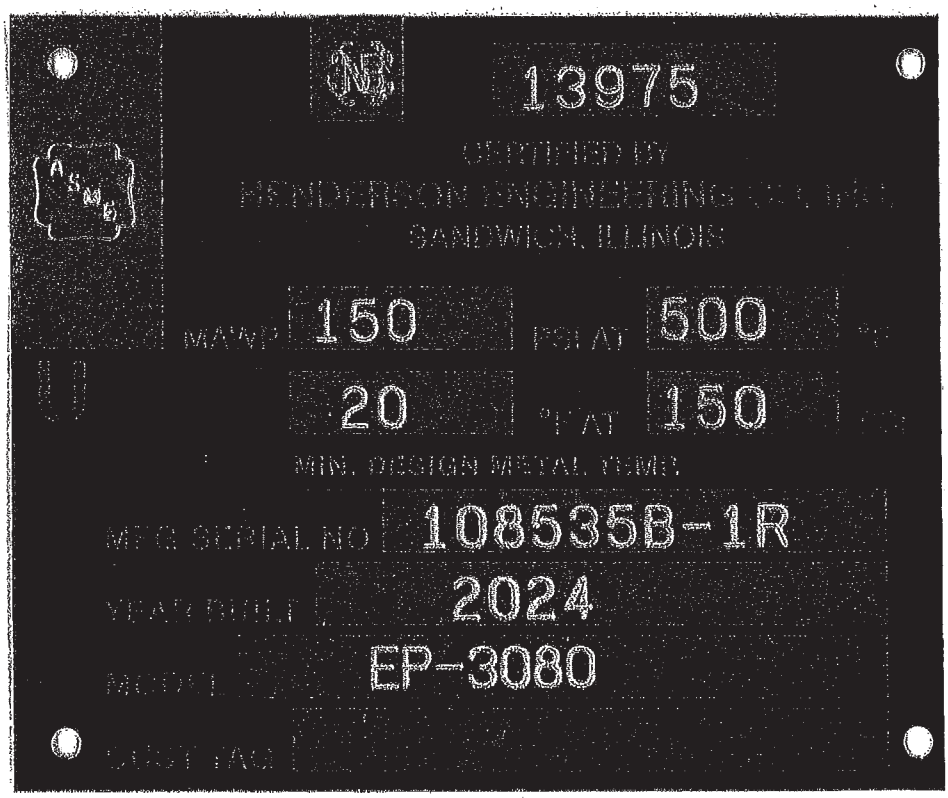
MODEL EP-3080

CUST TAG

Inspection Point	Quality Control Date	Initial	Authorized Inspector Date	Initial	Comments
Review Calcs, Drwg, MTR, etc.	4/19/24	LMW			Shell Ht# B3H602-A03
					Head Ht# Top BECM
					Bottom 11
Check transfer of Ht#'s	JUL 03 2024	NR	JUL 03 2024	GB	Pipe Ht#'s 3" 3HQAW
Fit-up Hds & Shells	JUL 03 2024	NR	JUL 03 2024	GB	6" 15-57493
Internal Inspection	JUL 25 2024	LMW	JUL 25 2024	GB	Other Ht#'s MWY
					HH 317350
Completed Weld	JUL 17 2024	LMW	JUL 17 2024	GB	Drwg # 21057
Hydrotest @ 200 PSI	JUL 17 2024	LMW	JUL 17 2024	GB	Welder Albright
					Symbol A
Verify stamping of nameplate	JUL 17 2024	LMW	JUL 17 2024	GB	WPS used 215

Miscellaneous Comments


13974
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SANDWICH, ILLINOIS
MAWP 150 PSI AT 500 °F
20 °F AT 150 PSI
MIN. DESIGN METAL TEMP.
MFG SERIAL NO 108535B-1L
YEAR BUILT 2024
MODEL EP-3080
CUST TAG


13975
CERTIFIED BY
HENDERSON ENGINEERING CO. INC.
SANDWICH, ILLINOIS
MAWP 150 PSI AT 500 °F
20 °F AT 150 PSI
MIN. DESIGN METAL TEMP.
MFG SERIAL NO 108535B-1R
YEAR BUILT 2024
MODEL EP-3080
CUST TAG

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS 108535B-1

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Henderson Engineering Co., Inc., 95 N. Main Street, Sandwich, Illinois, 60548, USA
(Name and address of Manufacturer)

2. Manufactured for Ingersoll Rand Industrial Technologies, Davidson, NC 28036-9721
(Name and address of Purchaser)

3. Location of Installation Air Products and Chemicals Inc., 1940 Air Products Blvd., Allentown, PA 18106
(Name and address)

4. Type Vertical (Horizontal or vertical, tank) | **108535B-1L** (Manufacturer's serial number) | N/A (CRN) | 21057 (Drawing number) | **13974** (National Board number) | 2024 (Year built)

5. ASME Code, Section VIII, Division 1 | 2021/ N/A [Edition and Addenda, if applicable (date)] | N/A (Code Case numbers) | N/A [Special service per UG-120(d)]

6. Shell: SA-516 70 (Material spec. number, grade) | .250 in (Nominal thickness) | 0 in (Corr. allow.) | 3' (OD) (Inner diameter) | 5' 9.750" [Length (overall)]

Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
N/A	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

7. Seams: 1 [Long. (welded, dbl., sngl., lap, butt)] | None [R.T.(spot or full)] | 70% (Eff.,%) | N/A (H.T. temp) | N/A (Time, hr) | 2 [Girth. (welded, dbl., sngl., lap, butt)] | None [R.T. (spot or full)] | 65% (Eff., %) | 1 (No. of courses)

8. Heads: (a) SA-516 70 (Material spec. number, grade or type) (H.T. - time and temp.) (b) SA-516 70 (Material spec. number, grade or type) (H.T. - time and 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**	**.226**	**0**	**N/A**	**N/A**	**2:1**	**N/A**	**N/A**	**N/A**		**X**	**N/A**	**N/A**	**N/A**
(b)	**BOTTOM**	**.226**	**0**	**N/A**	**N/A**	**2:1**	**N/A**	**N/A**	**N/A**		**X**	**N/A**	**N/A**	**N/A**

Body Flanges on Heads

No.	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**		**N/A**	**N/A**	**N/A**

9. MAWP 150 psi (Internal) | N/A (External) at max. temp. 500 °F (Internal) | N/A (External)

Min. design metal temp. 20 °F at 150 psi . Hydro, pneu., or comb. test pressure 200

Proof test N/A .

10. Nozzles, inspection and safety valve openings: .

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
In/Outlet	**2**	**6"**	**RFWN**	**SA-53B**	**SA105**	**Sch 40**	**0**		**UW-16.1c**	**Type 1**	**Pipe**
Manway/Cvr	**1**	**11"x15"**	**Ring**	**SA106C**	**N/A**	**3/4"**	**0**		**UW-16.1c**	**N/A**	**Top Hd.**
Relief	**1**	**1/2"**	**CPLG**	**SA105**	**N/A**	**3000#**	**0**		**UW-16.1c**	**N/A**	**Pipe**
Vent	**1**	**1/2"**	**CPLG**	**SA105**	**N/A**	**3000#**	**0**		**UW-16.1c**	**N/A**	**Top Hd.**
Gauge	**1**	**1/4"**	**CPLG**	**SA105**	**N/A**	**3000#**	**0**		**UW-16.1c**	**N/A**	**Shell**
Misc.	**2**	**3"**	**RFWN**	**SA-53B**	**SA105**	**Sch 40**	**0**		**UW-16.1c**	**Type 1**	**Pipe**
Drain	**1**	**2"**	**CPLG**	**SA105**	**N/A**	**1500#**	**0**		**UW-16.2c**	**N/A**	**Btm. Hd.**

11. Supports: Skirt **No** (Yes or no) Lugs 2 (Number) Legs 4 (Number) Other **(2) Brackets** (Describe) Attached **Top Hd./Shell - Welded** (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors, have been furnished for the following items of the report:
N/A
(Name of part, item number, Manufacturer's name and identifying stamp)

Hydro tested in vertical position UG-20(f) External pressure not design consideration

Manufactured by Henderson Engineering Co., Inc., 95 N. Main Street, Sandwich, Illinois, 60548, USA

Manufacturer's Serial No. **108535B-1L** CRN N/A National Board No. **13974**

CERTIFICATE OF SHOP/FIELD 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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 7982 expires March 30, 2025 .

Date 07/23/2024 Co. name **Henderson Engineering Co., Inc.** (Manufacturer) Signed _____ (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by **Henderson Engineering Co., Inc.** at **95 N. Main Street, Sandwich, Illinois, 60548, USA**

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company, of Hartford, CT

have inspected the component described in this Manufacturer's Data Report on July 25, 2024 , and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 07/25/2024 Signed _____ (Authorized Inspector) Commissions 12343, IL2007, WI838881, IN1738, IA1501 (National Board Authorized Inspector Commission number)