Authorized Inspector:

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

Date:

Date: Aug. 15, 2023

## FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSEL

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| 1.       | Manuf                        | acture    | d and         | certified        | by                  | Wuxi Che                                | emical I  | Equipme                 | ent Co.   | , Ltd.   |                            |                                   |             |                  |              |                         |              |                        |                                   |                    |                               |
|----------|------------------------------|-----------|---------------|------------------|---------------------|---|---|-------------------------|-----------|----------|----------------------------|-----------------------------------|-------------|------------------|--------------|-------------------------|--------------|------------------------|-----------------------------------|--------------------|-------------------------------|
|          |                              |           |               |                  | -                   | 36 Huayi F                              | Road, E   | Binhu Dis               | strict, V | Vuxi,    | Jiangsı                    | ı Provir                          | nce 214     | 131, F           | P. R. C      | hina.                   |              |                        |                                   |                    |                               |
| 2.       | Manuf                        | acture    | d for         |                  |                     | Air Pro                                 | ducts N   | /lanufact               | uring L   | LC.,     |                            |                                   | ess of Mai  |                  |              | n PA                    | 18106-5      | 5500, L                | JSA.                              |                    |                               |
| 3.       | Location                     | on of it  | otallat       | lon              |                     |   |   |                         |           |          | me and a                   |                                   |             |                  |              |                         |              |                        |                                   |                    |                               |
| ٥.       | Localio                      | וו וט ווכ | istaliat      | ion —            |                     |   |   |                         |           |          | <b>/</b> N                 | Not Kr                            |             |                  |              |                         |              |                        |                                   |                    |                               |
| 4.       | Туре                         | -         |               |                  | lorizonta           |   | (Name and address)  Heat exch.  WHA22-028-1  where)  (Tank, separator, jkt. vessel, heat exch., etc.)  (Manufacturer's serial number) |                         |           |          |                            |                                   |             |                  |              |                         |              |                        |                                   |                    |                               |
|          |                              |           | (I<br>NA      | -lorizontal,     | vertical, c         |   | VXCE6   | 718-00                  |           |          | tor, jkt. ve               | ssel, heat                        |             | c.)<br>06        |              |                         | (Manufa      | cturer's               |                                   | number)<br>023     |                               |
|          |                              |           | (CRN)         |                  |                     |   | -   | wing numb               |           | -        |                            | (N                                | lational Bo |                  | nber)        |                         | _            |                        |                                   | r built)           |                               |
| 5. /     | ASME C                       | ode S     | ection '      | VIII, Div        | . 1                 | [Editic                                 | n and Ad  | 2021<br>denda, if a     | nnlicable | (date)   |                            | -                                 | //          | N.               | A<br>e numbe | -1                      |              |                        |                                   | NA                 | 110 100/ 110                  |
| Itei     | ns 6–11                      | incl. t   | o be co       | omplete          | d for sin           | gle wall ve                             |   |                         |           |          | •                          | shell o                           |             |                  |              |                         | amber o      |                        |                                   |                    | UG-120(d)]<br>SSe <b>/</b> S. |
|          |                              |           |               | of cours         |                     | *************************************** |   | 1                       |           |          |                            |                                   | all leng    |                  | -            |                         |              | 04.055                 |                                   |                    |                               |
|          |                              | Cour      | se(s)         |                  |                     | Material                                |   | Т                       | hickness  |          |                            | Long. Join                        | t (Cat. A)  |                  | Circ         | cum. Jo                 | int (Cat. A, | B & C)                 | T                                 | Heat T             | eatment                       |
| No       | Dia                          | ameter    |               | Length           |                     | Spec./Grade or                          | Туре  | Nom.                    | (         | Corr.    | Туре                       | Full, Spo                         | t, None     | Eff.             | Туре         | Full,                   | Spot, None   | e Eff                  |                                   |                    | Time                          |
| 1        |                              | 12.25"    |               | 104.05"          |                     | SA-182 F316                             | SL  | 0.63"                   | 1         | /16"     | S                          | N.                                | 4           | 0.85             | 1            | 5                       | Spot RT      | 0.8                    | 5                                 | None               | None                          |
| NA       |                              | NA        |               | NA               |                     | NA                                      |   | NA                      |           | NA       | NA                         | N.                                | 4           | NA               | NA           |                         | NA           | NA                     |                                   | NA                 | NA                            |
| $\vdash$ |                              |           |               |                  |                     |   |   | В                       | ody Fla   | anges    | on She                     | lls                               |             |                  |              | F                       | Bolting      |                        |                                   |                    |                               |
| No.      | o. Type ID OD Flange Thk Mir |           |               |                  | Min Hub Thk         | Ma                                      | Material How Attached   |                         |           | Location |                            | Num & Size                        |             | Bolting Material |              |                         | Washer       |                        | Washer Material                   |                    |                               |
| 1        | Integral                     | 12.25"    | 20.0          |                  | 3.346"              | 0.63"                                   |   | 2 F316L                 | Weld      |          | 15Nos 1"-8UN-2A, L=14.173" |                                   |             | SA-193 (         |              | (OD, ID,Thk)<br>1.968", |              | ASME PCC-1             |                                   |                    |                               |
| NA       | NA                           | NA        | N.            | A                | NA                  | NA                                      |   | NA                      | N/        |          | NA NA                      | 5NOS 1 -8UN-2A, L=14.961          |             |                  | 51"          | NA NA                   |              | 1.063, 0.25"<br>NA     |                                   | Type 4<br>NA       |                               |
| 7. H     | 7. Heads: (a) SA-240 3       |           |               |                  |                     |   | ark 1, 2  | 2                       |           |          | (b)                        |                                   |             |                  |              |                         | VA           |                        |                                   |                    |                               |
|          |                              |           |               | rade or type) (  | H.T. — tiı          | me and ten                              | np.)  |                         |           |          | (Mate                      | erial spe                         | c. numb     | er, grad         | le or type)  | (H.T. —                 | time a       | nd temp                | )                                 |                    |                               |
|          | Location (<br>Bottom, E      | _         | Thick<br>Min. | Corr.            | Crov                | Radius<br>wn Knuck                      |   | Elliptical Con          |           |          |                            | Hemispherical Flat Radius Diamete |             | _                |              | to Pre                  |              |                        | Category A  Full, Spot, None Eff. |                    |                               |
| (a)      | Right E                      | nd (      | 0.256"        | 1/16"            | NA<br>NA            |   |   | 2:1                     | N/        | -        |                            | Α                                 | NA          |                  | Conve<br>Yes | x   C                   | Yes          | Type<br>S              | Fu                                | II, Spot, No<br>NA | one Eff. 1.0                  |
| (b)      | NA                           |           | NA            | NA               | N/                  | NA NA                                   |   | NA                      | N/        | 4        | N                          | Α                                 | NA          |                  | NA           |                         | NA           | NA                     |                                   | NA                 | NA                            |
|          |                              |           | T             |                  |                     |   |   | Во                      | ody Fla   | nges     | on Head                    | ls                                |             |                  |              |                         | Polting      |                        |                                   |                    |                               |
|          | Location                     | n Type    | ID            | OD               | Flange <sup>-</sup> | Thk   Min Hu                            | b Thk   | Mate                    | rial      | Ho       | w Attache                  | <sub>d</sub> Nu                   | m & Size    | Во               | Iting Mat    |                         | Bolting Was  |                        | 1                                 | Nasher N           | laterial                      |
| (a)      | NA                           | NA        | NA            | NA               | NA                  | N/                                      |   | NA                      |           | 1.0      | NA                         |                                   | NA          |                  | NA           |                         | (OD, ID      |                        |                                   | NA                 |                               |
| (b)      | NA .                         | NA .      | NA            | NA               | NA                  | N                                       | 4   | NA                      |           |          | NA                         |                                   | NA          |                  | NA           |                         | N/           | 4                      |                                   | NA                 |                               |
| 8. 1     | /pe of ja                    | icket     | -             |                  |                     | NA                                      |   |                         | J         | lacke    | t closur                   | e<br>_                            |             |                  |              |                         | NA           |                        |                                   |                    |                               |
| li       | bar, giv                     | e dim     | ensions       | s; If bolt       | ed, des             | cribe or ske                            | etch  |                         |           |          |                            |                                   |             | N                |              | ibe as c                | ogee and w   | veld, bar,             | etc.)                             |                    |                               |
| 9. M     | AWP _                        | 412       |               |                  | FV                  | at max. te                              | np.   | 430°F                   |           | 300      |                            | lin. des                          | ign met     | tal tem          | ıp.          | 32                      | °F a         | nt                     | 41                                | 2psig              |                               |
| 10. I    | mpact te                     | (Inter    | nal)<br>      | No               |                     | pted per UI                             | ,   | / // /                  |           | (Exte    | ernal)<br>at test te       | empera                            | ture of     |                  |              |                         | 1            | NA                     |                                   |                    |                               |
| 11. F    | łydro., p                    | neu.,     | or com        |                  |                     | o and the com                           |   | impact tes<br>Iydro. at | -         | psig     |                            | Pro                               | oof test    |                  |              |                         |              | NA                     |                                   |                    |                               |
| Item.    | s 12 and                     | d 13 to   | be con        | npleted          | for tube            | sections.                               |   |                         |           |          |                            |                                   |             |                  |              |                         |              |                        |                                   |                    |                               |
| 12. T    | ubeshe                       | et<br>-   |               | SA-182           | F60                 |   |   | 12.25"                  |           |          |                            | 2.75                              | 5"          |                  | 1/           | 16"                     |              |                        | Во                                | Ited               |                               |
|          |                              |           | [Station:     | ary (mater<br>NA | ial spec. n         | 0.)]                                    | [Diamete  | r (subject t            | o press.  | )]       | (Ne                        | ominal thi<br>NA                  |             |                  |              | . allow.)               | [A           | ttachmer               | 12.                               | ded or b           | olted)]                       |
|          |                              | _         | [Floatin      | ng (materia      | al spec. no         | <br>·.)]                                |   | (Diameter)              | )         |          | (No                        | ominal thi                        |             |                  |              | allow.)                 |              |                        |                                   | nment)             |                               |
| 13. T    | ubes                         |           | SA            | -789 S3          | 2205                |   |   | 0.75"                   |           |          |                            | ).065"(a                          |             |                  |              | 36                      |              |                        |                                   | J                  |                               |
|          |                              | (Ma       | erial spe     | c. no., gra      | de or type          | )                                       |   | (O.D.)                  |           | _        | (No                        | ominal thi                        | ckness)     | _                | (Nur         | mber)                   | _            | [Type (straight or U)] |                                   |                    |                               |

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| 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)    Material   Thickness   Long. Joint (Cat. A)   Circum. Joint (Cat. A, B. & C)   Heat   |                       |                           |                           |                     |                       |              |             | -       |                      |         |   |                     |              | Equipment C  | icillicari  |                  |         |                    |   |        |
|--|-----------------------|---------------------------|---------------------------|---------------------|-----------------------|--------------|-------------|---------|----------------------|---------|---|---------------------|--------------|--|-------------|------------------|---------|--------------------|---|--------|
| 14.   Shell: (a) No. of course(s)  | 6                     | 5                         |                           | al Board No.        | tiona                 | Na<br>-      |             |         | NA                   |         | CRN                                     | _                   | 8-1          | WHA22-02   | -           | I No.            | Serial  | irer's S           | nutactu                                 | Ma     |
| 14.   Shell: (a) No. of course(s)  |                       |                           |                           |                     |                       | iers.        | exchange    | eat e   | nnels of h           | or cha  | ed vessels o                            | jackete             | nbers of     | or inner char  | pleted f    | oe com           | to b    | 18 incl            | ns 14—                                  | Iter   |
| No.   Diameter   Length   Spect/Grade or Type   Nom.   Corr.   Type   Full, Spot, None   Eff.   Type   Full, Spot, None   Eff.   Type   Full, Spot, None   Eff.   Type   |                       | 654"                      | 21.0                      |                     | _                     |              | 7           |         |                      |         |   |                     |              |  |             |                  |         |                    |   |        |
| 1   ID   12   25"   21   25"   SA-516 Gr.70N   0.551"   1/8"   1   Spot RT   0.85   1   Spot RT   0.85   Non NA  | at Treatm             | ) I                       | um. Joint (Cat. A, B & C) |                     |                       | ) Circu      |             |         | Long. Joint (Cat. A) |         |   | kness               | Thic         | laterial   |             | s)               | Course( | C                  |   |        |
| 1   10   12   12   12   13   15   14   15   14   15   15   14   15   15  |                       |                           |                           |                     | Gildar, John (Gal. 7) |              |             |         | rade or Type         | Spec./G | ength                                   | Le                  | neter        | Dian   | No          |                  |         |                    |   |        |
| NA   |                       |                           | 727                       |                     | +                     | 1            | 0.85        |         | Spot RT              |         | 3" 1                                    | 1/8                 | 0.551"       | 16 Gr.70N  | SA-5        | 1.65"            | 21      | 2.25"              | ID 12                                   | 1      |
| No   | 1000                  |                           |                           | #6<br>              |                       | -            |             |         | Manage 193           |         |   | N/                  | NA           | NA   |             | NA               | 1       | IA                 | N                                       | NA     |
| No.   Type   ID   OD   Flange Thk   Min Hub Thk   Malerial   How Attached   Location   Num & Size   Bolting Material   Washer (OD, ID, Thk)   Washer (ID, ID,  |                       |                           |                           |                     |                       |              |             |         | Shells               | ges or  | Body Flan                               |                     |              |  |             |                  |         |                    |   |        |
| Integral   12.25   20.079   2.48   0.551   SA-266 Gr.2N   Welded   Left   20Nos 1"-8UN-2A, L=10.236   SA-193 Gr.B7   1.968", ASI   1.968", A |                       |                           |                           | Bolting             | -                     |              |             |         |                      |         |   |                     |              |  |             |                  |         |                    |   |        |
| 1   Integral   12.25"   20.079"   2.48"   0.551"   SA-266 Gr.2N   Welded   Left   20Nos 1"-8UN-2A, L=10.236"   SA-193 Gr.B7   1.968", 1.063, 0.25"   ASI   1.1063 and 1.968", 1.063, 0.25"   ASI   1.1063 and 1.968", 1.063 and 1.968", 1.968 and  | sher Mat              |                           |                           |                     | Во                    |              | n & Size    | Nun     | in                   | Locati  | How Attached                            | rial                | Mate         | Min Hub Thk  | lange Thk   | D F              | OE      | ID                 | Туре                                    | Na.    |
| 1   Integral   12.25   20.079   2.48   0.551   SA-266 Gr.2N   Welded   Right   15Nos 1"-8UN-2A, L=14.173"   SA-193 Gr.B7   1.968", 1 | SME PCC               | 8",                       | (OD, ID, Thk)<br>1.968",  |                     | S                     | 0.236"       | JN-2A, L=10 | 1"-8U   | 20Nos                | Left    | Welded                                  | Gr.2N               | SA-266       | 0.551"   | 2.48"       | 79"              | 20.07   | 12.25"             | Integral                                | 1      |
| SA-193 Gr.B7   1.063, 0.25*   1.06 | Type 4<br>SME PCC     |                           |                           |                     |                       |              |             |         | 15Nos                |         |   | Gr 2N               | SA-266       | 0.551*   | 2.48*       | 70"              | 20.07   | 12 25"             | Integral                                | 1      |
| (Material spec. number, grade or type) (H.T. — time and temp.)  Location (Top, Bottom, Ends)  Min. Corr. Crown Knuckle Ratio  (a) Left End 2.086° 1/8° NA  | Type 4                |                           |                           |                     |                       |              |             |         | 5Nos                 |         | Welded                                  | OI.ZIV              | - Properties | A239984  | 2.40        | 19               | 20.07   |                    |   |        |
| Location (Top, Bottom, Ends)   Thickness   Radius   Elliptical Radio   Conical Apex Angle   Radius   Diameter   Convex   Concave   Type   Full, Spot, No.  |                       |                           |                           | 1977/197            |                       |              |             |         | b)                   |         |   |                     |              | TOTAL METERS OF THE PARTY OF TH |             | 40000            |         | (a)<br>—           | leads:                                  | 5,     |
| Bottom, Ends)  Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Convex Concave Type Full, Spot, No.  (a) Left End 2.086" 1/8" NA  | .)                    | me and ten                | (H.T. — ti                | grade or type) (    | ımber,                | spec. nu     | (Material s |         |                      | -       | and temp.)                              | – time a            |              |  |             |                  |         |                    |   | _      |
| (a) Left End 2.086" 1/8" NA  | k.                    | Category                  | essure Cateç              |                     | Side to               | 8            | Flat        | cal     |                      |         |   | 1000000             | S            | Radiu  | iness       | Thick            |         |                    |   |        |
| (b) NA   | None                  | Full, Spo                 | Туре                      | Concave             | Convex Conca          |              | Diameter    |         | Radius               | gle     | o Apex Ar                               | Ratio               | Knuckle      | Crown  | Corr.       | i, Ends) Min. Co |         | Botton             |   |        |
| Docation   Type   ID   OD   Flange Thk   Min Hub Thk   Material   How Attached   Num & Size   Bolting Material   Washer (OD, ID, Thk)   Wash (a)   NA   NA   NA   NA   NA   NA   NA   N  | (                     | NA                        | es S                      |                     | 'es                   | Ye           | 20.079"     |         | NA                   |         | NA                                      | NA                  | NA           | NA   | 1/8"        | .086"            | 2.      | t End              | Left                                    | (a)    |
| Location   Type   ID   OD   Flange Thk   Min Hub Thk   Material   How Attached   Num & Size   Bolting Material   Washer (OD, ID, Thk)   Wash   |                       | NA                        | NA                        | NA                  | NA.                   | N            | NA          |         | NA                   |         | NA                                      | NA                  | NA           | NA   | NA          | NA               |         | NA                 | V                                       | (b)    |
| Location   Type   ID   OD   Flange Thk   Min Hub Thk   Material   How Attached   Num & Size   Bolting Material   Washer (OD, ID, Thk)   Washer (ID, ID, ID, ID, ID, ID, ID, ID, ID, ID,  |                       |                           |                           |                     |                       |              |             |         | Heads                | jes on  | Body Flang                              |                     |              |  |             |                  |         |                    |   |        |
| (a) NA   |                       | er                        |                           |                     | 200                   | . 1          |             |         |                      |         | Material                                | .                   | Min Uuh Th   | Elango Thi   | OD          | ID.              |         | n Tvn              | Location                                |        |
| (b) NA   | Washer Material       |                           | (OD, ID,                  |                     | Boli                  | Size         |             | d       |                      | -       |   |                     | 1/49/1/      |  |             |                  |         | - 71               | 0.0000000000000000000000000000000000000 | (a)    |
| 6. MAWP 512.1psig FV at max. temp. 430°F 400°F Min. design metal temp. 32°F at 512.1psig (Internal) (External) (External)  | NA                    | -                         |                           |                     |                       |              |             | +       | 777776               | +       |   |                     |              |  |             |                  | -       |                    | 2000                                    | olare. |
| (Internal) (External) (External) (External)  | NA                    |                           | -100                      |                     |                       |              | - 100       |         | 20001                | 0005    | INCOM:                                  | 4200                | 387.0        |  |             |                  |         | -                  |   |        |
| 7 Important  | sig                   | 512.                      | at<br>-                   | 32°F                | _                     | temp.        | n metal te  | esign   | _                    |         |   | _ 65mm;c            | тр           |  | 10/10/20    |                  |         | _                  | AVVI                                    | J. IV  |
| at test temperature of -40°F   |                       |                           | 4095                      |                     |                       |              | ıro of      | oratu   | 100                  |         | rnal) (                                 | (Inte               | heet         |  | (External   |                  | rial)   |                    | npact te                                | 7. Ir  |
| [Indicate yes or no and the component(s) impact tested]  |                       |                           | 40°F                      | -                   |                       |              | -           | eratu   | est temp             | - at    | hadi                                    | nact tes            |              | Name of the Party  | cate ves or | fIndic           | _       | _                  | ,                                       |        |
| 3. Hydro., pneu., or comb. test pressure Hydro. at 832.1psig Proof test NA   |                       |                           | NΔ                        |                     |                       |              | roof test   | Pr      |                      | sia     |   |                     | iononi(o) in |  |             |                  | or co   | oneu.,             | ydro., p                                | 3. H   |
| 9. Nozzles, inspection, and safety valve openings:   |                       |                           | 14/1                      |                     |                       |              |             |         |                      |         | •                                       |                     | 3:           | lve openings   | safety va   | , and s          | ction   | inspe              | ozzles,                                 | ). N   |
| Malarial Mayer's Thiskenee   |                       | . 1                       |                           | AH1-                |                       |              | 000         | Thickne | Mozzle               |         | Material                                | ,                   | T            | , ,  |             |                  | Т       |                    |   |        |
| Inlet, Outlet, Drain, etc.)  No. or Size  Type  No. or Size  No. or Size  No. or Size  | Location<br>Insp. Ope |                           | T                         | ,iii                |                       |              | Rein        |         |                      | 10      |   |                     |              | Туре   |             | 0. 1             | .) No   |                    |   | Inlet  |
| T1 TS folet 1 NPS 3 CL 600 LNNV/PE CA 405N CA 405N CA 405N CA 405N   | пор. Оро              |                           |                           | 12/2/2019/06        |                       | Inherent     |             | -       |                      |         |   |                     |              |  |             | T1, TS In        |         |                    |   |        |
| T2, TS Outlet 1 NPS 3 CL.600 LWN/RF SA-105N SA-105N 0.803" 1/8" Inherent Fig. UW-16.1(c) NA  T2, TS Outlet 1 NPS 3 CL.600 LWN/RF SA-105N SA-105N 0.803" 1/8" Inherent Fig. UW-16.1(c) NA   |                       |                           |                           |                     |                       | 2/2/2        | 2027        |         | -20.000              | V-1/2   | 100000000000000000000000000000000000000 |                     |              | AND AND AND ADDRESS OF THE PARTY OF THE PART |             |                  | 1       | utlet              | Γ2, TS Οι                               |        |
| S1, SS Inlet 1 NPS 6 CL.900 WN/RF SA-312 TP316L SA-182 F316L 0.562" 1/16" SA-240 316L Fig. UW-16.1(c) None RT, eff.0.85  |                       |                           |                           |                     |                       |              |             |         |                      | 316L    | SA-182 F                                | TP316L              | SA-312       | CL.900 WN/RF   | IPS 6       | l N              | 1       | nlet               | S1, SS In                               |        |
| S2, SS Outlet 1 NPS 6 CL.900 WN/RF SA-312 TP316L SA-182 F316L 0.562* 1/16" SA-240 316L Fig. UW-16.1(c) None RT, eff.0.85   |                       |                           |                           | van auvinozane i si |                       | A-240 316    | /16" SA     | 1/      | 0.562"               | 316L    | SA-182 F                                | TP316L              | SA-312       | CL.900 WN/RF   | IPS 6       | N                | 1       | utlet              | 32, SS OL                               |        |
| TV, Vent 1 NPS 2 CL.300 LWN/RF SA-105N SA-105N 0.653" 1/8" Inherent Fig. UW-16.1(c) NA   |                       | NA                        |                           | Fig. UW-16.1(c)     | 1                     | 13778 TA     |             | 1       | 0.653"               | 5N      | SA-10                                   | 105N                | SA-          | CL.300 LWN/RF  |             |                  |         |                    |   |        |
| Aux1-2, Auxiliary 2 NPS 2 CL.300 WN/RF SA-106 Gr. B SA-105N Sch80 1/8" Inherent Fig. UW-16.1(c) None RT, eff.0.85  |                       | T, eff.0.85               | None R                    | Fig. UW-16.1(c)     | - 1                   | Inherent     |             |         |                      |         | C2000000                                | a section           | .0.20.30     | A STREET, STRE |             |                  |         | Contract of        |   | -      |
| Aux3-4, Auxiliary 2 NPS 2 CL.300 LWN/RF SA-182 F316L SA-182 F316L 0.653" 1/16" Inherent Fig. UW-16.1(c) NA   |                       | NA                        | 1                         | Fig. UW-16.1(c)     | F                     | 7.7.         |             | -       |                      |         |   |                     |              |  |             | 500              | -       | 5333               |   | 100    |
| . Supports: Skirt No Lugs NA Legs NA Others 2Nos Saddles Attached Welded to she  | nell                  | elded to                  | W                         | Attached            | /                     | dles         | los Sado    | 2N      | thers                | C       | NA                                      | egs<br>-            |              |  |             | 70.00            | -       | . SKIIL            | pports                                  | . 31   |
| (Yes or no) (Number) (Number) (Describe) (Where and how 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, Manufacturer's name, and identifying number):  None   | w)<br>of              | Where and I<br>ring items | (V<br>e follow            | ished for the       | furn                  | e)<br>e been | ors have    | necto   | oned Ins             | dentify | gned by Cor<br>name, and i              | and sig<br>urer's r | entified a   | s properly id  | a Repor     | ial Data         | Parti   | urer's<br>(list th | nufact<br>report                        | the    |
| . Remarks  |                       |                           |                           |                     |                       |              |             |         |                      |         |   |                     |              | 7  |             |                  |         |                    | marks                                   | . Re   |
| e attached Form U-4.   | -                     |                           |                           |                     |                       |              |             | -       |                      |         |   |                     |              |  |             |                  | 11_4    | Form               |   |        |

Mfr. Representative: Authorized Inspector:

Date: Date:

Page

Aug. 15, 2023

FORM U-1

| Manufactured by      | Wuxi   | Chemical Equipment Co. | , Ltd. |    |                    |     |  |
|----------------------|--------|------------------------|--------|----|--------------------|-----|--|
| Manufacturer's Seria | al No. | WHA22-028-1            | CRN    | NA | National Board No. | 506 |  |

|           |   |                  |                      | OF SHOP COMPL       |                  |                   |                                      |
|-----------|---|------------------|----------------------|---------------------|------------------|-------------------|--------------------------------------|
| We ce     | rtify that the statements in this       | report are cor   | rect and that all    | details of desig    | n, material, c   | construction, a   | and workmanship of this              |
| conforr   | n to the ASME BOILER AND PRE            | SSURE VESS       | SEL CODE, Secti      | on VIII, Division 1 |                  |                   |                                      |
| U Certi   | ficate of Authorization Number          |                  | 30,972               | Expires             | April            | 16, 2026          | A                                    |
| Date      | Aug. 15, 2023                           | Name             | Wuxi Cher            | nical Equipment C   | Co., Ltd.        | Signed            | - 6/1-3h                             |
|           |   | -                |                      | (Manufacturer)      |                  |                   | (Representative)                     |
|           |   |                  | CERTIFICATE (        | OF SHOP INSPE       | CTION            |                   |                                      |
| I,the u   | ndersigned, holding a valid com         | mission issue    | ed by the Nation     | al Board of Boile   | er and Pressi    | ure Vessel In     | spectors and employed b              |
|           | Α                                       | PAVE SA          |                      |                     | of               |                   | 1                                    |
| have in   | spected the pressure vessel desc        | ribed in this Ma | anufacturer's Dat    | a Report on         |                  | April 06,         | 2023                                 |
| state th  | at, to the best of my knowledge         | and belief, the  | Manufacturer h       | as constructed th   | his pressure v   | essel in acco     | rdance with ASME BOILE               |
| 1         | URE VESSEL CODE, Section VIII, [        |                  |                      |                     |                  |                   |                                      |
|           | ed, concerning the pressure vesse       |                  |                      |                     |                  |                   |                                      |
|           | e in any manner for any personal i      |                  |                      |                     |                  |                   | 101. 5                               |
| Date      | Any. 15. 2073                           | Signed           | 8                    | 7                   | Commissio        |                   | NB15677                              |
|           |   |                  | (Authorized In       | nspector)           | -                |                   | rd Authorized Inspector Commission n |
|           |   | CERTII           | FICATE OF FIEL       | D ASSEMBLY C        | OMPLIANCE        | (Hallottal Boal   | a right-file mapodor Commission in   |
| We cert   | ify that the statements in this repo    | rt are correct a | and that the field a | assembly constru    | ction of all par | ts of this vess   | el conforms with the require         |
|           | BOILER AND PRESSURE VESSI               |                  |                      |                     |                  |                   | Expires                              |
| Date      |   | Name             |                      |                     |                  | Signed            |                                      |
|           |   | -                |                      | (Assembler)         |                  | oigiled —         | (Pages antation)                     |
|           |   | CERTI            | FICATE OF FIEL       | D ASSEMBLY IN       | NSPECTION        |                   | (Representative)                     |
| I, the ur | ndersigned, holding a valid com         |                  |                      |                     |                  | ire Vessel In     | spectors and employed by             |
|           |   |                  | •                    |                     |                  |                   | process and employed by              |
| <br>of    |   | , have co        | mpared the state     | ments in this Mar   | oufacturer's Da  | ata Renort with   | n the described pressure ve          |
| and state | e that parts referred to as data iter   |                  |                      |                     |                  |                   | e of shop inspection, have t         |
|           | d by me and to the best of my kn        |                  | helief the Manuf     |                     |                  |                   |                                      |
|           |   |                  |                      |                     |                  |                   |                                      |
|           | ASME BOILER AND PRESSUITION tic test of |                  |                      |                     |                  |                   |                                      |
|           |   |                  |                      |                     |                  |                   | kes any warranty, expresse           |
|           | concerning the pressure vessel          |                  |                      |                     |                  |                   |                                      |
|           | liable in any manner for any perso      |                  | operty damage o      |                     |                  | or connected      | with this inspection.                |
| Date      |   | Signed –         |                      | C                   | ommissions       | [                 |                                      |
|           |   |                  | (Authorized I        | nspector)           |                  | (National Board A | uthorized Inspector Commission numb  |

(07/17)

## FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

| 1. 1   | Manufactured and     | certified by  | Wuxi Che                                | emical Equipn<br>vi Road. Binh   | nent Co., Ltd.<br>u District, Wuxi, Jia | nasu Province 21                 | 14131 P R (    | China                               |               |  |  |  |  |
|--|----------------------|---|---|--|---|----------------------------------|----------------|-------------------------------------|---------------|--|--|--|--|
| -  |                      |   |   | (N   | ame and address of M                    | (lanufacturer)                   |                |                                     |               |  |  |  |  |
| 2. N   | Manufactured for     |   | Air Pr                                  | oducts Manut   | acturing LLC., 194                      | O Air Products Blv               | vd., Allentowr | PA 18106-5500, USA.                 |               |  |  |  |  |
| 3. L   | ocation of installat | ion   |   |  | (Name a                                 | and address of Purc<br>Not Known |                |                                     |               |  |  |  |  |
|  |                      |   | -                                       |  |   | (Name and addre                  |                |                                     |               |  |  |  |  |
| 4. T   |                      | Horizontal vertical, or sph   |   | (T. I  | Heat exch.                              |                                  |                | WHA22-028-1                         |               |  |  |  |  |
|  | (Horizontal,         | vertical, or spr  | nere)                                   | (Tank,   | separator, heat exch.                   | , etc.)                          |                | (Manufacturer's serial numbe        | er)           |  |  |  |  |
|  | NA.                  |   |   | WXCE6718   |   |                                  | 506            | 20                                  | 023           |  |  |  |  |
|  | (CRN                 | l)  |   | (Drawing   | number)                                 | (National E                      | Board number)  | (Year                               | r built)      |  |  |  |  |
| D  | ata Report           |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | em Number            |   |   |  |   | Remarks                          |                |                                     |               |  |  |  |  |
| 22. Re   | emarks:              | 1. Shell si   | de head is                              | cold formed b  | y others with certific                  | cation indicating s              | solution heat  | treatment after cold formi          | ng was        |  |  |  |  |
| -  |                      | performed   | at 1922~1                               | 976°F, holding   | g 30mins.                               |                                  |                |                                     | 3             |  |  |  |  |
|  |                      | 2. Head-to  | o-shell butt j                          | oints were pe  | rformed spot RT ac                      | cording to UW-1                  | 1(a)(5)(-b).   |                                     |               |  |  |  |  |
| -  |                      | 3. Nozzle(  | Aux 3/Aux 4                             | 4) blind flange  | e: 2Nos, SA-182 F3                      | 16L, ASME B16.                   | 5-2017 NPS     | 2 CL.300 BL/RF, fixed wit           | h full thread |  |  |  |  |
|  |                      | studs SA-   | 193 Gr. B8,                             | 5/8"-11 UNC  | -2A, L=5.91", 8 pcs                     | for each nozzle,                 | and heavy he   | ex nuts SA-194 Gr. 8, 5/8           | '-11 UNC-2B,  |  |  |  |  |
|  |                      |   | each nozzl                              |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      | 4. Nozzle(  | Aux 1/Aux 2                             | 2/ TV) blind fla   | ange: 3Nos, SA-10                       | 5N, ASME B16.5                   | -2017 NPS 2    | CL.300 BL/RF, fixed with            | full thread   |  |  |  |  |
|  |                      | Studs SA-   | 193 Gr. B7,                             | 5/8"-11 UNC-   | ·2A, L=5.91", 8 pcs                     | for each nozzle,                 | and heavy he   | ex nuts SA-194 Gr. 2H, 5/           | 8"-11 UNC-    |  |  |  |  |
|  |                      | 2B, 16 pcs for each nozzle.  5. The U-tube bends were performed solution at 1922~2012°C, holding 15~25s.  |   |  |   |                                  |                |                                     |               |  |  |  |  |
| Name of the last o |                      | 6. Incoasti   | op opening                              | were performe  | ed solution at 1922                     | ~2012°C, holding                 | 15~25s.        |                                     |               |  |  |  |  |
|  |                      | <ul><li>6. Inspection openings are omitted according to UG-46(a)(2).</li><li>7. The overpressure protection system not supplied by the vessel Manufacturer.</li></ul> |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      | 7. THE OVE  | ipressure p                             | rotection syst   | em not supplied by                      | the vessel Manu                  | ıfacturer.     |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   | *************************************** |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   | The state of the s |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | -                    |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | -                    |   | 1                                       |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | -                    |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | -                    |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  | _                    |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
|  |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
| 0 ""   |                      |   |   |  |   |                                  |                |                                     |               |  |  |  |  |
| Certificat   | te of Authorization  | : Туре  | U                                       | No   | 30,972                                  | Expires                          |                | April 16, 2026                      |               |  |  |  |  |
| D - 1  | •                    |   |   |  |   |                                  |                | H. s                                |               |  |  |  |  |
| Date _   | Aug. 15, 2           | 023   | Name                                    | Wuxi Che   | emical Equipment C                      | Co., Ltd. Sign                   | ned            | 一度、长金                               |               |  |  |  |  |
|  |                      |   |   |  | (Manufacturer)                          |                                  |                | (Representative)                    |               |  |  |  |  |
| Date   | BW.16.20             | 22  | Signed                                  | 9  | SE/                                     | 0                                |                | NIP 1 - 2                           |               |  |  |  |  |
|  | 1019.13.7            | -/  | - Oigiliou                              | (Authori   | zed Inspector)                          | Commission                       |                | NB15677                             |               |  |  |  |  |
|  |                      |   |   | (7.441011  | mopeotor)                               |                                  | (เงสแบกสา 808  | ard Authorized Inspector Commission | n number)     |  |  |  |  |