
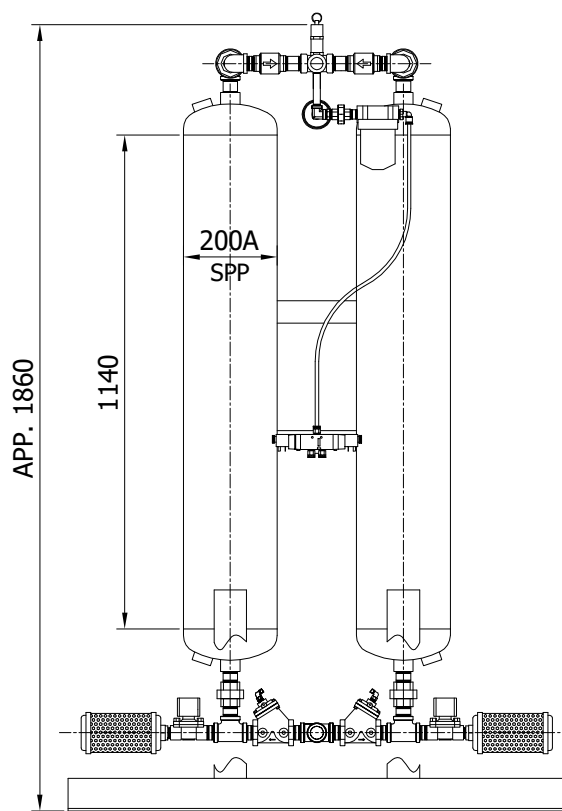
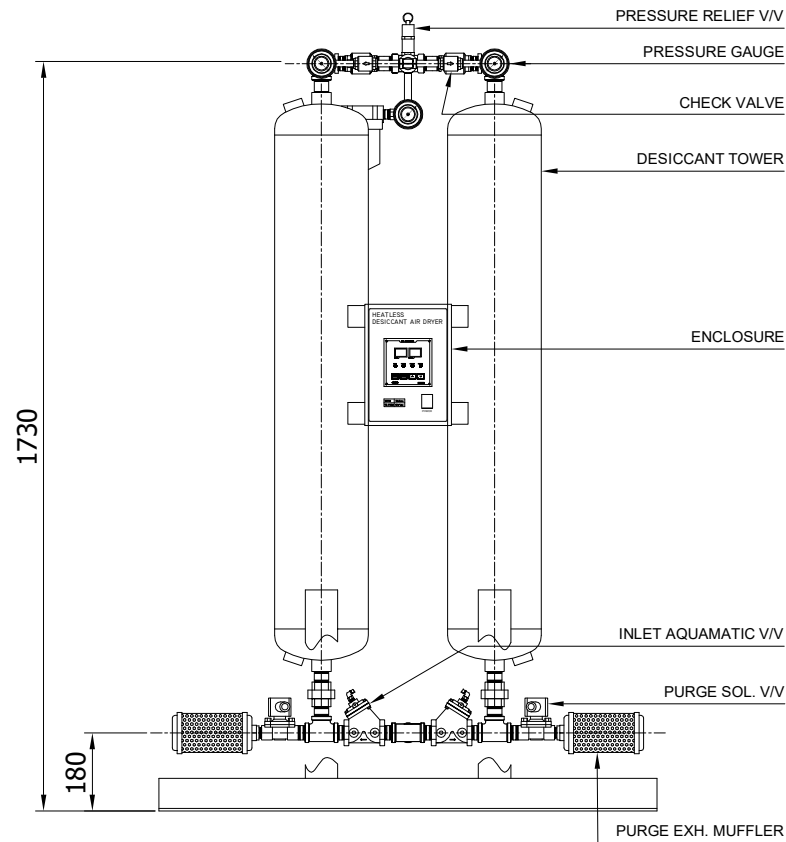
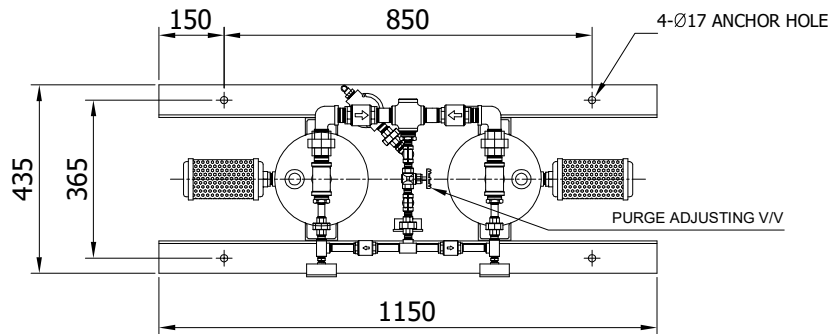
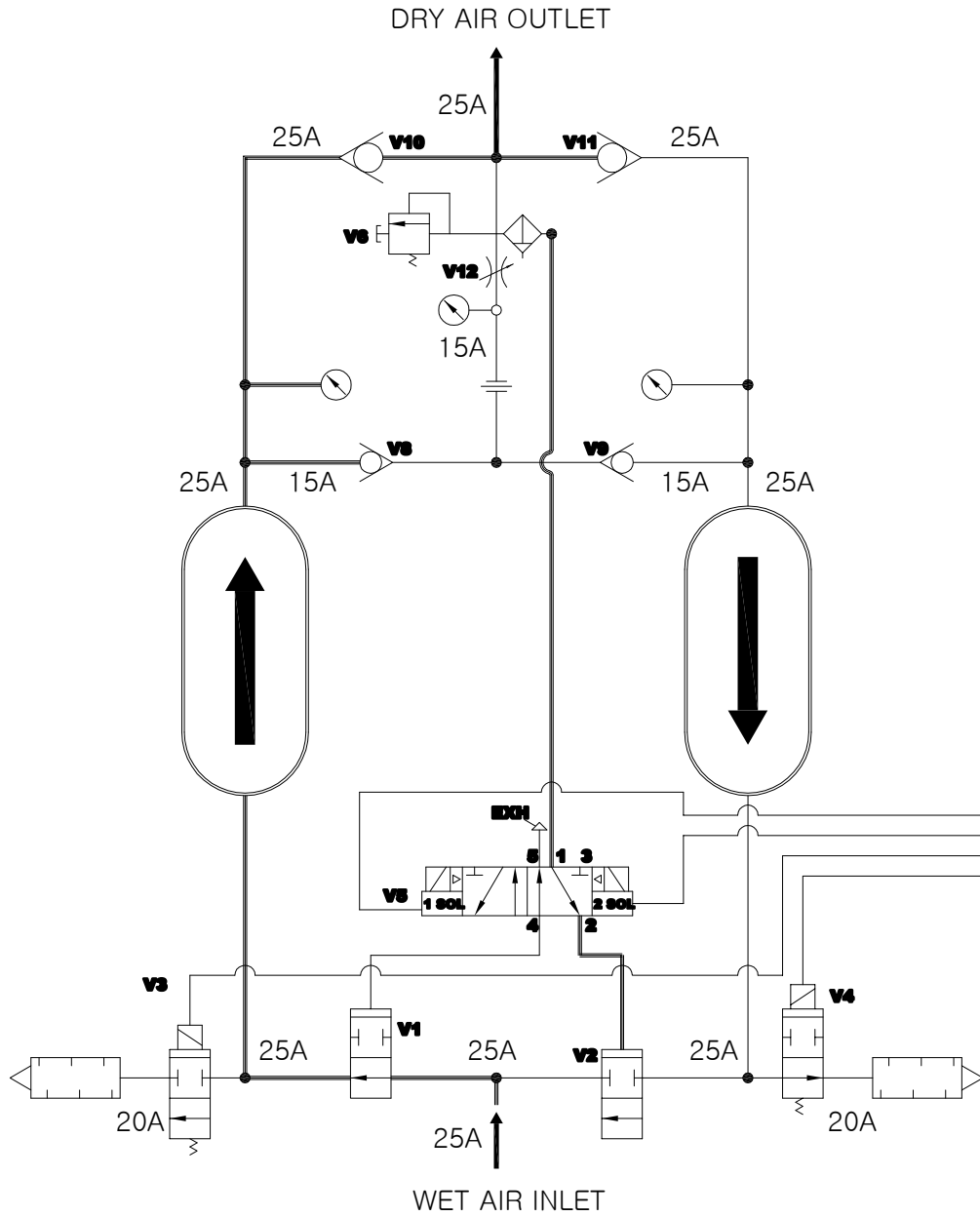


|   |                                    |                      |                 |                         |                               |            |                    |
|---|------------------------------------|----------------------|-----------------|-------------------------|-------------------------------|------------|--------------------|
|  | <b>Desiccant Air Dryer</b>         |                      | Rev.            | Date                    | Prepared By                   | Checked By | Approved By        |
|   |                                    |                      | A               | 2019.01.15              | LEE.S.M.                      | JO.S.J.    | KIM.H.W.           |
|   | <b>Heatless Type</b>               |                      | B               |                         |                               |            |                    |
|   |                                    |                      | C               |                         |                               |            |                    |
|   |                                    |                      | D               |                         |                               |            |                    |
| Project No  |                                    | -                    |                 | Model Name              |                               | PHL-100    |                    |
| <b>MECHANICAL DESIGN DATA</b>   |                                    |                      |                 |                         |                               |            |                    |
| 1   |                                    |                      |                 |                         |                               |            |                    |
| 2   | Supply Voltage                     | 220V                 |                 | Inlet Flow Rate         | 170                           |            | Nm <sup>3</sup> /h |
| 3   | Phase                              | 1PH                  |                 | Inlet Pressure          | 7.0                           |            | barg               |
| 4   | Frequency                          | 60Hz                 |                 | Inlet Temp.             | 38                            |            | °C                 |
| 5   | Control use                        | 220V                 |                 | Outlet Flow Rate        | 146                           |            | Nm <sup>3</sup> /h |
| 6   | Fulid                              | Compressed Air       |                 | Outlet Pressure         | 6.8                           |            | barg               |
| 7   | Location                           | Indoor               |                 | Outlet Temp.            | 40                            |            | °C                 |
| 8   | Design Code                        | Maker STD.           |                 | Pressure Drop           | 0.2                           |            | bar                |
| 9   | Area Class                         | Non-Hazardous        |                 | Outlet Dew Point        | -40                           |            | °C at ATM          |
| 10  | Purge Fulid                        | Dried Air            |                 | Purge Rate              | 24                            |            | Nm <sup>3</sup> /h |
| <b>CONSTRUCTION</b>   |                                    |                      |                 |                         |                               |            |                    |
| 12  | Dryer Type                         | Heatless             |                 | Design Pressure         | 9.7                           |            | barg               |
| 13  | Vessels Design Code                | KS B 6750-3          |                 | Design Temperature      | 250                           |            | °C                 |
| 14  | Vessels Corrosion Allowance        | 1 mm                 |                 | Ambient Temperature     | 38                            |            | °C                 |
| 15  | Desiccant                          | Activated Alumina    |                 | Drying Time             | 5                             |            | min                |
| 16  | Desiccant Quantity                 | 50 kg/2Tower         |                 | Reactivation Time       | 4                             |            | min                |
| 17  | Noise                              | 85 dBA               |                 | - Heating Time          | N/A                           |            | min                |
| 18  | Inlet Connection                   | 25A                  | PT Female Screw | - Cooling Time          | N/A                           |            | min                |
| 19  | Outlet Connection                  | 25A                  | PT Female Screw | - Repressing Time       | 1                             |            | min                |
| 20  | Material                           |                      |                 | Heater Type             | Location                      | N/A        |                    |
| 21  | - Shell / Head                     | SPP / SS275          |                 |                         | Method                        | N/A        |                    |
| 22  | - Flange / Pipe                    | SS275 / SPP          |                 | Heater Power            | Main                          | N/A        | kW                 |
| 23  | - Heater(Shell/Head)               | N/A                  |                 |                         | Aux.                          | N/A        | kW                 |
| 24  | Dimension (W x L x H)              | 1150 X 435 X 1860 mm |                 | Control Panel Power     | 50                            |            | W                  |
| 25  | Weight                             | 250 kg               |                 | Blower Power            | N/A                           |            | kW                 |
| 26  | Color (Munsell)                    | 3.0 BG 7.1/0.2       |                 | Power Consumption(Avg.) | 50                            |            | W                  |
| 27  | Insulation                         | NO                   |                 | Control Unit            | Printed Circuit Board (P.C.B) |            |                    |
| 28  |                                    |                      |                 | Enclosure Control Panel | IP23                          |            |                    |
| <b>INSTRUMENTS-ACESSORIES</b>   |                                    |                      |                 |                         |                               |            |                    |
| 30  | Pressure Gauge                     | YES                  |                 |                         |                               |            |                    |
| 31  | Pressure Switch                    | NO                   |                 |                         |                               |            |                    |
| 32  | Orifice                            | YES                  |                 |                         |                               |            |                    |
| 33  | Pressure Regulator For Control Air | NO                   |                 |                         |                               |            |                    |
| 34  | Instrument Air Filter              | YES                  |                 |                         |                               |            |                    |
| 35  |                                    |                      |                 |                         |                               |            |                    |
| <b>OPTION ITEM</b>  |                                    |                      |                 |                         |                               |            |                    |
| 37  | Touch Screen                       | NO                   |                 |                         |                               |            |                    |
| 38  | Valve Limit Switch                 | NO                   |                 |                         |                               |            |                    |
| 39  | Dew Point Meter                    | NO                   |                 |                         |                               |            |                    |
| 40  | Local Control Panel Double Door    | NO                   |                 |                         |                               |            |                    |
| 41  | Anchor Bolt / Nut                  | NO                   |                 |                         |                               |            |                    |
| <b>NOTES</b>  |                                    |                      |                 |                         |                               |            |                    |
| 43  |                                    |                      |                 |                         |                               |            |                    |
| 44  |                                    |                      |                 |                         |                               |            |                    |
| 45  |                                    |                      |                 |                         |                               |            |                    |
| 46  |                                    |                      |                 |                         |                               |            |                    |



| POWER SOURCE          |                          |         |     |
|-----------------------|--------------------------|---------|-----|
| AC 220V, 1Ph, 50/60Hz |                          |         |     |
| NO.                   | PART NAME                | DESC.   | QTY |
| 18                    | OUTLET                   | PT 25A  | 1   |
| 17                    | INLET                    | PT 25A  | 1   |
| 16                    | CONTROL BOARD            | PCB     | 1   |
| 15                    | ENCLOSURE                | -       | 1   |
| 14                    | DESICCANT TOWER          | -       | 2   |
| 13                    | PURGE SOL. V/V           | PT 20A  | 2   |
| 12                    | PURGE EXH. MUFFLER       | PT 20A  | 2   |
| 11                    | INLET AQUAMATIC V/V      | PT 25A  | 2   |
| 10                    | TOWER SELECTING SOL. V/V | 4W 2P   | 1   |
| 9                     | PRESSURE RELIEF V/V      | PT 15A  | 1   |
| 8                     | POWER ON/OFF SWITCH      | 250V 6A | 1   |
| 7                     | INSTRUMENT AIR FILTER    | PT 10A  | 1   |
| 6                     | PURGE PRESSURE GAUGE     | PT 8A   | 1   |
| 5                     | PURGE ORIFICE UNION      | PT 15A  | 1   |
| 4                     | PURGE ADJUSTING V/V      | PT 15A  | 1   |
| 3                     | TOWER PRESSURE GAUGE     | PF 8A   | 2   |
| 2                     | PURGE CHECK V/V          | PT 15A  | 2   |
| 1                     | OUTLET CHECK V/V         | PT 25A  | 2   |

|                 |            |                        |     |     |      |      |      |      |      |      |
|-----------------|------------|------------------------|-----|-----|------|------|------|------|------|------|
| △               |            |                        |     |     |      |      |      |      |      |      |
| △               |            |                        |     |     |      |      |      |      |      |      |
| △               |            |                        |     |     |      |      |      |      |      |      |
| △               |            |                        |     |     |      |      |      |      |      |      |
| △               |            |                        |     |     |      |      |      |      |      |      |
| △               | 2018.12.10 | ISSUED FOR PROPOSAL    | -   | -   | -    | -    | -    | -    | -    |      |
| REV. NO.        | DATE       | DESCRIPTION            | DWG | CHK | APPD | APPD | APPD | APPD | APPD |      |
| PROJECT         |            |                        |     |     |      |      |      |      |      |      |
| MANUFACTURER    |            |                        |     |     |      |      |      |      |      |      |
|                 |            |                        |     |     |      |      |      |      |      |      |
| TITLE           |            |                        |     |     |      |      |      |      |      |      |
| PHL-100 OUTLINE |            |                        |     |     |      |      |      |      |      |      |
| ITEM NO.        | PHL-100    | DWG NO.                |     |     |      |      |      |      |      | REV. |
| SCALE           | NONE       | <b>GSA-PHL-0100-01</b> |     |     |      |      |      |      | △    |      |

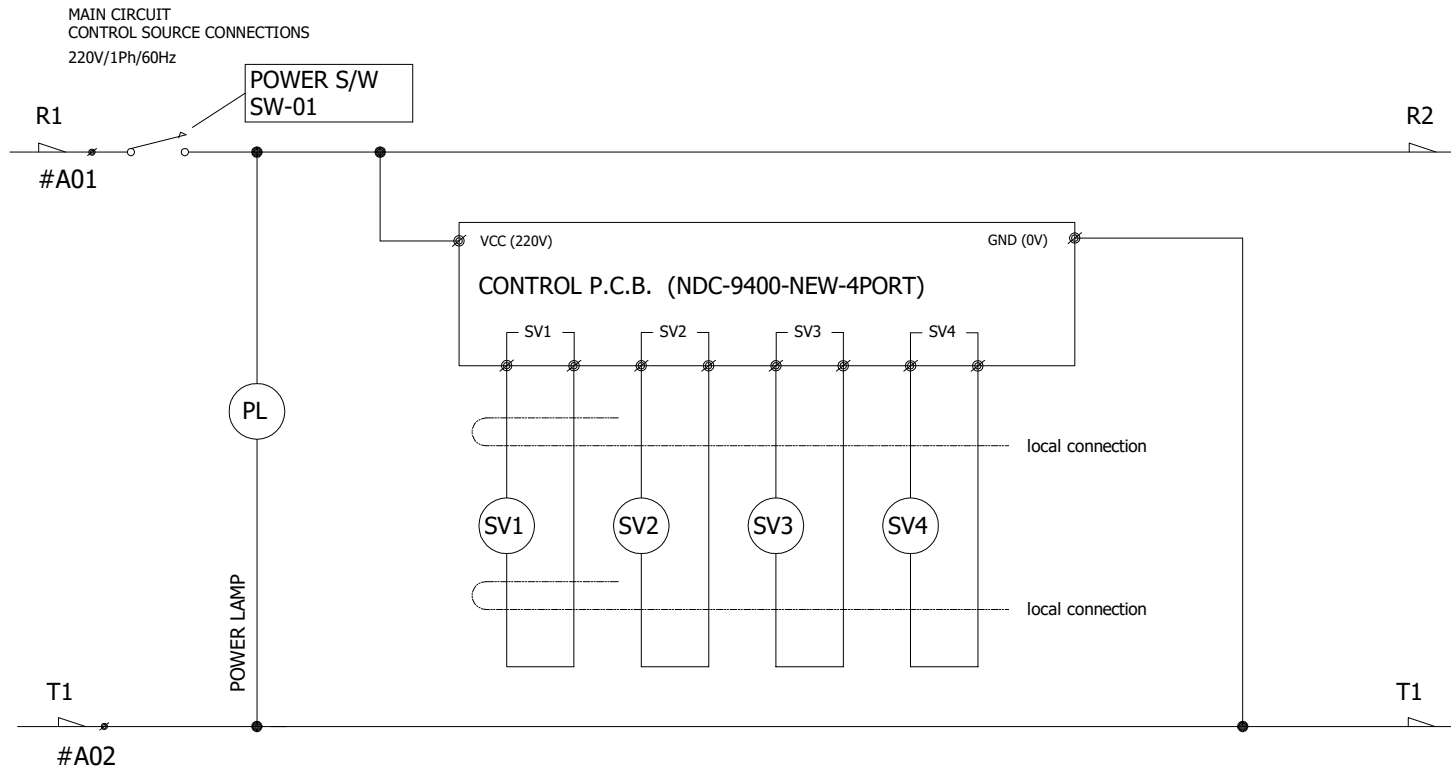


| SYMBOL | DESCRIPTION     | NO. | NOTE                             |
|--------|-----------------|-----|----------------------------------|
|        | CHECK VALVE     | 1   | LINE SYMBOLS FOR FLOW DIRECTION. |
|        | MUFFLER         |     | LEFT TOWER DRYING                |
|        | SAFETY VALVE    |     | RIGHT TOWER REGENERATING         |
|        | PRESSURE GAUGE  |     | PILOT AIR LINE                   |
|        | PRESSURE SWITCH |     | ELECTRIC CONNECTION              |
|        | ORIFICE         |     |                                  |
|        | GATE VALVE      |     |                                  |


|      |                                  |
|------|----------------------------------|
| * 17 | D.P. SENSOR ISOLATION VALVE(V14) |
| * 16 | DEW POINT SENSOR ASSEMBLY        |
| * 15 | D.P. SENSOR PREFILTER            |
| * 14 | D.P. SENSOR ISOLATION VALVE(V13) |
| 13   | DESICCANT TOWERS                 |
| 12   | AIR FILTER FOR VALVE CONTROL     |
| 11   | PURGE FLOW ADJUSTMENT VALVE(V12) |
| 10   | PURGE FLOW ORIFICE               |
| 9    | PURGE PRESSURE GAUGE             |
| 8    | TOWER PRESSURE GAUGES            |
| 7    | OUTLET CHECK VALVE(V10/V11)      |
| 6    | PURGE CHECK VALVE(V8/V9)         |
| 5    | TOWER SAFETY VALVE(V6/V7)        |
| 4    | TOWER SELECTING VALVE(V5)        |
| 3    | PURGE EXHAUST MUFFLER            |
| 2    | PURGE EXHAUST VALVE(V3/V4)       |
| 1    | INLET VALVE(V1/V2)               |
| NO.  | DESCRIPTION                      |

**ENCLOSURE**  
CONTROL POWER  
220V - 1P - 60Hz

|                |            |                        |      |     |      |      |      |      |      |      |
|----------------|------------|------------------------|------|-----|------|------|------|------|------|------|
| △              |            |                        |      |     |      |      |      |      |      |      |
| △              |            |                        |      |     |      |      |      |      |      |      |
| △              |            |                        |      |     |      |      |      |      |      |      |
| △              |            |                        |      |     |      |      |      |      |      |      |
| △              |            |                        |      |     |      |      |      |      |      |      |
| △              | 2018.12.10 | ISSUED FOR PROPOSAL    | -    | -   | -    | -    | -    | -    | -    |      |
| REV. NO.       | DATE       | DESCRIPTION            | ENWG | CHK | APPD | APPD | APPD | APPD | APPD |      |
| PROJECT        |            |                        |      |     |      |      |      |      |      |      |
| MANUFACTURER   |            |                        |      |     |      |      |      |      |      |      |
|                |            |                        |      |     |      |      |      |      |      |      |
| TITLE          |            |                        |      |     |      |      |      |      |      |      |
| PHL-100 SYSTEM |            |                        |      |     |      |      |      |      |      |      |
| ITEM NO.       | PHL-100    | DWG NO.                |      |     |      |      |      |      |      | REV. |
| SCALE          | NONE       | <b>GSA-PHL-0100-02</b> |      |     |      |      |      |      |      |      |



|     |               |
|-----|---------------|
| SV1 | B-TOWER INLET |
| SV2 | B-TOWER PURGE |
| SV3 | A-TOWER INLET |
| SV4 | A-TOWER PURGE |

|  |            |                        |     |     |      |      |      |      |   |      |
|--|------------|------------------------|-----|-----|------|------|------|------|---|------|
| △  |            |                        |     |     |      |      |      |      |   |      |
| △  |            |                        |     |     |      |      |      |      |   |      |
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| △  | 2018.12.10 | ISSUED FOR PROPOSAL    | -   | -   | -    | -    | -    | -    | - |      |
| REV. NO.   | DATE       | DESCRIPTION            | DWG | CHK | APPD | APPD | APPD | APPD |   |      |
| PROJECT  |            |                        |     |     |      |      |      |      |   |      |
| MANUFACTURER   |            |                        |     |     |      |      |      |      |   |      |
| <br>Global Standard Air & Gas |            |                        |     |     |      |      |      |      |   |      |
| TITLE  |            |                        |     |     |      |      |      |      |   |      |
| PHL-100 WIRING   |            |                        |     |     |      |      |      |      |   |      |
| ITEM NO.   | PHL-100    | DWG NO.                |     |     |      |      |      |      |   | REV. |
| SCALE  | NONE       | <b>GSA-PHL-0100-03</b> |     |     |      |      |      |      | △ |      |