

High Pressure Adsorption Dryer HLP PN 25, 0260 bis 1130 HLP PN 40, 0310 bis 1200

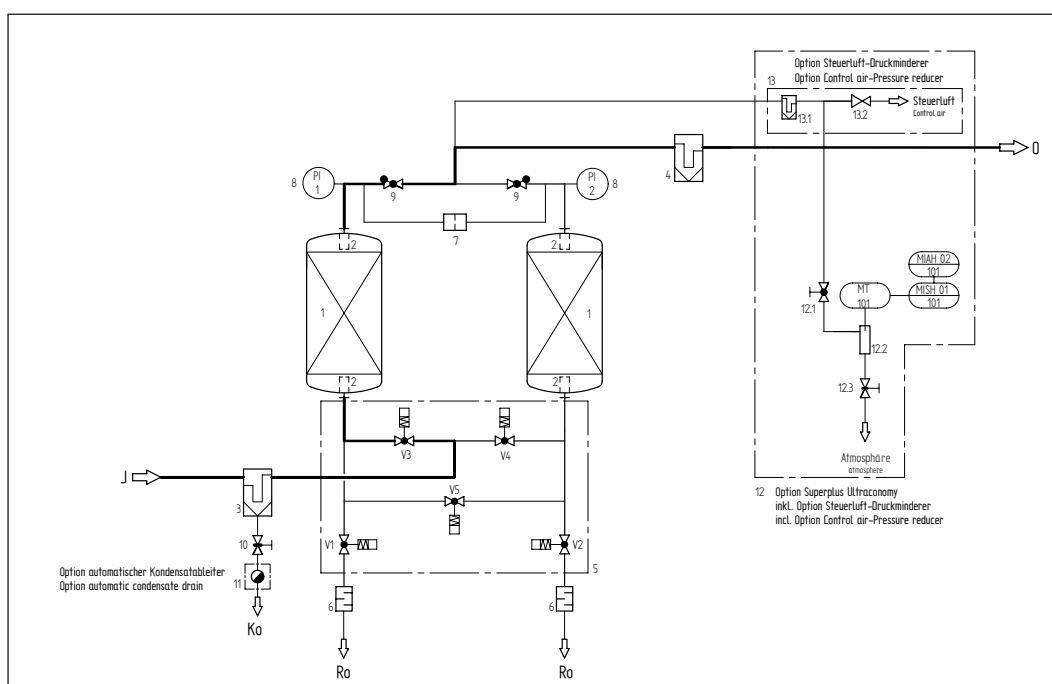
High pressure adsorption dryer, heatless regenerating, including pre-and afterfilter

Product description:

Compressed air is lead through the inlet of the dryer (J) into the prefilter (3). At this stage, the air is cleaned from particles and condensate. The condensate is removed via a hand operated condensate drain (10) or optional via an electronic condensate drain (11). Via the pneumatically operated valve (V3, V4) in the valve block the air is lead into the absorber vessel (1), in which the air is dried to the required dryness level (pressure dewpoint). Thereafter the air flows through the upper non-return valve (9) and an afterfilter (4) which retains eventually accruing abrasion of desiccant. Via the systems outlet (O) the clean and dry air reaches the user's air net. During one vessel is in operation, the water previously accumulated in the other adsorber is removed (regeneration phase). For this process a partial stream of already dried air is lead through a nozzle (7) and brought down to atmospheric pressure. For regeneration, purge air is lead over the desiccant bed and then released into the atmosphere via a pneumatically operated valve (V1, V2) and a silencer (6).



High pressure adsorption dryer
HLP 0260-1130



Technical alterations reserved (R01/ 2005/08/31)

HLP PN 25, 0040 - 1130

| HLP PN 25 | Volume flow in m ³ /h (1 bar, 20°C)* | Regeneration air losses m ³ /h (1 bar, 20°C) | Volume flow out (min.) m ³ /h (1 bar, 20°C) | Pressure loss initial incl. filters mbar | Pre-filter (afterfilter) MF (YG) |
|-----------|---|---|---|--|--|
| 0040 | 40 | 2.62 | 36.69 | 100 | 03/05 |
| 0080 | 80 | 5.15 | 73.51 | 170 | 04/20 |
| 0125 | 125 | 6.87 | 116.52 | 390 | 04/20 |
| 0260 | 260 | 15.28 | 240.92 | 150 | 05/20 |
| 0550 | 500 | 30.49 | 461.71 | 480 | 05/25 |
| 0770 | 770 | 46.49 | 711.58 | 990 | 07/30 |
| 1130 | 1130 | 66.02 | 1047.20 | 900 | 07/30 |

* related to 1 bar (abs) and 20 °C at intake of compressor and 7 bar system pressure and 35 °C inlet temperature into dryer

| Features HLP PN 25 | Benefits |
|--|--|
| Complete purification package including pre-, afterfilter and hand operated drain (optionally electronic condensate drain) | Turnkey-system; all components from one hand, technically perfectly matched to each other |
| Optimally dimensioned filters | Safe separation of particle and aerosols (on adherence to the specified parameters), large filter surface causes low differential pressure of the unit, thereby low operating cost |
| Indication of operating status (adsorption, regeneration, pressurizing, service, alarm) via LED display | High operating safety, all operating status can be easily detected at any time |
| Intermittent operation as standard | Coupling with the compressor with central applications possible, thus savings of regeneration air and operating cost |
| Use of pneumatically controlled seat valves | High operating safety, low pressure losses, low operating and maintenance costs |
| option package available | Flexibility in application; option package for economic and safe system integration in the compressed air network - dew point-dependent capacity control - electronic condensate drain - control air supply - starting valve |

| Product description |
|---|
| Complete purification package with heatless adsorption dryer which works on the basis of pressure swing adsorption, pre-, afterfilter and hand operated drain, electronic condensate drain optionally |

| Medium: |
|--------------------------|
| Compressed air/ nitrogen |

| Pressure dewpoint: |
|--------------------|
| -40°C at 100% load |

| Operating pressure: |
|----------------------------------|
| min. 17 bar (g), max. 25 bar (g) |

| Medium temperature: |
|----------------------|
| min. 5°C, max. 55°C. |

| Ambient: |
|----------------------|
| min. 4°C, max. 50°C. |

| Power supply: |
|----------------|
| 230 V/ 50-60Hz |

| Power consumption: |
|--------------------|
| approx 40 W |

| Pressure vessel - design, manufacture, testing |
|--|
| Adsorber and filter acc. to 97/23/EC |

| Declaration of conformity: |
|----------------------------|
| acc. to 97/23/EC |

Sizing:

| HLP | Inlet temperature | Operating pressure (bar) | | | | | | | | | |
|-------|-------------------|--------------------------|------|------|------|------|------|------|------|------|--|
| | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| PN 25 | 30°C | 0.76 | 0.77 | 0.81 | 0.85 | 0.89 | 0.92 | 0.97 | 1.01 | 1.05 | |
| | 35°C | 0.72 | 0.73 | 0.77 | 0.81 | 0.85 | 0.88 | 0.92 | 0.96 | 1.00 | |
| | 40°C | 0.56 | 0.57 | 0.60 | 0.63 | 0.66 | 0.69 | 0.72 | 0.75 | 0.78 | |
| | 45°C | 0.44 | 0.45 | 0.47 | 0.49 | 0.52 | 0.54 | 0.56 | 0.59 | 0.61 | |
| | 50°C | 0.35 | 0.35 | 0.37 | 0.39 | 0.41 | 0.42 | 0.44 | 0.46 | 0.48 | |
| | 55°C | 0.27 | 0.28 | 0.29 | 0.31 | 0.32 | 0.33 | 0.35 | 0.36 | 0.38 | |

Example:

$\dot{V}_{nom} = 200 \text{ m}^3/\text{h}$,
 Inlet temperature = 40°C
 Operating pressure = 20 bar (ü)
 Pressure dewpoint = -40°C

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f} = \frac{200 \text{ m}^3/\text{h}}{0.63} = 317.5 \text{ m}^3/\text{h}$$

Selected adsorption dryer: HLP 0500-PN25

HLP PN 40, 0050 - 1200

| HLP PN 40 | Volume flow in m ³ /h (1 bar, 20°C)* | Regeneration air losses m ³ /h (1 bar, 20°C) | Volume flow out (min.) m ³ /h (1 bar, 20°C) | Pressure loss initial incl. filters mbar | Pre-filter (afterfilter) MF (YG) |
|-----------|---|---|---|--|--|
| 0050 | 50 | 2.72 | 46.44 | 100 | 03/05 |
| 0095 | 95 | 4.30 | 59.78 | 150 | 04/20 |
| 0155 | 155 | 6.45 | 147.48 | 510 | 04/20 |
| 0310 | 310 | 14.20 | 293.08 | 140 | 05/20 |
| 0515 | 515 | 21.59 | 489.73 | 320 | 05/25 |
| 0800 | 800 | 30.73 | 764.70 | 740 | 07/30 |
| 1200 | 1200 | 46.37 | 1146.53 | 650 | 07/30 |

* Bezogen auf 1 bar (abs) und 20 °C Ansaugzustand und 7 bar (ü) und 35 °C Eintrittstemperatur

| Features HLP PN 25 | Benefits |
|---|--|
| Complete purification package including pre-, afterfilter and hand operated drain (optionally electronic condensate drain) | Turnkey-system; all components from one hand, technically perfectly matched to each other |
| Optimally dimensioned filters | Safe separation of particle and aerosols (on adherence to the specified parameters), large filter surface causes low differential pressure of the unit, thereby low operating cost |
| Indication of operating status (adsorption, regeneration, pressurizing, service, alarm) via LED display | High operating safety, all operating status can be easily detected at any time |
| Intermittend operation as standard | Coupling with the compressor with central applications possible, thus savings of regeneration air and operating cost |
| Use of pneumatically controlled seat valves | High operating safety, low pressure losses, low operating and maintenance costs |
| option package available | Flexibility in application; option package for economic and safe system integration in the compressed air network - dew point-dependent capacity control - electronic condensate drain - control air supply - starting valve |

| Product description: |
|---|
| Complete purification package with heatless adsorption dryer which works on the basis of pressure swing adsorption, pre-, afterfilter and hand operated drain, electronic condensate drain optionally |

| Medium: |
|--------------------------|
| Compressed air/ nitrogen |

| Pressure dewpoint: |
|--------------------|
| -40°C at 100% load |

| Operating pressure: |
|----------------------------------|
| min. 26 bar (g), max. 40 bar (g) |

| Medium temperature: |
|----------------------|
| min. 5°C, max. 55°C. |

| Ambient: |
|---------------------|
| min. 4°C, max. 50°C |

| Power supply: |
|----------------|
| 230 V/ 50-60Hz |

| Power consumption: |
|--------------------|
| approx 40 W |

| Pressure vessel - design, manufacture, testing |
|--|
| Adsorber and filter acc. to 97/23/EC |

| Declaration of conformity: |
|----------------------------|
| acc. to 97/23/EC |

Sizing:

| HLP | Inlet temperature | Operating pressure (bar) | | | | | | | |
|-------|-------------------|--------------------------|------|------|------|------|------|------|------|
| | | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |
| PN 40 | 30°C | 0.69 | 0.75 | 0.80 | 0.85 | 0.91 | 0.96 | 0.99 | 1.05 |
| | 35°C | 0.66 | 0.71 | 0.76 | 0.81 | 0.86 | 0.91 | 0.95 | 1.00 |
| | 40°C | 0.51 | 0.55 | 0.59 | 0.63 | 0.67 | 0.71 | 0.74 | 0.78 |
| | 45°C | 0.40 | 0.43 | 0.46 | 0.49 | 0.52 | 0.56 | 0.58 | 0.61 |
| | 50°C | 0.32 | 0.34 | 0.36 | 0.49 | 0.41 | 0.44 | 0.46 | 0.48 |
| | 55°C | 0.25 | 0.27 | 0.29 | 0.31 | 0.33 | 0.35 | 0.36 | 0.38 |

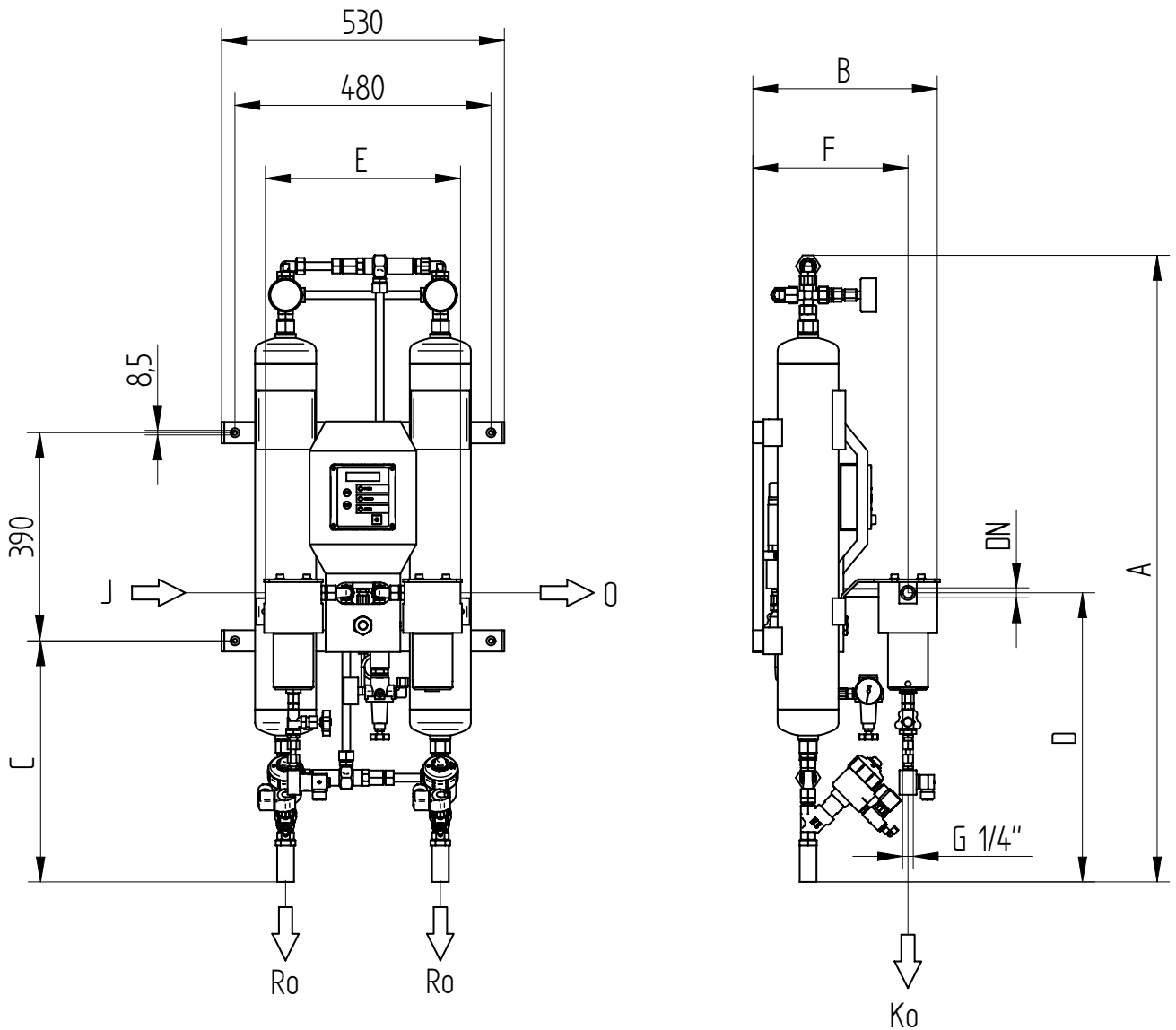
Example:

$\dot{V}_{nom} = 200 \text{ m}^3/\text{h}$,
 Inlet temperature = 40°C
 Operating pressure = 34 bar (ü)
 Pressure dewpoint = -40°C

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f} = \frac{200 \text{ m}^3/\text{h}}{0.67} = 298.5 \text{ m}^3/\text{h}$$

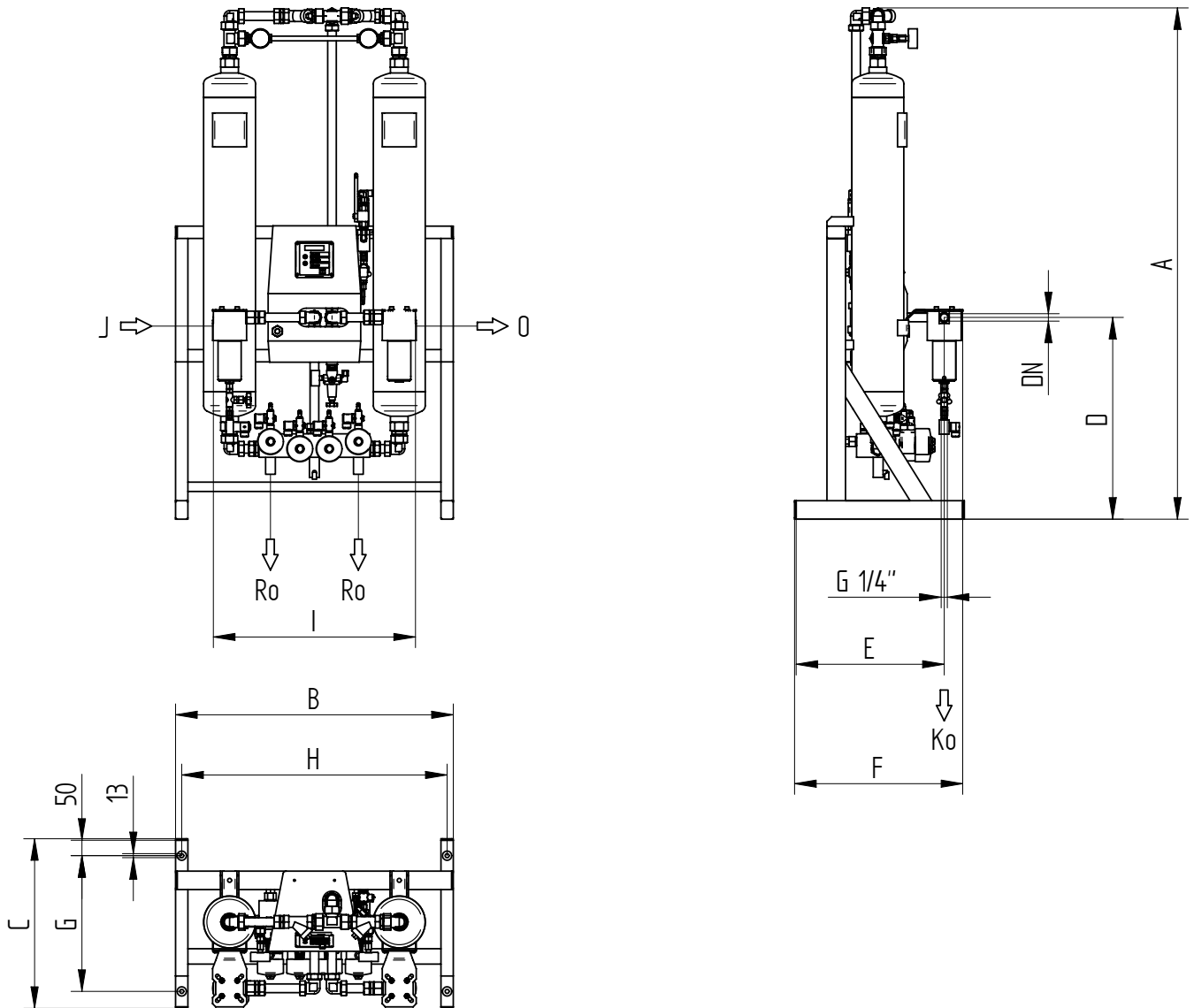
Selected adsorption dryer: HLP 0310-PN40

HLP PN 25, 0040 - 0125



| HLP PN 25 | HLP PN 40 | Connection DN | A mm | B mm | C mm | D mm | E mm | F mm |
|-----------|-----------|---------------|------|------|------|------|------|------|
| 0040 | 0050 | G ¼ | 1085 | 325 | 410 | 495 | 340 | 260 |
| 0080 | 0095 | G ½ | 1175 | 350 | 455 | 540 | 365 | 290 |
| 0125 | 0155 | G ½ | 1275 | 375 | 505 | 590 | 365 | 315 |

HLP PN 25, 0260-1130



| HLP PN 25 | HLP PN 40 | Connection DN " | A mm | B mm | C mm | D mm | E mm | F mm | G mm | H mm | I mm |
|-----------|-----------|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0260 | 0310 | G 3/4 | 1660 | 900 | 540 | 655 | 480 | 540 | 440 | 565 | 655 |
| 0550 | 0515 | G 1 | 1835 | 900 | 540 | 655 | 530 | 595 | 440 | 635 | 670 |
| 0770 | 0800 | G 1 1/2 | 1875 | 900 | 540 | 655 | 585 | 670 | 440 | 725 | 700 |
| 1130 | 1200 | G 1 1/2 | 1940 | 1200 | 700 | 805 | 635 | 715 | 600 | 775 | 900 |