

Medipac 2000 Standard Medipac 2000 Superplus Mini (Type 0005 to 0025)

Complete purification package including adsorption dryer, activated carbon adsorber, pre-, afterfilter and condensate drain

The Medipac 2000 breathing air systems are purification units based on adsorption dryers Ultrapac 2000 to supply breathing air in excess of all relevant international standards and medical prescriptions.

The purification consists of several stages:

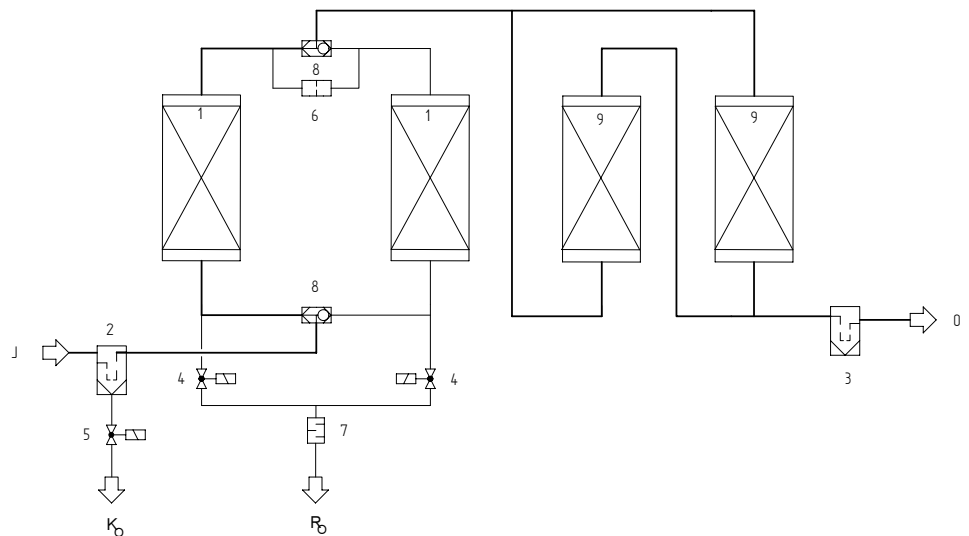
Compressed air is led through the inlet of the unit (J) and across the pre-filter (2). At this stage, the air is cleaned from particles and condensate. The condensate is removed via a membrane condensate drain (5). The following desiccant dryer reduces the water vapour content of the compressed air down to a pressure dew point of -40°C (equivalent to a remaining water content of 0.11 g/m^3). In the following purification stages (SP, AK, OX) (9) the content of CO_2 is adsorbed to a level far below 500 ppm the content of SO_2 below 1 ppm and the content of NO_x below 2 ppm. In the AK stage oil vapours, hydrocarbons, taste and odours are adsorbed to a level far below 0.003 mg/m^3 . In the OX stage a catalyst converts CO to CO_2 and thereby reduces the carbon monoxide level down below 5 ppm. The final particle filter (3) removes all particles which might be carried over from the adsorption and /or catalyst stages.



Medipac 2000 Superplus

| Medipac 2000 | Volume flow in m^3/h (1 bar, 20°C)* | Reg. air flow average in m^3/h (1 bar, 20°C) | Volume flow out (min.) m^3/h (1 bar, 20°C) | Pressure loss initial mbar |
|--------------|--|---|---|----------------------------|
| 0005 | 5 | 0.85 | 3.94 | 80 |
| 0010 | 10 | 1.70 | 7.88 | 120 |
| 0015 | 15 | 2.55 | 11.82 | 145 |
| 0025 | 25 | 4.25 | 19.70 | 320 |

* Related to 1 bar (abs) and 20°C at intake of compressor and 7 bar (g) and 35°C inlet temperature



Medipac 2000 Standard Mini / Superplus Mini

| Features Medipac 2000: | Benefits: |
|--|---|
| Purification package including adsorption dryer, CO-, CO ₂ -, NO _x - and SO ₂ removal, pre-, afterfilter and automatic condensate drain | Turnkey system, no additional installation costs; all components from one hand, therefore perfect technical match |
| Guaranteed and validated separation efficiency | Breathing air quality in excess of all relevant international standards, as e.g. Pharmacopée Européenne; DIN EN 12021 (DIN 3188); EN 737-3; BS4275; ANSI/CGA G.7.1; Z180, 1 M85; AS2299-1979; NZL5813 |
| Adsorbent in cartridges | Easy storage, transport and installation; optimum fixation of desiccant; no risk of fluidizing of desiccant. |
| Compact, space saving design | Installation in smallest spaces, possible also as retrofit |
| Component exchange display | High operating safety, due to calculation of optimum exchange point for filter elements and desiccant cartridges |
| Unique Multifunction Block | All moving parts and all electronic components integrated in a function block, therefore easy and efficient maintenance |

| Features Medipac 2000 Superplus: | Benefits: |
|----------------------------------|---|
| Intermittent operation standard | Link between dryer and compressor possible on central applications, therefore saving of regeneration air |
| Load dependent control | Adjustment of adsorption cycles to the actual inlet water load, therefore saving of regeneration air and reduction of operating cost |
| Self-Diagnosis-System | Sensor-controlled monitoring of regeneration air flow, therefore without-gap-monitoring of dryer functions and of system pressure. |
| Text Display | Display of all operating status, of fault indication and maintenance intervals in clear text messages |
| Info-Channel | Serial interface for transmission of alarm- and maintenance messages |
| Economizer-Function | Online calculation of optimum exchange point of filter elements by continuous evaluation of energy cost versus cost of replacement filter element |

| Sizing: | | | | | | | | | | | | | |
|---------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| f | 4 bar(g) | 5 bar(g) | 6 bar(g) | 7 bar(g) | 8 bar(g) | 9 bar(g) | 10 bar(g) | 11 bar(g) | 12 bar(g) | 13 bar(g) | 14 bar(g) | 15 bar(g) | 16 bar(g) |
| 25°C | 0.69 | 0.82 | 0.96 | 1.10 | 1.24 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 30°C | 0.69 | 0.82 | 0.96 | 1.10 | 1.24 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 35°C | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.26 | 1.38 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| 40°C | 0.48 | 0.58 | 0.68 | 0.77 | 0.87 | 0.96 | 1.06 | 1.16 | 1.25 | 1.35 | 1.45 | 1.50 | 1.50 |
| 45°C | 0.38 | 0.45 | 0.53 | 0.60 | 0.68 | 0.75 | 0.83 | 0.90 | 0.98 | 1.05 | 1.13 | 1.20 | 1.28 |
| 50°C | 0.30 | 0.36 | 0.42 | 0.48 | 0.54 | 0.60 | 0.66 | 0.72 | 0.78 | 0.84 | 0.90 | 0.96 | 1.02 |

Example: $\dot{V}_{nom} = 22 \text{ Nm}^3/\text{h}$, Inlet temperature = 30°C, Operating pressure = 10 bar (g)

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f}$$

$$\dot{V}_{corr} = \frac{22 \text{ m}^3/\text{h}}{1,50} = 14,66 \text{ m}^3/\text{h}$$

Calculated dryer size: Medipac 2000, type 0015

| Product description: |
|--|
| Medipac 2000 Standard and Superplus: Complete purification package including adsorption dryer, CO-, CO ₂ -, NO _x - and SO ₂ removal, pre-, afterfilter and automatic condensate drain |

| Medium: |
|----------------|
| Compressed air |

| Operation pressure: |
|---------------------------------|
| min. 4 bar (g), max. 16 bar (g) |

| Medium temperature: |
|-----------------------|
| min. 5 °C, max. 50 °C |

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

| Compressed air consumption: |
|-----------------------------------|
| 17% of the rated flow, in average |

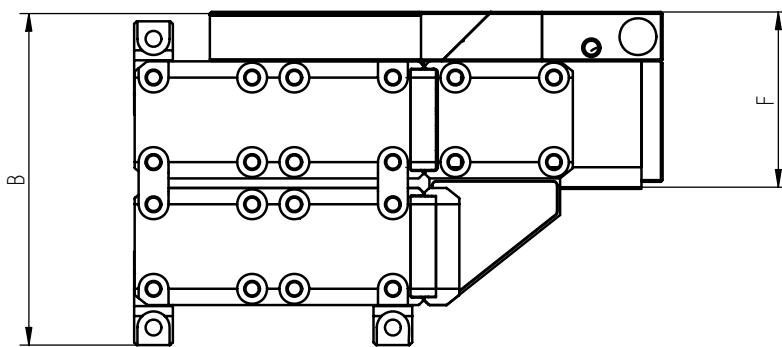
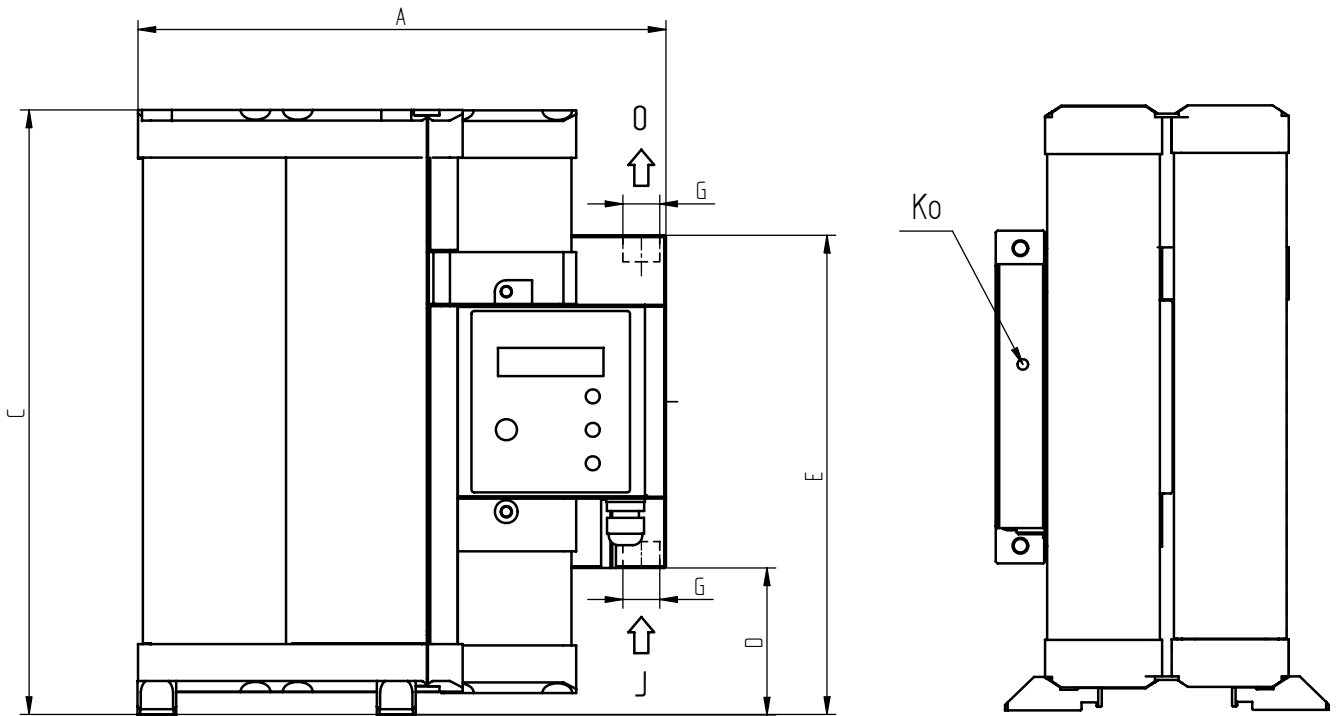
| Power supply: |
|--|
| 230 V/50 -60 Hz AC; 110 V/50 -60 Hz AC 24 V DC; 24 V AC on request |

| Power consumption: |
|--------------------|
| approx. 4 W |

| Air quality related to standard inlet conditions: | |
|---|---------------------------------------|
| Particles | < 1 µm |
| Residual oil content | < 0.01 mg/m ³ |
| Oil vapour and hydrocarbons | < 0.003 mg/m ³ |
| Water vapour | DTP - 40°C (= 0.11 g/m ³) |
| CO ₂ | < 500 ppm |
| CO | < 5 ppm |
| SO ₂ | < 1 ppm |
| NO _x | < 2 ppm |
| Taste and odours | taste and odour free |

| Declaration of conformity: |
|------------------------------|
| acc. to 73/23/EC 97/23/EC |

Medipac 2000 Standard Mini
Medipac 2000 Superplus Mini



| Medipac 2000 Mini | | | | | | | |
|-------------------|--------|---------|---------|---------|---------|---------|---------|
| Type | G " | A mm | B mm | C mm | D mm | E mm | F mm |
| 0005 | G 1/2 | 300 | 189 | 343 | 84 | 272 | 100 |
| 0010 | G 1/2 | 300 | 189 | 591 | 208 | 396 | 100 |
| 0015 | G 1/2 | 300 | 189 | 853 | 339 | 527 | 100 |
| 0025 | G 1/2 | 300 | 189 | 1377 | 601 | 788 | 100 |