

# How it works

| Model  | Flow rate | Refrigeration<br>dryer<br>pressure<br>loss | Electrical power<br>consumption at<br>100 % vol. | Gauge<br>pressure | Mass | Dimensions<br>W x D x H | Compressed<br>air<br>connection | Condensate<br>outlet<br>connection | Electrical<br>supply       | Refrigerant<br>mass<br>R-513A | Refrigerant<br>mass<br>R-513A as CO <sub>2</sub><br>equivalent | Hermetic<br>refrigerant<br>circuit |
|--------|-----------|--------------------------------------------|--------------------------------------------------|-------------------|------|-------------------------|---------------------------------|------------------------------------|----------------------------|-------------------------------|----------------------------------------------------------------|------------------------------------|
|        | m³/min    | bar                                        | kW                                               | bar               | kg   | mm                      |                                 |                                    |                            | kg                            | t                                                              |                                    |
| TAH 5  | 0.35      | 0.05                                       | 0.12                                             | 3 to 16           | 24   | 386 x 473 x 440         | G ½                             | G ¼                                | 230 V /<br>1 Ph /<br>50 Hz | 0.15                          | 0.09                                                           | •                                  |
| TAH 7  | 0.60      | 0.13                                       | 0.17                                             |                   | 24   |                         |                                 |                                    |                            | 0.19                          | 0.12                                                           | •                                  |
| TAH 10 | 0.80      | 0.15                                       | 0.19                                             |                   | 26   |                         |                                 |                                    |                            | 0.21                          | 0.13                                                           | •                                  |
| TBH 14 | 1.20      | 0.21                                       | 0.29                                             | 3 to 16           | 33   | 462 x 525 x 548         | G ½                             | G ¼                                | 230 V /<br>1 Ph /<br>50 Hz | 0.29                          | 0.18                                                           | •                                  |
| TBH 16 | 1.60      | 0.24                                       | 0.40                                             |                   | 38   |                         |                                 |                                    |                            | 0.44                          | 0.28                                                           | •                                  |
| TBH 23 | 2.20      | 0.23                                       | 0.47                                             |                   | 46   |                         | 0.49                            |                                    |                            | 0.31                          | •                                                              |                                    |
| TCH 27 | 2.60      | 0.18                                       | 0.51                                             | 3 to 16           | 56   | 640 x 663 x 609         | G 1                             | G ¼                                | 230 V /<br>1 Ph /<br>50 Hz | 0.62                          | 0.39                                                           | –                                  |
| TCH 33 | 3.15      | 0.19                                       | 0.60                                             |                   | 66   |                         | G 1¼                            |                                    |                            | 0.74                          | 0.47                                                           | –                                  |
| TCH 36 | 3.50      | 0.21                                       | 0.68                                             |                   | 69   |                         |                                 |                                    |                            | 0.75                          | 0.47                                                           | –                                  |
| TCH 45 | 4.50      | 0.18                                       | 0.94                                             |                   | 75   |                         |                                 |                                    |                            | 1.15                          | 0.73                                                           | –                                  |

\*1 Suitable for ambient temperatures from +3 °C to +50 °C. Max. compressed air inlet temperature +60 °C

Performance data at reference conditions as per ISO 7183, option A1: Ambient temperature +25 °C, compressed air inlet temperature +35 °C, pressure dew point +3 °C and 7 bar gauge pressure. The flow rate will change under different operating conditions. Contains fluorinated greenhouse gas R-513A (GWP = 631)

## Calculation of dryer flow rate

Correction factors for deviating operating conditions (flow rates in m³/min x k...)

| Deviating working pressure p at dryer inlet |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| p bar <sub>(g)</sub>                        | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
| k <sub>p</sub>                              | 0.64 | 0.75 | 0.84 | 0.92 | 1.00 | 1.05 | 1.09 | 1.12 | 1.16 | 1.19 | 1.22 | 1.24 | 1.26 | 1.27 |

  

| Compressed air inlet temperature T <sub>i</sub> |      |      |      |      |      |      |      | Ambient temperature T <sub>a</sub> |      |      |      |      |      |      |
|-------------------------------------------------|------|------|------|------|------|------|------|------------------------------------|------|------|------|------|------|------|
| T <sub>i</sub> (°C)                             | 30   | 35   | 40   | 45   | 50   | 55   | 60   | T <sub>a</sub> (°C)                | 25   | 30   | 35   | 40   | 45   | 50   |
| k <sub>Ta</sub>                                 | 1.19 | 1.00 | 0.80 | 0.66 | 0.51 | 0.43 | 0.35 | k <sub>Ta</sub>                    | 1.00 | 0.96 | 0.92 | 0.88 | 0.85 | 0.80 |

| Example:                          |                       |             |                        | Selected refrigeration dryer TAH 10 with 0.8 m³/min (V <sub>reference</sub> )                            |  |  |  |
|-----------------------------------|-----------------------|-------------|------------------------|----------------------------------------------------------------------------------------------------------|--|--|--|
| Gauge working pressure:           | 10 bar <sub>(g)</sub> | (See table) | k <sub>p</sub> = 1.12  | Max. possible flow rate under operating conditions                                                       |  |  |  |
| Compressed air inlet temperature: | +40 °C                | (See table) | k <sub>Ti</sub> = 0.80 | V <sub>max</sub> Operation = V <sub>reference</sub> x k <sub>p</sub> x k <sub>Ti</sub> x k <sub>Ta</sub> |  |  |  |
| Ambient temperature:              | +30 °C                | (See table) | k <sub>Ta</sub> = 0.96 | V <sub>max</sub> Operation = 0.8 m³/min x 1.12 x 0.80 x 0.96 = 0.69 m³/min                               |  |  |  |