

# Refrigeration Dryer, KTRD - series

## Description

Complete air treatment system with timer drain, dewpoint indicator, metal housing and power plug. Electronic drain and volt free contact as an option. Refrigeration dryer KTRD series are available for wall mounting up to model KTRD 150.

The heat exchanger is aluminium plate heatexchanger with three functions: Air to air-heatexchanger, air to refrigerant heatexchanger and condensate system.

## Function

The compressed air is being fed into the dryer and being pre-cooled in the air to air Heatexchanger by the outgoing cold compressed air. The pre-cooled air then passes through the refrigerant to air heatexchanger where it is being cooled further down to the required pressure dewpoint. The moisture in the compressed air condenses out and gathers and discharges automatically. Finally, the cold discharged air is being reheated by the incoming compressed air. This saves energy and prevents any moisture forming beyond the dryer in the compressed air system. The cooling capacity of the refrigeration cycle is being controlled by a microprocessor based controller to realize energy savings of up to 90% and to avoid freezing of the condensate in the heat exchanger.



## Features KTRD series

| Features KTRD 0020 - KTRD 0850  | Benfits  |
|---|--|
| Aluminium plate type heatexchanger  | No corrosion inside the heat exchanger due to the contact with wet compressed air        |
| High overload capacity up to a pressure dewpoint of approx. +20 °C                                  | In case of overload, the dryer will only sitch off at a dewpoint above than appr. +20 °C |
| Timed solenoidl   | Save condensate derivation   |
| All dryers in metal cabinet construction  | Optimum protection against mechanical damage and against dirt                            |
| Leightweight and compact design   | Minimum space required (on stock, for transport and for the installation network)        |
| Optional: series KTRD with electronic level controlled condensate drain and volt free alarm contact | Economical operation and safe system installation in the compressed air network          |

# Refrigeration Dryer, KTRD - series

## Technical data

| Model    | Volume flow* | Volume flow* | Pressure drop | Power supply | Power consumption | Cooling air required | Air connections | weight | Refrigerant |
|----------|--------------|--------------|---------------|--------------|-------------------|----------------------|-----------------|--------|-------------|
|          | m³/h         | m³/min       | bar           | V/Ph/Hz      | kW                | m³/h                 | BSP             | kg     |             |
| KTRD 20  | 20           | 0.33         | 0.15          | 230/1/50-60  | 0.16              | 200                  | 3/8"            | 24     | R134a       |
| KTRD 35  | 35           | 0.58         | 0.06          | 230/1/50-60  | 0.18              | 200                  | 1/2"            | 26     | R134a       |
| KTRD 50  | 50           | 0.83         | 0.09          | 230/1/50-60  | 0.19              | 200                  | 1/2"            | 27     | R134a       |
| KTRD 65  | 65           | 1.08         | 0.11          | 230/1/50-60  | 0.22              | 300                  | 1/2"            | 29     | R134a       |
| KTRD 85  | 85           | 1.42         | 0.15          | 230/1/50-60  | 0.29              | 300                  | 1/2"            | 31     | R134a       |
| KTRD 105 | 105          | 1.75         | 0.40          | 230/1/50-60  | 0.31              | 300                  | 1/2"            | 31     | R134a       |
| KTRD 125 | 125          | 2.08         | 0.22          | 230/1/50-60  | 0.39              | 300                  | 1"              | 33     | R134a       |
| KTRD 150 | 150          | 2.50         | 0.28          | 230/1/50-60  | 0.40              | 300                  | 1"              | 33     | R134a       |
| KTRD 180 | 180          | 3.00         | 0.22          | 230/1/50     | 0.53              | 350                  | 1 1/4"          | 55     | R134a       |
| KTRD 225 | 225          | 3.75         | 0.23          | 230/1/50     | 0.71              | 380                  | 1 1/4"          | 56     | R407C       |
| KTRD 300 | 300          | 5.00         | 0.24          | 230/1/50     | 0.80              | 380                  | 1 1/4"          | 57     | R407C       |
| KTRD 360 | 360          | 6.00         | 0.26          | 230/1/50     | 0.81              | 400                  | 1 1/2"          | 61     | R407C       |
| KTRD 450 | 450          | 7.50         | 0.35          | 230/1/50     | 0.76              | 450                  | 1 1/2"          | 68     | R407C       |
| KTRD 550 | 550          | 9.17         | 0.16          | 230/1/50     | 0.79              | 1400                 | 2"              | 116    | R407C       |
| KTRD 650 | 650          | 10.83        | 0.23          | 230/1/50     | 0.88              | 1900                 | 2"              | 118    | R407C       |
| KTRD 750 | 750          | 12.50        | 0.26          | 230/1/50     | 1.35              | 1900                 | 2"              | 121    | R407C       |
| KTRD 850 | 850          | 14.17        | 0.14          | 230/1/50     | 1.38              | 1900                 | 2"              | 155    | R407C       |

\* according to ISO 7183; quality class 5 DIN ISO 8573-1

### Refrigerant

KTRD 20 – KTRD 180: R134a

KTRD 225 – KTRD 850: R407C

### Operating pressure

KTRD 20 – KTRD 105: min. 2 bar (g) / max. 16 bar (g)

KTRD 125 – KTRD 850: min. 2 bar (g) / max. 14 bar (g)

### Noise pressure level

< 70 dB (A)

### Protection class

IP 22

### Operating temperature

max. +55°C

### Declaration of Conformity

Iht. 2006/42/EG tilæg II A

### Medium

Druckluft

### Ambient temperature

min. +2°C max. +45°C

# Refrigeration Dryer, KTRD - series

Conversion factors for different inlet and ambient temperatures, pressure dewpoints and operating pressures

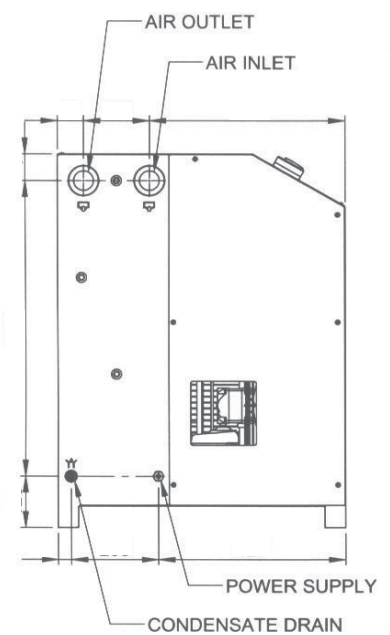
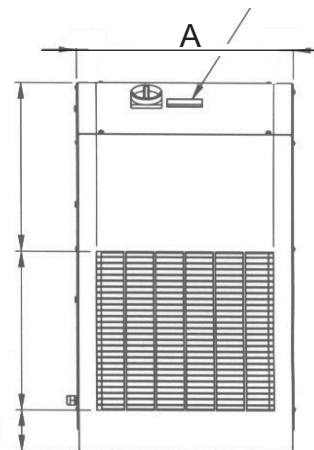
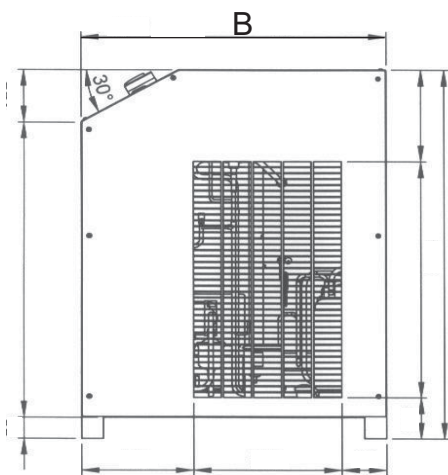
|                   |       |      |      |      |      |      |      |
|-------------------|-------|------|------|------|------|------|------|
| Inlet temperature | °C    | 30   | 35   | 40   | 45   | 50   | 55   |
| Factor            | $f_H$ | 1.17 | 1.00 | 0.88 | 0.75 | 0.58 | 0.48 |

|                   |           |     |   |      |      |
|-------------------|-----------|-----|---|------|------|
| Pressure dewpoint | °C        | 3   | 5 | 7    | 10   |
| Factor            | $f_{pdp}$ | 0.9 | 1 | 1.11 | 1.25 |

|                    |           |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------|-----------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Operating pressure | b a r (g) | 2   | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
| Factor             | $f_P$     | 0.6 | 0.70 | 0.80 | 0.88 | 0.94 | 1.00 | 1.04 | 1.06 | 1.09 | 1.10 | 1.12 | 1.14 | 1.15 | 1.16 | 1.17 |

|                     |          |      |      |      |      |      |
|---------------------|----------|------|------|------|------|------|
| Ambient temperature | °C       | 25   | 30   | 35   | 40   | 45   |
| Factor              | $f_{ta}$ | 1.00 | 0.97 | 0.94 | 0.87 | 0.78 |

## Dimensions KTRD 20 – KTRD 850



| Size         | A   | B   | C    |
|--------------|-----|-----|------|
|              | mm  | mm  | mm   |
| KTRD 20-150  | 360 | 410 | 645  |
| KTRD 180-450 | 480 | 660 | 870  |
| KTRD 550-850 | 645 | 920 | 1055 |

# Refrigeration Dryer, KTRD - series

## Functional diagram

