

# TREF DX

## CONDITIONERS FOR DATA CENTERS

WITH DIRECT EXPANSION AND A1 SAFETY CLASS REFRIGERANT



Also available with 60 Hz power supply

		0201	0251	0272	0281	0302	0311	0362	0401	0422	0452	0532	0592	0602	0692	0762	0852	1002	1204
<b>Inlet air 24°C - 50% r.h.; Condensing temperature 45°C</b>																			
<b>Total refrigerating power</b>	kW	23.9	26.8	28.1	31.9	36.5	35.1	41.1	42.9	45.9	51.3	60.6	66.4	68.3	79.1	88.0	92.7	103.9	133.2
<b>SHR</b>	-	1.0	0.9	1.0	0.9	1.0	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.9	0.9	0.8	0.9	0.9	0.8
<b>Refrigeration cycle EER</b>	-	4.4	4.5	4.9	4.5	4.8	4.6	4.6	4.3	4.3	4.3	4.3	4.2	4.3	4.4	4.4	4.6	4.6	4.2
<b>Inlet air 30°C - 35% r.h.; Condensing temperature 45°C</b>																			
<b>Total refrigerating power</b>	kW	27.2	29.1	30.8	34.3	42.8	37.5	47.2	47.1	50.5	55.2	65.2	70.8	74.3	83.7	93.6	100.2	112.3	142.2
<b>SHR</b>	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Refrigeration cycle EER</b>	-	5.1	4.8	5.4	4.8	5.7	4.9	5.3	4.7	4.7	4.6	4.6	4.5	4.7	4.5	4.7	5.0	5.0	4.5
<b>Air flow rate</b>	m <sup>3</sup> /h	6800	6800	12950	7280	12950	7280	12950	12950	12950	12950	14150	14150	19415	19415	19415	21500	21500	24000
<b>Total absorbed power</b>	kW	6.4	7.0	7.6	8.4	9.5	8.9	10.9	11.8	12.7	13.9	16.8	18.3	18.7	21	22.9	23.9	26.3	34.5
<b>Total absorbed power</b>	A	10.3	11.3	12.3	13.5	15.3	14.2	17.5	19	20.4	22.3	27	29.4	30.2	33.8	36.9	38.2	42.2	55.3
<b>Dimensions [L x H x D]*</b>	mm	1010 x 1998 x 805		1760 x 1998 x 805	1280 x 1998 x 805	1760 x 1998 x 805	1280 x 1998 x 805	1760 x 1998 x 805			2030 x 1998 x 805	2510 x 1998 x 805			2510 x 1998 x 950		3160 x 1998 x 950		

\*For the Displacement version H = 2248 mm  
Data collected using R410A as refrigerant

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# TREF DX



27 - 142 kW

HiRef

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## CONDITIONERS FOR DATA CENTERS

### WITH DIRECT EXPANSION AND A1 SAFETY CLASS REFRIGERANT

#### VERSATILE AND FLEXIBLE RANGE

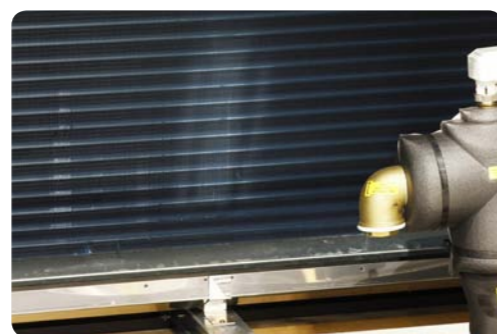
Thanks to different refrigerating configurations available, the **TREF DX** range is suitable for a number of applications in the field of Data Center air conditioning. The direct expansion versions are sub-divided into the following types:

**TREF A** Air condensed units with remote condenser

**TREF Z** Mains water condensed units (15°C) with on board plate condenser

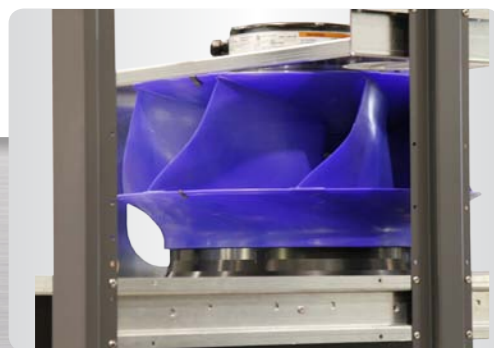
**TREF W** Dry-Cooler water condensed units with on board plate condenser.

#### SAFETY IN THE SERVER ROOM



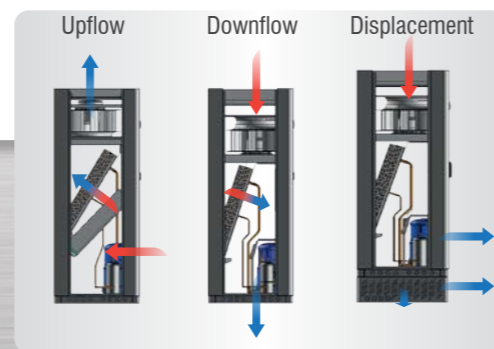
All models in the **TREF DX** range feature heat exchange coils with hydrophilic coating. This special coating, together with an adequate adjustment of air through flow speeds, helps condensate collection during the dehumidification process, avoiding dripping on the inside and outside of the unit.

#### MAXIMISED REDUCTION OF THE OVERALL ELECTRICITY CONSUMPTION



The use of standard-equipment EC fans across the whole range, designed to adjust the air flow according to the thermal load, allows an efficient use of the electricity for ventilation purposes, with a positive impact on the system PUE.

#### DIFFERENT CONFIGURATIONS OF THE AIR FLOW



#### MAXIMISED REDUNDANCY AVAILABLE

If continuous unit operation is required for protection against faults, the **TREF DX** range is also available in a dual circuit design, allowing for server room refrigeration even in the event of either circuit failure.

The **TREF DX** series perimeter mounted units with ASHRAE A1 safety class refrigerant, are direct expansion units designed to be installed in medium/large-sized premises such as server rooms and labs or for applications where accurate control of thermo-hygrometric parameters and round-the-clock operation are required. The top priority for internal design and for the choice of components is energy efficiency, to optimise the system overall electricity consumption with a positive impact on the Data Center PUE (Power Usage Effectiveness).

#### NEW REFRIGERANT R513A

The range of TREF DX perimeter mounted units is available in the low GWP version with the new HFO **R513A** refrigerant.

The TREF DX range with R513A is available in the following versions:

- with scroll compressor from 20 to 128 kW
- with compact screw compressor controlled by inverter from 30 to 55 kW, for improved efficiency at partial loads.



#### EASIER SCHEDULED MAINTENANCE



The unit has been painstakingly designed to ensure front access to components even with the unit running. Its features make routine maintenance easier, in full compliance with safety standards.



- » Humidify/de-humidify feature
- » Standard air flow sensor
- » Air filter class G3
- » Air delivery/backflow temperature sensors
- » Compressor enclosure separated from the air flow to prevent refrigerating capacity loss
- » Machine on-board control microprocessor

- » Refrigerant R410A. Also available with **R513A** and **R134a**
- » Also available in A2L and A2L ready versions
- » Re-heating systems:
  - with electrical heating elements
  - with hot gas coil
  - with hot water coil
- » Stainless steel condensate drain pan
- » Latest-generation EC radial fans
- » Rotalock connectors to make refrigerating lines installation easier (air condensed versions)