

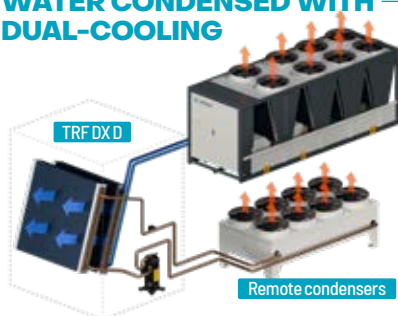
Platform **TRF Evolution**

TRF DX D/K/Q



TRF DX D units are Dual Cooling units. They combine the traditional evaporative coil of the cooling circuit with **the cooling effect of chilled water** coming from an outdoor unit such as a chiller. The use of a dual source guarantees the **continuity of supply to the system and the best operational solution in all cases, in order to minimize operating costs.**

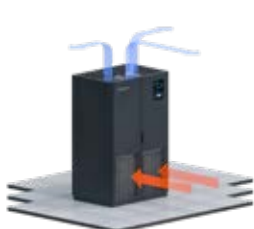
WATER CONDENSED WITH DUAL-COOLING



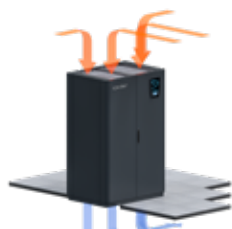
Remote condensers

All TRF DX D units can be combined with HiRef remote condensers, choosing **from different combinations to meet all system needs.** **Oversize remote condensers** are ideal for warmer environments, where it is necessary to keep the condensing temperature under control, while **the compact condensers** on the other hand are small in terms of both size and consumption. The condensers, used with dual-circuit units, are available with a single cooling circuit for **maximum reliability and redundancy of the system** or with a double cooling circuit, to **reduce installation spaces and costs.**

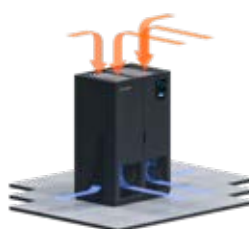
AIRFLOW CONFIGURATIONS



Upflow



Downflow



Displacement

DATA CENTER

INDUSTRIAL

DUAL COOLING PERIMETER MOUNTED UNITS FOR DATA CENTERS

TRF DX D > 23-149 kW

TRF DX K > 23-152 kW

TRF DX Q > 27-170 kW



* Solo Mod. Q e K

- Refrigerant R410A or R513A
- EC Fans
- Scroll on/off compressors
- Advanced control comes as standard
- Temperature control through heating and post-heating systems with electric heating elements (optional)
- Humidity control through dehumidification and humidification (optional)
- Broad choice of accessories, including base modules and plenums for ducting
- Air filter class G3 as standard. Air Filters G4, M5, F7 (optional)
- Double power supply with automatic switch (optional)
- Constant-flow (airflow control) or constant available overpressure (ΔP control) ventilation modulation (optional)
- Electronic expansion valves (optional)
- Low temperature kits for optimal operation in the case of installation in particularly cold environments (on request)
- Long distance kits for optimal operation in the case of large distances between indoor and outdoor units (on request, available exclusively for Version D)



Safety in the server room

All models in the TRF DX D range feature heat exchange coils with hydrophilic coating as standard. This special coating - together with an adequate selection of air through-flow speeds - **aids condensate collection during the dehumidification process, preventing any dripping on the inside and outside of the unit.**



Efficiency

The performance, reliability and efficiency of HiRef units are guaranteed **by using the best quality components and by cleverly designed internal and external layouts.**



Easier scheduled maintenance

The unit has been painstakingly designed to ensure frontal access to components. This makes **routine maintenance easier in full compliance with safety standards.**

Green

HiRef is constantly striving to find refrigerants with an ever decreasing environmental impact. The use of ASHRAE class A1, non-toxic and non-flammable refrigerants is essential in close control applications.

Dual circuit

Double-circuit versions are already available at low power levels. This solution offers **maximum unit redundancy and ensures continuity of service, more precise refrigerating power and less absorption for partial Data Center loads.**



Maximum flexibility

The Dual Cooling units combine **the reliability of a dual source with the ease of operation of HiRef cabinets.** The on-board control allows you to select the source according to different logics, at your discretion.

TRF DX D		0241	0261	0291	0331	0361	0391	0441	0481	0521	0382	0432	0492	0532	0602	0632	0682	0762	0802	0872	0962	1204	1304			
R410A - Indoor air 30°C - 35% / Outdoor air 35°C/ Chilled water In 10°C Out 15°C																										
Cooling capacity	kW	25.8	27.9	31.1	35.5	38.8	42.2	46.3	50.8	55	42.2	46.4	51.4	56.2	62	68	73.6	81.1	87.8	96	103.4	125.8	136			
Total absorbed power	kW	7.2	7.8	8.8	9.3	9.8	11.3	12.4	13.8	15.4	11.2	13.4	14.8	16.1	17.9	18.5	20.4	22.8	24.8	28	30.1	35.8	40.3			
EER		4.24	4.18	4.06	4.58	4.67	4.29	4.27	4.57	4.34	4.94	4.26	4.23	4.17	4.07	4.45	4.29	4.15	4.51	4.23	4.16	4.16	3.91			
SHR		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Chilled water cooling capacity	kW	31.4	31.4	31.4	42.3	42.3	42.3	42.3	60.8	60.8	60.8	60.3	60.8	60.8	60.8	72.9	72.9	72.9	96.1	96.1	96.1	127.8	127.8			
SHR Chilled water		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
R410A - Indoor air 35°C - 30% / Outdoor air 35°C/ Chilled water In 15°C Out 20°C																										
Cooling capacity	kW	28.3	30.3	34.1	39	42.6	46.2	50.5	55.9	60.4	46.2	50.7	56.4	61.4	67.4	74.7	81	88.7	96.5	104.8	112.9	137.5	148.6			
Total absorbed power	kW	7.3	8	8.9	9.4	9.9	11.6	12.5	14	15.6	11.4	13.7	15.3	16.4	18.3	19	20.6	23.2	25.1	28.7	30.6	36.2	40.8			
EER		4.56	4.42	4.39	4.94	5.09	4.59	4.58	4.93	4.7	5.27	4.56	4.49	4.47	4.33	4.76	4.67	4.44	4.88	4.48	4.46	4.47	4.21			
SHR		1	1	1	1	1	1	1	1	1	1	0.99	1	1	1	1	1	1	1	1	1	1	1			
Chilled water cooling capacity	kW	31.6	31.6	31.6	42.7	42.7	42.7	42.7	61.2	61.2	61.2	60.7	61.2	61.2	61.2	73.5	73.5	73.5	96.8	96.8	96.8	128.7	128.7			
SHR Chilled water		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
R513A - Indoor air 30°C - 35% / Outdoor air 35°C/ Chilled water In 10°C Out 15°C																										
Cooling capacity	kW	24.3	27.2	28.8	34.3	38.8	-	-	44.4	-	-	50.2	53.2	57.8	-	66.5	76.2	-	83	-	-	98	115.5			
Total absorbed power	kW	6.3	7	7.8	9.4	10.7	-	-	11.8	-	-	13	15	15.9	-	18.8	21.1	-	23.5	-	-	27.4	33.7			
EER		4.76	4.72	4.35	4.44	4.27	-	-	4.96	-	-	4.93	4.38	4.41	-	4.35	4.34	-	4.7	-	-	4.81	4.34			
SHR		0.99	1	1	0.99	1	-	-	1	-	-	1	1	1	-	1	1	-	1	-	-	1	1			
Chilled water cooling capacity	kW	32.1	32.1	32.1	43.3	43.3	-	-	63.8	-	-	63.8	63.8	63.8	-	76.6	76.6	-	98.3	-	-	127.6	127.6			
SHR Chilled water		1	1	1	1	1	-	-	1	-	-	1	1	1	-	1	1	-	1	-	-	1	1			
R513A - Indoor air 35°C - 30% / Outdoor air 35°C / Chilled water In 15°C Out 20°C																										
Cooling capacity	kW	27	29.9	31.8	38.1	43.1	-	-	49.5	-	-	55.8	58.6	63.7	-	73.9	84.3	-	91.8	-	-	108.4	127.4			
Total absorbed power	kW	6.5	7.2	8.1	9.7	11	-	-	12.2	-	-	13.3	15.5	16.4	-	19.3	21.8	-	24	-	-	28.2	34.5			
EER		5.11	5	4.63	4.7	4.59	-	-	5.31	-	-	5.32	4.65	4.69	-	4.68	4.62	-	5.04	-	-	5.12	4.65			
SHR		1	1	1	1	1	-	-	1	-	-	1	1	1	-	1	1	-	1	-	-	0.99	1			
Chilled water cooling capacity	kW	32.4	32.4	32.4	43.7	43.7	-	-	64.3	-	-	64.3	64.3	64.3	-	75.3	75.3	-	99.1	-	-	128.7	128.7			
SHR Chilled water		1	1	1	1	1	-	-	1	-	-	1	1	1	-	1	1	-	1	-	-	1	1			
Rated air flow	m³/h	8000			10800				15500				15000			15500			18600			24500			31800	
Power supply	V/ph/Hz	400/3+N/50																								
Number of circuits		1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2			
Lp @ nominal rpm; dist.=2m Q=2	db(A)	61	62	62	65	65	65	65	71	71	71	71	71	71	71	65	65	65	69	69	69	66	66			
Dimensions [LxHxD]	mm	1010x2000x890			1270x2000x890				1760x2000x890				2020x2000x890				2510x2000x890				3160x2000x960					

Also available with 60 Hz power supply. | Height of model Displacement 2250 mm.