

Water Cooled Chillers

Compact, modular chillers



The Water-Cooled Chillers 3FX from Frigel, were designed for use with the ECODRY 3DK central adiabatic dry-cooler system and offer well engineered, automatic free-cooling capability. 3FX Chillers are a key component of a digitally controlled, integrated closed-loop intelligent cooling system engineered to save energy and deliver reliable performance and results.

The 3FX are compact modular chillers ranging from 100 to 600kW, and are specifically designed to build integrated systems, either in in series arrangements, or in parallel configurations. As an option, both configurations can be used as heat pumps, and are able to recover the heat extracted from the process, producing hot water up to 60°C.

12 models are available in the series to meet the demands of a wide range of process cooling applications, while providing industry leading energy efficiency ratios (EERs) in all working conditions.

- Each digitally controlled compact chiller has a minimal footprint and is engineered as a self-contained and complete package, consisting of a single-refrigeration circuit, rotary compressor(s), evaporator, and condenser.
- The Chillers can be configured up to 850 tons of cooling capacity.
- Easy expansion of existing systems.
- Provides automatic free cooling as part of an integrated closed-loop process cooling system.
- With the use of a Frigel 3DR Intelligent Control System, automatically monitor and adjust the complete system to ensure optimum performance based on a wide range of operating parameters.



Main features

- High efficiency rotary compressors
- Optional inverter on screw compressors (from 25% up to 100%)
- Oversized stainless steel brazed plates, evaporator and condenser
- Low quantity of gas: R410A, R513A or R134A.
- Electronic expansion valve
- Electronic pressure transducers and anti-freezing protection

Advantages

- Modular design for full customisation and easy expansion
- High efficiency: high EER in any operating condition
- High reliability (massive field testing)
- Microprocessor control with compact design
- Easy installation
- Low noise



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Registered in England & Wales

No: 2489937

VAT Registration No: 549 5321 27



Water Cooled Chillers

3FX Screw Compressor



Model			3FX 180	3FX 230	3FX 280	3FX 325	3FX 400	3FX 475	3FX 575
Cooling Capacity (nom.)*	R513a	kW	166	231	265	331	416	496	564
	R134a		165	227	260	326	407	488	556
Compressor		Type	High Efficiency Screw						
Compressor	60 Hz	HP	40	60	70	80	90	125	140
	50 Hz		50	70	80	90	125	140	160
	VF ³		50	70	80	90	160	200	200
Gas		Type	R513a/R134a						
		kg	31	36	51	60	68	79	83
Cooling Range (min. - max.)		°C	-5°C to +30°C						
Evaporator		Type	Stainless Steel Brazed Plate						
Evaporator nominal flow**		m ³ /h	28	39	45	56	70	84	96
Condenser		Type	Stainless Steel Brazed Plate						
Inverter (optional)***		Type	Varipack						
Dimensions	Length	mm	1770	1770	1770	1770	1770	1770	2220
	Width		1170	1170	1170	1170	1170	1170	1250
	Height		2128	2128	2128	2282	2282	2282	2282
Net Weight		kg	1.900	1.900	1.900	1.900	1.950	1.950	1.950

(*) Referred to 15°C LWT and 35°C condensation water temperature

(**) At nominal capacity and 5°C approach

(***) Version with inverter

Available Power Supply: 400V/50Hz and 380/480V-50/60Hz for inverter version

3FX Scroll Compressor

Model			3FX 110	3FX 150	3FX 180	3FX 230	3FX 280
Cooling Capacity (nom.)*		kW	103	135	167	218	276
Compressor		Type	High Efficiency Screw				
Compressor	60 Hz	HP	25	30	40	50	60
	50 Hz		30	40	50	60	80
Gas		Type	R410a				
		kg	20	24	33	36	43
Cooling Range (min. - max.)		°C	-5°C to +30°C				
Evaporator		Type	Stainless Steel Brazed Plate				
Evaporator nominal flow**		m ³ /h	18	23	29	37	47
Condenser		Type	Stainless Steel Brazed Plate				
Dimensions	Length	mm	1585	1585	1585	1585	1585
	Width		950	950	950	950	950
	Height		1796	1940	1940	1940	1970
Net Weight		kg	1.200	1.250	1.300	1.350	1.400

(*) Referred to 15°C LWT and 35°C condensation water temperature

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Available Power Supply: 400V/50Hz



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