



KIRBY® eCOMPACT CO₂ Condensing Units

Advanced system technology
to reduce carbon footprint

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KIRBY eCOMPACT

CO₂ Condensing Units

Introduction and Overview

The Kirby® eCompact Condensing Unit is our latest innovation in CO₂ refrigeration systems for low temperature applications. An adaptable plug and play solution that is designed for maximum reliability, efficiency and operating performance. With a significantly lower global warming potential than primary HFC systems it makes CO₂ applications possible in more places.

The eCompact Condensing Unit has been designed with the needs of contractors and environmentally conscious end users in mind. The system comes as a complete condensing unit that requires connection to field fixtures and a high stage for heat rejection requirements. Efficiency and enhanced performance is made available by the use of variable capacity (freezer rooms, freezer cabinets) control via the digital Copeland Scroll™ or Dorin semi-hermetic compressor, coupled with a factory programmed VSD.

Features & Benefits

The Kirby® eCompact Condensing Unit offers:

- Variable system capacity can be modified using High Stage system selection / operating conditions
- Plug and play control / wiring assembly including a pre-programmed Dixell control for faster installation and assured performance
- Copeland Scroll digital compressor technology or Dorin Semi Hermetic compressor with factory programmed variable speed drive
- Compact footprint ensures suitability for installation in tight spaces



Optional Enhancements

The Kirby® eCompact Condensing Unit can be configured with vertical legs, which raise the unit by 650mm (refer diagrams page 4)

- Higher design pressures available on request.
- System can be incorporated in a rack. Designs available from Kirby.

Kirby eCompact Condensing Units – Nomenclature

EC	S	703	L	P1	2
Primary Refrigerant Capacity (R744) (kW) / 10			Compressor Power Supply		
Compressor Type S Semi-Hermetic Z Hermetic Scroll			1 Single Phase 2 Three Phase		
Product Brand EC eCompact			Heat Exchanger P1 Plate Heat Exchanger		
			Operation Range for Primary Refrigerant L Low		

eCOMPACT CONDENSING UNITS

Performance Data

R744 REFRIGERATION CAPACITY						MINIMUM CAPACITY TO SELECT HIGH STAGE COND UNIT.					APPROX. CAPACITY TO SELECT OPTIONAL BACKUP COND UNIT.		RECEIVER CAPACITY (kg)
R744 CAPACITY DATA +5% BASED ON CALORIMETER DATA WHERE POSSIBLE		CAPACITY (MAXIMUM)				SST (R134a)	SST (R744)				SST (R134a)		
MODEL	SCT (R744)	-35	-30	-25	-20		-35	-30	-25	-20			
ECS703LP1-2 CDS181B	0	5390	6790	8350	10100	-4	7655	9135	10690	12370	-10	700	4.5
	-2	5600	7030	8630	10420	-6	7790	9280	10855	12560			
	-4	5820	7270	8910	10750	-8	7940	9430	11025	12760			
ECS890LP1-2 CDS301B	0	6870	8600	10530	12680	-4	9745	11550	13470	15520	-10	875	4.5
	-2	7130	8900	10870	13080	-6	9900	11730	13660	15750			
	-4	7400	9190	11210	13470	-8	10070	11895	13850	15970			
ECZ872LP1-2 ZOD34KCE-TFD	0	6910	8470	10250		-4	9670	11265	13060		-10	850	4.5
	-2	7120	8720	10550		-6	9765	11400	13240				
	-4	7330	8960	10850		-8	9870	11530	13440				

- All capacity data based on maximum capacity for scroll compressor & at 50Hz for Dorin compressor with VSD.
- Dorin compressor cooling capacity factor @65Hz is 1.32 and @35Hz is 0.72.
- Design pressure for R744 high side is 40 Bar and R744 low side is 25 Bar.

eCOMPACT CONDENSING UNITS

Technical Specification Data

MODEL	COMPRESSOR	UNIT ELECTRICAL DATA (AMPS/PH)			COMP INPUT POWER (WATTS)	UNIT INPUT POWER (WATTS)	SOUND POWER (dBA)	SOUND PRESSURE @3M (dBA)
		MCC	LRA	RLA				
ECS703LP1-2	CDS181B	4.7	20	3.6	1810	1870	64.0	44.0
ECS890LP1-2	CDS301B	6.3	24.5	4.5	2270	2330	65.5	45.5
ECZ872LP1-2	ZOD34KCE-TFD	5.8	26	4.0	2140	2200	73.0	53.0

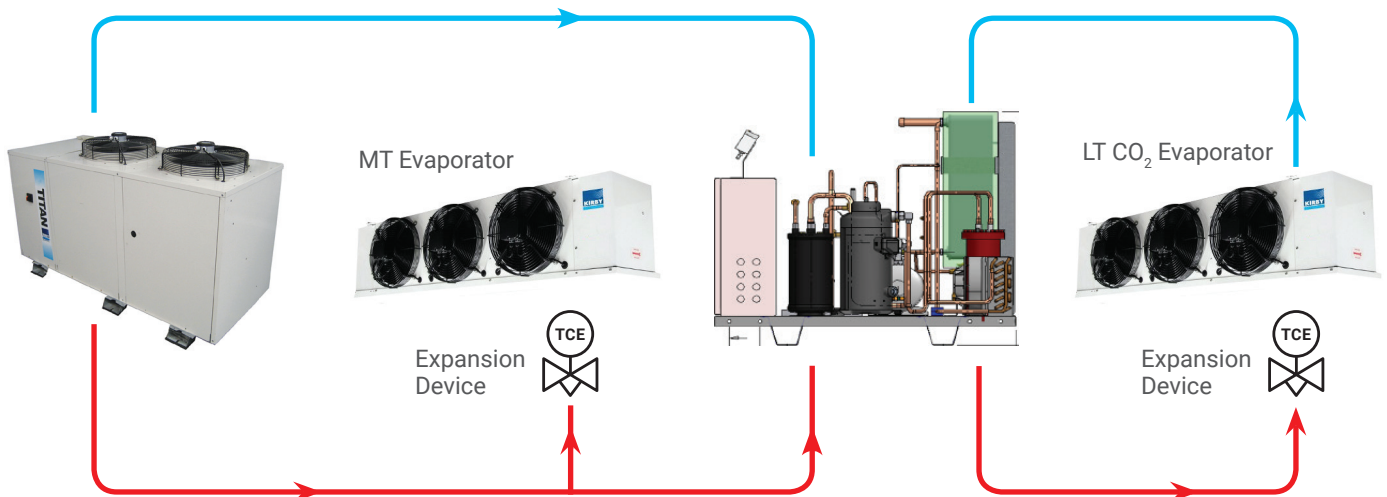
- RLA at -30C SST and -2C SCT. LRA value is for compressor only.

MODEL	RECEIVER	CONNECTIONS (R744)		CONNECTIONS (R134a)		APPROX. WEIGHT (kg)	
	VOL (l)	LIQUID	SUCTION	LIQUID	SUCTION	UNPACKED	PACKED
ECS703LP1-2	6	12.7	15.88	12.7	28.58	370	385
ECS890LP1-2	6	12.7	15.88	12.7	28.58	375	390
ECZ872LP1-2	6	12.7	15.88	12.7	28.58	350	365

- Receiver capacity – Based on 80% liquid and 20% vapour by volume at -2°C condensing.

System Example

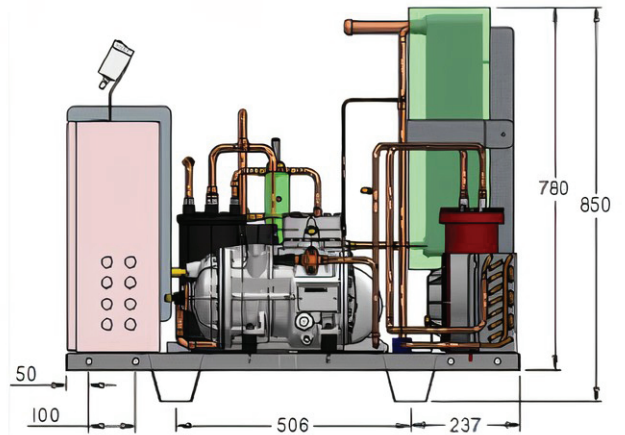
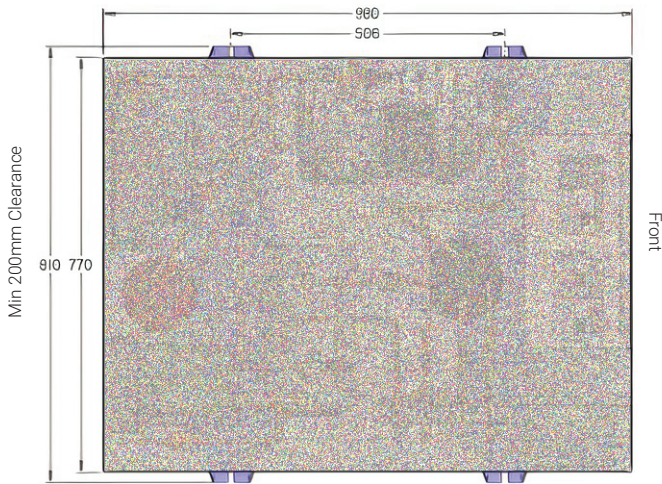
* Other components sold separately



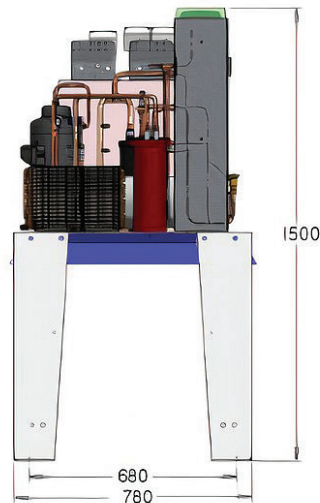
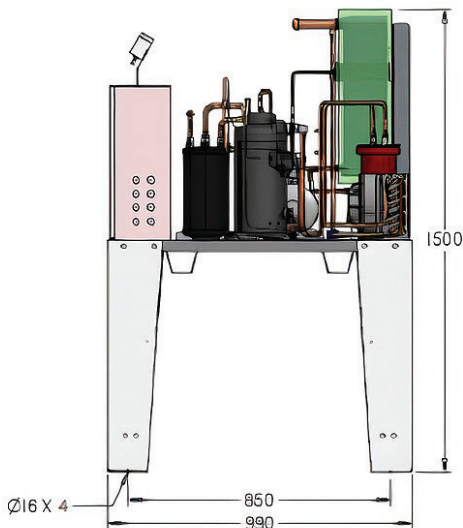
eCOMPACT CONDENSING UNITS

Dimensions

All models



With Optional Vertical Legs



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