



Remote Air Cooled Condensers

RCS Remote Air Cooled Condensers

The R.C.Scutt range of remote air cooled condensers are specifically designed with the engineer in mind. The range includes models using 630mm Fans rated for 230V-1ph-50Hz and dual speed 800mm AC fans rated for 380/420v-3ph-50Hz and 800mm EC fans rated for 380/480v-3ph-50/60Hz. 3 phase AC Fan speeds can be changed by making Star or Delta connections as shown in the charts in the following pages. EC fans require a 0-10volt output controller (not included with the condenser). All models are constructed from inner grooved copper tubes and epoxy coated aluminium fins as standard. All models are supplied without legs which must be selected and ordered seperately. All models are circuited for horizontal or vertical air flow and can be mounted on the optional purpose made legs for either orientation. All casings are powder coated and are fitted with horizontal and vertical anchor points to allow for dual mounting.



Condenser Selection Process

Table 1. THR Factors

Calculate the Total heat of Rejection for the refrigeration system by multiplying the evaporator capacity at design conditions by the appropriate correction factor selected from the Semi-Hermetic Compressor chart.

Total Heat of Rejection factors - Semi Hermetic Compressors

Evap Temp °C	Condensing Temp °C						
	30	35	40	43	45	50	55
-40	1.64	1.69	1.76	1.82	1.86	2.03	-
-35	1.56	1.61	1.64	1.69	1.73	1.83	-
-30	1.48	1.53	1.57	1.60	1.62	1.69	-
-25	1.42	1.46	1.50	1.52	1.54	1.60	1.68
-20	1.37	1.40	1.44	1.46	1.48	1.53	1.60
-15	1.32	1.35	1.38	1.41	1.43	1.48	1.53
-10	1.28	1.31	1.34	1.36	1.37	1.42	1.46
-5	1.23	1.26	1.29	1.31	1.33	1.37	1.41
0	1.20	1.22	1.25	1.27	1.28	1.32	1.36
5	1.16	1.19	1.21	1.23	1.24	1.28	1.31
10	1.13	1.15	1.18	1.20	1.21	1.23	1.26

Table 2. Temp diff Factors

Select a factor based on the temperature difference between the ambient temperature and the design condensing temperature.

TD (K)	8	9	10	11	12	13	14
Factor:	0.53	0.60	0.67	0.73	0.80	0.87	0.93

TD (K)	15	16	17	18	19	20	21
Factor:	1.00	1.07	1.13	1.20	1.27	1.33	1.40

Table 3. Refrigerant
Select a factor from the table for the system refrigerant.

	R134a	R404A	R407C
Factor:	0.93	1.00	0.87

Selection Example:

Evaporator capacity: **85kW**
 Evaporating Temperature: -10°C
 Condensing Temperature: 43°C
 Ambient Temperature: 32°C
 Condenser Temp Diff.: 11°CTD
 Refrigerant: R404A

Calculation Process:

(Evaporator Capacity x THR factor)
 (Temp diff factor x Refrigerant factor)

(85 kW x 1.36)
 (0.73 x 1)

Required Condenser Selection Capacity : 158.36 kW

Selection: TCH.3-080-22-A-BB (T4-800-12pole) = 161 kW

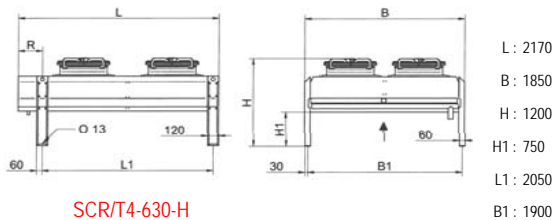
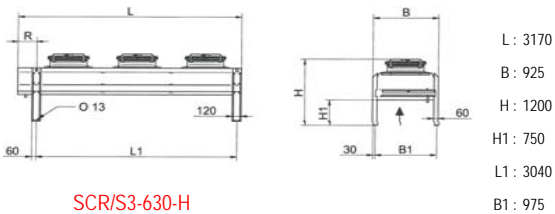
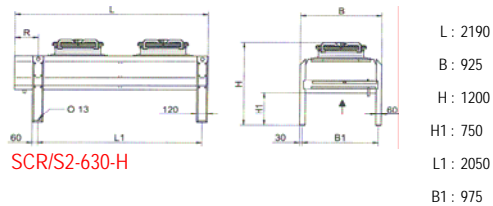
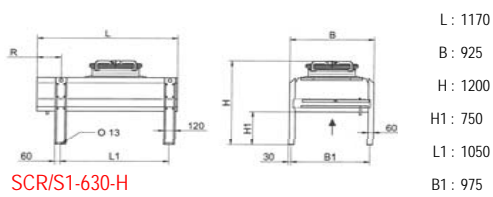


Remote Air Cooled Condensers

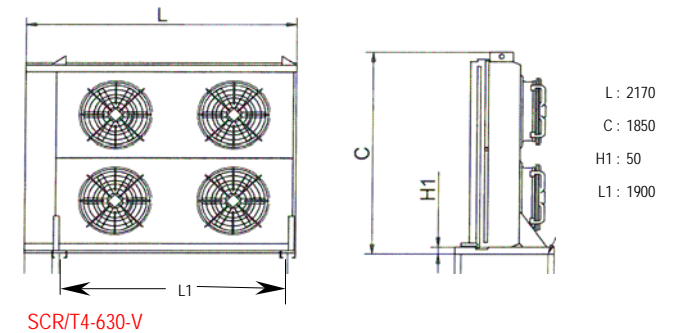
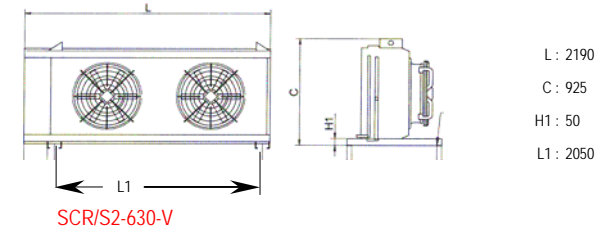
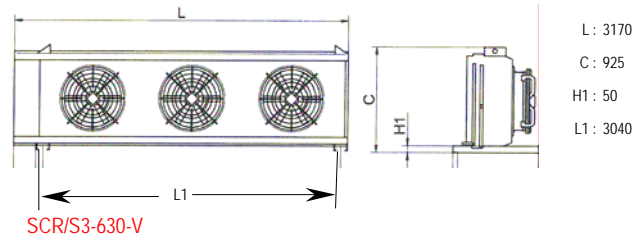
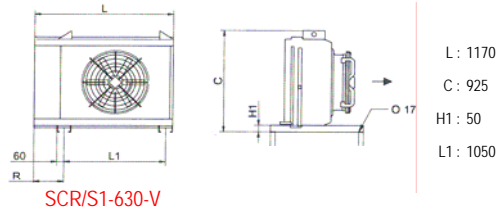
630mm Fan Models - Technical Data

RCS Models	RCS Ref:	6 Pole Fan Speed (1 Phase)					8 Pole Fan Speed (1 Phase)					12 Pole Fan Speed (3 Phase)					General Data (All 630mm Models)				
		Delta (Kw) @ 15°C _{TD}		db(A)			Delta (Kw) @ 15°C _{TD}		db(A)			Delta (Kw) @ 15°C _{TD}		Star (Kw) @ 15°C _{TD}		db(A)		Net Weight	Connections		Ref. Charge
		870 rpm	m3/hr	10 m			630 rpm	m3/hr	10 m			430 rpm	m3/hr	10 m	320 rpm	m3/hr	10 m	kgs	Inlet	Outlet	(25% int vol) kgs
SCR/S1-630-II	S1-630-II	29200	8,500	43	-	-	23400	6,200	37	-	-	16900	4,050	27	12506	3,080	21	58	1.3/8"	7/8"	2.9
SCR/S2-630-II	S2-630-II	58400	17,000	46	-	-	46800	12,400	40	-	-	33900	8,100	30	25086	6,160	24	115	1.5/8"	1.1/8"	6.2
SCR/S3-630-II	S3-630-II	87600	25,500	48	-	-	70200	18,600	42	-	-	50700	12,150	32	37518	9,240	26	173	1.5/8"	1.1/8"	7.9
SCR/T4-630-II	T4-630-II	117000	34,000	49	-	-	93600	24,800	43	-	-	67800	16,200	34	50172	12,320	27	230	1.5/8"	1.1/8"	11.8

630mm Fan Models - Vertical Air Flow (mm)



630mm Fan Models - Horizontal Air Flow (mm)

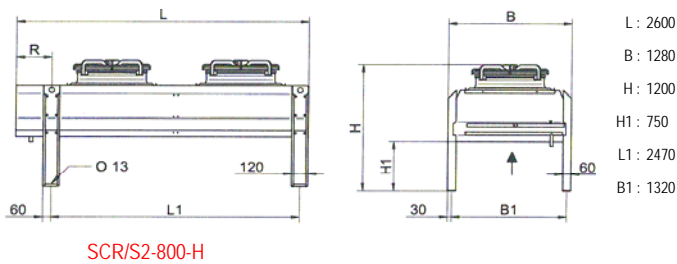




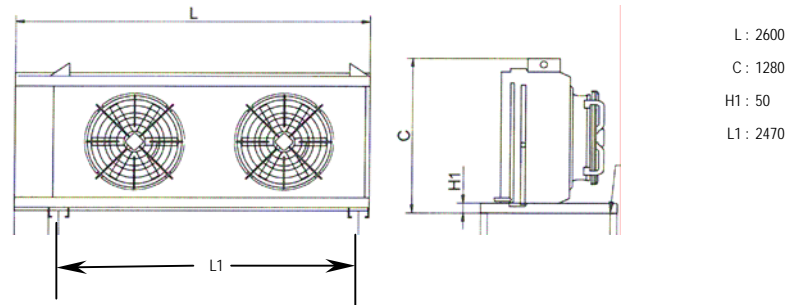
800mm Fan Models - 3 Phase - Technical Data

RCS Models	RCS Ref:	6 Pole Fan Speed (3 Phase)						8 Pole Fan Speed (3 Phase)						12 Pole Fan Speed (3 Phase)						General Data (800mm Model)			
		Delta (Kw) @ 15°C _{TD}		Star (Kw) @ 15°C _{TD}		db(A) @ 15°C _{TD}		Delta (Kw) @ 15°C _{TD}		Star (Kw) @ 15°C _{TD}		db(A) @ 15°C _{TD}		Delta (Kw) @ 15°C _{TD}		Star (Kw) @ 15°C _{TD}		db(A) @ 15°C _{TD}		Net Weight	Connections		Ref. Charge
		890 rpm	m3/hr	10 m	690 rpm	m3/hr	10 m	670 rpm	m3/hr	10 m	510 rpm	m3/hr	10m	440 rpm	m3/hr	10 m	350 rpm	m3/hr	10 m	kgs	Inlet	Outlet	(25% int vol) kgs
SCR/S2-800-II	S2-800-II	135000	37,800	49	111000	28,700	42	108000	27,600	42	88600	21,200	37	76100	17,600	33	63700	14,180	29	176	1.5/8"	1.3/8"	9.5

800mm Fan Models - Vertical Air Flow (mm)



800mm Fan Models - Horizontal Air Flow (mm)





Remote Air Cooled Condensers

800mm Low Noise Fan Models - 3 Phase - Technical Data

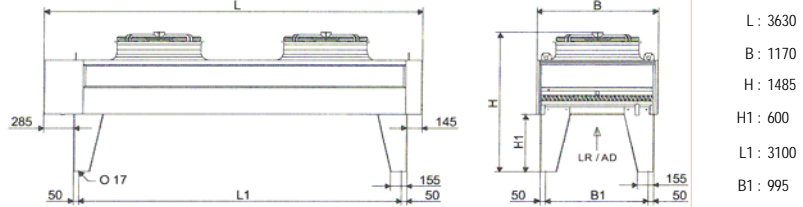
Thermofin Model	RCS Ref:	6 Pole Fan Speed						8 Pole Fan Speed					
		@ 15°CCTD			Star (Kw) @ 15°CCTD			@ 15°CCTD			Star (Kw) @ 15°CCTD		
		860 rpm	m3/hr	db(A)	620 rpm	m3/hr	db(A)	670 rpm	m3/hr	db(A)	510 rpm	m3/hr	db(A)
TCH.3-080-12-A-BB	S2-800	128.9	41,439	50	110.3	30,184	43	108.8	29,450	42	93	22,717	37
TCH.3-080-13-A-BB	S3-800	193.3	62,167	52	165.4	45,263	45	163.2	44,187	44	139.5	34,076	39
TCH.3-080-22-A-BB	T4-800	268.6	83,138	53	222.6	60,349	46	219.3	58,912	45	185.2	45,433	40
TCH.3-080-23-A-BB	T6-800	386.5	124,235	55	330.8	90,525	48	326.3	88,316	47	279.1	68,138	42

Net Weight kgs	Connections		Ref. Charge (25% int vol) kgs
	Inlet	Outlet	
388	1.5/8"	1.5/8"	7.4
537	2.1/8"	2.1/8"	11.1
660	2.1/8"	2.1/8"	14.9
931	2.5/8"	2.5/8"	22.2

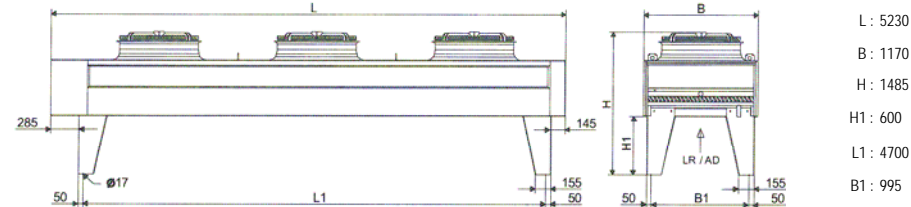
Thermofin Model	RCS Ref:	12 Pole Fan Speed						16 Pole Fan Speed					
		@ 15°CCTD			Star (Kw) @ 15°CCTD			@ 15°CCTD			Star (Kw) @ 15°CCTD		
		440 rpm	m3/hr	db(A)	350 rpm	m3/hr	db(A)	360 rpm	m3/hr	db(A)	250 rpm	m3/hr	db(A)
TCH.3-080-12-A-BB	S2-800	80.6	18,298	37	66.4	13,963	28	-	-	-	55.3	10,991	23
TCH.3-080-13-A-BB	S3-800	120.8	27,451	39	99.5	21	30	-	-	-	82.9	16,483	25
TCH.3-080-22-A-BB	T4-800	159.5	36,602	40	130.8	27,927	31	-	-	-	108.7	21,987	26
TCH.3-080-23-A-BB	T6-800	241.6	54,902	42	199.0	41,868	33	-	-	-	165.8	32,966	28

Net Weight kgs	Connections		Ref. Charge (25% int vol) kgs
	Inlet	Outlet	
388	1.5/8"	1.5/8"	7.4
537	2.1/8"	2.1/8"	11.1
660	2.1/8"	2.1/8"	14.9
931	2.5/8"	2.5/8"	22.2

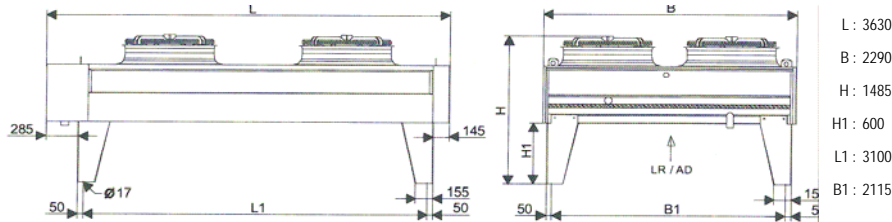
800mm Low Noise Fan Models - Vertical Air Flow dimensions in mm (TCH Models)



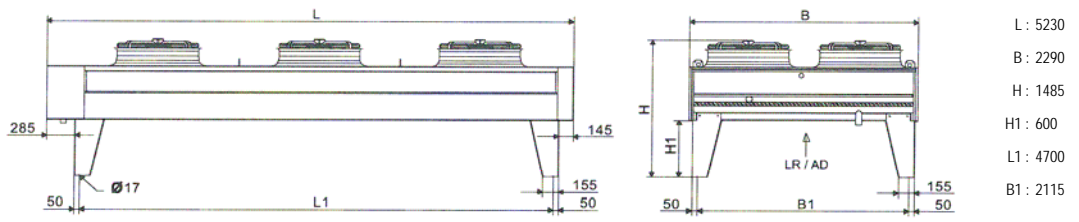
SCR/S2-800 (TCH.3-080-12-A-BB)



SCR/S3-800 (TCH.3-080-13-A-BB)



SCR/T4-800 (TCH.3-080-22-A-BB)

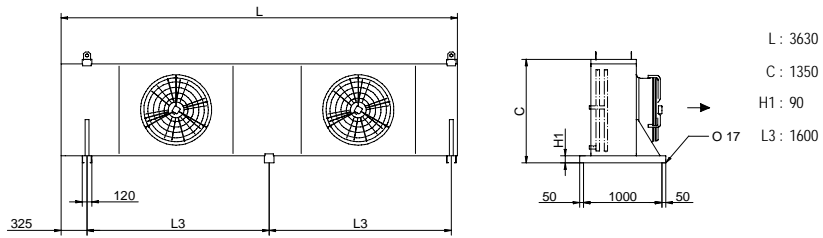


SCR/T6-800 (TCH.3-080-23-A-BB)

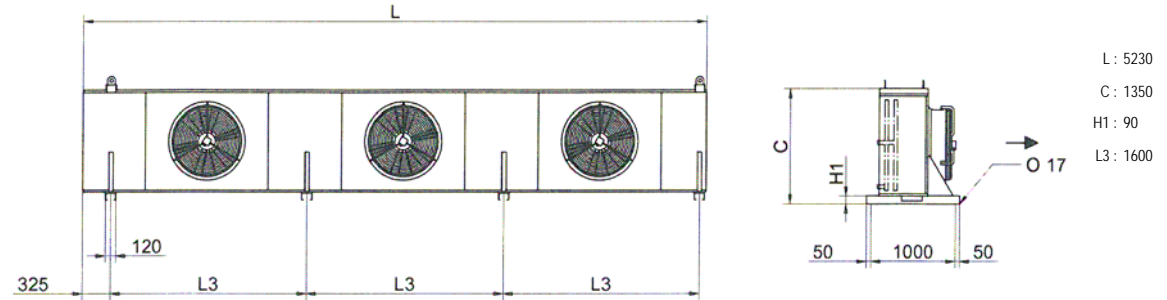


Remote Air Cooled Condensers

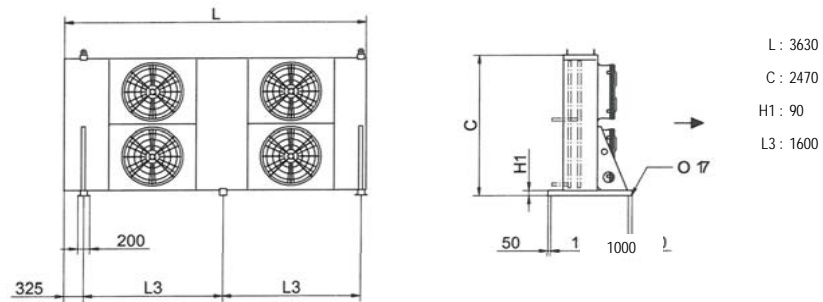
800mm Low Noise Fan Models - Horizontal Air Flow dimensions in mm (TCV Models)



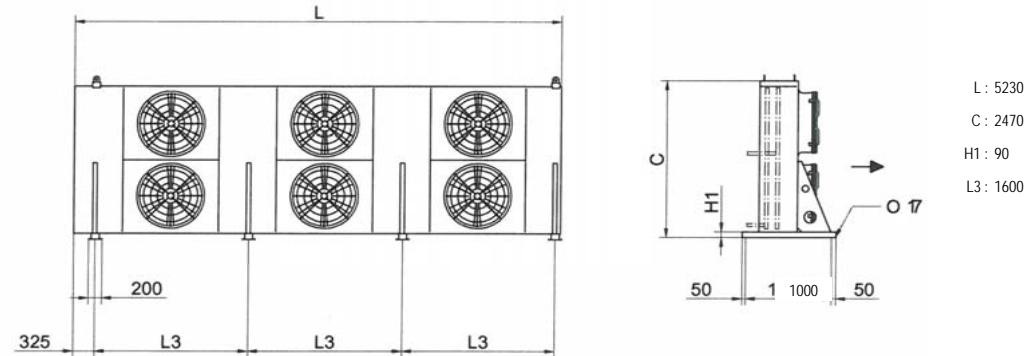
SCR/S2-800 (TCV.3-080-12-A-BB)



SCR/S3-800 (TCV.3-080-13-A-BB)



SCR/T4-800 (TCV.3-080-22-A-BB)



SCR/T6-800 (TCV.3-080-23-A-BB)

Fan Types for use with RCS Condensers

	Article No.	Fan Model	Per Fan Motor			
			RPM Delta	RPM Star	FLA Delta	FLA Star
630mm Ziehl-Abegg :	141725	FN063-6EK.4I.V7P1-1ph (6 Pole)	870	-	3.1	-
630mm Ziehl-Abegg :	141732	FN063-8EK.4I.V7P1-1ph (8 Pole)	630	-	1.6	-
630mm Ziehl-Abegg :	141587	FN063-NDK.4F.V7P1-3ph (12 Pole)	430	320	0.32	0.14
800mm Ziehl-Abegg :	153499	FN080-SDI.6N.V7P2 3ph (6 Pole)	860	620	4.1	2.2
800mm Ziehl-Abegg :	154502	FN080-ADI.6N.V7 3ph (8 Pole)	670	510	1.95	1.0
800mm Ziehl-Abegg :	140782	FN080-NDI.6F.V7 3ph (12 Pole)	440	350	0.9	0.4
800mm Ziehl-Abegg :	140783	FN080-NDI.6F.V7(S) 3ph (12/16 Pole)	-	250	-	0.3
800mm Ziehl-Abegg :	154942	FN080-ZII.GL.V7P3 3ph (EC Motor)	440 to 1100		3.8 to 4.8	
800mm Ziehl-Abegg :	156881	FN080-ZII.DG.V5P4 3ph (EC Motor)	280 to 700		1.15 to 1.45	

Mounting Legs

Condenser Models	RCS Ref:	Horizontal/Vertical Air		Vertical Coil/Horiz Air	
		Condenser	No.	Condenser	No.
SCR/S1-630-II	S1-630	SCR 630 H	4	SCR 630 V	2
SCR/S2-630-II	S2-630	SCR 630 H	4	SCR 630 V	2
SCR/S3-630-II	S3-630	SCR 630 H	4	SCR 630 V	2
SCR/T4-630-II	T4-630	SCR 630 H	4	SCR 630 V	2
SCR/S2-800-II	S2-800	SCR 800 H	6	SCR 800 V	3
TCH/TVH.3-080-12-A-BB	S2-800	HCR000060	4	DUMMYID03	2
TCH/TVH.3-080-13-A-BB	S3-800	HCR000060	4	DUMMYID03	2
TCH/TVH.3-080-22-A-BB	T4-800	HCR000060	4	DUMMYID05	2
TCH/TVH.3-080-23-A-BB	T6-800	HCR000060	4	DUMMYID05	2