





**SIAM COMPRESSOR  
INDUSTRY CO., LTD.**

**Sm** | WATER-COOLED SHELL  
and TUBE CONDENSER



CHAPTER 4

# CONDENSER

## THC

THC Series air cooled condenser design for refrigeration system.

- Compatible with HCFC and HFC refrigerant R404A, R507, R410A, R407, R22, R134A, etc.
- Heat Rejection performance from 4.98kW to 76.15kW
- ISO9001:2008 Certified



Model	H.R. (Kw)	Fan Motor (380V/3ph/50Hz.)		Weight (Kg.)	Fig No.	Dimension (mm.)				Connection	
		Blade x Qty.	Amp.			A	B	C	D	H (In)	L (Out)
THC 140Y	4.98	350x1	0.7	24	1	470	635	250	382	5/8"	1/2"
THC 180Y	5.9	400x1	0.5	25	1	520	635	250	392	5/8"	1/2"
THC 210Y	8.48	450x1	0.6	28	1	520	635	302	392	5/8"	1/2"
THC 290Y	11.16	450x1	0.6	34	1	622	736	302	392	5/8"	1/2"
THC 360Y	14.01	450x1	0.6	46	1	673	990	302	392	5/8"	1/2"
THC 440Y	15.99	500x1	0.9	46.5	1	673	990	302	422	3/4"	1/2"
THC 450Y	16.33	450x2	1.2	50	2	622	1117	250	392	3/4"	1/2"
THC 470Y	17.58	500x1	0.9	51	1	673	990	330	422	3/4"	1/2"
THC 500Y	18.91	450x2	1.2	54	2	622	1117	302	392	3/4"	1/2"
THC 530Y	19.3	500x1	0.9	61.5	1	826	990	330	422	3/4"	1/2"
THC 630Y	22.86	500x2	1.8	62	2	724	1295	302	422	7/8"	1/2"
THC 660Y	23.87	630x1	1.8	62.2	1	876	990	330	432	7/8"	5/8"
THC 720Y	26.24	500x2	1.8	70	2	724	1295	302	422	7/8"	5/8"
THC 760Y	27.91	500x2	1.8	76	2	826	1498	302	422	7/8"	5/8"
THC 850Y	31.53	500x2	1.8	80	2	826	1498	302	422	7/8"	5/8"
THC 920Y	32.37	630x2	3.6	89	2	826	1498	330	432	7/8"	5/8"
THC 1060Y	35.04	630x2	3.6	96	2	826	1498	330	432	7/8"	5/8"
THC 1100Y	41.69	500x3	2.7	109	3	826	2172	302	422	7/8"	5/8"
THC 1170Y	42.68	630x2	3.6	128	2	927	1625	330	432	1-1/8"	3/4"
THC 1260Y	49.56	500x3	2.7	116	3	826	2172	302	422	1-1/8"	3/4"
THC 1320Y	45.53	630x2	3.6	109	2	927	1625	330	432	1-1/8"	3/4"
THC 1510Y	60.04	500x4	3.6	138	4	1638	1498	302	422	1-3/8"	7/8"
THC 1670Y	65.89	630x3	5.4	147	3	927	2413	330	432	1-3/8"	7/8"
THC 1700Y	67.21	500x4	3.6	152	4	1638	1498	302	422	1-3/8"	7/8"
THC 1840Y	66.96	630x4	7.2	160	4	1638	1498	330	432	1-3/8"	7/8"
THC 2000Y	68.86	630x3	5.4	163	3	927	2413	330	432	1-3/8"	7/8"
THC 2110Y	70.06	630x4	7.2	161	4	1638	1498	330	432	1-3/8"	7/8"

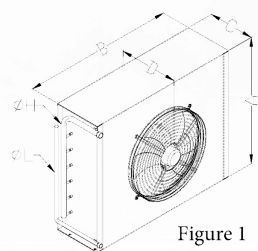


Figure 1

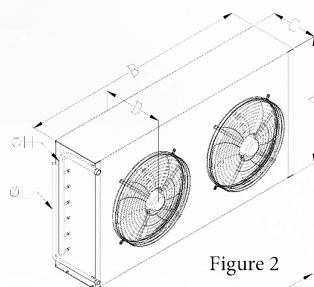


Figure 2

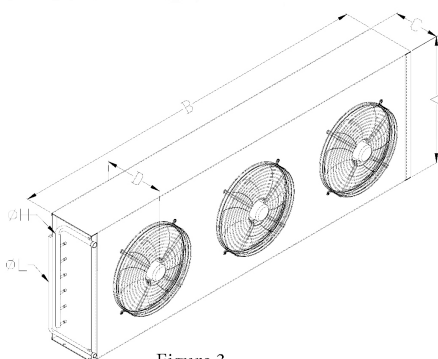


Figure 3

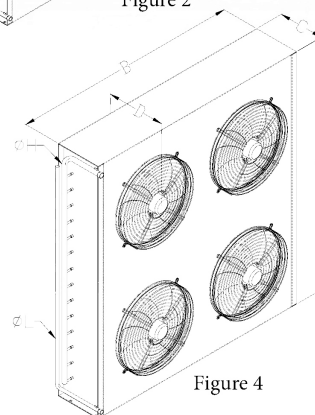


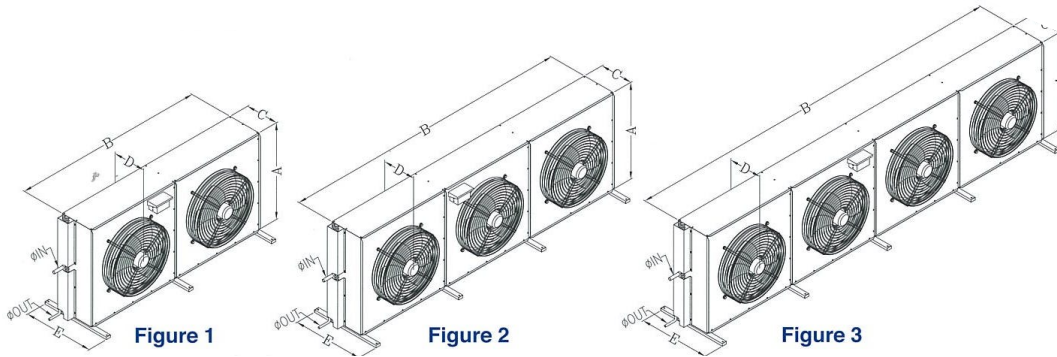
Figure 4

Model	H.R. (Kw)	Fan Motor (380V/3ph/50Hz.)		Weight (Kg.)	Fig No.	Dimension (mm.)				Connection	
		Blade x Qty.	Amp.			A	B	C	D	H (In)	L (Out)
THC 140E	5.41	350x1	0.58	24	1	470	635	250	382	5/8"	1/2"
THC 180E	6.41	400x1	0.73	25	1	520	635	250	392	5/8"	1/2"
THC 210E	9.22	450x1	0.48	28	1	520	635	302	392	5/8"	1/2"
THC 290E	12.13	450x1	0.48	34	1	622	736	302	392	5/8"	1/2"
THC 360E	15.22	450x1	0.48	46	1	673	990	302	392	5/8"	1/2"
THC 440E	17.38	500x1	1.65	46.5	1	673	990	302	422	3/4"	1/2"
THC 450E	17.75	450x2	0.96	50	2	622	1117	250	392	3/4"	1/2"
THC 470E	19.11	500x1	1.65	51	1	673	990	330	422	3/4"	1/2"
THC 500E	20.56	450x2	0.96	54	2	622	1117	302	392	3/4"	1/2"
THC 530E	20.98	500x1	1.65	61.5	1	826	990	330	422	3/4"	1/2"
THC 630E	24.85	500x2	3.3	62	2	724	1295	302	422	7/8"	1/2"
THC 660E	25.95	630x1	2.52	62.2	1	876	990	330	432	7/8"	5/8"
THC 720E	28.52	500x2	3.3	70	2	724	1295	302	422	7/8"	5/8"
THC 760E	30.34	500x2	3.3	76	2	826	1498	302	422	7/8"	5/8"
THC 850E	34.28	500x2	3.3	80	2	826	1498	302	422	7/8"	5/8"
THC 920E	35.19	630x2	5.04	89	2	826	1498	330	432	7/8"	5/8"
THC 1060E	38.08	630x2	5.04	96	2	826	1498	330	432	7/8"	5/8"
THC 1100E	45.32	500x3	4.95	109	3	826	2172	302	422	7/8"	5/8"
THC 1170E	46.39	630x2	5.04	128	2	927	1625	330	432	1-1/8"	3/4"
THC 1260E	53.87	500x3	6.6	116	3	826	2172	302	422	1-1/8"	3/4"
THC 1320E	49.49	630x2	7.56	109	2	927	1625	330	432	1-1/8"	3/4"
THC 1510E	65.26	500x4	6.6	138	4	1638	1498	302	422	1-3/8"	7/8"
THC 1670E	71.62	630x3	7.56	147	3	927	2413	330	432	1-3/8"	7/8"
THC 1700E	73.05	500x4	6.6	152	4	1638	1498	302	422	1-3/8"	7/8"
THC 1840E	72.79	630x4	10.08	160	4	1638	1498	330	432	1-3/8"	7/8"
THC 2000E	74.84	630x3	7.56	163	3	927	2413	330	432	1-3/8"	7/8"
THC 2110E	76.15	630x4	10.08	161	4	1638	1498	330	432	1-3/8"	7/8"

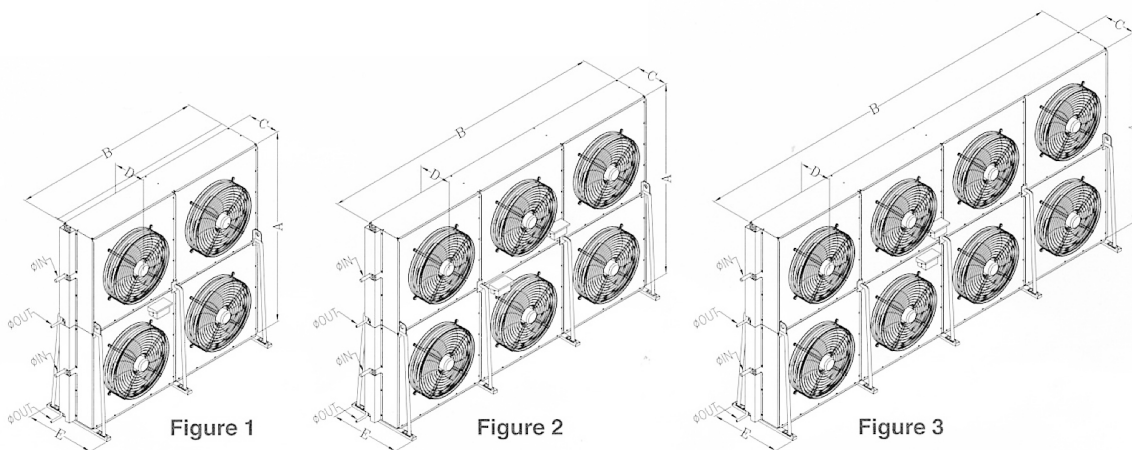


## THL-THLD

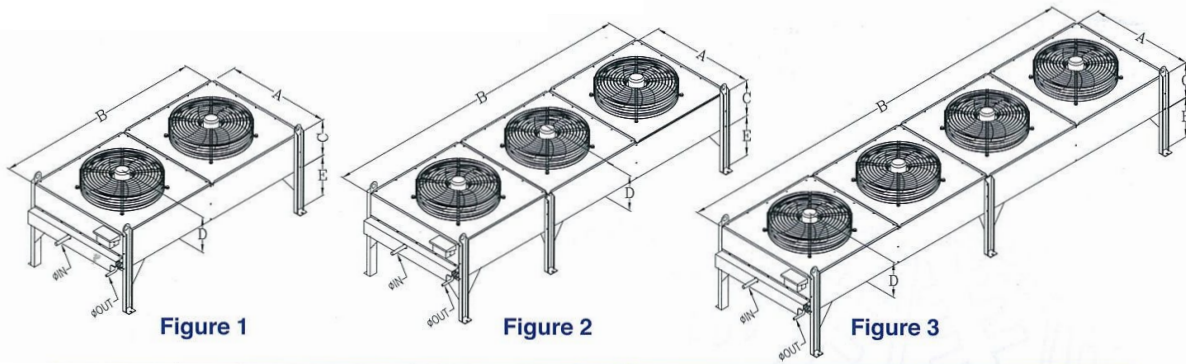
- THL-THLD Series air cooled condenser design for refrigeration system.
- Heat Rejection performance from 56kW to 252kW
  - Compatible with HCFC and HFC refrigerant R404A, R507, R410A, R407, R22, R134A, etc.
  - 24 Models available with single-double row and vertical-horizontal condenser. ISO9001:2008 Certified



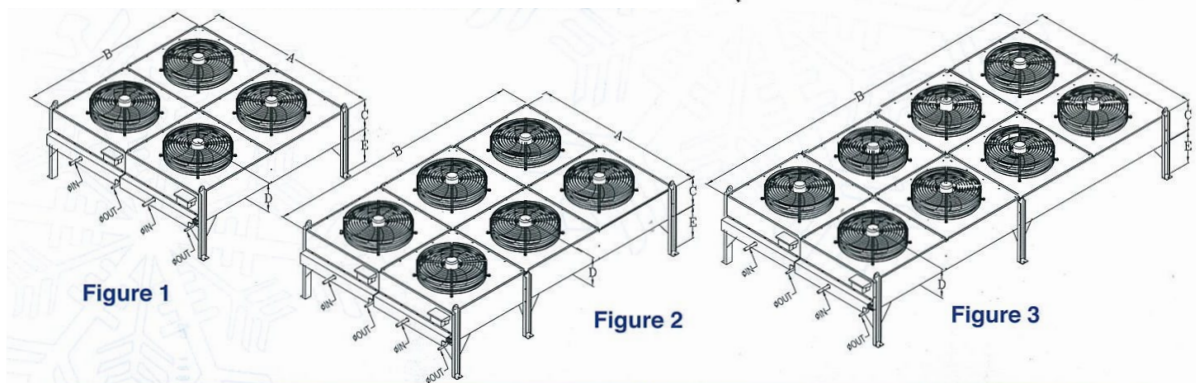
Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Weight (Kg.)	Fig No.	Dimension (mm.)					Connection	
		Blade x Qty.	Input (W)	Amp.	RPM			A	B	C	D	E	H (In)	L (Out)
THL 54 V	56	630 x 2	1720	3.9	1365	181	1	1020	2035	370	500	750	1-3/8"	7/8"
THL 56 V	63	630 x 2	1720	3.9	1365	195	1	1020	2035	370	500	750	1-3/8"	7/8"
THL 62 V	84	630 x 3	2580	5.85	1365	262	2	1020	3052	370	500	750	1-5/8"	1-1/8"
THL 64 V	95	630 x 3	2580	5.85	1365	281	2	1020	3052	370	500	750	1-5/8"	1-1/8"
THL 68 V	112	630 x 4	3440	7.8	1365	343	3	1020	4070	370	500	750	2-1/8"	1-3/8"
THL 72 V	126	630 x 4	3440	7.8	1365	373	3	1020	4070	370	500	750	2-1/8"	1-3/8"



Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Weight (Kg.)	Fig No.	Dimension (mm.)					Connection	
		Blade x Qty.	Input (W)	Amp.	RPM			A	B	C	D	E	H (In)	L (Out)
THLD 68 V	112	630 x 4	3440	7.8	1365	364	1	2040	2035	370	500	750	1-3/8"	7/8"
THLD 72 V	126	630 x 4	3440	7.8	1365	394	1	2040	2035	370	500	750	1-3/8"	7/8"
THLD 82 V	168	630 x 6	5160	11.7	1365	554	2	2040	3052	370	500	750	1-5/8"	1-1/8"
THLD 87 V	189	630 x 6	5160	11.7	1365	601	2	2040	3052	370	500	750	1-5/8"	1-1/8"
THLD 96 V	224	630 x 8	6880	15.6	1365	726	3	2040	4070	370	500	750	2-1/8"	1-3/8"
THLD 103 V	252	630 x 8	6880	15.6	1365	804	3	2040	4070	370	500	750	2-1/8"	1-3/8"



Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Weight (Kg.)	Fig No.	Dimension (mm.)					Connection	
		Blade x Qty.	Input (W)	Amp.	RPM			A	B	C	D	E	H (In)	L (Out)
THL 54 H	56	630 x 2	1720	3.9	1365	181	1	1020	2035	370	500	500	1-3/8"	7/8"
THL 56 H	63	630 x 2	1720	3.9	1365	195	1	1020	2035	370	500	500	1-3/8"	7/8"
THL 62 H	84	630 x 3	2580	5.85	1365	262	2	1020	3052	370	500	500	1-5/8"	1-1/8"
THL 64 H	95	630 x 3	2580	5.85	1365	281	2	1020	3052	370	500	500	1-5/8"	1-1/8"
THL 68 H	112	630 x 4	3440	7.8	1365	343	3	1020	4070	370	500	500	2-1/8"	1-3/8"
THL 72 H	126	630 x 4	3440	7.8	1365	373	3	1020	4070	370	500	500	2-1/8"	1-3/8"

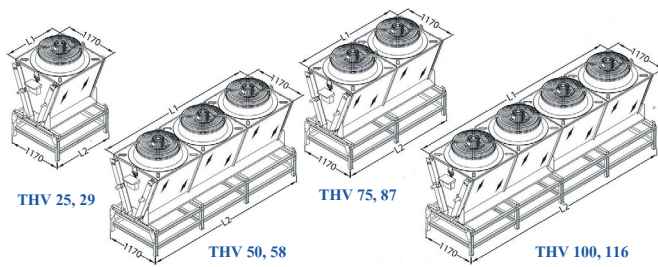


Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Weight (Kg.)	Fig No.	Dimension (mm.)					Connection	
		Blade x Qty.	Input (W)	Amp.	RPM			A	B	C	D	E	H (In)	L (Out)
THLD 68 H	112	630 x 4	3440	7.8	1365	344	1	2040	2035	370	500	500	1-3/8"	7/8"
THLD 72 H	126	630 x 4	3440	7.8	1365	374	1	2040	2035	370	500	500	1-3/8"	7/8"
THLD 82 H	168	630 x 6	5160	11.7	1365	517	2	2040	3052	370	500	500	1-5/8"	1-1/8"
THLD 87 H	189	630 x 6	5160	11.7	1365	564	2	2040	3052	370	500	500	1-5/8"	1-1/8"
THLD 96 H	224	630 x 8	6880	15.6	1365	668	3	2040	4070	370	500	500	2-1/8"	1-3/8"
THLD 103 H	252	630 x 8	6880	15.6	1365	746	3	2040	4070	370	500	500	2-1/8"	1-3/8"

## THV-THVD

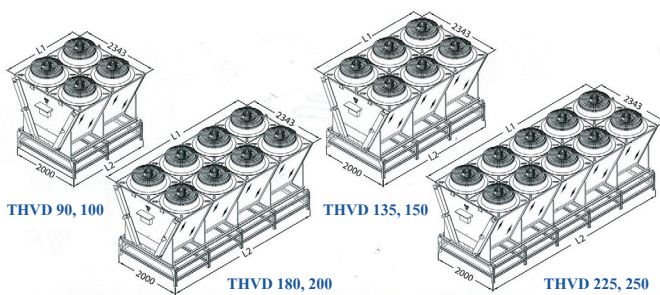
THV-THVD Series air cooled condenser design for refrigeration system.

- Compatible with HCFC and HFC refrigerant R404A, R507, R410A, R407, R22, R134A, etc.
- Heat Rejection performance from 52kW to 599kW
- 16 Models available with single row (THV) and double row (THVD)
- ISO9001:2008 Certified



THV	25	29	50	58	75	87	100	116
No.Fan	1	1	2	2	3	3	4	4
L1	1170	1170	2340	2340	3510	3510	4680	4680
L2	1318	1318	2488	2488	3658	3658	4828	4828
INLET TUBE	1-3/8"	1-3/8"	1-5/8"	1-5/8"	2-1/8"	2-1/8"	2-1/8"	2-1/8"
OUTLET TUBE	1-1/8"	1-1/8"	1-1/8"	1-3/8"	1-3/8"	1-3/8"	1-5/8"	1-5/8"

Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Sound (dBA) (5 Meter)	Weight (Kg.)
		Air Flow (m3/h)	Dia x Qty. (mm) x (no)	Input (Watt)	Current (Amp.)		
THV 25	62	22800	800 x 1	2350	4.8	68.1	200
THV 29	69	21900	800 x 1	2350	4.8	68.1	230
THV 50	123	45600	800 x 2	4700	9.6	71.1	370
THV 58	139	43800	800 x 2	4700	9.6	71.1	420
THV 75	185	68400	800 x 3	7050	14.4	72.9	530
THV 87	208	65700	800 x 3	7050	14.4	72.9	600
THV 100	246	91200	800 x 4	9400	19.2	74	690
THV 116	277	87600	800 x 4	9400	19.2	74	780



THVD	90	100	135	150	180	200	225	250
No.Fan	4	4	6	6	8	8	10	10
L1	2340	2340	3510	3510	4680	4680	5850	5850
L2	2488	2488	3658	3658	4828	4828	5998	5998
INLET TUBE	2-1/8"	2-1/8"	2-1/8"	2-1/8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"
OUTLET TUBE	1-3/8"	1-3/8"	1-5/8"	1-5/8"	1-5/8"	1-5/8"	2-1/8"	2-1/8"

Model	HR (Kw)	Fan Motor (380V/3ph/50Hz.)				Sound (dBA) (5 Meter)	Weight (Kg.)
		Air Flow (m3/h)	Dia x Qty. (mm) x (no)	Input (Watt)	Current (Amp.)		
THVD 90	218	95200	800 x 4	9400	19.2	74.4	670
THVD 100	240	80500	800 x 4	9400	19.2	74.4	730
THVD 135	327	142800	800 x 6	14100	28.8	76.2	950
THVD 150	360	120750	800 x 6	14000	28.8	76.2	1050
THVD 180	436	190400	800 x 8	18800	38.4	77.5	1240
THVD 200	480	161000	800 x 8	18800	38.4	77.5	1370
THVD 225	544	238000	800 x 10	23500	48	78.5	1650
THVD 250	599	201250	800 x 10	23500	48	78.5	1820

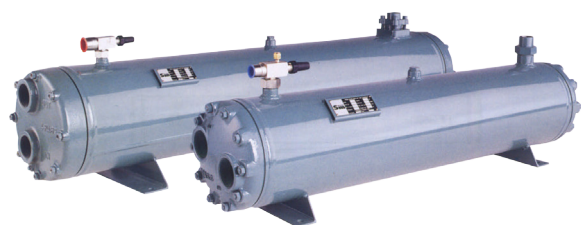


## SM Water Cooled Shell and Tube Condenser

### Technical Specification

- Discharge gas temperature is 40K over the condensing temperature
- Water side contamination factor  $r = 2.5 \times 10^{-4} \text{m}^2\text{K/W}$
- Water inlet temperature is 30°C
- Water outlet temperature is 35°C
- Operating pressure/temperature Refrigerant side Max 128bars / 120°C Water side Max 10bars / 60°C

SM Water Cooled Condenser - Standard Model														
Model	Condensing Capacity		Water Flow		Pressure Drop	Pass	Inside Vol.	Refrigerant		Water	Weight	Dimension		
	Watts	BTU/hr.	l/s	m <sup>3</sup> /h	m.Water			Litre	Inlet (")	Outlet (")		In/Out(")	kg	W
SMC-3	14000	47740	0.9	3.2	2.2	4	8.3	7/8"	1/2"	1"	27	165	610	252
SMC-5	23000	78430	1.1	4	2.9	4	11.7	7/8"	1/2"	1"	38	165	950	252
SMC-5X	23100	78771	1.1	4	2.5	4	13	7/8"	1/2"	1"	37	216	610	320
SMC-8	36000	122760	1.5	5.4	3.5	4	19.5	1-1/8"	1/2"	1"	63	216	920	320
SMC-10	44000	150040	1.9	6.8	4	4	22.6	1-1/8"	7/8"	1"	71	216	1030	335
SMC-15	64000	218240	2.5	9	1.4	2	28	1-1/8"	7/8"	1-1/4"	83	216	1250	335
SMC-20	87000	296670	3.1	11.2	2.8	2	34	1-1/8"	7/8"	1-1/4"	96	216	1500	335
SMC-25	107000	364870	3.7	13.3	3.3	2	34.7	1-1/8"	7/8"	1-1/4"	106	216	1500	335
SMC-30	127000	433070	4.4	15.8	1	2	41.7	1-5/8"	1-1/8"	2"	114	267	1290	400
SMC-40	174000	593340	5.4	19.4	2.1	2	50.8	1-5/8"	1-1/8"	2"	132	267	1540	400
SMC-50	214000	729740	6.4	23	3.3	2	58.8	1-5/8"	1-1/8"	2"	146	267	1740	400



Standard Model



Sea Water Model

SM Water Cooled Condenser - Sea Water Model														
Model	Condensing Capacity		Water Flow		Pressure Drop	Pass	Inside Vol.	Refrigerant		Water	Weight	Dimension		
	Watts	BTU/hr.	l/s	m <sup>3</sup> /h	m.Water			Litre	Inlet (")	Outlet (")		In/Out(")	kg	W
SMC-5S	23000	78430	1.1	3.98	1.51	2	8.3	7/8"	1/2"	1"	27	114	1300	205
SMC-10S	44000	150040	2.1	7.62	2.66	2	11.7	7/8"	1/2"	1"	38	165	1300	160
SMC-15S	64000	218240	3.1	11.09	1.39	2	13	7/8"	1/2"	1"	37	215	1300	300
SMC-20S	87000	296670	3.9	14.20	2.69	2	19.5	1-1/8"	1/2"	1"	63	215		300
SMC-25S	107000	364870	5.1	18.50	5.19	2	22.6	1-1/8"	7/8"	1"	71	215	1600	300
SMC-30S	127000	433070	6.1	22	4.88	2	28	1-1/8"	7/8"	1-1/4"	83	215	1600	300
SMC-30-1S	174000	593340	6.1	22	2.94	2	34	1-1/8"	7/8"	1-1/4"	96	267	1640	365
SMC-40S	214000	729740	8.4	30.10	4.9	2	37	1-1/8"	7/8"	1-1/4"	106	267	1640	400