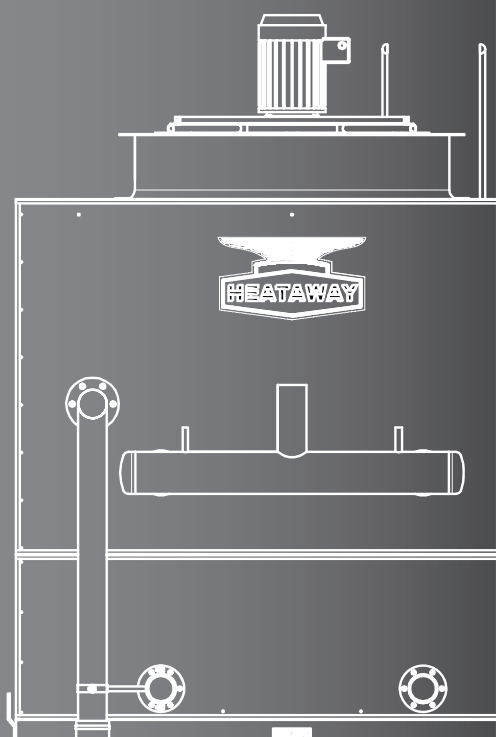
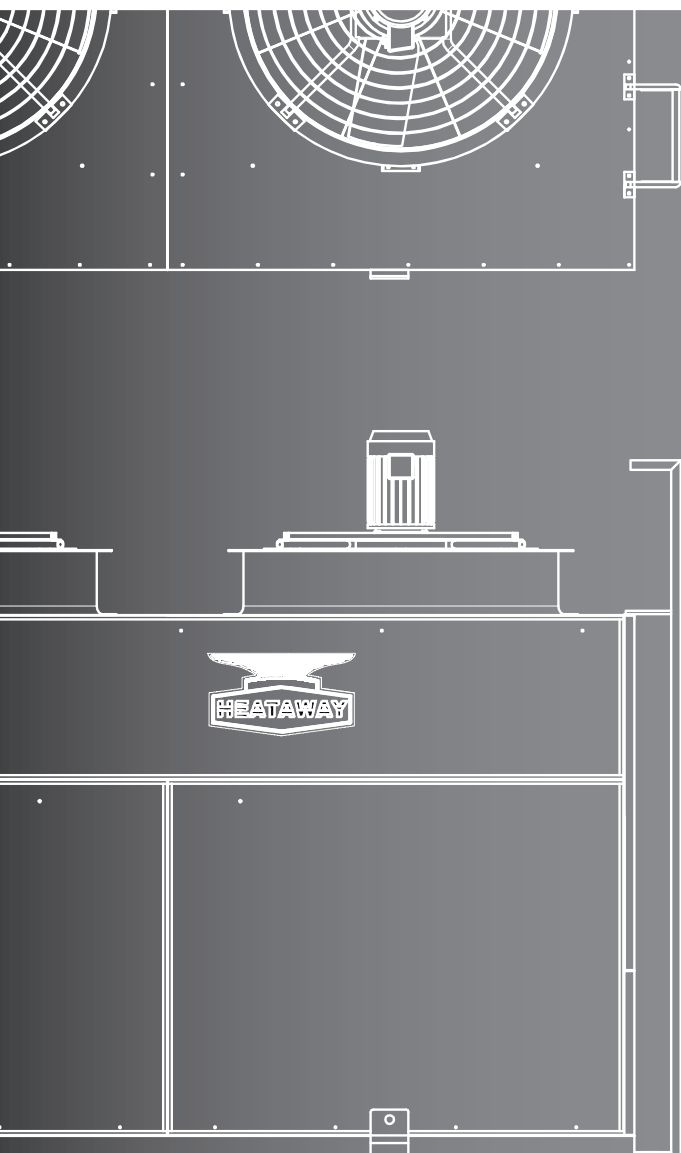




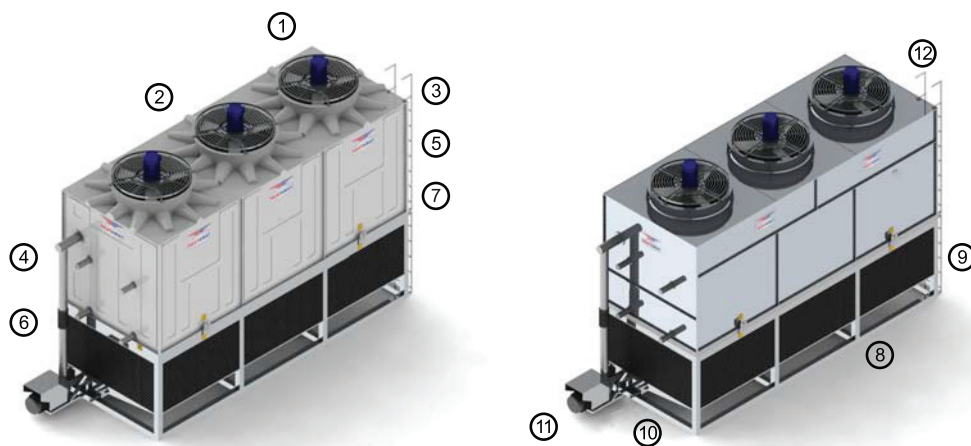
ENGINEERING DATA

For stainless steel
evaporative condenser



- *Specification*
- *Optional feature*
- *Selection method*
- *Technical data*

SPECIFICATION



- | | | |
|---|--|---|
| <p>1. Fan set
 Fan motor : Induction motor
 with cast iron casing and epoxy coating
 Fan blade : Glass reinforced polyamide (PAG)
 Operating of temperature
 range -40°C to 120°C
 Hub part : Pressure die cast silumin alloy
 with anti-corrosion coating
 Screener : Stainless steel 304</p> <p>2. Fan cowl
 ECS series : Stainless steel 304
 ECF series : Fiberglass</p> <p>3. Drift eliminator
 PVC with UV protection
 Drift loss : 0.001%</p> <p>4. Recirculated water pipe
 Stainless steel 304</p> | <p>5. Spray nozzle
 PVC with multi layer design
 by own patented</p> <p>6. Condenser coil
 Stainless steel 304</p> <p>7. Casing
 ECS series : Stainless steel 304
 ECF series : Fiberglass</p> <p>8. Structure
 Stainless steel 304
 Option : Additional special coating
 for maximize anti-corrosion</p> <p>9. Louver
 PVC with UV protection
 Daylight protect 70 : 1
 Option : Double layer louver with
 stainless steel 304 and PVC</p> | <p>10. Basin
 Stainless steel 304 or fiberglass</p> <p>11. Recirculated water pump
 Water pump : Close-coupled centrifugal
 pump with cast iron
 casing
 Base support : Stainless steel 304
 Cover : Stainless steel 304
 Strainer : Stainless steel 304</p> <p>12. Ladder
 Stainless steel 304
 Option : Additional cage for fall protection</p> |
|---|--|---|

OPTIONAL FEATURE



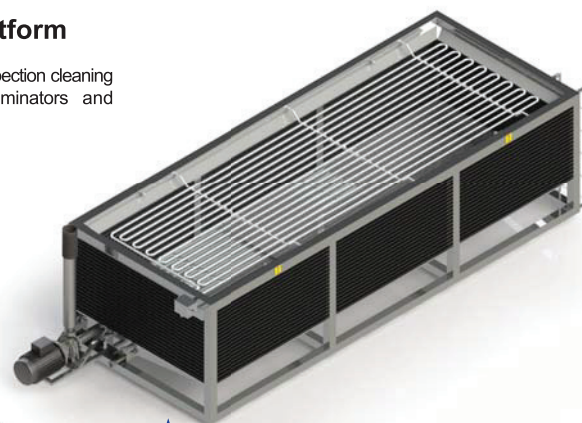
Motor davit arm

Motor davit arm is available which a chain hoist can be mounted to easily lower the motor. Motor davit mounting is provided.



Easy mounting platform

Can be added to the unit for inspection cleaning and maintenance of drift eliminators and water spray nozzles.



Closed loop cooling coil

Additional coil for cooling compressor jacket. This cooling coil is made of stainless steel and separated from the main condenser coil for prevent scale in cooling head jacket of compressor.

SELECTION PROCEDURE

Selection Example

Refrigerant	: R-717
Total Heat of Rejection	: 1,150 kW
Condensing Temperature	: 38°C
Wet Bulb Temperature	: 28°C

Selection

1. Determine correction factor for R-717 at 38°C condensing temperature and 28°C wet bulb temperature from Table 1 : R-717 (Ammonia) correction factor which is 1.31.
2. Multiply 1,150 kW x 1.31 = 1,506.5 kW.
3. From Table 2 : ECS series nominal capacity and Table 3 : ECF series nominal capacity, select a unit with nominal heat rejection rating equal to or greater than 1,506.5 kW. Select a ECS-1550 R or a ECF-1550 R with a nominal capacity of 1,550 kW.

CORRECTION FACTOR

Table 1 : R-717 (Ammonia) correction factor

Condensing Temperature (°C)	Entering Air Wet Bulb Temperature (° C)											
	20	21	22	23	24	25	26	27	28	29	30	
33	1.19	1.27	1.37	1.50	1.63	1.81	2.03	2.37	2.70	-	-	
34	1.12	1.19	1.27	1.36	1.48	1.61	1.80	2.06	2.35	-	-	
35	1.03	1.08	1.15	1.23	1.30	1.39	1.53	1.69	1.90	2.15	2.47	
36	0.96	1.01	1.07	1.13	1.20	1.28	1.39	1.53	1.70	1.91	2.17	
37	0.88	0.92	0.97	1.03	1.08	1.16	1.23	1.36	1.48	1.65	1.85	
38	0.83	0.86	0.90	0.94	1.00	1.05	1.12	1.21	1.31	1.44	1.59	
39	0.78	0.81	0.84	0.88	0.92	0.98	1.03	1.12	1.20	1.31	1.41	
40	0.74	0.76	0.79	0.83	0.87	0.91	0.96	1.02	1.09	1.18	1.29	

NOMINAL CAPACITY

Table 2 : ECS series nominal capacity (Stainless steel casing)

Model	Nominal capacity (kW)	Shipment container
ECS-0175 N	175	1x20'DC
ECS-0430 R	430	1x40'HC
ECS-0500 N	500	1x40'HC
ECS-0550 R	550	1x40'HC
ECS-0700 N	700	1x40'HC
ECS-0700 R	700	1x40'HC
ECS-0800 R	800	1x40'HC
ECS-1000 R	1,000	1x40'HC
ECS-1250 R	1,250	2x40'HC
ECS-1250 W	1,250	N/A
ECS-1350 R	1,350	1x40'HC
ECS-1550 R	1,550	1x40'HC
ECS-1650 R	1,650	1x40'HC
ECS-1700 W	1,700	N/A
ECS-1800 R	1,800	2x40'HC
ECS-1900 W	1,900	N/A
ECS-2000 R	2,000	2x40'HC
ECS-2000 S	2,000	2x40'HC
ECS-2000 W	2,000	N/A
ECS-2300 W	2,300	N/A
ECS-2350 R	2,350	2x40'HC
ECS-2550 W	2,550	N/A
ECS-2800 W	2,800	N/A
ECS-2900 W	2,900	N/A
ECS-3100 W	3,100	N/A
ECS-3300 W	3,300	N/A
ECS-3550 W	3,550	N/A
ECS-3700 W	3,700	N/A
ECS-3900 W	3,900	N/A

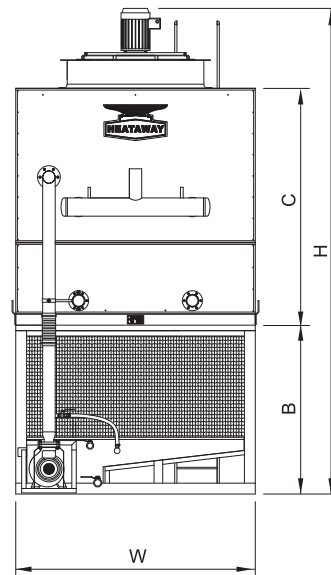
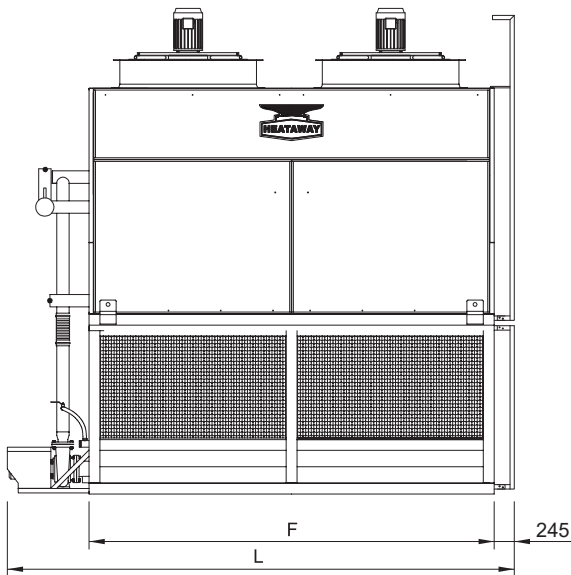
Table 3 : ECF series nominal capacity (Fiberglass casing)

Model	Nominal capacity (kW)	Shipment container
ECF-0430 R	430	1x40'HC
ECF-0550 R	550	1x40'HC
ECF-0700 R	700	1x40'HC
ECF-0800 R	800	1x40'HC
ECF-1000 R	1,000	1x40'HC
ECF-1250 R	1,250	2x40'HC
ECF-1250 W	1,250	N/A
ECF-1350 R	1,350	1x40'HC
ECF-1550 R	1,550	1x40'HC
ECF-1650 R	1,650	1x40'HC
ECF-1700 W	1,700	N/A
ECF-1800 R	1,800	2x40'HC
ECF-1900 W	1,900	N/A
ECF-2000 R	2,000	2x40'HC
ECF-2000 S	2,000	2x40'HC
ECF-2000 W	2,000	N/A
ECF-2300 W	2,300	N/A
ECF-2350 R	2,350	2x40'HC
ECF-2550 W	2,550	N/A
ECF-2800 W	2,800	N/A

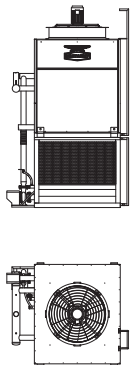
Remark : Nominal capacity is based on operating condition 38°C condensing temperature and 24°C wet bulb temperature.

TECHNICAL DATA

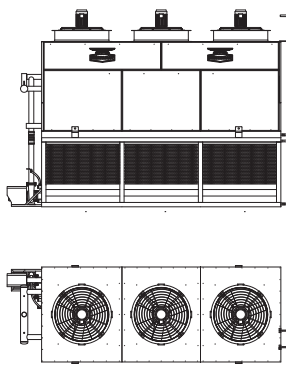
ECS SERIES



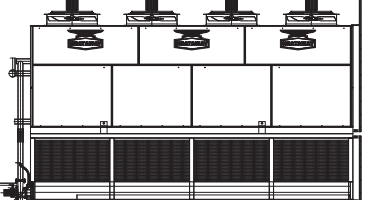
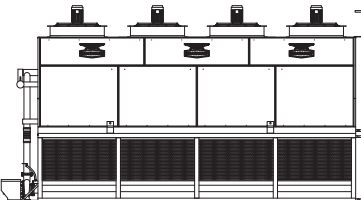
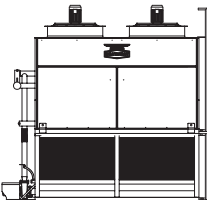
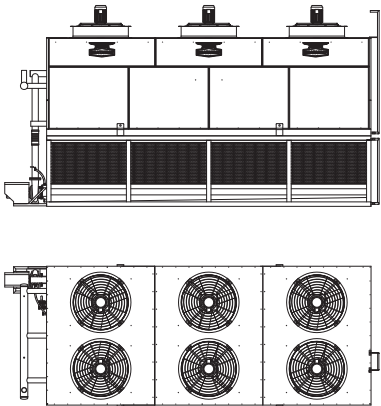
● Type A : 1 fan



● Type C : 3 fans



● Type E : 6 fans



● Type B : 2 fans

● Type D : 4 fans

● Type F : 8 fans

ECS SERIES - STAINLESS STEEL CASING

Table 4 : ECS series technical data (Stainless steel casing)

	Model	Nominal capacity (kW)	Shipment container	Overall dimension (mm)			Section dimension (mm)			Weight (kg)					Fan motor		Water pump	
				W	L	H	F	B	C	Heaviest	Shipping	Operating	Water	R-717	No.	kW	No.	kW
●	ECS-0175 N	175	1x20'DC	1,090	2,700	3,990	2,040	1,550	1,937	820	1,150	1,611	430	31	2	1.5	1	1.1
●	ECS-0430 R	430	1x40'HC	2,200	2,560	4,460	1,900	1,550	2,177	1,605	2,005	2,697	620	72	1	5.5	1	1.1
●	ECS-0500 N	500	1x40'HC	1,480	3,980	4,295	3,320	1,550	2,177	1,670	2,140	3,063	840	83	2	2.2	1	1.5
●	ECS-0550 R	550	1x40'HC	2,200	3,590	4,220	2,930	1,550	1,937	1,815	2,375	3,408	950	83	1	5.5	1	1.5
●	ECS-0700 N	700	1x40'HC	1,540	4,380	4,460	3,720	1,550	2,177	1,940	2,450	3,508	960	98	2	4.0	1	1.5
●	ECS-0700 R	700	1x40'HC	2,200	3,590	4,460	2,930	1,550	2,177	2,135	2,695	3,752	950	107	1	5.5	1	1.5
●	ECS-0800 R	800	1x40'HC	2,200	4,400	4,220	3,720	1,550	1,937	2,365	3,015	4,339	1,220	104	2	5.5	1	2.2
●	ECS-1000 R	1,000	1x40'HC	2,200	4,400	4,460	3,720	1,550	2,177	2,795	3,445	4,799	1,220	134	2	5.5	1	2.2
●	ECS-1250 R	1,250	2x40'HC	2,200	6,230	4,320	5,540	1,600	1,987	3,390	4,275	6,266	1,840	151	3	5.5	1	4.0
●	ECS-1250 W	1,250	N/A	2,860	4,410	4,560	3,720	1,600	2,227	3,505	4,255	6,043	1,610	178	2	5.5	1	4.0
●	ECS-1350 R	1,350	1x40'HC	2,200	5,430	4,760	4,740	1,600	2,427	3,650	4,455	6,194	1,570	169	3	5.5	1	4.0
●	ECS-1550 R	1,550	1x40'HC	2,200	5,430	4,800	4,740	1,600	2,467	4,150	4,955	6,733	1,570	208	3	5.5	1	4.0
●	ECS-1650 R	1,650	1x40'HC	2,200	5,830	4,800	5,140	1,600	2,467	4,410	5,255	7,130	1,650	225	3	5.5	1	4.0
●	ECS-1700 W	1,700	N/A	2,460	6,380	4,560	5,540	1,600	2,227	4,400	5,410	7,600	1,970	220	3	5.5	1	5.5
●	ECS-1800 R	1,800	2x40'HC	2,200	7,400	4,560	6,560	1,600	2,227	4,555	5,660	8,071	2,180	231	3	5.5	1	5.5
●	ECS-1900 W	1,900	N/A	2,860	6,380	4,560	5,540	1,600	2,227	4,995	6,045	8,716	2,410	261	3	5.5	1	5.5
●	ECS-2000 R	2,000	2x40'HC	2,200	8,200	4,560	7,360	1,600	2,227	5,225	6,405	9,124	2,460	259	4	5.5	1	5.5
●	ECS-2000 S	2,000	2x40'HC	2,200	7,400	4,800	6,560	1,600	2,467	5,245	6,335	8,961	2,340	286	3	5.5	1	5.5
●	ECS-2000 W	2,000	N/A	2,700	6,380	4,800	5,540	1,600	2,467	5,495	6,520	9,150	2,330	300	3	5.5	1	5.5
●	ECS-2300 W	2,300	N/A	2,460	8,200	4,560	7,360	1,600	2,227	5,680	6,910	9,850	2,650	290	4	5.5	1	5.5
●	ECS-2350 R	2,350	2x40'HC	2,200	8,200	4,800	7,360	1,600	2,467	6,040	7,220	10,000	2,460	320	4	5.5	1	5.5
●	ECS-2550 W	2,550	N/A	2,700	8,200	4,560	7,360	1,600	2,227	6,140	7,425	10,846	3,100	321	4	5.5	1	7.5
●	ECS-2800 W	2,800	N/A	2,700	8,200	4,800	7,360	1,600	2,467	7,130	8,405	11,902	3,100	397	4	5.5	1	7.5
●	ECS-2900 W	2,900	N/A	2,860	8,200	5,320	7,360	1,600	2,987	7,060	8,390	11,934	3,200	344	6	5.5	1	7.5
●	ECS-3100 W	3,100	N/A	3,110	8,200	5,320	7,360	1,600	2,987	7,480	8,845	12,620	3,400	375	6	5.5	1	7.5
●	ECS-3300 W	3,300	N/A	3,300	8,050	5,320	7,360	1,600	2,987	7,950	9,170	13,108	3,540	398	6	5.5	2	4.0
●	ECS-3550 W	3,550	N/A	3,110	8,200	5,320	7,360	1,600	2,987	8,620	9,970	13,835	3,400	465	6	5.5	1	7.5
●	ECS-3700 W	3,700	N/A	3,300	8,050	5,320	7,360	1,600	2,987	9,130	10,580	14,613	3,540	493	6	5.5	2	4.0
●	ECS-3900 W	3,900	N/A	3,300	8,050	5,320	7,360	1,600	2,987	9,550	11,000	15,033	3,540	493	8	5.5	2	4.0

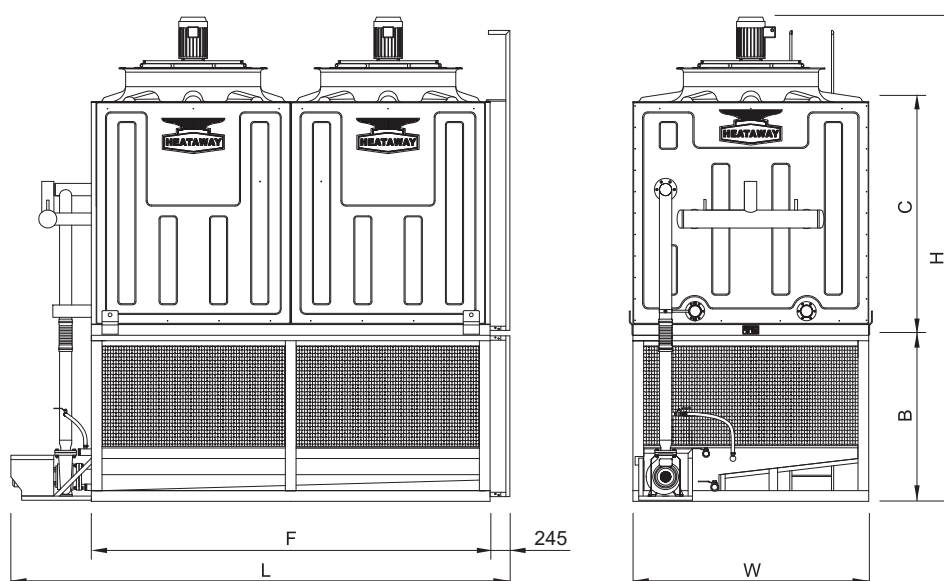
Remark : 1) Do not use for construction. Specifications and dimension are subject to change without notice.

2) Nominal capacity is based on operating condition 38°C condensing temperature and 24°C wet bulb temperature.

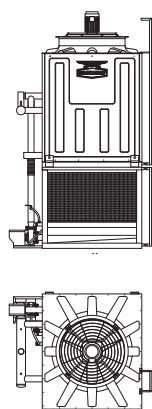
3) Heaviest weight is refer to coil section weight.

TECHNICAL DATA

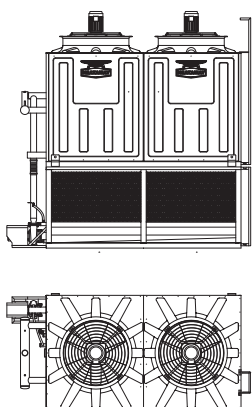
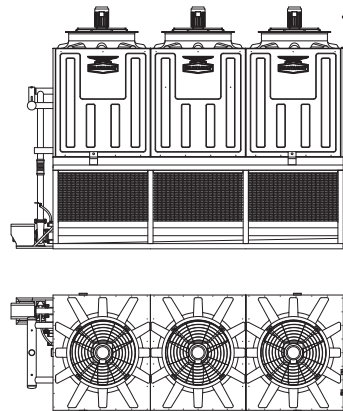
E_{CF} SERIES



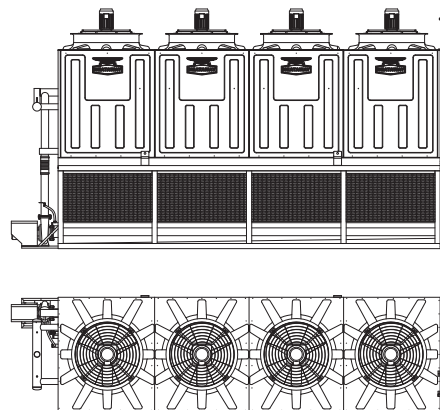
● Type A : 1 fan



● Type C : 3 fans



● Type B : 2 fans



● Type D : 4 fans

ECF SERIES - FIBERGLASS CASING

Table 5 : ECF series technical data (Fiberglass casing)

	Model	Nominal capacity (kW)	Shipment container	Overall dimension (mm)			Section dimension (mm)			Weight (kg)					Fan motor		Water pump	
				W	L	H	F	B	C	Heaviest	Shipping	Operating	Water	R-717	No.	kW	No.	kW
	ECF-0430 R	430	1x40'HC	2,200	2,560	4,520	1,900	1,550	2,175	1,475	1,875	2,567	620	72	1	5.5	1	1.1
	ECF-0550 R	550	1x40'HC	2,200	3,590	4,520	2,930	1,550	2,175	1,710	2,270	3,303	950	83	1	5.5	1	1.5
	ECF-0700 R	700	1x40'HC	2,200	3,590	4,520	2,930	1,550	2,175	2,005	2,565	3,622	950	107	1	5.5	1	1.5
	ECF-0800 R	800	1x40'HC	2,200	4,400	4,520	3,720	1,550	2,175	2,220	2,870	4,194	1,220	104	2	5.5	1	2.2
	ECF-1000 R	1,000	1x40'HC	2,200	4,400	4,520	3,720	1,550	2,175	2,620	3,270	4,624	1,220	134	2	5.5	1	2.2
	ECF-1250 R	1,250	2x40'HC	2,200	6,230	4,620	5,540	1,600	2,225	3,210	4,095	6,086	1,840	151	3	5.5	1	4.0
	ECF-1250 W	1,250	N/A	2,860	4,410	4,620	3,720	1,600	2,225	3,325	4,075	5,863	1,610	178	2	5.5	1	4.0
	ECF-1350 R	1,350	1x40'HC	2,200	5,430	4,870	4,740	1,600	2,475	3,430	4,235	5,974	1,570	169	3	5.5	1	4.0
	ECF-1550 R	1,550	1x40'HC	2,200	5,430	4,870	4,740	1,600	2,475	3,930	4,735	6,513	1,570	208	3	5.5	1	4.0
	ECF-1650 R	1,650	1x40'HC	2,200	5,830	4,870	5,140	1,600	2,475	4,145	4,990	6,865	1,650	225	3	5.5	1	4.0
	ECF-1700 W	1,700	N/A	2,460	6,380	4,620	5,540	1,600	2,225	4,205	5,215	7,405	1,970	220	3	5.5	1	5.5
	ECF-1800 R	1,800	2x40'HC	2,200	7,400	4,620	6,560	1,600	2,225	4,330	5,435	7,846	2,180	231	3	5.5	1	5.5
	ECF-1900 W	1,900	N/A	2,860	6,380	4,620	5,540	1,600	2,225	4,790	5,840	8,511	2,410	261	3	5.5	1	5.5
	ECF-2000 R	2,000	2x40'HC	2,200	8,200	4,620	7,360	1,600	2,225	4,970	6,150	8,869	2,460	259	4	5.5	1	5.5
	ECF-2000 S	2,000	2x40'HC	2,200	7,400	4,870	6,560	1,600	2,475	5,000	6,090	8,719	2,340	289	3	5.5	1	5.5
	ECF-2000 W	2,000	N/A	2,700	6,380	5,025	5,540	1,600	2,630	5,315	6,340	8,970	2,330	300	3	5.5	1	5.5
	ECF-2300 W	2,300	N/A	2,460	8,200	4,620	7,360	1,600	2,225	5,505	6,735	9,675	2,650	290	4	5.5	1	5.5
	ECF-2350 R	2,350	2x40'HC	2,200	8,200	4,870	7,360	1,600	2,475	5,830	7,010	9,790	2,460	320	4	5.5	1	5.5
	ECF-2550 W	2,550	N/A	2,700	8,200	4,620	7,360	1,600	2,225	5,965	7,250	10,671	3,100	321	4	5.5	1	7.5
	ECF-2800 W	2,800	N/A	2,700	8,200	5,025	7,360	1,600	2,630	6,950	8,225	11,722	3,100	397	4	5.5	1	7.5

Remark : 1) Do not use for construction. Specifications and dimension are subject to change without notice.

2) Nominal capacity is based on operating condition 38°C condensing temperature and 24°C wet bulb temperature.

3) Heaviest weight is refer to coil section weight.



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