Air-Cooled Condensers - Quality and Value

With the 09CDF air - cooled condensers SSI offers a choice of 21 models with capacities from 11 to 128.5 ton for vertical and horizontal airflow. 09CDF condensers are manufactured to the highest quality standards and offer the following distinct advantages:

- Heavy-duty construction with casing made from galvanized sheet metal for maximum UV and corrosion resistance.
- Advanced circuitry and fin design with a wide selection of fin and tube materials.
- High-efficiency fan motors and propellers with optimized air management design.
- Improved serviceability through large access doors for each fan motor section.

Technical Description

Coils

- High performance aluminum fins and copper tubes, staggered tube arrangement.
- One Schrader valve for each circuit.
- Holding charge of minimum 1 bar.

Fans

800 mm diameter with high-efficiency blade design. Extra deep fan shroud for optimum air flow.

Fan Motors

Standard voltage 400 V (± 10%), 3 phase, 50 Hertz
Operating in - 40F to 122F ambient temperature. Protection IP55 (IEC 34-5). Each motor mounted on rigid four cross beam and wired to a terminal box close to the refrigerant connections. Maximum 6 starts per hour. Motors must run at least two hours per month.

Fan Cycling Control

During intermediate season,
proper condensing temperature is controlled by fan control packages which permit shutoff from one to six condenser fans.

Casing

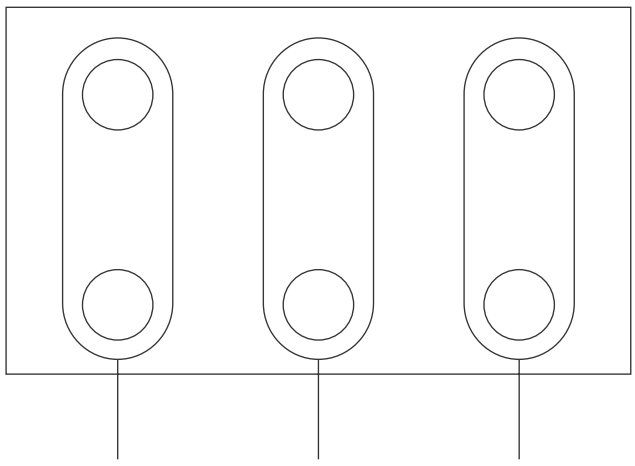
Self supporting design, fan sections individually partitioned.
Casing made from galvanized sheet metal. Lifting lugs for all models provided. Service access doors for each fan motor.

Options

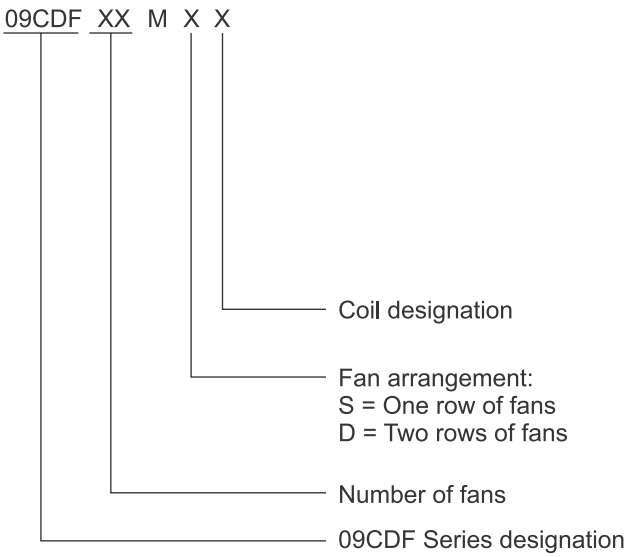
Multiple circuits.
Copper Tube and Copper Fins.
Copper Tube and Coated Aluminum Fins

Electrical Connection

Delta



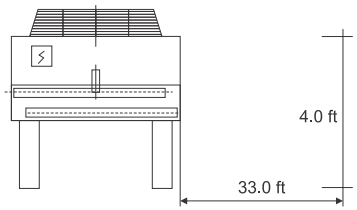
Model Number Nomenclature



Determination of required nominal sound pressure level and nominal capacity

Sound pressure level

All nominal sound pressure level information is given for the following conditions:



Remarks about the sound pressure level

- The sound pressure level has been measured by precision instruments in open field on a compact semi-reverberent base.
- The results obtained on a site may be different than the stated value, due to sound reflection phenomena (walls, etc).
- Reduction of sound pressure as a function of distance is theoretical. Reflection phenomena may modify the final result on site, on total sound pressure level or on some frequencies.

For other conditions, the required nominal sound pressure level has to be determined as follows:

1. Select correction value for other conditions:

Correction values for different distances

Distance (ft)	15	33	60	90	120	150
Correction by (dB)	-7	0	5	9	11	13

2. The required nominal sound pressure level to be looked up in the selection data is:

Sn= S+ dS
(S = your required sound level)

Example:

Sound pressure level of 55 dB required at 60 ft.

Correction factor:	dS:	5 dB
Required sound level:	S	55 dB
Required nominal sound level:	Sn:	55+5=60 dB

Nominal capacity

All catalogue capacities are based on:
Ambient temperature: 77 F
Refrigerant: R-22
Altitude: 0 ft
Air temperature difference between condensing temperature
and air inlet temperature Δt = 27 F

For other conditions the required nominal capacity has to be determined as follows:

1. Select correction factors for other conditions

Correction factor for different ambient temperatures:

Ambient temperature (F)	60	70	77	80	90	100	110	120
Factor f1:	1.032	1.014	1	0.993	0.971	0.949	0.929	0.91

Correction factor for Δt:

Δt (F)	15	18	20	23	25	27	30	33	35
Factor f2:	0.555	0.667	0.740	0.852	0.926	1	1.111	1.222	1.296

Correction factor for different refrigerants:

Refrigerant	R-134a	R-22	R-407 C
Factor f3:	0.95	1	0.98

Correction factor for different altitudes:

Altitude (ft)	0	1000	2000	3000	4000	5000	6000	7000	8000
Factor f4:	1	0.980	0.958	0.936	0.917	0.896	0.875	0.854	0.834

2. The required nominal capacity to be looked up in the selection data is:

Qn = Q/(f1 x f2 x f3 x f4)

(Q= your required capacity)

Example:

R-22, 90 F ambient temperature, Δt 20 F, altitude 2000 ft required capacity 30 Ton.

Ambient temperature:	Factor f1:	0.971
Δt:	Factor f2:	0.740
Refrigerant:	Factor f3:	1
Altitude:	Factor f4:	0.958
Required capacity:	Q:	30 Ton
Required nominal capacity:	Qn:	30/(0.971 x 0.740 x 1 x 0.958 43.6 Ton

Technical Data

Model	Capacity Ton △t=27F	No. of Fan(s)	SPL	Fan motor data (per fan)		Connection		Weight (Kg)	
				Output KW	Current A	Inlet	Outlet	Al-Cu	Cu-Cu
09CDF 01MS2	11	1	57	1.94	3.9	1 3/8”	1 1/8”	149	196
09CDF 01MS3	14.5	1	57	1.94	3.9	1 3/8”	1 1/8”	162	209
09CDF 01MS4	16	1	57	1.94	3.9	1 3/8”	1 1/8”	177	237
09CDF 02MS2	22.5	2	60	1.94	3.9	1 3/8”	1 1/8”	348	435
09CDF 02MS3	28.7	2	60	1.94	3.9	1 5/8”	1 1/8”	378	496
09CDF 02MS4	32.1	2	60	1.94	3.9	1 5/8”	1 1/8”	411	556
09CDF 03MS2	33.8	3	62	1.94	3.9	13/8”	1 1/8”	564	712
09CDF 03MS3	43.0	3	62	1.94	3.9	2 1/8”	1 3/8”	612	800
09CDF 03MS4	48.2	3	62	1.94	3.9	2 1/8”	1 3/8”	665	841
09CDF 04MS2	45.1	4	63	1.94	3.9	2 1/8”	1 3/8”	631	776
09CDF 04MS3	57.4	4	63	1.94	3.9	2 1/8”	1 3/8”	676	876
09CDF 04MS4	64.2	4	63	1.94	3.9	2 1/8”	1 5/8”	725	981
09CDF 04MD2	45.1	4	63	1.94	3.9	2x1 3/8”	2x1 1/8”	631	825
09CDF 04MD3	57.4	4	63	1.94	3.9	2x1 5/8”	2x1 1/8”	685	929
09CDF 04MD4	64.2	4	63	1.94	3.9	2x1 5/8”	2x1 1/8”	745	1039
09CDF 06MD2	67.7	6	65	1.94	3.9	2x1 3/8”	2x1 1/8”	894	1168
09CDF 06MD3	86.1	6	65	1.94	3.9	2x2 1/8”	2x1 3/8”	972	1316
09CDF 06MD4	96.3	6	65	1.94	3.9	2x2 1/8”	2x1 3/8”	1056	1474
09CDF 08MD2	90.2	8	66	1.94	3.9	2x2 1/8”	2x1 3/8”	1157	1505
09CDF 08MD3	114.8	8	66	1.94	3.9	2x2 1/8”	2x1 3/8”	1258	1694
09CDF 08MD4	128.5	8	66	1.94	3.9	2x2 1/8”	2x1 5/8”	1367	1895

Capacities in Ton for R-22, entering air temperature 77F , altitude 0 ft, △t = 27F
△t = difference between condensing temperature
SPL = Sound Pressure level in dB at 33.0ft

Approximate Dimensions (in)