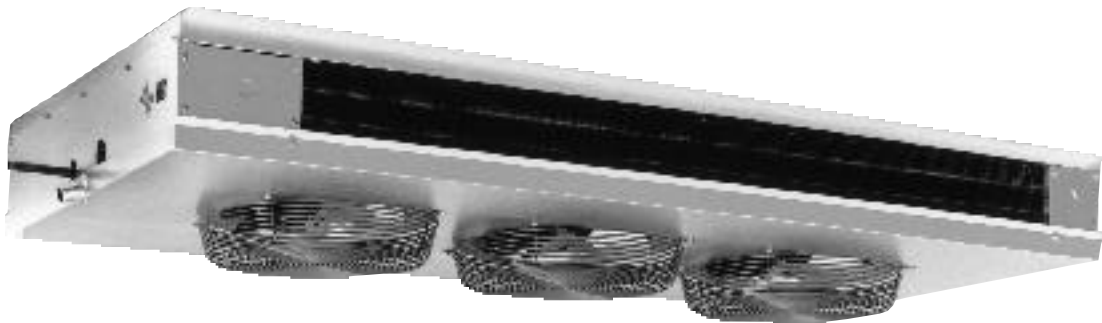




Witt

Dual-Flo Two-Way Discharge Unit Cooler

Installation
Operation
Maintenance
Information



Inspection

When the equipment is received, the number of crates and cartons should be checked against the bill of lading for possible shortages. Any damage should be noted immediately and a report given to the carrier and the Witt factory. It is the customer's responsibility to file all freight claims with the carrier. Unit name plates should be checked to make sure voltages are in agreement with the power available.

Installation

Installation and maintenance are to be performed by qualified personnel who are familiar with the local codes and regulations and who are experienced with this type of equipment.

Caution:

Avoid contact with sharp edges and coil surfaces as they are a potential hazard.

Location

Determine the best location for the unit cooler in the room to be refrigerated. Placement of the unit should be centered in the room and away from an open door to keep warm, outside air from being drawn into the unit. The unit is a two-way blower, drawing the air up through the fan and discharging out of the two coils into the room.

Proper clearances should be maintained for proper air flow and service access to the unit as follows:

- 18" minimum between each coil and walls;
- 12" on each end of the unit.

Before the unit is raised into position all packaging should be removed making sure the unit is not set on the drain fitting or refrigerant connections. The unit should be supported on 5/16" minimum rod hangers at all mounting slots. To meet NSF requirements the unit must be positioned flush with the ceiling and all gaps properly caulked.



Dual-Flo Two-Way Discharge Unit Cooler

Drain Line

The drain line should be pitched at a minimum of 1/2" per foot to allow proper drainage and should exit the room as soon as possible. The drain line should be insulated and sealed where it passes thru the wall and trapped outside the refrigerated area and protected from freezing. In room temperatures below 34°F, the drain line should be heated and insulated.

Refrigerant Connections

Refrigerant connections should be installed in accordance with all applicable codes and using good refrigeration practices. A suction line trap must be installed prior to any risers in the suction line. Horizontal suction lines should be sloped to provide proper oil return to the compressor. Suction lines should be properly insulated to prevent sweating and higher return gas temperatures.

Expansion Valve

Expansion valves are to be installed in accordance with the specific manufacturer's recommendations. Units that require an external equalized expansion valve must have that line connected. Proper location of the bulb is extremely important to the performance of the coil. Good thermal contact to the suction line is also essential. On solder type valves, a wet cloth wrapped around the valve during installation will protect it from overheating and damage. Superheat settings should be checked after the system has balanced out at the desired room temperature. On systems sized for a 10° to 12°F TD, the valve should be adjusted to maintain 5° to 6°F superheat. Higher TD applications will allow a higher superheat setting. On multiple evaporator systems, the piping should be arranged such that the flow from any valve cannot affect the bulb of another.

Wiring

Wiring should be done in accordance with all national and local codes. Electric defrost units are supplied with a temperature sensing defrost termination switch which will terminate the defrost at a preset temperature. A fan delay switch is also provided to allow the coil to cool down prior to the fans turning on after defrost. The time clock should be adjusted to have a maximum of a 30 minute override to prevent overheating and steaming of the coils. The number of defrosts per day will be determined by the usage of the box and the frost build-up on the coils. On Hot Gas Units, refer to the system manufacturer's recommendations.

Evacuation

Proper evacuation is essential prior to charging of the system. This avoids many problems that may arise due to lack of detail in this step. The system should be checked through all cycles to ensure proper operation.

General Maintenance

General maintenance involves an occasional cleaning of dirt accumulation on the fan, fan guard or coil. The motors are life lubricated and do not require any regular maintenance.

AIR DEFROST — 35° Rooms & Above

8 FIN PER INCH MODELS					
<i>Model Number</i> DFA-	<i>Performance Data</i>			<i>Electrical Data 60 Hz †</i>	
	<i>BTUH @ +25° F. ST</i>			<i>Motor Amps</i>	
	<i>10° TD</i>	<i>15° TD</i>	<i>CFM</i>	<i>115/1</i>	<i>208-230/1</i>
38-75	7500	11250	1455	3.3	1.7
38-88	8800	13200	1305	3.3	1.7
38-98	9800	14700	1200	3.3	1.7
48-112	11200	16800	2120	4.4	2.2
48-130	13000	19500	1920	4.4	2.2
48-150	15000	22500	1760	4.4	2.2
58-162	16200	24300	2320	5.5	2.8
48-210	21000	31500	1820	4.4	2.2
58-230	23000	34500	2650	5.5	2.8
68-250	25000	37500	2970	6.6	3.3

**Performance
and
Electrical
Data**

6 FIN PER INCH MODELS					
36-64	6400	9600	1560	3.3	1.7
36-82	8200	12300	1425	3.3	1.7
36-93	9300	13950	1305	3.3	1.7
46-100	10000	15000	2160	4.4	2.2
46-123	12300	18450	2040	4.4	2.2
46-140	14000	21000	1920	4.4	2.2
56-157	15700	23500	2360	5.5	2.8
46-190	19000	28500	1940	4.4	2.2
56-208	20800	31200	2850	5.5	2.8
66-232	23200	34800	3150	6.6	3.3

ELECTRIC DEFROST

6 FIN PER INCH MODELS								
<i>Model Number</i> DFE-	<i>Performance Data</i>			<i>Electrical Data 60 Hz †</i>				
	<i>BTUH @ 10° TD</i>			<i>Motor Amps</i>		<i>Defrost</i>	<i>Defrost Amps</i>	
	<i>-20° ST</i>	<i>+20° TD</i>	<i>CFM</i>	<i>115/1</i>	<i>208-230/1</i>	<i>Watts</i>	<i>208-230/1</i>	<i>460/1</i>
36-53	5300	6360	1440	3.3	1.7	2070	9.0	4.5
36-62	6200	7440	1290	3.3	1.7	2070	9.0	4.5
36-69	6900	8200	1245	3.3	1.7	2070	9.0	4.5
46-77	7700	9240	2075	4.4	2.2	2990	13.0	6.5
46-90	9000	10800	1860	4.4	2.2	2990	13.0	6.5
46-100	10000	12000	1740	4.4	2.2	2990	13.0	6.5
56-125	12500	15000	2160	5.5	2.8	3910	17.0	8.5
46-140	14000	16800	1820	4.4	2.2	3910	17.0	8.5
56-160	16000	19200	2550	5.5	2.8	3910	17.0	8.5
66-218	21800	23200	3000	6.6	3.3	3910	17.0	8.5

4 FIN PER INCH MODELS								
34-48	4800	5760	1500	3.3	1.7	2070	9.0	4.5
34-58	5800	6960	1395	3.3	1.7	2070	9.0	4.5
34-65	6500	7800	1350	3.3	1.7	2070	9.0	4.5
44-72	7200	8640	2120	4.4	2.2	2990	13.0	6.5
44-84	8400	10080	1980	4.4	2.2	2990	13.0	6.5
44-95	9500	11400	1900	4.4	2.2	2990	13.0	6.5
54-115	11500	13800	2280	5.5	2.8	3910	17.0	8.5
44-128	12800	15360	1940	4.4	2.2	3910	17.0	8.5
54-145	14500	17400	2650	5.5	2.8	3910	17.0	8.5
64-173	17300	20760	3080	6.6	3.3	3910	17.0	8.5

† Standard Voltage: DFA-115/1/60; DFE-208-230/1/60
50 Hertz Applications—Divide the BTUH requirement by 0.94, then select the unit cooler directly from the table above.

Physical Data

AIR DEFROST MODELS

8 FIN PER INCH MODELS								
Model Number DFA-	Dimensional Data †					Connections †		Approx Weight Lbs
	L	W	H	Mounting Holes A B		Liquid Fl. Nut	Suction ODS	
38-75	58 1/2	28 3/4	8	24	24	1/2	5/8	95
38-88	58 1/2	28 3/4	8	24	24	1/2	5/8	100
38-98	58 1/2	28 3/4	8	24	24	1/2	5/8	105
48-112	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	125
48-130	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	130
48-150	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	135
58-162	106 1/2	28 3/4	8 3/4	48	48	1/2	7/8	150
48-210	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	155
58-230	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	165
68-250	106 1/2	28 3/4	10 1/4	48	48	1/2	1 1/8	185

6 FIN PER INCH MODELS								
36-64	58 1/2	28 3/4	8	24	24	1/2	5/8	90
36-82	58 1/2	28 3/4	8	24	24	1/2	5/8	95
36-93	58 1/2	28 3/4	8	24	24	1/2	5/8	100
46-100	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	120
46-123	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	125
46-140	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	130
56-157	106 1/2	28 3/4	8 3/4	48	48	1/2	7/8	145
46-190	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	150
56-208	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	160
66-232	106 1/2	28 3/4	10 1/4	48	48	1/2	1 1/8	180

ELECTRIC DEFROST MODELS

6 FIN PER INCH MODELS								
Model Number DFE-	Dimensional Data †					Connections †		Approx Weight Lbs
	L	W	H	Mounting Holes A B		Liquid Fl. Nut	Suction ODS	
36-53	58 1/2	28 3/4	8	24	24	1/2	5/8	95
36-62	58 1/2	28 3/4	8	24	24	1/2	5/8	100
36-69	58 1/2	28 3/4	8	24	24	1/2	5/8	105
46-77	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	125
46-90	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	130
46-100	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	135
56-125	106 1/2	28 3/4	8 3/4	48	48	1/2	7/8	150
46-140	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	155
56-160	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	165
66-218	106 1/2	28 3/4	10 1/4	48	48	1/2	1 1/8	185

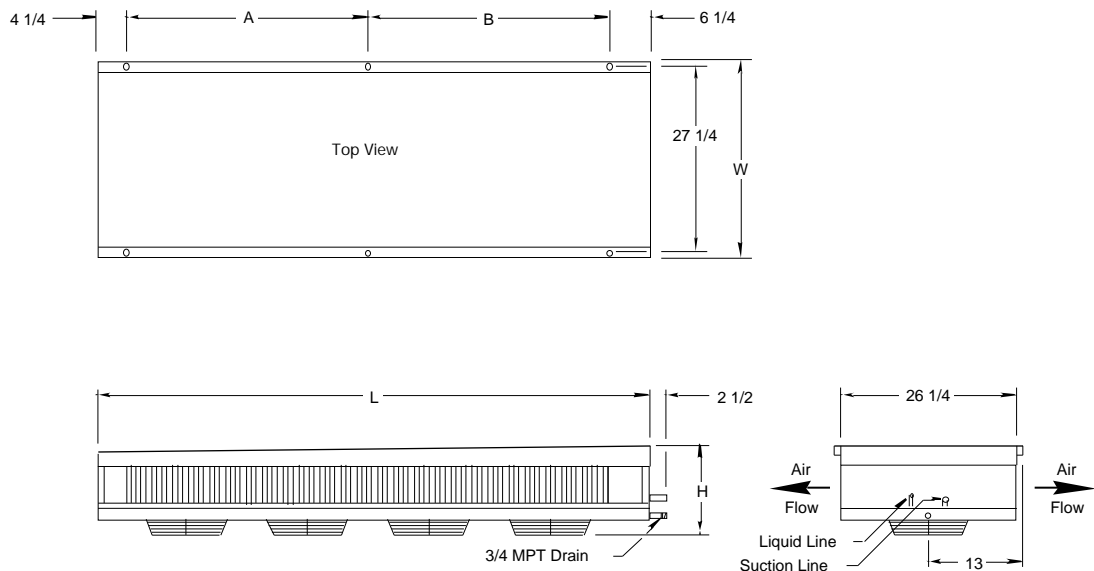
4 FIN PER INCH MODELS								
34-48	58 1/2	28 3/4	8	24	24	1/2	5/8	90
34-58	58 1/2	28 3/4	8	24	24	1/2	5/8	95
34-65	58 1/2	28 3/4	8	24	24	1/2	5/8	100
44-72	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	120
44-84	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	125
44-95	82 1/2	28 3/4	8 3/4	36	36	1/2	7/8	130
54-115	106 1/2	28 3/4	8 3/4	48	48	1/2	7/8	145
44-128	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	150
54-145	106 1/2	28 3/4	10 1/4	48	48	1/2	7/8	160
64-173	106 1/2	28 3/4	10 1/4	48	48	1/2	1 1/8	180

External Equalizer Connection (1/4" ODM) furnished on all units.
 † All dimensions are in inches. Refer to drawing on next page.

Dual-Flo Two-Way Discharge Unit Cooler

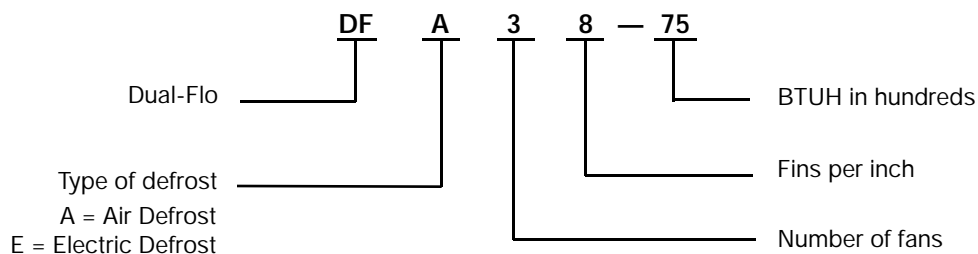
Features

- Low profile—providing extra storage room
- Flush-to-the-ceiling mounting
- Two-way air flow for even air circulation and consistent temperature
- UL, cUL, NSF and MEA listed
- Hinged drain pan for easy service access and cleaning
- Quiet operation
- Ideal for use in rooms with glass display doors
- Air or Electric defrost models
- Heavy-gauge mill-finish aluminum housing (optional white enamel coating available)
- Seamless copper tubes, staggered and mechanically expanded into heavy-gauge corrugated aluminum fins, assure maximum heat transfer
- Optional coated fins (Air Defrost only) and copper fins are available
- 40 models to fit your exact cooling requirements



All dimensions are in inches
Refer to Page 3 for Dimensional Tables and notes

Nomenclature





Dual-Flo Two-Way Discharge Unit Cooler

REPLACEMENT PARTS by Product Model Number

Model Number	Description	Part Number
All Models (optional)	Capacitor, 5 MFD, for 16 Watt 115V PSC Motor	202163-007
	Capacitor, 2 MFD, for 16 Watt 230V PSC Motor	202163-009
All Models	Defrost Control, Defrost Termination, (Timer Reset) 2 Wire	103079-010
All Models	Defrost Control, Fan Delay, 2 Wire	103079-009
DFE 34-48 DFE 34-58 DFE 34-65 DFE 36-53 DFE 36-62 DFE 36-69	Defrost Heaters, Core, 1037 Watts, 55" length, 208-230/460 V (2 reqd.)	208579-001
DFE 44-72 DFE 44-84 DFE 44-95 DFE 46-77 DFE 46-90 DFE 46-100	Defrost Heaters, 1943 Watts, 103" length, 208-230/460 V (2 reqd.)	208579-002
DFE 54-115 DFE 44-152 DFE 54-145 DFE 64-173 DFE 56-125 DFE 46-140 DFE 56-160 DFE 66-218	Defrost Heaters, 1943 Watts, 103" length, 208-230/460 V (2 reqd)	208579-003

Specify Drain Connection Location when ordering DFA / DFE Drain Pans, Bottom or Side

All 2 Fan Models	Drain pan 58 1/2" length, Specify Drain Conn. Location	208728-006
All 3 Fan DFA/DFE Models	Drain pan 82 1/2" length, Specify Drain Conn. Location	208610-000
All 4 Fan DFA/DFE Models Except DFA 46-190 DFE 46-190 DFA 46-190 DFE 48-210 DFA 48-210	Drain pan 106 1/2" length, Specify Drain Conn. Location	208611-000
All 5 Fan DFA/DFE Models and DFA 46-190 DFE 46-190 DFA 48-210 DFE 48-210	Drain pan 106 1/2" length, Specify Drain Conn. Location	208612-000
All 6 Fan DFA/DFE Models	Drain pan 106 1/2" length, Specify Drain Conn. Location	208613-000
All Models	Fan Blade, 10" diam., 31j Pitch, CCW, Hubless	1031CW
All Models	Fan Guard, Wire, Epoxy coated (blue) 12"	201006-002
All Models	Heater Safety Switch, 2 wire	103079-003
All Models	Motor, Shaded Pole, 16 Watt, 1559 RPM, 115V.	103104-007
All Models	Motor, Shaded Pole, 16 Watt, 1550 RPM, 230V.	103104-008
All Models (optional)	Motor, PSC, 16 Watts, 1550 RPM, 115V., (5 MFD Capacitor not included)	107933-001
	Motor, PSC, 16 Watts, 1550 RPM, 115V., (5 MFD Capacitor not included)	107933-002
All Models	Motor, Mount	103096-003

WITT reserves the right to make design changes and modifications to its products without notice.

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