Copeland Scroll Digital™

F-Line air-cooled condensing units

With Emerson XC643 closed loop digital controller

Restaurant chains rely on refrigeration systems for food quality. Many chains have multiple pieces of refrigeration equipment including reach-in cases and food prep counters, powered by a single condensing unit. However, as the refrigeration load changes, fixed-speed compressors have no way of regulating refrigeration capacity. So many of these systems apply hot gas bypass systems to control the suction pressure and keep the system saturated suction temperature (SST) at a preferred point. If the SST is too high, the cases do not receive enough refrigeration which results in poor product control. If the SST is too low, refrigerated products will freeze and energy is wasted.

Digital capacity modulation technology adds variable capacity unloading up to 90% of the compressor capacity. The digital capacity modulation technology, which is a compressor unloading design working in conjunction with the Emerson digital controller, is designed to review and adapt to changes in the system within seconds, delivered an unloading strategy to precisely match the capacity with the product load over the variable operating conditions typical of this foodservice.

1.4–5V signal controls unloader valve to hit suction pressure set point precisely. Complete kit with controller, wrie harnesses, pressure and NTC temperature transducers.

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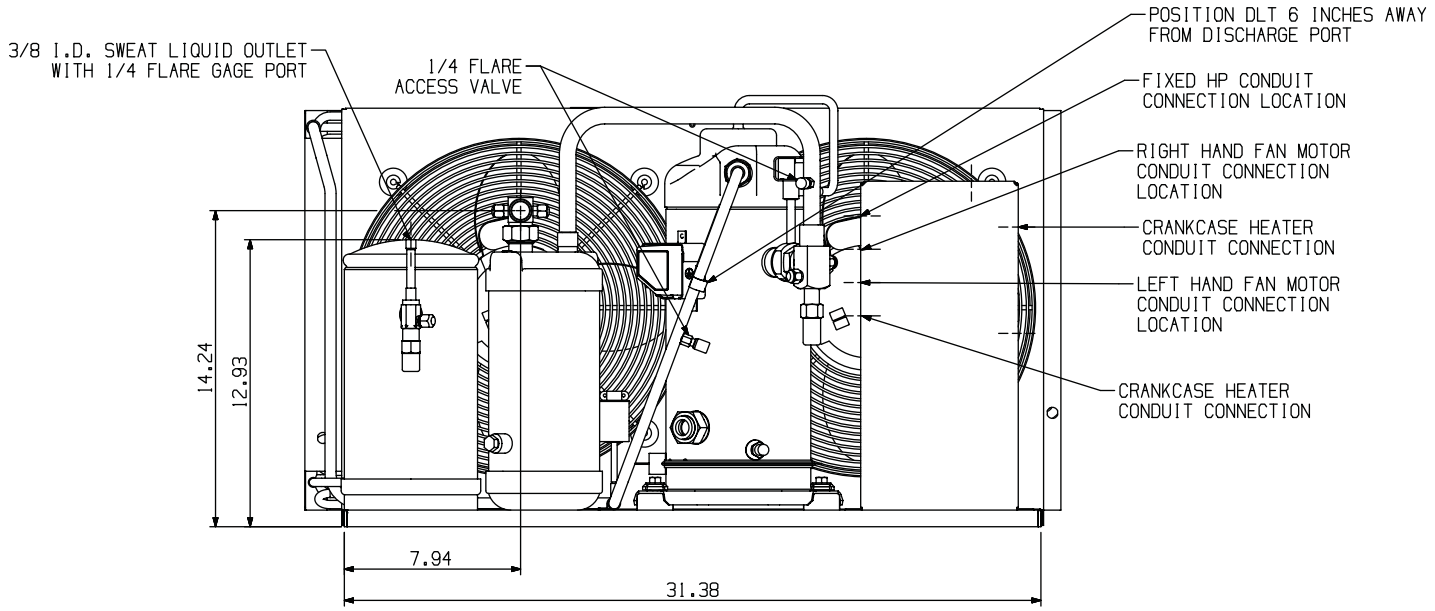

60Hz Air-Cooled Unit Performance – 4/20/2017

Area Restrictions: 20°F Max Superheat			
Unit Model:	FFAP-030D-TFD-340	**Refrigerant:**	R-404A
Compressor:	ZBD21KCE-TFD	**Return Gas Temp. (°F):**	65
Condenser:	066-0319-02 x 1	**Subcooling (°F):**	5
Fan Motor:	050-0265-01 x 2	**Air Flow Rate (CFM):**	2,170
Fan Blade:	083-0034-02 x 2	**Fan Motor Power (W):**	350
Unit Dimensions:	25.04"L x 34.06"W x 19.42"H	**Unit Drawing No:**	496-5720-02

Evap. Temp. (°F)	Unit Capacity (Btu/hr)	Power (W)	Unit EER (Btu/Wh)	Cond. Temp. (°F)	Temp. Diff. (°F)	Refr. ΔP (psi)	Air ΔP (inch wg)
90 °F Ambient Air Temperature							
-5	15,100	2,800	5.4	105.9	15.9	2.25	0.31
0	16,800	2,880	5.8	107.2	17.2	4.59	0.31
5	18,600	2,970	6.3	108.5	18.5	7.03	0.31
10	20,600	3,050	6.8	109.9	19.9	9.54	0.31
15	22,600	3,130	7.2	111.3	21.3	12.08	0.31
20	24,800	3,210	7.7	112.9	22.9	14.69	0.31
25	27,000	3,290	8.2	114.6	24.6	17.26	0.31
100 °F Ambient Air Temperature							
-5	13,800	3,080	4.5	115.7	15.7	7.89	0.31
0	15,400	3,180	4.8	117.1	17.1	9.9	0.31
5	17,200	3,280	5.2	118.5	18.5	11.94	0.31
10	18,900	3,380	5.6	119.9	19.9	13.97	0.31
15	20,800	3,470	6	121.4	21.4	15.95	0.31
20	22,700	3,570	6.4	123	23	17.93	0.31
25	24,600	3,660	6.7	124.6	24.6	19.82	0.31
110 °F Ambient Air Temperature							
5	15,600	3,590	4.3	127.5	17.5	5.69	0.3
10	17,200	3,700	4.6	128.8	18.8	7.3	0.3
15	18,900	3,800	5	130.2	20.2	9.32	0.3
20	20,600	3,900	5.3	131.7	21.7	11.88	0.3
25	22,200	4,010	5.5	133.2	23.2	15	0.31

Basis: Dew Point

Misc.: Compressor Rating Reference Number: 10-1116; Form Number: 1.42MT60-10-1116; Record Date: 1/9/2015 12:00:00 AM Condenser Scaling Ratio: 1.00; Comp. Displacement Scaling Factor: 1; Comp. EER Scaling Factor: 1