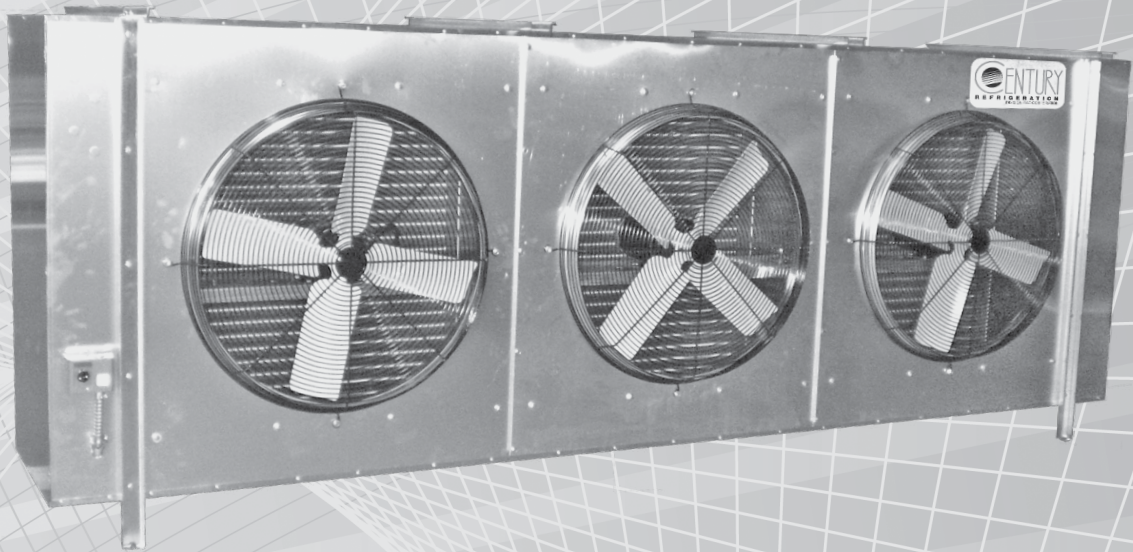


BOC SERIES

Unit Coolers - Technical Catalog



Features / Applications



Air Defrost

- For medium to large-sized cooler applications above +35°F
- 32 models available from 94,342 to 366,183 BTUH at a 10° TD
- Fin spacing available 4, 5, 6, or 8 per inch
- 170 feet air throw (additional distance available with extended throw cones)

Electric Defrost

- For medium to large-sized cooler/freezer applications down to a -40°F evaporator temperature
- 24 models available from 61,921 to 329,608 BTUH at a 10° TD.
- Fin spacing available 4, 5, or 6 per inch
- 170 feet air throw (additional distance available with extended throw cones)
- Heated and insulated drain pan and adjustable defrost termination/fan delay is standard

Hot Gas Defrost

- For medium to large-sized cooler/freezer applications down to a -40°F evaporator temperature
- 24 models available from 61,921 to 329,608 BTUH at a 10° TD
- Fin spacing available 4, 5, or 6 per inch
- 170 feet air throw (additional distance available with extended throw cones)
- Heated (with hot gas loop) and insulated drain pan, sideport connection on the distributor, one (1) check valve for TXV bypass (shipped loose) and adjustable defrost termination/fan delay are standard

For Use In:

Large coolers and freezers • Distribution facilities • Dock arrangements • Storage facilities • And many other applications.

Locate units 34 inches from walls for best results. Condensate drain lines must be adequately heat traced in rooms below freezing. Support piping adequately with suction line "P" traps at each unit. Locate liquid line solenoid close to TXV. Use externally equalized TXV.

Available Options

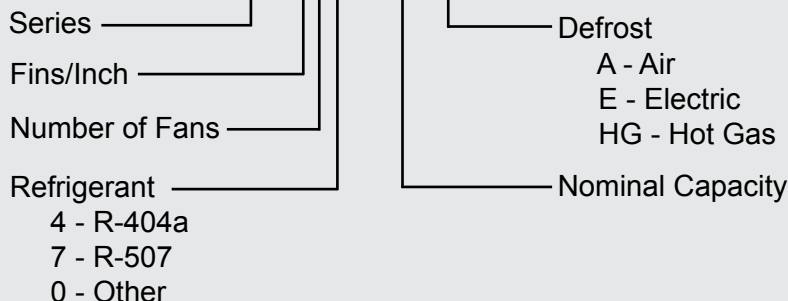


- Additional air throw distance available with extended throw cones
- Insulated drain pans on air defrost units
- Opposite hand connections
- Units circuited for water or glycol solutions
- Mounted non-fused fan motor disconnect switch standard with auxillary contact for liquid solenoid
- Mounted non-fused heater disconnect switch
- Mounted or shipped loose TXV
- Mounted or shipped loose electronic expansion valves with or without controllers
- Stainless steel hardware, fasteners and/or housings
- Various fin materials, coatings and casing arrangements available for corrosive atmosphere applications
- Low noise fan blades
- Motor and fan blade combinations for higher external static pressure and/or hazardous duty applications
- VFD fan motors
- Reheat factory mounted (contact your Century Representative for details)
- Lower operating temperatures available (contact your Century Representative for details)
- Extra legs for rack mounted applications

Nomenclature

MODEL KEY

BOC 424 - 800 E



WHEN ORDERING PLEASE SPECIFY:

- Complete Model Number
- Refrigerant
- Room Temperature
- Saturated Suction Temperature
- Liquid Temperature
- Electrical Characteristic
 - Motors (Voltage/Phase)
 - Heaters (Voltage/Phase)
 - Control Voltage
- Accessories

Construction

Cabinet

Cabinets are made of heavy-gauge, rust-proof smooth finish aluminum housing. All hardware is corrosion resistant. Full die-formed venturies minimize noise with maximum air throw. Fan guards are heavy-gauge wire basket-type coated for corrosion protection.

Coil

Coils are copper tube, full-collared die-formed aluminum plate fin and tube sheets. Tubes are mechanically expanded for maximum heat transfer. Coils are leak tested at 350 PSIG under water. Solder distributors have removable nozzles. Each nozzle is sized for the specified refrigerant and temperature range. All coils use an external equalized expansion valve. Expansion valve is located within the cabinet. The expansion valve compartment is heated during the defrost cycle on electric defrost models.

Fans

Fans have heavy duty steel blades and hubs that are statically and dynamically balanced for smooth operation. They are selected for maximum air throw.

Motors

Motors are permanently lubricated for reduced maintenance time and costs and suitable for low temperature applications. Motors are heavy duty, high

efficiency, full ball bearing and have internal thermal overloads. Motors are suitable for single-point group fusing. Fan motors are pre-wired to terminal blocks. Motors are 1140 RPM.

Refrigerants

Coils are designed for use with many refrigerant types.

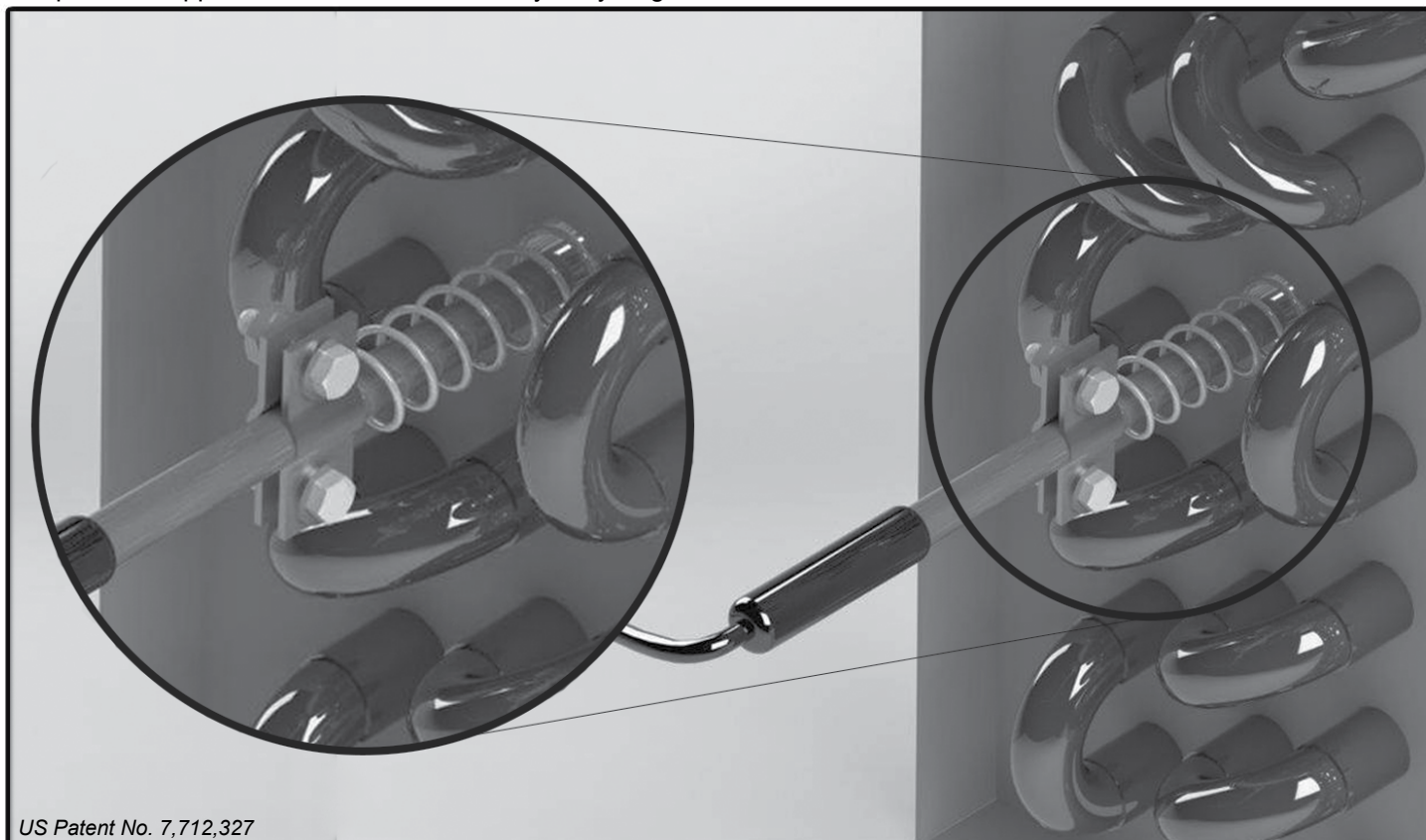
Defrost

Electric Defrost models include pre-wired terminal blocks and low-watt density heaters that are housed internal to the coil for a rapid and efficient defrost. Lower coil and drain pan heaters provide fast and reliable condensate drainage. Standard operating control includes an adjustable defrost termination with fan delay.

Hot Gas Defrost models include an auxiliary side port connection on the distributor, insulated drain pan with a hot gas loop in the pan, and a check valve shipped loose. An adjustable defrost termination/fan delay switch is also provided with this option for temperature termination of the defrost period.

Mounting

Century offers both ceiling and rack or floor mounting for each model.



US Patent No. 7,712,327

Defrost elements are installed in the open tube locations within the evaporator coil. The radiant heat is trapped by the cabinet, accelerating defrost. The heater elements are held in place with a spring and bracket to keep the element from creeping during defrost.

Capacity

| BOC Model | CFM | FPM | Evaporating Temperature °F | | | | | | | | | |
|-----------|--------|-----|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | | -40° | -30° | -20° | -10° | 0° | +10° | +20° | +25° | +35° | +45° |
| 420-800 | 14,600 | 623 | 61,316 | 68,864 | 74,582 | 79,073 | 82,923 | 86,698 | 90,949 | 93,419 | 99,368 | 107,082 |
| 420-904 | 15,800 | 544 | 70,414 | 79,084 | 85,650 | 90,807 | 95,228 | 99,564 | 104,445 | 107,281 | 114,114 | 122,973 |
| 430-1046 | 20,688 | 662 | 84,150 | 94,510 | 102,357 | 108,520 | 113,804 | 118,986 | 124,819 | - | - | - |
| 430-1216 | 22,650 | 585 | 97,804 | 109,846 | 118,966 | 126,129 | 132,270 | 138,293 | 145,073 | 149,012 | 158,503 | 170,807 |
| 440-1395 | 27,500 | 660 | 112,132 | 125,937 | 136,393 | 144,606 | 151,646 | 158,552 | 166,325 | - | - | - |
| 440-1621 | 30,200 | 585 | 130,299 | 146,341 | 158,491 | 168,034 | 176,215 | 184,239 | 193,272 | 198,520 | 211,164 | 227,556 |
| 450-1743 | 34,750 | 667 | 140,165 | 157,422 | 170,492 | 180,758 | 189,558 | 198,190 | 207,907 | - | - | - |
| 450-2026 | 37,750 | 585 | 162,873 | 182,925 | 198,113 | 210,042 | 220,268 | 230,298 | 241,589 | 248,149 | 263,954 | 284,445 |
| 520-889 | 14,300 | 610 | 67,360 | 75,653 | 81,934 | 86,868 | 91,097 | 95,245 | 99,914 | 102,627 | 109,164 | 117,638 |
| 520-997 | 15,500 | 533 | 76,925 | 86,396 | 93,569 | 99,203 | 104,033 | 108,771 | 114,103 | 117,201 | 124,666 | 134,344 |
| 530-1150 | 20,100 | 643 | 92,439 | 103,819 | 112,439 | 119,209 | 125,013 | 130,706 | 137,114 | 140,837 | 149,807 | 161,436 |
| 530-1325 | 22,050 | 569 | 108,937 | 122,349 | 132,507 | 140,486 | 147,325 | 154,034 | 161,586 | 165,973 | 176,544 | 190,250 |
| 540-1533 | 26,800 | 643 | 123,225 | 138,396 | 149,887 | 158,912 | 166,648 | 174,237 | 182,779 | 187,742 | 199,700 | 215,202 |
| 540-1767 | 29,400 | 569 | 142,034 | 159,521 | 172,765 | 183,168 | 192,085 | 200,832 | 210,678 | 216,399 | 230,182 | 248,051 |
| 550-1916 | 33,500 | 643 | 154,031 | 172,995 | 187,358 | 198,639 | 208,310 | 217,796 | 228,473 | 234,677 | 249,624 | 269,002 |
| 550-2208 | 36,750 | 569 | 177,543 | 199,401 | 215,957 | 228,960 | 240,107 | 251,041 | 263,348 | 270,499 | 287,727 | 310,064 |
| 620-912 | 13,600 | 580 | - | - | 84,195 | 89,265 | 93,611 | 97,873 | 102,672 | 105,459 | 112,176 | 120,885 |
| 620-1067 | 15,200 | 523 | - | - | 98,673 | 104,615 | 109,708 | 114,703 | 120,327 | 123,594 | 131,466 | 141,672 |
| 630-1200 | 19,350 | 619 | - | - | 117,328 | 124,392 | 130,449 | 136,389 | 143,075 | 146,960 | 156,320 | 168,456 |
| 630-1395 | 21,600 | 557 | - | - | 136,393 | 144,606 | 151,646 | 158,552 | 166,325 | 170,841 | 181,722 | 195,829 |
| 640-1600 | 25,800 | 619 | - | - | 156,437 | 165,856 | 173,931 | 181,851 | 190,767 | 195,947 | 208,427 | 224,607 |
| 640-1860 | 28,800 | 557 | - | - | 181,858 | 192,808 | 202,195 | 211,402 | 221,767 | 227,788 | 242,296 | 261,106 |
| 650-2000 | 32,250 | 619 | - | - | 195,546 | 207,321 | 217,414 | 227,314 | 238,459 | 244,934 | 260,534 | 280,759 |
| 650-2325 | 36,000 | 557 | - | - | 227,322 | 241,010 | 252,744 | 264,253 | 277,208 | 284,735 | 302,870 | 326,382 |
| 820-1006 | 13,500 | 576 | - | - | - | - | - | - | - | 114,630 | 121,931 | 131,396 |
| 820-1145 | 15,000 | 516 | - | - | - | - | - | - | - | 132,828 | 141,288 | 152,256 |
| 830-1280 | 19,050 | 610 | - | - | - | - | - | - | - | 156,758 | 166,743 | 179,687 |
| 830-1550 | 21,450 | 554 | - | - | - | - | - | - | - | 189,823 | 201,914 | 217,588 |
| 840-1707 | 25,400 | 610 | - | - | - | - | - | - | - | 208,997 | 222,308 | 239,566 |
| 840-2067 | 28,600 | 554 | - | - | - | - | - | - | - | 253,065 | 269,183 | 290,080 |
| 850-2133 | 31,750 | 610 | - | - | - | - | - | - | - | 261,246 | 277,886 | 299,458 |
| 850-2583 | 35,750 | 554 | - | - | - | - | - | - | - | 316,331 | 336,478 | 362,599 |

Capacity based on 10° TD.

*Recommended maximum face velocity of 625 FPM for a wet coil application.

- Ratings omitted due to face velocities or temperature limits.

Electrical Data

Specifications

| BOC Model | Fan Motor Data | | | | | Defrost Heater Data | | | | Connections (in.) | | | | | Approx. Refrig. Charge (lbs.) ⁵ | Ship Weight (lbs.) | Operating Weight (lbs.) |
|-----------|----------------|----|-------------------|-------|-------|----------------------------|-------------------|-------|-------|-------------------|-------|---------|-------|----------------------|--|--------------------|-------------------------|
| | Qty. | HP | Amps ¹ | | | Watts ⁴ | Amps ² | | | Liquid | | Suction | | Hot Gas ³ | | | |
| | | | 208/230/3 | 460/3 | 575/3 | | 208/230/3 | 460/3 | 575/3 | Qty. | Size | Qty. | Size | | | | |
| 420-800 | 2 | 1 | 9.2 | 4.6 | 3.2 | 20,788 | 53.6 | 26.8 | 21.4 | 1 | 1 3/8 | 1 | 2 1/8 | 1 3/8 | 45 | 947 | 770 |
| 420-904 | 2 | 1 | 9.2 | 4.6 | 3.2 | 24,066 | 66.0 | 33.0 | 26.4 | 1 | 1 3/8 | 1 | 2 1/8 | 1 3/8 | 56 | 946 | 775 |
| 430-1046 | 3 | 1 | 13.8 | 6.9 | 4.8 | 26,650 | 68.8 | 34.4 | 27.5 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 60 | 1,076 | 890 |
| 430-1216 | 3 | 1 | 13.8 | 6.9 | 4.8 | 30,850 | 84.8 | 42.4 | 33.9 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 74 | 1,311 | 1,133 |
| 440-1395 | 4 | 1 | 18.4 | 9.2 | 6.4 | 30,088 | 78.0 | 39.0 | 31.2 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 79 | 1,425 | 1,193 |
| 440-1621 | 4 | 1 | 18.4 | 9.2 | 6.4 | 34,788 | 95.8 | 47.9 | 38.3 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 98 | 1,594 | 1,370 |
| 450-1743 | 5 | 1 | 23.0 | 11.5 | 8.0 | 37,612 | 97.5 | 48.7 | N/A | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 98 | 1,784 | 1,512 |
| 450-2026 | 5 | 1 | 23.0 | 11.5 | 8.0 | 43,490 | 119.9 | 60.5 | N/A | 2 | 1 3/8 | 2 | 2 5/8 | 1 5/8 | 122 | 1,962 | 1,690 |
| 520-889 | 2 | 1 | 9.2 | 4.6 | 3.2 | 20,788 | 53.6 | 26.8 | 21.4 | 1 | 1 3/8 | 1 | 2 1/8 | 1 3/8 | 45 | 858 | 681 |
| 520-997 | 2 | 1 | 9.2 | 4.6 | 3.2 | 24,066 | 66.0 | 33.0 | 26.4 | 1 | 1 3/8 | 1 | 2 5/8 | 1 3/8 | 56 | 976 | 806 |
| 530-1150 | 3 | 1 | 13.8 | 6.9 | 4.8 | 26,650 | 68.8 | 34.4 | 27.5 | 1 | 1 3/8 | 1 | 2 5/8 | 1 5/8 | 60 | 1,210 | 1,024 |
| 530-1325 | 3 | 1 | 13.8 | 6.9 | 4.8 | 30,850 | 84.8 | 42.4 | 33.9 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 74 | 1,247 | 1,069 |
| 540-1533 | 4 | 1 | 18.4 | 9.2 | 6.4 | 30,088 | 78.0 | 39.0 | 31.2 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 79 | 1,455 | 1,223 |
| 540-1767 | 4 | 1 | 18.4 | 9.2 | 6.4 | 34,788 | 95.8 | 47.9 | 38.3 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 98 | 1,641 | 1,417 |
| 550-1916 | 5 | 1 | 23.0 | 11.5 | 8.0 | 37,612 | 97.5 | 48.7 | N/A | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 98 | 1,828 | 1,556 |
| 550-2208 | 5 | 1 | 23.0 | 11.5 | 8.0 | 43,490 | 119.9 | 60.5 | N/A | 2 | 1 5/8 | 2 | 2 5/8 | 1 5/8 | 122 | 2,016 | 1,744 |
| 620-912 | 2 | 1 | 9.2 | 4.6 | 3.2 | 20,788 | 53.6 | 26.8 | 21.4 | 1 | 1 3/8 | 1 | 2 5/8 | 1 3/8 | 45 | 881 | 704 |
| 620-1067 | 2 | 1 | 9.2 | 4.6 | 3.2 | 24,066 | 66.0 | 33.0 | 26.4 | 1 | 1 3/8 | 1 | 2 5/8 | 1 3/8 | 56 | 1,002 | 831 |
| 630-1200 | 3 | 1 | 13.8 | 6.9 | 4.8 | 26,650 | 68.8 | 34.4 | 27.5 | 1 | 1 5/8 | 1 | 2 5/8 | 1 5/8 | 60 | 1,130 | 944 |
| 630-1395 | 3 | 1 | 13.8 | 6.9 | 4.8 | 30,850 | 84.8 | 42.4 | 33.9 | 1 | 1 5/8 | 1 | 3 1/8 | 1 5/8 | 74 | 1,286 | 1,108 |
| 640-1600 | 4 | 1 | 18.4 | 9.2 | 6.4 | 30,088 | 78.0 | 39.0 | 31.2 | 1 | 1 5/8 | 1 | 3 1/8 | 1 5/8 | 79 | 1,495 | 1,263 |
| 640-1860 | 4 | 1 | 18.4 | 9.2 | 6.4 | 34,788 | 95.8 | 47.9 | 38.3 | 1 | 1 5/8 | 1 | 3 1/8 | 1 5/8 | 98 | 1,684 | 1,460 |
| 650-2000 | 5 | 1 | 23.0 | 11.5 | 8.0 | 37,612 | 97.5 | 48.7 | N/A | 1 | 1 5/8 | 1 | 3 1/8 | 1 5/8 | 98 | 1,894 | 1,622 |
| 650-2325 | 5 | 1 | 23.0 | 11.5 | 8.0 | 43,490 | 119.9 | 60.5 | N/A | 2 | 1 5/8 | 2 | 2 5/8 | 1 5/8 | 122 | 2,071 | 1,799 |
| 820-1006 | 2 | 1 | 9.2 | 4.6 | 3.2 | Available Air Defrost Only | | | | 1 | 1 3/8 | 1 | 2 5/8 | - | 45 | 922 | 745 |
| 820-1145 | 2 | 1 | 9.2 | 4.6 | 3.2 | | | | | 1 | 1 5/8 | 1 | 2 5/8 | - | 56 | 1,051 | 880 |
| 830-1280 | 3 | 1 | 13.8 | 6.9 | 4.8 | | | | | 1 | 1 5/8 | 1 | 3 1/8 | - | 60 | 1,187 | 1,001 |
| 830-1550 | 3 | 1 | 13.8 | 6.9 | 4.8 | | | | | 1 | 1 5/8 | 1 | 3 1/8 | - | 74 | 1,351 | 1,174 |
| 840-1707 | 4 | 1 | 18.4 | 9.2 | 6.4 | | | | | 1 | 1 5/8 | 1 | 3 1/8 | - | 79 | 1,566 | 1,334 |
| 840-2067 | 4 | 1 | 18.4 | 9.2 | 6.4 | | | | | 1 | 1 5/8 | 1 | 3 1/8 | - | 98 | 1,772 | 1,548 |
| 850-2133 | 5 | 1 | 23.0 | 11.5 | 8.0 | | | | | 1 | 1 5/8 | 1 | 3 1/8 | - | 98 | 1,982 | 1,710 |
| 850-2583 | 5 | 1 | 23.0 | 11.5 | 8.0 | | | | | 2 | 1 5/8 | 2 | 2 5/8 | - | 122 | 2,181 | 1,909 |

¹ All 5 fan units have two power feeds regardless of amperage.

² Value for heater amps is total. Multiple circuits are required to keep circuits within NEC guidelines of 48.0 amp. Two or more heater electrical circuits are required on units exceeding 48.0 total amps.

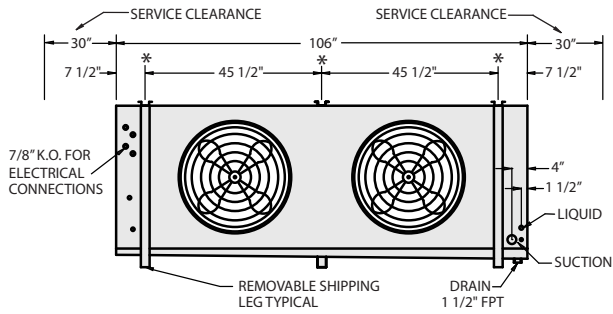
³ Drain pan hot gas connection on hot gas models only.

⁴ Watts shown at 230/460. Watts reduced at 208 amperage.

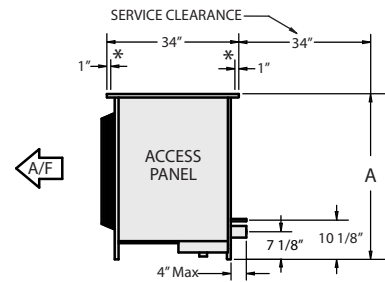
⁵ Refrigerant charge based on R-404a.

Dimensions¹

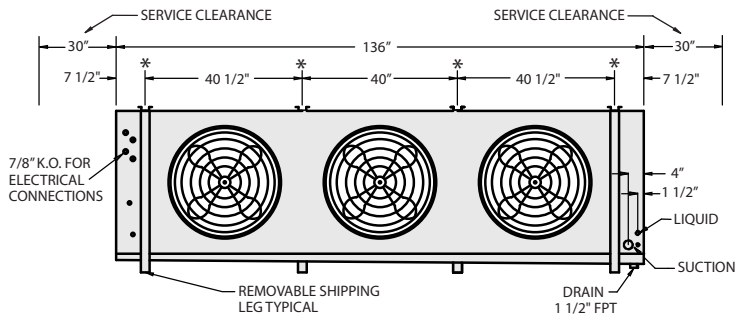
Two Fan Models



OPTIONAL
EXTENDED
THROW CONE



Three Fan Models

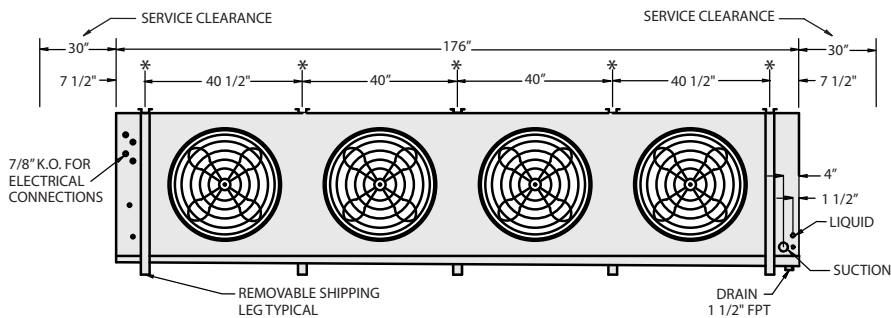


| BOC Model | | | | A |
|-----------|----------|----------|----------|---------|
| 2 Fans | 3 Fans | 4 Fans | 5 Fans | Height |
| 420-800 | 430-1046 | 440-1395 | 450-1743 | 42 5/8" |
| 420-904 | 430-1216 | 440-1621 | 450-2026 | 51 5/8" |
| 520-889 | 530-1150 | 540-1533 | 550-1916 | 42 5/8" |
| 520-997 | 530-1325 | 540-1767 | 550-2208 | 51 5/8" |
| 620-912 | 630-1200 | 640-1600 | 650-2000 | 42 5/8" |
| 620-1067 | 630-1395 | 640-1860 | 650-2325 | 51 5/8" |
| 820-1006 | 830-1280 | 840-1707 | 850-2133 | 42 5/8" |
| 820-1145 | 830-1550 | 840-2067 | 850-2583 | 51 5/8" |

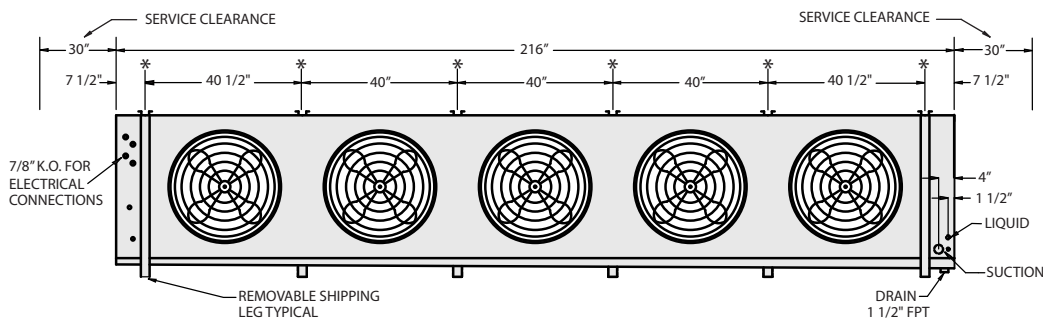
* 13/16" diameter unit mounting holes

¹ All dimensions +/- 1/2"

Four Fan Models



Five Fan Models



Sound / Air Throw Data



| BOC Fan Performance | | | | | | | |
|---------------------|---|-------|-------|-------|-------|-----------------------------|-------------------------------------|
| Fan Option | Sound Pressure A-weighted 10ft ⁽¹⁾ | | | | | Air Throw (ft) ² | Air Throw w/ Cone (ft) ² |
| | 1 fan | 2 fan | 3 fan | 4 fan | 5 fan | | |
| Standard 1140 RPM | 76 | 79 | 80 | 82 | 83 | 170 | 200 |
| Optional 850 RPM | 65 | 68 | 69 | 72 | 73 | 120 | 150 |
| Premium 1140 RPM | 69 | 72 | 73 | 75 | 76 | 170 | 200 |

¹ Sound pressure levels provided are based on free field propagation of sound. For applied sound pressure levels, surrounding reflective surfaces must be considered. Reference ASHRAE Handbooks for directivity factors and equation to estimate installed sound pressure levels.

² Air throw distance provided may vary based on application.

Product Benefits:

Adaptability-

Century systems go where others can't. Your Century system is engineered to meet your specific project application and job requirements in-house with no need for modification in the field. With Century's extensive inventory of components, your order can be shipped when you need it.

Durability-

Your Century system will be built with heavy gauge construction and the highest quality components to optimize efficiency for the life expectancy of your system. Century systems are engineered for **Time Tested Toughness.**

Serviceability-

Your Century system will have easily accessible components and appropriate fin spacing to allow for easy maintenance. Century systems are engineered to be serviceable with a minimal amount of OEM components. A large inventory of replacement parts ensures professional, reliable service throughout the lifetime of your Century system.

Reduced Total Cost of Ownership-

The adaptability, durability, and serviceability of your Century system results in reduced installation costs, maintenance costs, and utility costs throughout the lifetime of your system. Century systems are designed for customers requiring long-term, dependable systems.

The current refrigeration market...

Commercial Refrigeration

- Shipped from stock
- No modifications available; one size fits all equipment
- Lightweight construction
- Convenience store and restaurant applications
- Options/kits shipped loose for field assembly/installation
- Cheaper, lower quality materials

Industrial Refrigeration

- Central refrigeration plant
- Dedicated mechanical rooms
- Stationary Engineer requirements
- PLC (Microprocessor) controls
- Steel construction
- Requires extensive piping in the field

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Bulletin# C-TC-BOC-1017