

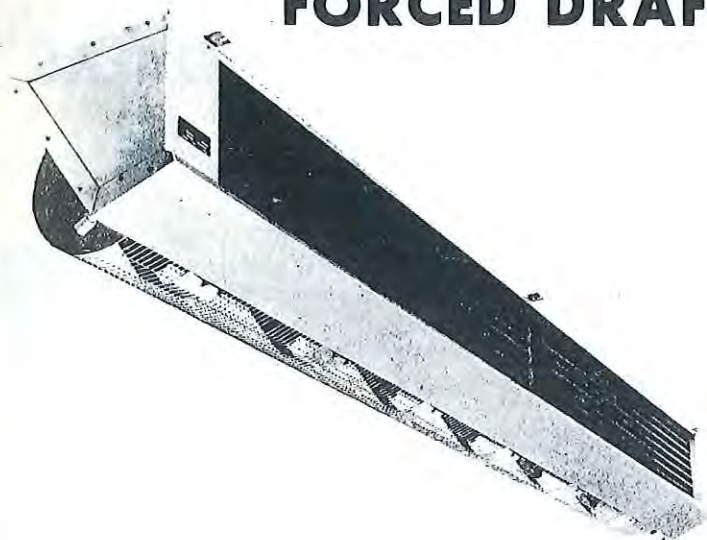
FORCED DRAFT COOLERS Muller

LO-LINE UNIT COOLER V SERIES

FOR R12, R22 & R502

MLV SERIES – Normal Temperature
MLVE SERIES – With Electric Defrost for Low Temperature applications.

Complete accessibility to motors and fan blades. Quickly detachable fan guards. May be mounted within 3" of Coolroom walls. Far superior on Airside by virtue of improved plenum design - coupled with positive drain pan discharge.



CABINET – All parts are fabricated of heavy gauge hammered aluminium. Slotted hangers are furnished for easy installation. Fan and motor assembly is rigidly attached to the unit.
MOTOR AND FANS – Shaded pole type motors with ball bearings

are furnished on all units. Heavy duty propeller type fans are statically balanced and individually gauged for contour alignment.
HEAT EXCHANGER – Tube within-tube type heat exchanger is an integral part of each Lo-Line unit.

MLV SERIES — NORMAL TEMPERATURE

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Fan Diam. mm | Air Throw m | No. | Motor Data | | Heat BTU/24 Hrs | Overall Dimensions – mm | | |
|----------|--------|----------------|-------------------|--------------|--------------|-------------|-----|------------|-------------|-----------------|-------------------------|------|-----|
| | | WATTS @ 5K T.D | BTU/HR @ 10°F T.D | | | | | Total Amps | Total Watts | | H | W | D |
| 29287 | MLV050 | 1300 | 5000 | 340 | 305 | 10 | 1 | 1.1 | 160 | 13100 | 388 | 706 | 490 |
| 29288 | MLV072 | 1850 | 7200 | 680 | 305 | 12 | 2 | 2.2 | 320 | 26200 | 388 | 1176 | 490 |
| 29289 | MLV100 | 2600 | 10000 | 680 | 305 | 12 | 2 | 2.2 | 320 | 26200 | 388 | 1176 | 490 |
| 29290 | MLV150 | 3900 | 15000 | 1020 | 305 | 14 | 3 | 3.3 | 480 | 39300 | 388 | 1646 | 490 |
| 29291 | MLV200 | 5200 | 20000 | 1360 | 305 | 16 | 4 | 4.4 | 640 | 52500 | 388 | 2116 | 490 |
| 29292 | MLV250 | 6500 | 25000 | 1700 | 305 | 18 | 5 | 5.5 | 800 | 65600 | 388 | 2586 | 490 |
| 29293 | MLV300 | 7800 | 30000 | 2040 | 305 | 20 | 6 | 6.6 | 960 | 78700 | 388 | 3056 | 490 |

MLVE SERIES — LOW TEMPERATURE

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Fan Size mm | Air Throw m | Motor Data | | | | Heaters Total Watts | Overall Dimensions – mm | | |
|----------|---------|----------------|-------------------|--------------|-------------|-------------|------------|------------|-------------|-----------------|---------------------|-------------------------|------|-----|
| | | WATTS @ 5K T.D | BTU/HR @ 10°F T.D | | | | No. | Total Amps | Total Watts | Heat BTU/24 Hrs | | H | W | D |
| 29276 | MLVE035 | 900 | 3500 | 340 | 305 | 10 | 1 | 1.1 | 160 | 13100 | 1525 | 388 | 706 | 490 |
| 29277 | MLVE050 | 1300 | 5000 | 680 | 305 | 12 | 2 | 2.2 | 320 | 26200 | 2650 | 388 | 1176 | 490 |
| 29278 | MLVE070 | 1800 | 7000 | 680 | 305 | 12 | 2 | 2.2 | 320 | 26200 | 2650 | 388 | 1176 | 490 |
| 29279 | MLVE105 | 2700 | 10500 | 1020 | 305 | 14 | 3 | 3.3 | 480 | 39300 | 3775 | 388 | 1646 | 490 |
| 29280 | MLVE140 | 3600 | 14000 | 1360 | 305 | 16 | 4 | 4.4 | 640 | 52500 | 4900 | 388 | 2116 | 490 |
| 29281 | MLVE175 | 4500 | 17500 | 1700 | 305 | 18 | 5 | 5.5 | 800 | 65600 | 5725 | 388 | 2586 | 490 |
| 29282 | MLVE210 | 5400 | 21000 | 2040 | 305 | 20 | 6 | 6.6 | 960 | 78700 | 6290 | 388 | 3056 | 490 |

OUR BIG SELECTION ANSWERS YOUR EVERY NEED AND PRICED RIGHT TOO

4

292-b

MULLER

FORCED DRAFT COOLERS M.U.A.PACEMAKER UNIT COOLERS



APPLICATIONS

- * WALK-IN COOLERS
- * MEAT STORAGE
- * PRODUCE STORAGE
- * DAIRY STORAGE
- * WAREHOUSES
- * SUPERMARKETS

BUILT-IN HEAT EXCHANGER

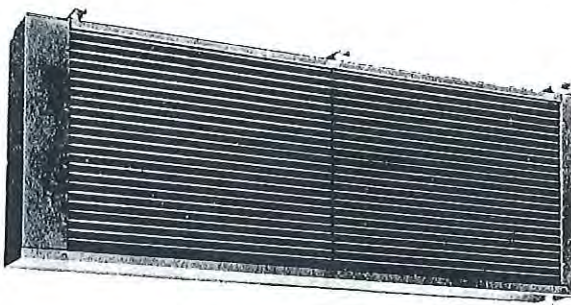
Tube-within-tube type heat exchanger is an integral part of each Pacemaker Unit Cooler.

FOR R12, R22 & R502

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Fan Diam. mm | No. Fans | Air Throw m | Motor Data | | | Overall Dimensions – mm | | |
|----------|---------|----------------|------------------|--------------|--------------|----------|-------------|------------|-------------|------|-------------------------|------|-----|
| | | WATTS @ 5K T.D | BTU/HR @10°F T.D | | | | | Amps Rated | Watts Input | RPM | H | W | D |
| 29230 | MUA450 | 1190 | 4500 | 430 | 356 | 1 | 8.2 | .82 | 52 | 1340 | 432 | 625 | 495 |
| 29232 | MUA680 | 1790 | 6800 | 470 | 356 | 1 | 9.1 | 1.1 | 75 | 1350 | 432 | 625 | 495 |
| 29233 | MUA870 | 2300 | 8700 | 780 | 356 | 2 | 8.8 | .82 | 52 | 1340 | 432 | 1069 | 495 |
| 29234 | MUA1100 | 2900 | 11000 | 810 | 356 | 2 | 9.1 | .82 | 52 | 1340 | 432 | 1069 | 495 |
| 29235 | MUA1350 | 3560 | 13500 | 940 | 356 | 2 | 10.4 | 1.1 | 75 | 1340 | 432 | 1069 | 495 |
| 29236 | MUA1700 | 4490 | 17000 | 1600 | 457 | 2 | 9.4 | 2.5 | 188 | 1410 | 629 | 1349 | 525 |
| 29237 | MUA2300 | 6070 | 23000 | 1790 | 457 | 2 | 10.4 | 2.5 | 188 | 1340 | 629 | 1349 | 525 |
| 29238 | MUA3400 | 8980 | 34000 | 2120 | 508 | 2 | 10.1 | 2.5 | 188 | 1300 | 819 | 1349 | 525 |
| 29239 | MUA4400 | 11600 | 44000 | 2780 | 457 | 3 | 9.4 | 2.5 | 188 | 1370 | 819 | 1755 | 525 |
| 29228 | MUA6000 | 15850 | 60000 | 4250 | 508 | 4 | 10.1 | 2.5 | 188 | 1300 | 819 | 2505 | 525 |
| 29229 | MUA8000 | 21100 | 80000 | 5320 | 508 | 5 | 9.1 | 2.5 | 188 | 1300 | 819 | 3086 | 525 |

LOW TEMP. FOR
R12, R22 & R502

EP HOT ROD ELECTRIC DEFROSTING



FEATURES

REPLACEABLE HEATING ELEMENTS - Electric heating elements (finned coil and drain pan) easily removed from front, back and bottom for inspection and maintenance without removing the coil or dropping the Unit Cooler. Only minimum space at either end required. Incoloy Sheathed Pan Heaters and Coil Face Heaters for long life and rapid defrost.

POSITIVE DRAIN PAN DE-ICING - Aluminium drain pan heated electrically with Incoloy Sheathed Heating Elements, held within the pan by formed aluminium reinforcing members. Positive drainage is assured by the side to side pitch provided by the mounting hanger design.

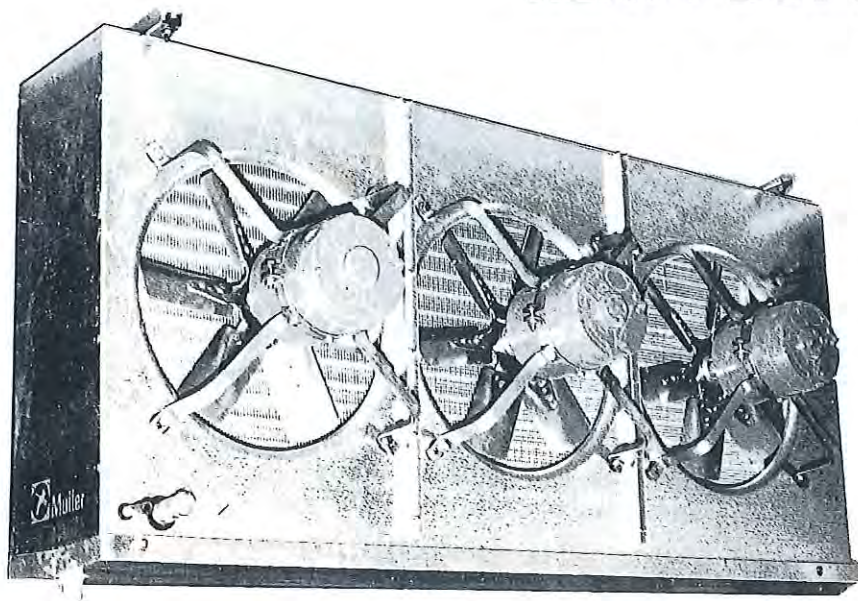
RAPID FIN DEFROSTING - Frost is melted by Incoloy Sheathed Heating Elements inserted into slots in the front and rear faces of the finned coil providing direct metallic contact between the heating elements and the aluminium fins.

HEAT EXCHANGER - All units are fitted with built-in heat exchanger.

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Fan Diam. mm | No. Fans | Air Throw m | Motor Data | | | Total Heater Watts | Overall Dimensions – mm | | |
|----------|---------|----------------|------------------|--------------|--------------|----------|-------------|------------|-------------|------|--------------------|-------------------------|------|-----|
| | | WATTS @ 5K T.D | BTU/HR @10°F T.D | | | | | Amps Rated | Watts Input | RPM | | H | W | D |
| 29216 | EP 451 | 1190 | 4500 | 390 | 356 | 1 | 7.6 | 1.1 | 75 | 1270 | 1800 | 432 | 625 | 495 |
| 29217 | EP 601 | 1580 | 6000 | 740 | 356 | 2 | 8.2 | .82 | 52 | 1350 | 2300 | 432 | 1069 | 495 |
| 29219 | EP 901 | 2380 | 9000 | 770 | 356 | 2 | 8.5 | 1.1 | 75 | 1300 | 3200 | 432 | 1069 | 495 |
| 29220 | EP 1201 | 3170 | 12000 | 1610 | 457 | 2 | 9.1 | 2.5 | 188 | 1410 | 3450 | 629 | 1349 | 525 |
| 29221 | EP 1601 | 4220 | 16000 | 1790 | 457 | 2 | 10.4 | 2.5 | 188 | 1340 | 5250 | 629 | 1349 | 525 |
| 29222 | EP 2401 | 6330 | 24000 | 2120 | 508 | 2 | 10.4 | 2.5 | 188 | 1300 | 6750 | 819 | 1349 | 525 |
| 29223 | EP 3601 | 9500 | 36000 | 2780 | 457 | 3 | 9.4 | 2.5 | 188 | 1370 | 8100 | 819 | 1755 | 525 |
| 29214 | EP 4801 | 12660 | 48000 | 3730 | 457 | 4 | 9.7 | 2.5 | 188 | 1370 | 10800 | 819 | 2279 | 525 |

Muller M.A.F. M.A.F.E. AXIAL FAN UNIT COOLERS

HEAVY DUTY APPLICATIONS



FOR R12, R22 & R502

M.A.F. — NORMAL TEMPERATURE

M.A.F.E. — LOW TEMPERATURE

APPLICATIONS

- Walk-in Coolers
- Dairy Storage
- Meat Storage
- Produce Storage

FEATURES

Standard Equipment includes the Muller Tube-Within-A-Tube Heat Exchanger.

Cabinet — Rugged, heavy duty construction of decorator style aluminium.

Fans & Motors — 3-phase totally enclosed weatherproof, resilient mounted 560W motors matched to axial flow multiblade fans producing greater air velocities and throw.

Coils — 4 fin per inch aluminium fin on 5/8" O.D. copper tube featuring the Muller deep ripple fin for increased heat transfer.

4

M.A.F. AXIAL FAN UNIT COOLERS — NORMAL TEMPERATURE — FOR R12, R22 & R502

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Air Throw m | Fan Diam. mm | No. Fans | Fan RPM | Motor Data | | Overall Dimensions — mm | | |
|----------|---------|-----------------|--------------------|--------------|-------------|--------------|----------|---------|------------|-------------|-------------------------|------|-----|
| | | WATTS @ 5K T.D. | BTU/HR @ 10°F T.D. | | | | | | Total Amps | Total Watts | H | W | D |
| 29259 | MAF3400 | 8980 | 34000 | 2600 | 19 | 508 | 2 | 1425 | 2.8 | 1120 | 895 | 1349 | 580 |
| 29260 | MAF4400 | 11600 | 44000 | 3450 | 20 | 457 | 3 | 1425 | 4.2 | 1680 | 895 | 1755 | 580 |
| 29261 | MAF6500 | 17140 | 65000 | 5300 | 22 | 508 | 4 | 1425 | 5.6 | 2240 | 895 | 2505 | 580 |
| 29262 | MAF8500 | 22400 | 85000 | 6650 | 24 | 508 | 5 | 1425 | 7.0 | 2800 | 895 | 3086 | 580 |

M.A.F.E. AXIAL FAN UNIT COOLERS — LOW TEMPERATURE — FOR R12, R22 & R502

Replaceable Heating Elements — Electric heating elements (finned coil and drain pan) easily removed from front, back and bottom for inspection and maintenance without removing the coil or dropping the Unit Cooler. Only minimum space at either end required. Incoloy Sheathed Pan Heaters and Coil Face Heaters for long life and rapid defrost.

Positive Drain Pan De-icing — Aluminium drain pan heated electrically with Incoloy Sheathed Heating Elements, held within the pan by formed aluminium reinforcing members. Positive drainage is assured by the side to side pitch provided by the mounting hanger design.

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Air Throw m | Fan Diam. mm | No. Fans | Fan RPM | Motor Data | | Total Heater Watts | Overall Dimensions — mm | | |
|----------|----------|-----------------|--------------------|--------------|-------------|--------------|----------|---------|------------|-------------|--------------------|-------------------------|------|-----|
| | | WATTS @ 5K T.D. | BTU/HR @ 10°F T.D. | | | | | | Total Amps | Total Watts | | H | W | D |
| 29264 | MAFE3400 | 8980 | 34000 | 2600 | 19 | 508 | 2 | 1425 | 2.8 | 1120 | 6858 | 895 | 1349 | 580 |
| 29265 | MAFE4400 | 11600 | 44000 | 3450 | 20 | 457 | 3 | 1425 | 4.2 | 1680 | 8900 | 895 | 1755 | 580 |
| 29266 | MAFE5500 | 14500 | 55000 | 5400 | 22 | 508 | 4 | 1425 | 5.6 | 2240 | 12900 | 895 | 2505 | 580 |
| 29267 | MAFE6500 | 17150 | 65000 | 5300 | 22 | 508 | 4 | 1425 | 5.6 | 2240 | 12900 | 895 | 2505 | 580 |
| | MAFE8500 | 22430 | 85000 | 6650 | 24 | 508 | 5 | 1425 | 7.0 | 2800 | 15600 | 895 | 3086 | 580 |

Note: Model MAFE8500 not recommended for use with R12. Refer Manufacturer for further information.

292-d

MULLER M.A.C. AIR COOLED CONDENSER

Designed for Commercial Refrigeration and Air Conditioning Applications

PRINCIPAL FEATURES

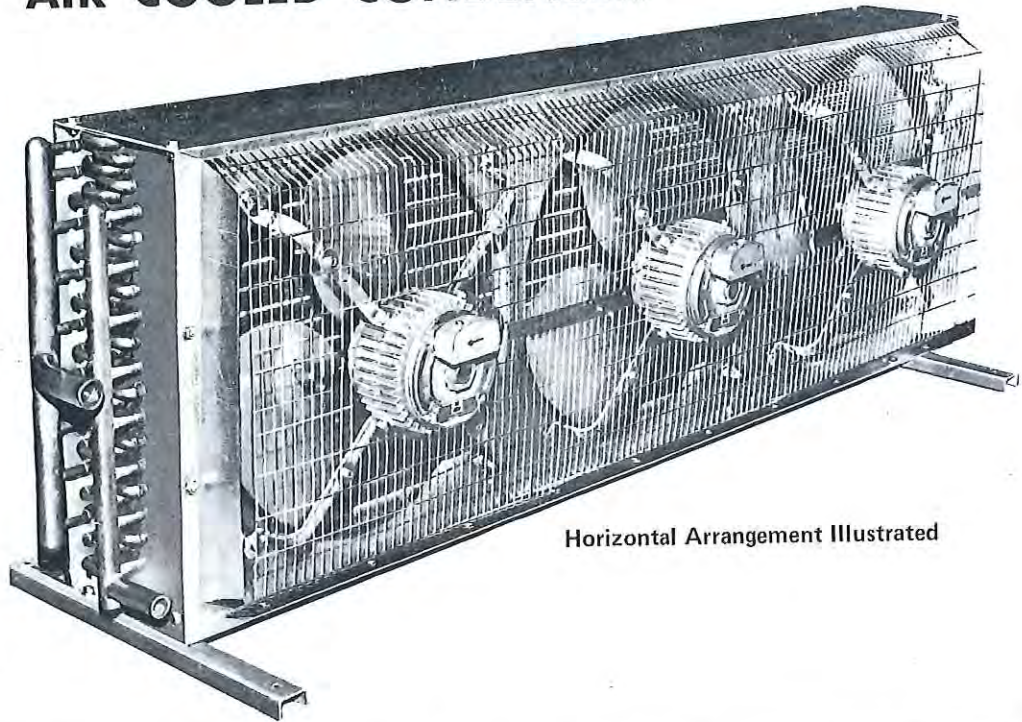
Versatility of air flow. Horizontal or Vertical air flow by positioning universal mounting legs supplied with each unit.

Motors totally enclosed all weatherproof.

Fan guard for protection.

All aluminium construction to resist corrosion.

Protective guard for coil face.



Horizontal Arrangement Illustrated

| CAT. NO. | MODEL | CAPACITY | | Air Flow L/s | Fan Diam. mm | No. Fans | Coil Data | | | Motor Amps Rated | Weight kg |
|----------|--------|----------------|------------------|--------------|--------------|----------|--------------------------|----------|------------|------------------|-----------|
| | | WATTS @15K T.D | BTU/HR @30°F T.D | | | | Face Area m ² | No. Rows | Fin Series | | |
| 292101 | MAC 1 | 3750 | 14100 | 1275 | 508 | 1 | 0.33 | 1 | 8 | 0.54 | 15 |
| 292102 | MAC 1½ | 5625 | 21300 | 1225 | 508 | 1 | 0.33 | 2 | 6 | 0.54 | 19 |
| 292103 | MAC 2 | 7650 | 29100 | 1200 | 508 | 1 | 0.33 | 2 | 10 | 0.54 | 19 |
| 292104 | MAC 2½ | 9000 | 33900 | 1120 | 508 | 1 | 0.33 | 3 | 8 | 0.54 | 23 |
| 292105 | MAC 3 | 10950 | 41400 | 1095 | 508 | 1 | 0.33 | 3 | 12 | 0.54 | 23 |
| 292106 | MAC 4 | 15300 | 57900 | 2400 | 508 | 2 | 0.66 | 2 | 10 | 1.08 | 38 |
| 292107 | MAC 5 | 20100 | 76500 | 2240 | 508 | 2 | 0.66 | 3 | 10 | 1.08 | 46 |
| 292108 | MAC 6½ | 23850 | 90300 | 2140 | 508 | 2 | 0.66 | 4 | 10 | 1.08 | 54 |
| 292109 | MAC 8 | 30600 | 115500 | 3400 | 508 | 3 | 0.99 | 3 | 10 | 1.62 | 68 |
| 292110 | MAC 10 | 40200 | 152250 | 3160 | 508 | 3 | 0.99 | 5 | 10 | 1.62 | 78 |

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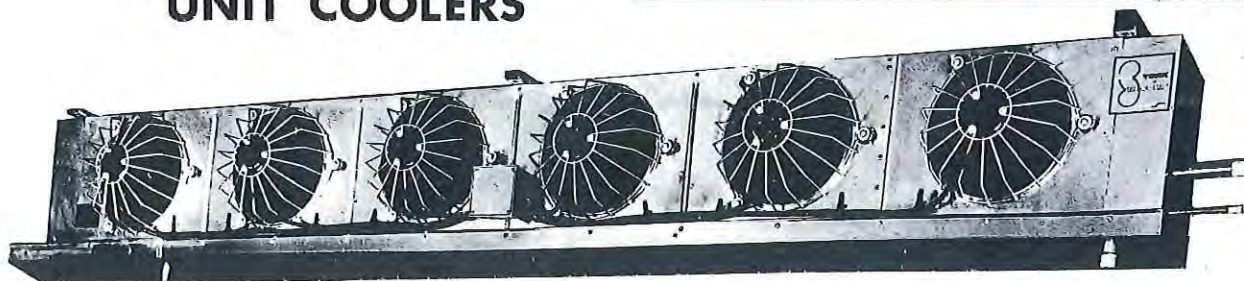
FORCED DRAFT COOLERS

LOW PROFILE

UNIT COOLERS

YORK

RECORD



FEATURES

Low Profile Unit coolers are ceiling suspended units designed for high and low temperature applications using Refrigerant -12, 22 or 502. The Low Profile Unit provides diffused cooling. Air is distributed at low velocity across the ceiling and is circulated evenly to every corner.

Above 34°F (10°C) Applications

Model LH Air Defrost – 8 FPI

Model LSC Air Defrost – 4 FPI

High Temp.

Below 34°F (10°C) Applications

Low Temp.

Model LLE Electric Defrost – 4 FPI

MECHANICAL SPECIFICATIONS – STANDARD UNIT

HOUSING – Aluminium satin finish, reinforced construction for vibration and noise reduction.

DRAIN PAN – Aluminium on Models LH, LSC, and LLE

COOLING COIL – Staggered seamless copper tubes are expanded into aluminium fins.

FANS – Heavy duty propeller type with direct drive.

MOTORS – Standard 240 volt 50 Hz 1/30 H.P. pre-wired.

HEAT EXCHANGER – Built-in heat exchanger (Tube within tube type) for all models.

ELECTRIC DEFROST HEATER ELEMENTS – Model LLE – include factory mounted 240 volt electric defrost heater element.

RATINGS AND PHYSICAL DATA

| CAT. NO. | Model | Cap. 1°F (.55°C) TD BTUH | Cap. 12°F (6.7°C) TD BTUH | Fans CFM | Refrigerant Charge (Lbs.) | Approx. Weight (Lbs.) | Heater Watts | Fan Motor Data | |
|----------|-------|--------------------------------|---------------------------------|-------------|---------------------------------|-----------------------------|-----------------|----------------|--------------|
| | | | | | | | | Qty. | Amps 240V |
| 2931 | LH 1 | 500 | 6000 | 550 | 3 | 42 | — | 1 | 0.66 |
| 2932 | LH 2 | 1000 | 12000 | 1100 | 5 | 70 | — | 2 | 1.32 |
| 2933 | LH 3 | 1500 | 18000 | 1650 | 7 | 100 | — | 3 | 1.98 |
| 2934 | LH 4 | 2000 | 24000 | 2200 | 9 | 132 | — | 4 | 2.64 |
| 2935 | LH 5 | 2500 | 30000 | 2750 | 11 | 162 | — | 5 | 3.30 |
| 2936 | LH 6 | 3000 | 36000 | 3300 | 13 | 195 | — | 6 | 3.96 |
| 2937 | LSC 1 | 350 | 4200 | 600 | 3 | 38 | — | 1 | 0.66 |
| 2938 | LSC 2 | 700 | 8400 | 1200 | 5 | 60 | — | 2 | 1.32 |
| 2939 | LSC 3 | 1050 | 12600 | 1800 | 7 | 89 | — | 3 | 1.98 |
| 29310 | LSC 4 | 1400 | 16800 | 2400 | 9 | 112 | — | 4 | 2.64 |
| 29311 | LSC 5 | 1750 | 21000 | 3000 | 11 | 145 | — | 5 | 3.30 |
| 29312 | LSC 6 | 2100 | 25200 | 3600 | 13 | 175 | — | 6 | 3.96 |
| 29313 | LLE 1 | 350 | 4200 | 600 | 3 | 40 | 995 | 1 | 0.66 |
| 29314 | LLE 2 | 700 | 8400 | 1200 | 5 | 60 | 1930 | 2 | 1.32 |
| 29315 | LLE 3 | 1050 | 12600 | 1800 | 7 | 90 | 2800 | 3 | 1.98 |
| 29316 | LLE 4 | 1400 | 16800 | 2400 | 9 | 122 | 3800 | 4 | 2.64 |
| 29317 | LLE 5 | 1750 | 21000 | 3000 | 11 | 152 | 4800 | 5 | 3.30 |
| 29318 | LLE 6 | 2100 | 25200 | 3600 | 13 | 175 | 5780 | 6 | 3.96 |

Use externally equalized expansion valves:

1. On LH, LSC and LHE when the coil loading is greater than 24,000 BTUH

2. On LLV and LLE when the coil loading is greater than 18,000 BTUH

On all other coils and conditions use internally equalized expansion valves.

PATTON FORCED DRAFT COOLERS

ABS PLASTIC CASING UNIT COOLERS
HYGIENIC – ATTRACTIVE – LOW PROFILE
"CH" – MEDIUM TEMPERATURE MODELS
"CL" – LOW TEMPERATURE MODELS

FEATURES

1. Stylish low profile shape – ideal for reach-in cabinets and walk-ins.
2. High impact white ABS plastic casing minimizes noise transmission and possibility of rattles – no sharp edges. Easily cleaned and discourages dirt and oxide accumulation ever present with metal casing coolers. The durable moulded plastic casing blends perfectly with modern interior cabinet design.
3. Hinged drain tray allows easy access to fan motors and electrics.
4. Refrigerant connections alongside coil discharge permits mounting of cooler adjacent to walls.
5. Lightweight, simple to install. Plastic connection facilitates easy hookup for drain.
6. Efficient rippled fin/staggered tube, evaporator coil together with smooth pattern airflow permits maximum cooling.
7. Contoured bottom tray and angled drain allows positive disposal of condensate.
8. Heating elements nested into evaporator coil maximise heat transfer for rapid defrosting on low temperature models. Limit thermostat assures safe operation.

| CAT. NO. | MODEL | CAPACITY | | FANS | | AIRFLOW | | Connections | | Overall Dimensions – mm | | | Weight kg |
|---------------------------|-------|------------|--------------|-------------|-----|---------|-----|-------------|------------|-------------------------|------|-----|-----------|
| | | WATTS @ 5K | BTU/HR @10°F | Input Watts | No. | L/s | CFM | Liq. O.D. | Suct. O.D. | H | W | D | |
| MEDIUM TEMPERATURE | | | | | | | | | | | | | |
| 29326 | CH140 | 371 | 1400 | 30 | 1 | 85 | 180 | 3/8" | 3/8" | 140 | 530 | 415 | 4.7 |
| 29327 | CH200 | 529 | 2000 | 60 | 2 | 116 | 245 | 3/8" | 3/8" | 143 | 620 | 415 | 5.6 |
| 29328 | CH250 | 661 | 2500 | 60 | 2 | 158 | 335 | 3/8" | 1/2" | 146 | 810 | 415 | 7.1 |
| 29329 | CH340 | 900 | 3400 | 90 | 3 | 207 | 440 | 3/8" | 1/2" | 148 | 1030 | 415 | 9.8 |
| LOW TEMPERATURE | | | | | | | | | | | | | |
| 29330 | CL120 | 317 | 1200 | 30 | 1 | 85 | 180 | 3/8" | 3/8" | 140 | 530 | 415 | 4.8 |
| 29331 | CL170 | 450 | 1700 | 60 | 2 | 116 | 245 | 3/8" | 3/8" | 143 | 620 | 415 | 5.7 |
| 29332 | CL210 | 556 | 2100 | 60 | 2 | 158 | 335 | 3/8" | 1/2" | 146 | 810 | 415 | 7.3 |
| 29333 | CL290 | 767 | 2900 | 90 | 3 | 207 | 440 | 3/8" | 1/2" | 148 | 1030 | 415 | 10.0 |

SPEEDY SERVICE

WE ARE ORGANIZED TO MAKE PROMPT DELIVERY FROM OUR VAST STOCKS. WHETHER YOUR ORDER IS SMALL OR LARGE WE WILL EXERCISE GREAT CARE IN SELECTING AND PACKING YOUR ORDER. MORE THAN 90% OF ALL ORDERS RECEIVED ARE DESPATCHED THE SAME DAY. WE AIM TO KEEP YOU AND YOUR JOB MOVING SATISFACTORILY.

WE BELIEVE IN GOOD QUALITY PARTS AND EQUIPMENT, RELIABLE SERVICE, BACKED BY LARGE STOCK HOLDINGS SUPPLIED BY REPUTABLE AND TRUSTWORTHY COMPANIES

PARTS FOR FORCED DRAFT COOLERS

MULLER FDC SPARE PARTS

| CAT No. | No. Req'd | SUITS MODEL | WATTS | MFG. P/N |
|---------|-----------|-------------|-------|----------|
|---------|-----------|-------------|-------|----------|

CSL/CDL CABINET CEILING COOLER COIL HEATERS

| | | | | |
|--------|---|--------|------|----------|
| 294146 | 1 | CSL53 | 350 | 83321W-1 |
| 294147 | 1 | CSL63 | 450 | 83321W-2 |
| 294148 | 1 | CSL90 | 600 | 83321W-3 |
| 294149 | 1 | CSL110 | 800 | 83321W-4 |
| 294150 | 1 | CSL150 | 1200 | 83321W-5 |
| 294151 | 1 | CDL100 | 770 | 83821W-1 |
| 294152 | 1 | CDL150 | 1140 | 83821W-2 |
| 294153 | 1 | CDL200 | 1400 | 83821W-3 |
| 294154 | 1 | CDL270 | 1990 | 83825W-1 |
| 294155 | 1 | CDL370 | 2600 | 83825W-2 |
| 294156 | 1 | CDL520 | 3000 | 83825W-3 |

DRAIN PAN HEATERS

| | | | | |
|--------|---|--------|-----|----------|
| 294157 | 1 | CDL110 | 225 | 83824W-1 |
| 294158 | 1 | CDL150 | 225 | 83824W-2 |
| 294159 | 1 | CDL200 | 225 | 83824W-3 |
| 294160 | 1 | CDL270 | 225 | 83824W-4 |
| 294161 | 1 | CDL370 | 225 | 83824W-5 |
| 294162 | 1 | CDL520 | 225 | 83824W-6 |

CEILING COOLERS

LOW TEMP. COIL ELEMENTS

| | | | | |
|-------|---|-------|--|----------|
| 29492 | 1 | C101L | | 18344W-1 |
| 29493 | 1 | C141L | | 18344W-2 |
| 29494 | 1 | C191L | | 18344W-3 |
| 29495 | 1 | C251L | | 18344W-4 |

MULLION COOLERS

LOW TEMP COIL ELEMENTS

| | | | | |
|--------|--|--------|--|--|
| 294114 | | MJ111L | | |
| 294115 | | MJ141L | | |
| 294116 | | MJ181L | | |

LOW TEMP DRAIN PAN ELEMENTS

| | | | | |
|--------|--|--------|--|--|
| 294117 | | MJ111L | | |
| 294118 | | MJ141L | | |
| | | MJ181L | | |

MLVE LO-LINE V SERIES FDC COIL HEATERS

| | | | | |
|--------|---|---------|--|----------|
| 294163 | 1 | MLVE035 | | 21560Y-1 |
| 294164 | 1 | MLVE050 | | 21560Y-2 |
| | 1 | MLVE070 | | 21560Y-2 |
| 294165 | 2 | MLVE105 | | 21561Y-1 |
| 294166 | 2 | MLVE140 | | 21561Y-2 |
| 294167 | 2 | MLVE175 | | 21561Y-3 |
| 294168 | 2 | MLVE210 | | 21561Y-4 |

DRAIN PAN HEATERS

| | | | | |
|--------|---|---------|--|----------|
| 294169 | 1 | MLVE035 | | 80171Y-1 |
| 294170 | 1 | MLVE050 | | 80171Y-2 |
| | 1 | MLVE070 | | 80171Y-2 |
| 294171 | 1 | MLVE105 | | 80171Y-3 |
| 294172 | 1 | MLVE140 | | 80171Y-4 |
| 294173 | 1 | MLVE175 | | 80171Y-5 |
| 294174 | 2 | MLVE210 | | 80172Y |

NOTE

REPLACEMENT
FAN BLADES AND MOTORS

FAN BLADES — Refer Page 306

MOTORS — Refer Page 310

NOTE: FIRST 3 NUMERALS OF CAT. No. INDICATES PAGE No.

MULLER FDC SPARE PARTS

| CAT No. | No. Req'd | SUITS MODEL | LENGTH INS. | WATTS | MFG. PART No. MULLER | GRIMWOOD |
|---------|-----------|-------------|-------------|-------|----------------------|----------|
|---------|-----------|-------------|-------------|-------|----------------------|----------|

EP HOT ROD SERIES FDC COIL HEATERS

| | | | | | | |
|-------|---|--------|--------|------|----------|----------|
| 29471 | 2 | EP301 | 21.1/4 | 650 | 17834Y-1 | 90774-G1 |
| 29472 | 2 | EP451 | 21.1/4 | 900 | 17834Y-2 | 90774-G2 |
| 29473 | 2 | EP601 | 38.3/4 | 1150 | 17834Y-3 | 90774-G3 |
| | 2 | EP771 | 38.3/4 | 1150 | 17834Y-3 | 90774-G3 |
| 29475 | 2 | EP901 | 38.3/4 | 1600 | 17834Y-4 | 90774-G4 |
| 29476 | 2 | EP1201 | 47.3/4 | 3450 | 17834Y-5 | 90775-G1 |
| 29477 | 2 | | | | 17835Y-1 | 90774-G5 |
| 29478 | 2 | EP1601 | 47.3/4 | 5250 | 17834Y-6 | 90775-G2 |
| 29479 | 2 | | | | 17835Y-2 | 90774-G6 |
| 29480 | 4 | EP2401 | 47.3/4 | 1687 | 17836Y | 90776 |
| 29481 | 8 | EP3601 | 63.3/4 | 1012 | 17837Y-1 | 90777 |
| 29482 | 8 | EP4801 | | 1350 | 17837Y-2 | |

DRAIN PAN HEATERS

| | | | | | | |
|-------|---|--------|--|-----|----------|----------|
| 29483 | 1 | EP301 | | 300 | 17833W-1 | 90773-G1 |
| | 1 | EP451 | | 300 | 17833W-1 | 90773-G1 |
| 29485 | 1 | EP601 | | 500 | 17833W-2 | 90773-G2 |
| | 1 | EP771 | | 500 | 17833W-2 | 90773-G2 |
| 29488 | 1 | EP901 | | 500 | 17833W-2 | 90773-G2 |
| | 1 | EP1201 | | 750 | 17833W-3 | 90773-G3 |
| 29488 | 1 | EP1601 | | 750 | 17833W-3 | 90773-G3 |
| | 1 | EP2401 | | 750 | 17833W-3 | 90773-G3 |
| 29491 | 1 | EP3601 | | 900 | 17833W-4 | 90773-G4 |
| | 1 | EP4801 | | | 17833W-5 | |

HOT ROD H SERIES FDC COIL HEATERS

| | | | | | | |
|-------|----|-------|--------|-----|----------|-------|
| 29425 | 6 | H301 | 17 | 150 | 16275Y-1 | 90137 |
| 29426 | 6 | H481 | 21 | 235 | 16275Y-2 | 90186 |
| 29427 | 6 | H601 | 33.1/2 | 300 | 16275Y-3 | 90090 |
| | 8 | H821 | 33.1/2 | 300 | 16275Y-3 | 90090 |
| 29428 | 6 | H941 | 39 | 465 | 16275Y-4 | 90184 |
| 29429 | 8 | H1201 | 43 | 400 | 16275Y-5 | 90182 |
| 29430 | 10 | H1601 | 47 | 450 | 16275Y-6 | 90180 |
| | 13 | H3201 | 47 | 450 | 16275Y-6 | 90180 |
| 29431 | 11 | H3201 | 61 | 600 | 16275Y-7 | 90178 |

DRAIN PAN HEATERS

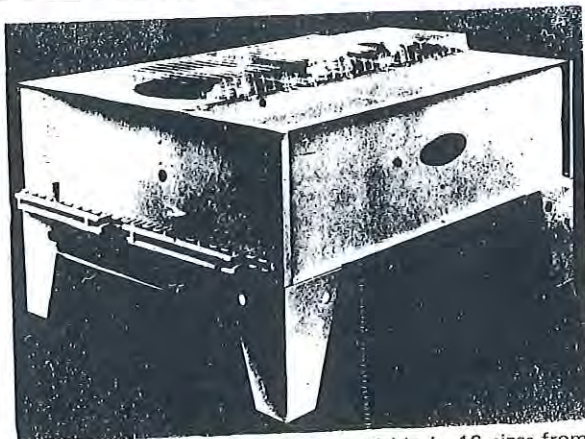
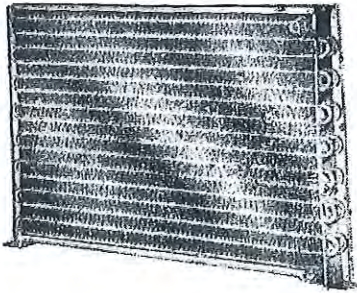
| | | | | | | |
|-------|---|-------------------|--|-----|----------|-------|
| 29432 | 2 | H301 | | 100 | 16206Y-1 | 90077 |
| | 4 | H601, 821 | | 100 | 16206Y-1 | 90077 |
| 29433 | 2 | H481 | | 135 | 16206Y-2 | 90198 |
| | 4 | H941 | | 135 | 16206Y-2 | 90198 |
| | 5 | H1201, 1601, 2401 | | 135 | 16206Y-2 | 90198 |
| | 7 | H3201 | | 135 | 16206Y-2 | 90198 |

RECORD FDC SPARE PARTS

| CAT. NO. | PART NO. | DESCRIPTION & MODEL |
|-----------------------------------------------------------|--------------------|------------------------------------|
| 29451 | 024A - 00031 - 003 | Motor (BP112C) |
| 29450 | 026A - 00077 | Fan Blade HD |
| 29453 | 026A - 00261 | Fan Guard |
| 29465 | 028A - 00028 | Grommet Fan Guard |
| COMBINATION COIL — DEFROST & DRAIN PAN HEATER (NEW STYLE) | | |
| 294127 | 025A - 00073 | Suits LLE1, LHE1 |
| 294128 | 025A - 00074 | Suits LLE2, LHE2 |
| 294129 | 025A - 00075 | Suits LLE3, LHE3 |
| 294130 | 025A - 00076 | Suits LLE4, LHE4 |
| 294132 | 025A - 00078 - 001 | Suits LLE5, LHE5 — Conn. end RH |
| 294133 | 025A - 00078 - 002 | Suits LLE6, LHE6 — Conn. end RH |
| | 025A - 00478 | Suits LLE5, LHE5 — LH end |
| 294131 | | Suits LLE6, LHE6 — LH end |
| COIL DEFROST HEATERS ONLY (OLD STYLE) | | |
| 29461 | 100 - 323 - 001 | Heater Rod — Suits LLE1 |
| 29462 | 100 - 323 - 002 | Heater Rod — Suits LLE2, LLE5 |
| 29463 | 100 - 323 - 003 | Heater Rod — Suits LLE3, LLE6 |
| 29464 | 100 - 323 - 004 | Heater Rod — Suits LLE4 |
| 29465 | 100 - 323 - 005 | Heater Rod — Suits LLE3, LLE6 — LH |
| DRAIN PAN HEATERS ONLY (OLD STYLE) | | |
| 29456 | 100 - 324 - 002 | Suits LLE2, LLE5 — RH |
| 29457 | 100 - 324 - 003 | Suits LLE3, LLE6 |
| 29458 | 100 - 324 - 004 | Suits LLE4 |
| 29459 | 100 - 324 - 005 | Suits LLE5, LLE6 — LH |
| 29455 | 100 - 325 - 000 | Suits LL1 |

STANDARD AIR COOLED CONDENSER COILS

| CAT. NO. | KIRBY PART NO. | FACE DIMENSION mm | FIN PITCH mm | NO. OF ROWS | CONNECTIONS | |
|----------|----------------|-------------------|--------------|-------------|-------------|----------|
| | | | | | IN (mm) | OUT (mm) |
| 2952 | MRC404 | 305 x 560 | 3.9 | 4 | 9.5 | 9.5 |
| 2953 | MRC451-1 | 508 x 578 | 4.2 | 4 | 15.9 | 12.7 |
| | MRC468 | 102 x 521 | 3.9 | 2 | 9.7 | 9.7 |
| 2954 | MRC469 | 457 x 813 | 3.9 | 4 | 12.7 | 9.5 |
| 2955 | MRC470 | 635 x 1067 | 3.9 | 3 | 15.9 | 12.7 |
| 2956 | MRC471 | 635 x 1067 | 3.9 | 4 | 15.9 | 12.7 |
| | MRC473 | 254 x 230 | 3.9 | 2 | 9.5 | 9.5 |
| 2957 | MRC474 | 508 x 578 | 4.2 | 2 | 12.7 | 12.7 |
| 2958 | MRC475 | 457 x 813 | 3.9 | 3 | 12.7 | 9.5 |
| 2959 | MRC485 | 203 x 254 | 3.9 | 2 | 9.5 | 9.5 |
| 29510 | MRC493 | 318 x 521 | 4.2 | 3 | 12.7 | 12.7 |
| 29511 | MRC494 | 318 x 521 | 4.2 | 4 | 12.7 | 12.7 |
| 29512 | MRC495 | 318 x 521 | 4.2 | 5 | 12.7 | 12.7 |
| 29513 | MRC496 | 203 x 273 | 3.9 | 1 | 9.5 | 9.5 |
| 29514 | MRC499 | 318 x 521 | 4.2 | 2 | 12.7 | 12.7 |
| | MRC559-1 | 127 x 132 | 3.2 | 6 | 9.5 | 9.5 |
| | MRC565-1 | 127 x 110 | 3.2 | 5 | 9.5 | 9.5 |
| | MRC566-1 | 152.4 x 110 | 3.2 | 5 | 9.5 | 9.5 |
| | MRC573-1 | 127 x 132 | 3.2 | 6 | 9.5 | 9.5 |
| | MRC577-1 | 413 x 520 | 2.5 | 2 | 12.7 | 12.7 |
| | MRC580-1 | 485 x 1440 | 2.5 | 2 | 12.7 | 22.2 |
| | MRC585-1 | 381 x 113.4 | 2.5 | 3 | 15.9 | 15.9 |
| 29516 | MRC735 | 203 x 229 | 3.9 | 2 | 9.5 | 9.5 |
| 29520 | MRC757 | 381 x 754 | 2.5 | 3 | 12.7 | 12.7 |
| 29521 | MRC778-1 | 381 x 1134 | 2.5 | 3 | 12.7 | 12.7 |
| 29522 | MRC779-1 | 254 x 280 | 3.9 | 2 | 9.5 | 9.5 |
| 29523 | MRC779-2 | 254 x 280 | 3.9 | 3 | 9.5 | 9.5 |
| 29524 | MRC779-3 | 254 x 280 | 3.9 | 4 | 9.5 | 9.5 |
| | MRC779-4 | 254 x 280 | 3.9 | 5 | 9.5 | 9.5 |
| 29525 | MRC780-2 | 305 x 350 | 3.9 | 3 | 9.5 | 9.5 |
| 29526 | MRC780-3 | 305 x 350 | 3.9 | 4 | 9.5 | 9.5 |
| | MRC782-1 | 355 x 132 | 3.9 | 6 | 9.5 | 9.5 |
| | MRC785-1 | 254 x 430 | 4.2 | 3 | 9.5 | 9.5 |
| | MRC789-1 | 476 x 890 | 4.2 | 3 | 12.7 | 12.7 |
| | MRC790-1 | 476 x 890 | 4.2 | 5 | 12.7 | 16.0 |
| | MRC797-1 | 508 x 660 | 2.5 | 3 | 12.7 | 12.7 |
| | MRC798-1 | 508 x 660 | 2.5 | 4 | 12.7 | 12.7 |
| | MRC794-1 | 382 x 754 | 3.9 | 4 | 12.7 | 12.7 |
| | MRC800-1 | 203 x 120 | 2.1 | 1 | 9.5 | 9.5 |
| | MRC802-1 | 254 x 430 | 4.2 | 4 | 9.7 | 9.7 |
| | MRC803-1 | 317.5 x 905 | 3.9 | 3 | 12.7 | 12.7 |



Muller AMD and AMB Aircon are available in 16 sizes from 8 to 130 nominal tons. Units through AMB 60 are available in either vertical or horizontal air flow models; larger units for vertical air flow only. Each unit consists of multiple propeller fans with independent motors, motor supports, condenser coil and a heavy gauge gal. iron casing for maximum corrosion protection. Models designated AMD (8 - 40 tons) have direct driven fans. Fans are aluminium with zinc-plated steel centre hub. Models designated AMB (45 - 130 tons) have belt driven fans, with individual 440-3-50 motors. Motors are positioned within the casing for safety and weather protection. Drive assembly consists of easily adjustable motor mount, heavy duty mandrel bearing, drive pulleys and belts. Fans are of steel construction with zinc-plating and iridite finish. These air cooled condensers are designed to provide the lowest possible roof height with less architectural treatment required to conceal the unit.

MULLER AIRCON AIR-COOLED REFRIGERANT CONDENSER

SINGLE OR MULTIPLE CIRCUITS AVAILABLE

VERTICAL OR HORIZONTAL AIR DISCHARGE MODELS

HEAVY DUTY CONSTRUCTION

DESIGNED FOR OUTDOOR INSTALLATIONS

AVAILABLE ON APPLICATION

CONDENSER CAPACITY
TOTAL HEAT REJECTION BTU/HR.

| CAT. NO. | MODEL | CAPACITY | |
|----------|---------|---------------|---------------|
| | | R12 @ 30°F TD | R22 @ 30°F TD |
| | AMD 8 | 110,000 | 115,500 |
| | AMD 10 | 145,000 | 152,250 |
| | AMD 15 | 202,100 | 212,100 |
| | AMD 20 | 263,000 | 276,150 |
| | AMD 25 | 351,000 | 368,550 |
| | AMD 30 | 406,000 | 426,300 |
| | AMD 35 | 453,000 | 475,650 |
| | AMD 40 | 520,000 | 546,000 |
| | AMB 45 | 612,000 | 642,600 |
| | AMB 50 | 689,000 | 723,450 |
| | AMB 60 | 795,000 | 834,750 |
| | AMB 70 | 918,000 | 963,900 |
| | AMB 80 | 1,046,000 | 1,098,300 |
| | AMB 90 | 1,250,000 | 1,312,500 |
| | AMB 105 | 1,431,000 | 1,502,500 |
| | AMB 130 | 1,760,000 | 1,848,000 |

To alter Standard TD - Divide Capacities shown by 30 and multiply by required TD.

NOTES

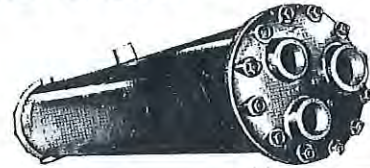
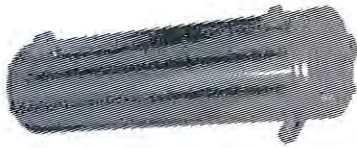
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PICK-UP COUNTERS EVERYWHERE

AS WE GO TO PRESS THERE ARE 30 LARGE WAREHOUSES THROUGHOUT AUSTRALIA WITH STOCK FOR IMMEDIATE PICK-UP INCLUDING FAST COUNTER SERVICE. THE COMPLETE LISTING IS AT THE FRONT OF THIS CATALOGUE. IN MOST CASES THESE BRANCHES ARE IN LOCATIONS WITH FREE PARKING.

CONDENSERS WATER COOLED



REFRIGERATION COMPONENTS

SERIES RCC CHEM. CLEANABLE SHELL & COIL CONDENSER

Effectively dampens hot gas pulsations and is therefore ideal for use as a condenser muffler. Ideal as a Booster Condenser on air cooled equipment or as a component on built-up or specialised refrigeration and air conditioning systems.

DESIGN AND TEST PRESSURES

Design 2MPa
Test 3MPa

SPECIFICATIONS

Shell : Material to ASTM A53 Gr B Seamless Pipe.
End Material : Carbon steel AS B250-1-28.
Internal Surfaces : Shot blasted.
Tubes : Extruded surface 3/4" Copper tubes having 19 fins per Inch.

APPROVALS — BOTH TYPES

Design, materials and assembly are in complete compliance with AS1210 — 1977, and AS1677 — 1974 for unfired pressure vessels and are tested, inspected and stamped accordingly.

FOR USE WITH R12, R22, R500, R502

SERIES RCC MECH. CLEANABLE SHELL & TUBE CONDENSER

Ideal for use as a condenser muffler, adequate storage and pump down capacity allows the condenser to be used as a liquid receiver for most standard applications. Removable water heads provide ready access for tube inspection, cleaning and replacement.

DESIGN AND TEST PRESSURES

Design 1.8MPa) —Shell Side 0.69MPa) —Water Side
Test 2.7MPa) 1.38MPa)

SPECIFICATIONS

Shell : Steel. Shot blasted Internal surfaces.
Water Heads : Removable cast Iron, epoxy resin coated. Dual pass.
Tubes : Extruded surface 3/4" copper tube having 19 fins per Inch. Tubes sealed and rolled to tube sheets. Removable either end.
Tube Sheets : Low carbon steel, machined and grooved for rolled tube construction.
Tests : Pressure tested, dehydrated with a holding charge of dry Nitrogen.

CHEMICALLY CLEANABLE WATER COOLED CONDENSERS

| CAT. NO. | MODEL | TYPE | NOMINAL CAPACITY | | | | CONNECTIONS | | DIMENSIONS mm | |
|----------|-----------|-------|------------------|-----|------------|------|------------------|----------------|---------------|-------|
| | | | at 20°F TD | | at 30°F TD | | REFRIG. IN & OUT | WATER IN & OUT | LGTH/HT. | DIAM. |
| | | | TONS | KW | TONS | KW | | | | |
| 29786 | RCC — 1.5 | Vert. | 1.1 | 4.0 | 1.7 | 6.0 | 3/4" MBSP | 3/4" MBSP | 400 | 114 |
| 29787 | RCC — 3 | Vert. | 2.3 | 8.0 | 3.4 | 12.0 | | | 680 | 114 |

MECHANICALLY CLEANABLE WATER COOLED CONDENSERS

| CAT. NO. | MODEL | NOM. TONS | STORAGE CAP.*OPER.CHARGE | | | | CONNECTIONS | | | DIMENSIONS mm | |
|----------|--------|-----------|--------------------------|--------|--------|--------|-------------|------------|----------------|---------------|------|
| | | | R22 kg | R12 kg | R22 kg | R12 kg | REFRIG. | | WATER IN & OUT | LGTH. | DIAM |
| | | | IN | OUT | IN | OUT | | | | | |
| 29776 | RCC 10 | 10 | 66 | 73 | 9 | 10 | 2" BSP | 7/8" BSP | 1-1/2" BSP | 1644 | 273 |
| 29777 | RCC 15 | 15 | 62 | 68 | 9 | 10 | | | | 1644 | 273 |
| 29778 | RCC 20 | 20 | 58 | 64 | 9 | 10 | 2-1/2" BSP | 1-1/8" BSP | 2" BSP | 1644 | 273 |
| 29779 | RCC 25 | 25 | 67 | 74 | 11 | 12 | | | | 1969 | 273 |
| 29780 | RCC 30 | 30 | 64 | 71 | 11 | 12 | 3" BSP | 1-5/8" BSP | 2-1/2" BSP | 1969 | 273 |
| 29781 | RCC 40 | 40 | 90 | 99 | 15 | 16 | | | | 2013 | 324 |
| 29782 | RCC 50 | 50 | 82 | 91 | 15 | 16 | 2-1/8" BSP | 2-1/2" BSP | 2" BSP | 2013 | 324 |
| 29783 | RCC 60 | 60 | 100 | 110 | 18 | 20 | | | | 2016 | 356 |
| 29784 | RCC 75 | 75 | 113 | 125 | 21 | 24 | 2321 | 356 | | | |

* Refrigerant storage capacity based on 80% of internal volume with liquid at 32°C.

A Range of 12 Models RCC1236 - RCC4848 — 3 to 16.4 Tons (10.5 to 57.7 kW) available on application

Note: All mechanically cleanable condensers are available in Marine Construction with stainless steel tube sheets, gun metal water boxes and 90/10 cupro nickel tubes — further details on application

TERRY

- * Tubes: 19 fins/inch, 5/8" root dia., 3/4" ends, removable.
- * Tube sheets: low carbon steel ground both sides.
- * Construction: refrigerant side to SAA code and DLI requirements.
- * Working pressure: 2206 kPa (320 psig) shell side, 345 kPa (50 psig) tube side.
- * Mechanically cleanable tubes.
- * Mounting brackets are standard.
- * Performance in accordance with ARI Standard 450/69.
- * Suitable for use as condenser receivers.

| CAT. NO. | MODEL | CODE | Passes | PUMP DOWN 80% | | | | CONNECTIONS REFRIGERANT | |
|----------|----------|------|--------|---------------|------|------|------|-------------------------|----------|
| | | | | R12 | | R502 | | IN SWT | OUT BSPF |
| | | | | kg | lbs | kg | lbs | | |
| 297126 | 424- 8-8 | W1 | 8 | 3.6 | 8.0 | 3.2 | 7.1 | 5/8" | 1/2" |
| 297127 | 436- 8-8 | W2 | 8 | 5.4 | 12.0 | 4.8 | 10.7 | 7/8" | |
| 297128 | 636-12-6 | W3 | 6 | 13.6 | 30.0 | 12.0 | 26.7 | 1-1/8" | |
| 297129 | 636-16-6 | W4 | 6 | 13.2 | 29.0 | 11.6 | 25.8 | | |
| 297130 | 836-20-6 | W5 | 6 | 23.6 | 52.0 | 20.8 | 46.3 | 3/4" | |
| 297131 | 836-24-6 | W6 | 6 | 23.1 | 51.0 | 20.4 | 45.4 | | |
| 297132 | 836-34-6 | W7 | 6 | 21.0 | 46.4 | 18.7 | 41.2 | | |

CAPACITY RATINGS

Notes : If receiver capacity is required, add 7 to the CODE NO. i.e. W1 = W8
W7 = W14 etc.

Capacities shown are total Heat of Rejection.

Ratings are based on water velocity of 10 f.p.s./tube i.e. 6.33 Imp, G.P.M./Tube.

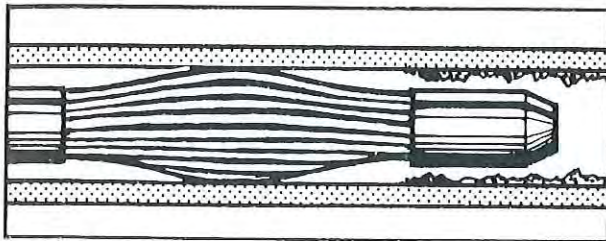
| MODEL | CODE NO. | TOWER WATER | MAINS WATER | Imperial G.P.M. | PRESS. DROP P.S.I. |
|----------|----------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------|--------------------|
| | | 85°F (29.4°C) IN 95°F (35°C) OUT 105°F (40.6°C) Cond. BTU/Hr | 65°F (18.3°C) IN 95°F (35°C) OUT 105°F (40.6°C) Cond. BTU/Hr | | |
| 424- 8-8 | W1 | 31,690 | 47,520 | 6.33 | 8.6 |
| 436- 8-8 | W2 | 47,740 | 71,590 | 6.33 | 7.8 |
| 636-12-6 | W3 | 71,400 | 107,080 | 12.66 | 7.6 |
| 636-16-6 | W4 | 95,470 | 143,180 | 12.66 | 5.1 |
| 836-20-6 | W5 | 119,540 | 179,270 | 18.99 | 10.2 |
| 836-24-6 | W6 | 143,210 | 214,770 | 25.32 | 13.8 |
| 836-34-6 | W7 | 202,980 | 304,410 | 31.65 | 11.6 |

CONDENSERS - WATER COOLED EQUIPMENT AND TOOLS



Expando

The Adjustable Condenser Tube Cleaner



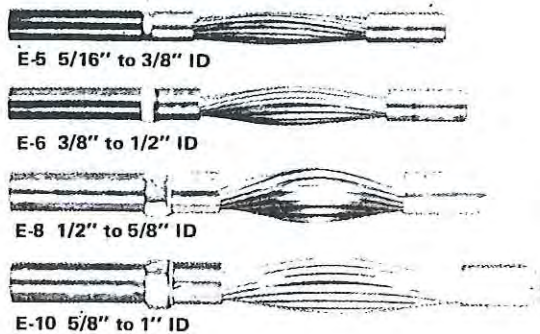
The fast, thorough, economical way to remove mineral scale and sludge from inside water-cooled condenser tubes.

Saves Time-Consuming Brushing or Flushing

Expando attaches to a threaded rod which fits into an Expando handle or your electric drill. With a reaming action, the tough stainless steel blades scrape everywhere inside the tube, providing a free, unrestricted flow.

Virtually clogproof, this tool may be expanded or reduced in diameter to fit scale deposits — not just the tube.

The E - 16 Model (1" I.D. to 2" I.D.) is mainly used for cleaning boiler tubes.



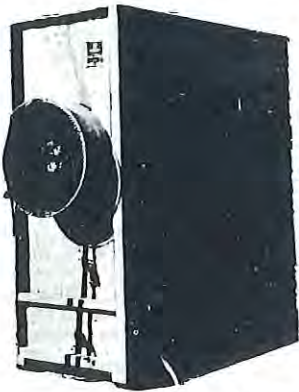
| CAT. NO. | WAGNER MODEL No. | DESCRIPTION |
|-------------|------------------|--------------------------------|
| 29718 | E - 5 | 5/16" to 3/8" I.D. Tubes |
| 29719 | E - 6 | 3/8" to 1/2" I.D. Tubes |
| 29720 | E - 8 | 1/2" to 5/8" I.D. Tubes |
| 29721 | E - 10 | 5/8" to 1" I.D. Tubes |
| | E - 16 | 1" to 2" I.D. Tubes |
| ACCESSORIES | | |
| | EB - 6 | Blades for E - 5 and E - 6 |
| | EB - 8 | Blades for E - 8 |
| | EB - 10 | Blades for E - 10 |
| | EC - 56 | Couplings for E - 5 and E - 6 |
| | EC - 810 | Couplings for E - 8 and E - 10 |
| | EE - 30 | Rods - 30" (762 mm) |
| | EE - 48 | Rods - 48" (1220 mm) |
| | EH - 1 | Handle |

NOTES

OUR STOCK OF COMPONENTS, EQUIPMENT AND SYSTEMS FOR AIR CONDITIONING, HEATING, COMMERCIAL AND INDUSTRIAL REFRIGERATION IS UNSURPASSED THROUGHOUT AUSTRALIA

COOLING TOWERS

LAKESIDE



Lakeside Water Cooling Towers are available in a range of designs and sizes to handle the efficient cooling of 3 to 6500 gallons of water per minute. The designs cover "single airstream" (air into tower on one face only), "dual airstream" (air into tower on two faces with vertical discharge) and "counter flow" (air into tower by multiple arrangements of air inlets) which gives great flexibility of design and provide a wide choice of plan areas, heights and air intake and discharge arrangements to handle any water cooling problem. All construction materials are specially chosen for cooling tower service and sized to ensure ruggedness and lasting strength. Packaged towers can be supplied completely knocked down for installation in remote or difficult places.

SERIES SA

Packaged Induced Draft SA Towers for smaller applications are available in eight Models. Protectively treated materials, coupled with direct drive fans, give these units durability and service.

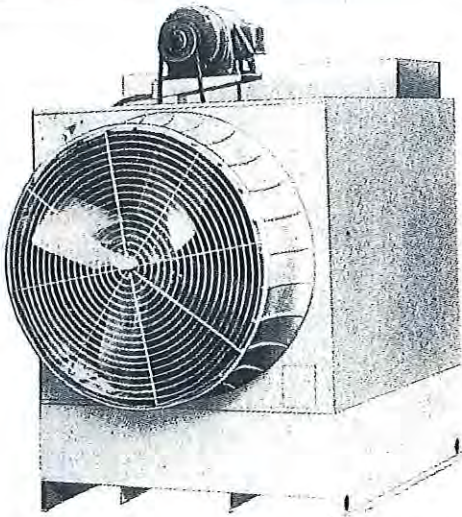
| MODEL | FAN MOTOR HP. | FAN | | | Overall Dims.—ins. | | |
|--------|---------------|-----------|------|------|--------------------|--------|----|
| | | DIA. INS. | RPM | CFM | W | L | H |
| SA1600 | 1/4 | 16 | 1390 | 1540 | 43 | 24-3/4 | 43 |
| SA1601 | 1/4 | 16 | 1390 | 1540 | 59 | 24-3/4 | 43 |
| SA1620 | 1/2 | 18 | 1390 | 2500 | 59 | 24-3/4 | 48 |
| SA1603 | 1/2 | 18 | 1390 | 2500 | 59 | 24-3/4 | 54 |
| SA1640 | 3/4 | 18 | 1390 | 3500 | 59 | 24-3/4 | 60 |
| SA1605 | 3/4 | 22 | 1390 | 4300 | 59 | 30-3/4 | 65 |
| SA1660 | 3/4 | 22 | 1390 | 4300 | 65 | 30-3/4 | 67 |
| SA1607 | 1 | 30 | 890 | 7400 | 60-3/4 | 48-3/4 | 72 |
| SA1680 | 1 | 30 | 890 | 7400 | 72-3/4 | 48-3/4 | 72 |

RECOMMENDATIONS AND QUOTATIONS TOGETHER WITH TECHNICAL LITERATURE GLADLY SUPPLIED ON REQUEST.

MARLEY

AQUATOWER MODELS 4500 & 4500R

Heavy gauge steel used throughout to fabricate basins and casings. Wide-spaced steel air inlet louvres following slope of fill sheet preclude water splash out and scale clogging. High efficiency, film type cooling is provided by use of non-combustible PVC plate type fill. All steel utilized in the manufacture of Aquatowers is galvanized.



| MODEL | TONS* | PUMP HEAD FT. | IMPERIAL GALLS./MIN. | | WEIGHT | |
|-------|-------|---------------|----------------------|------|---------------|--------------|
| | | | MIN. | MAX. | SHIPPING LBS. | OPERAT. LBS. |
| 4513 | 5 | 3.51 | 10.0 | 16.7 | 270 | 490 |
| 4515 | 8 | 4.77 | 15.0 | 24.2 | 304 | 539 |
| 4517 | 10 | 5.07 | 18.3 | 30.0 | 364 | 669 |
| 4519R | 15 | 7.16 | 32.5 | 52.5 | 444 | 769 |

* Tons of Refrigeration at 250 BTU/MIN/Ton at 2 1/2 Imp.GPM/Ton.

LARGER SIZES AND TYPES AVAILABLE ON APPLICATION.

HUDSON

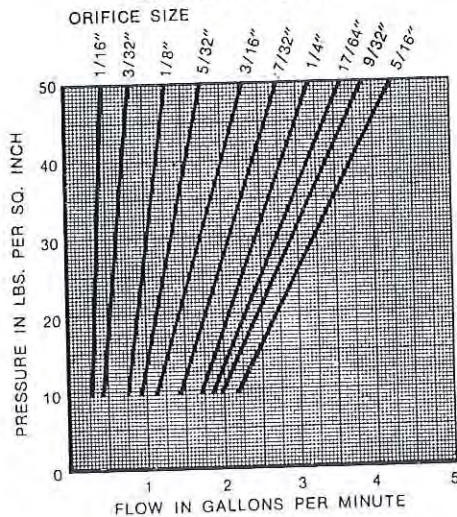
SPRAY BASES AND CAPS



"CAN'T CLOG" SPRAY CAPS

WITH "BUNA N" ORIFICE

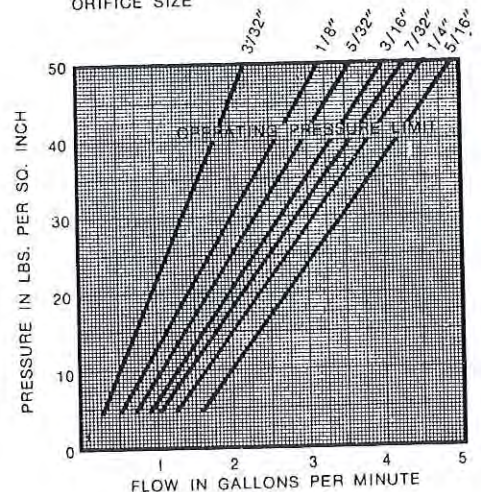
SPRAY CAP



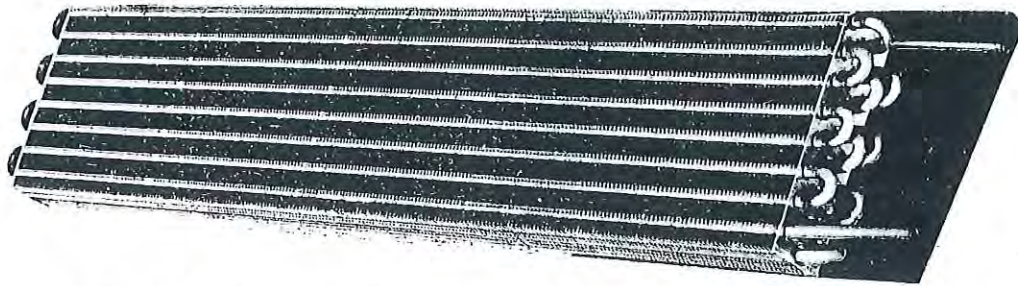
SPRAY BASE

| CAT.NO. | HOLE SIZE | PART NO |
|-------------------------------|---------------------|---------|
| SPRAY BASE | | |
| 29812 | 3/8" BSPF. Inlet | 7200 |
| 29813 | 1/2" F. Sold. Inlet | 7201 |
| SPRAY CAP. | | |
| 29814 | Blank | 7209 |
| 29815 | 1/16" | 7210 |
| 29816 | 3/32" | 7211 |
| 29817 | 1/8" | 7212 |
| 29818 | 5/32" | 7213 |
| 29819 | 3/16" | 7214 |
| 29824 | 7/32" | 7219 |
| 29820 | 1/4" | 7215 |
| 29821 | 17/64" | 7216 |
| 29822 | 9/32" | 7217 |
| 29823 | 5/16" | 7218 |
| CAN'T CLOG SPRAY CAPS. | | |
| 2984 | 3/32" | 7221 |
| 2985 | 1/8" | 7222 |
| 2986 | 5/32" | 7224 |
| 2987 | 3/16" | 7226 |
| 2988 | 7/32" | 7227 |
| 2989 | 1/4" | 7228 |
| 29810 | 5/16" | 7230 |

ORIFICE SIZE



CROSS FIN EVAPORATORS



Cross Fin Evaporators can be supplied in a range of Brands & Sizes and Types to suit customer requirements. The chart below covers the Muller XA (Alluminium Fin) and XC (Copper Fin) series and is reproduced as a general guide only of Cross Fin evaporator capacities on R12.

Manufacturers Technical Bulletins together with details of price, availability, etc. will gladly be supplied on request.

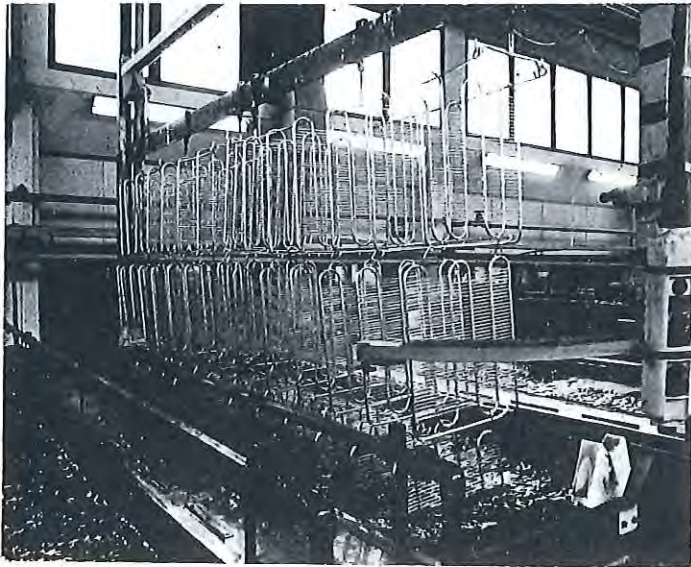
| Dimensions in Inches (including Return Bends) | | | Total Surface — Sq. Feet | | | B.T.U./Hr. at 24° TD. | | | Dimensions in Inches (including Return Bends) | | | Total Surface — Sq. Feet | | | B.T.U./Hr. at 24° TD. | | |
|-----------------------------------------------|------|-------|--------------------------|----------|----------|-----------------------|----------|----------|-----------------------------------------------|------|-------|--------------------------|----------|----------|-----------------------|----------|----------|
| Depth | Hgt. | Lgth. | 2 F.P.I. | 3 F.P.I. | 4 F.P.I. | 2 F.P.I. | 3 F.P.I. | 4 F.P.I. | Depth | Hgt. | Lgth. | 2 F.P.I. | 3 F.P.I. | 4 F.P.I. | 2 F.P.I. | 3 F.P.I. | 4 F.P.I. |
| 2½ | 6 | 24 | 9.2 | 12.7 | 16.1 | 380 | 516 | 646 | 3¾ | 6 | 24 | 13.9 | 19.2 | 24.4 | 575 | 779 | 978 |
| (8 Tubes) | 36 | | 14.7 | 20.3 | 25.8 | 609 | 825 | 1034 | (12 Tubes) | 36 | | 22.2 | 30.7 | 39 | 920 | 1247 | 1565 |
| " | " | 48 | 20.2 | 27.9 | 35.5 | 837 | 1135 | 1422 | " | " | 48 | 30.6 | 42.2 | 53.7 | 1266 | 1715 | 2152 |
| " | " | 60 | 25.8 | 35.5 | 45.1 | 1066 | 1444 | 1808 | " | " | 60 | 38.9 | 53.6 | 68.3 | 1611 | 2183 | 2739 |
| " | " | 72 | 31.3 | 43.1 | 54.8 | 1294 | 1754 | 2197 | " | " | 72 | 47.3 | 65.1 | 82.9 | 1956 | 2651 | 3326 |
| " | " | 84 | 36.8 | 50.7 | 64.5 | 1523 | 2064 | 2585 | " | " | 84 | 55.6 | 76.6 | 97.6 | 2301 | 3119 | 3913 |
| " | " | 96 | 42.3 | 58.3 | 74.2 | 1752 | 2373 | 2973 | " | " | 96 | 63.9 | 88.1 | 112.2 | 2647 | 3587 | 4500 |
| " | " | 108 | 47.8 | 65.9 | 83.8 | 1980 | 2683 | 3361 | " | " | 108 | 72.3 | 99.6 | 126.9 | 2992 | 4055 | 5087 |
| " | " | 120 | 53.4 | 73.5 | 93.5 | 2209 | 2993 | 3749 | " | " | 120 | 80.6 | 111.1 | 141.5 | 3337 | 4522 | 5674 |
| 2½ | 7½ | 24 | 10.9 | 15.8 | 20.2 | 450 | 644 | 810 | 3¾ | 7½ | 24 | 17.4 | 24 | 30.5 | 720 | 975 | 1222 |
| (10 Tubes) | 36 | | 17.4 | 25.3 | 32.3 | 720 | 1031 | 1296 | (15 Tubes) | 36 | | 27.8 | 38.4 | 48.8 | 1152 | 1561 | 1955 |
| " | " | 48 | 23.9 | 34.8 | 44.4 | 990 | 1418 | 1782 | " | " | 48 | 38.3 | 52.8 | 67 | 1583 | 2147 | 2688 |
| " | " | 60 | 30.5 | 44.4 | 56.6 | 1261 | 1805 | 2268 | " | " | 60 | 48.7 | 67.1 | 85.3 | 2017 | 2732 | 3422 |
| " | " | 72 | 37 | 53.9 | 68.7 | 1531 | 2192 | 2754 | " | " | 72 | 59.2 | 81.5 | 103.6 | 2449 | 3318 | 4155 |
| " | " | 84 | 43.5 | 63.4 | 80.8 | 1801 | 2578 | 3240 | " | " | 84 | 69.6 | 95.9 | 121.9 | 2881 | 3903 | 4888 |
| " | " | 96 | 50 | 72.9 | 92.9 | 2071 | 2965 | 3726 | " | " | 96 | 80 | 110.3 | 140.2 | 3313 | 4489 | 5622 |
| " | " | 108 | 56.6 | 82.4 | 105 | 2342 | 3352 | 4212 | " | " | 108 | 90.5 | 124.7 | 158.5 | 3745 | 5075 | 6355 |
| " | " | 120 | 63.1 | 91.9 | 117.2 | 2612 | 3739 | 4698 | " | " | 120 | 100.9 | 139 | 176.8 | 4178 | 5660 | 7089 |
| 2½ | 10½ | 24 | 15.2 | 21.1 | 28.2 | 630 | 858 | 1130 | 3¾ | 10½ | 24 | 23.2 | 33.6 | 42.8 | 960 | 1365 | 1714 |
| (14 Tubes) | 36 | | 24.4 | 33.8 | 45.1 | 1008 | 1374 | 1809 | (21 Tubes) | 36 | | 37.1 | 53.7 | 68.4 | 1536 | 2185 | 2743 |
| " | " | 48 | 33.5 | 46.4 | 62 | 1386 | 1889 | 2487 | " | " | 48 | 51 | 73.8 | 94 | 2113 | 3004 | 3772 |
| " | " | 60 | 42.6 | 59 | 79 | 1764 | 2404 | 3166 | " | " | 60 | 65 | 94 | 119.7 | 2689 | 3824 | 4801 |
| " | " | 72 | 51.8 | 71.7 | 95.9 | 2142 | 2920 | 3845 | " | " | 72 | 78.9 | 114.1 | 145.4 | 3265 | 4644 | 5830 |
| " | " | 84 | 60.9 | 84.4 | 112.8 | 2520 | 3435 | 4523 | " | " | 84 | 92.8 | 134.2 | 171 | 3841 | 5463 | 6858 |
| " | " | 96 | 70 | 97 | 129.7 | 2898 | 3950 | 5201 | " | " | 96 | 106.7 | 154.4 | 196.7 | 4418 | 6283 | 7887 |
| " | " | 108 | 79.1 | 109.7 | 146.6 | 3276 | 4465 | 5880 | " | " | 108 | 120.6 | 174.5 | 222.4 | 4994 | 7102 | 8916 |
| " | " | 120 | 88.3 | 116.5 | 163.8 | 3655 | 4740 | 6560 | " | " | 120 | 134.6 | 194.6 | 248 | 5570 | 7922 | 9945 |
| 2½ | 12 | 24 | 18.4 | 25.4 | 32.2 | 761 | 1032 | 1292 | 3¾ | 12 | 24 | 27.9 | 38.3 | 48.8 | 1153 | 1559 | 1956 |
| (16 Tubes) | 36 | | 29.4 | 40.6 | 51.6 | 1218 | 1651 | 2068 | (24 Tubes) | 36 | | 44.6 | 61.3 | 78 | 1845 | 2495 | 3131 |
| " | " | 48 | 40.5 | 55.8 | 70.9 | 1675 | 2270 | 2844 | " | " | 48 | 61.3 | 84.3 | 107.4 | 2537 | 3431 | 4305 |
| " | " | 60 | 51.5 | 71 | 90.3 | 2132 | 2890 | 3619 | " | " | 60 | 78 | 107.3 | 136.6 | 3229 | 4366 | 5479 |
| " | " | 72 | 62.6 | 86.2 | 109.7 | 2590 | 3509 | 4395 | " | " | 72 | 94.7 | 130.3 | 165.9 | 3921 | 5327 | 6653 |
| " | " | 84 | 73.6 | 101.4 | 129 | 3047 | 4128 | 5171 | " | " | 84 | 111.4 | 153.3 | 195.2 | 4613 | 6238 | 7827 |
| " | " | 96 | 84.6 | 116.7 | 148.3 | 3504 | 4747 | 5946 | " | " | 96 | 128.2 | 176.3 | 224.5 | 5305 | 7174 | 9001 |
| " | " | 108 | 95.7 | 131.9 | 167.6 | 3961 | 5367 | 6722 | " | " | 108 | 144.9 | 199.3 | 253.8 | 5997 | 8110 | 10175 |
| " | " | 120 | 106.7 | 147 | 187 | 4418 | 5986 | 7498 | " | " | 120 | 161.6 | 222.3 | 283 | 6689 | 9045 | 11349 |

NOTE: For capacities at various T.D.'s, divide the rating listed by 24 and multiply by the T.D. concerned.

FREEZER SHELVES SYSTEMS



Available only on an OEM or "Quantity Order" basis, FREEZER SHELF SYSTEMS are manufactured on the most modern equipment available for — surface treatment — in order to satisfy the high requirement for protection against corrosion, automatic equipment for bending of tubes and steel wire welding equipment.



MATERIAL AND SURFACE SPECIFICATIONS

TUBES : Both double and single wall tubes of Mecano-Bundy quality are used. Cleanliness and dryness of tubes satisfy AGK 8964 or DIN 8964. From 1974, single wall tubes according to DIN 8905 will mainly be used. Outer diameter of tube used is 8 mm ± 0.1 mm.

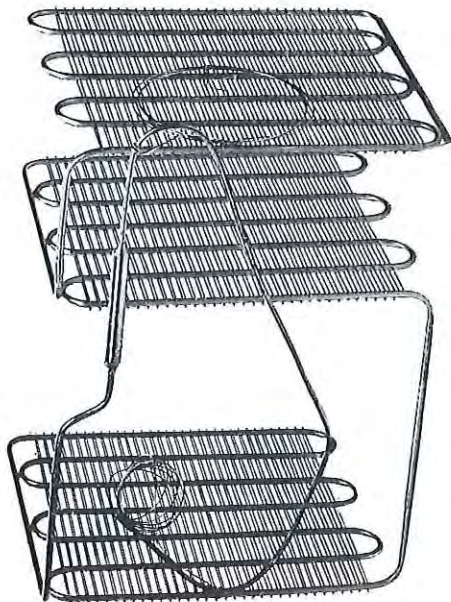
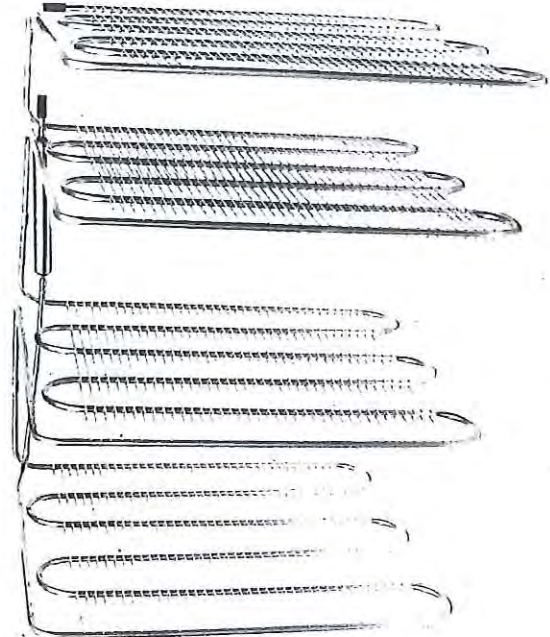
WIRE : Steel wire, specially made for later surface treatment is used. Main wire sizes used are 1.5 mm and 2.00 mm diameter. Length tolerance is ± 1.00 mm.

SURFACE TREATMENT : After completing the programized cleansing procedure in the surface treatment plant, the Freezer Shelves Systems are covered electrolytically by a layer of minimum 15 My zinc. After initial inspection of the Systems they are dip-lacquered in "akryl paint" with later baking-in of this lacquer in a thickness of 7 My at a temperature of 160°C.

The Systems are supplied in ranges right from individual shelves up to assembled systems of maximum 8 shelves. Refer sketch at top right.

According to customers' requirements, the Systems can alternatively be supplied complete with heat exchanger and accumulator — Refer sketch below.

The Systems are leak tested after the welding/soldering operation, under tempered water, using an internal pressure of 98 kPa with dry nitrogen. After the leak testing, the ends of the Systems are sealed off. Supply of Systems with a holding charge of dry nitrogen is available as a customer option.



IMPORTANT

For a uniform surface treatment :
Width A and Depth B of shelves (Refer sketch at bottom right) should not exceed :

A : 500 mm B : 460 mm

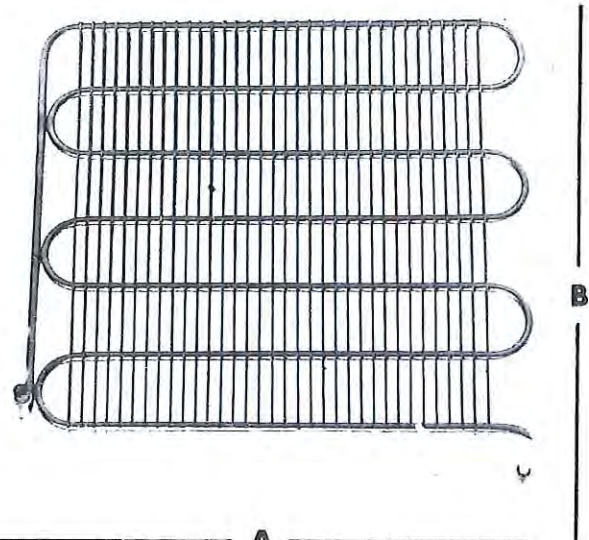
Minimum acceptable wire pitch = 6 mm.

Minimum distance between shelves = 200 mm.

Total height shelf system = 1450 mm.

Tolerance of height between shelves ± 2 mm.

Tolerance of total height ± 2 mm.



ENQUIRIES WELCOME

INSTANTANEOUS BEVERAGE COOLERS

COLDSTREAM — TYPE 360Q

GENERAL DATA-FLOATING HORIZONTAL REFRIGERANT CONTROL VALVE WITHOUT VERTICAL CHATTERBOX ACTION, REPLACABLE NEEDLE (STELLITE TIPPED) AND STAINLESS STEEL SEAT.
 BEVERAGE COILS — STAINLESS STEEL SELF DRAINING.
 REFRIGERANT R12, FULLY CHARGED EX FACTORY. (ADD SERVICE LINES ONLY)
 EQUIPPED WITH RELIEF VALVE.
 OUTER CASE ZINCANNEAL STEEL. FINISH — HAMMERTONE GREY.

| CAT. NO. | MODEL | NO. OF CIRCUITS | DIMENSIONS | | REFRIG. CONN. | | BEV'GE CONN. |
|----------|--------|-----------------|------------|---------|---------------|-------------|--------------|
| | | | DIAM. | HGT. | INLET | OUTLET | |
| 30030 | 360 Q1 | 1 | 10" | 16" | 3/8" Fl. | 3/4" Fl. | 3/4" BSP. |
| 30031 | 360 Q2 | 2 | 10" | 19 1/2" | | | |
| 30032 | 360 Q3 | 3 | 10" | 20 1/2" | | | |



TEMPRITE — TYPE 2T & 3T

MODEL 2T175 : Two circuits

MODEL 3T140 : Three circuits

Approved by State authorities and conforms to AS1210 and AS1677 Codes.
 All models fitted with approved pressure relief valves.

| CAT. NO. | MODEL | Litres/hour | | DIMENSIONS mm | | | CONNECTIONS | | | NET WEIGHT kg. |
|----------|---------|-----------------------|------|---------------|------|---------|-------------|--------------|------------------|----------------|
| | | Bev. Inlet Temp. 10°C | 26°C | DIAM. | HGT. | O/A HT* | LIQ. INLET | SUCT. OUTLET | BEV. | |
| 30033 | 2T 175B | 505 | 175 | 260 | 360 | 450 | 3/8"Fl. | 5/8" Fl. | 7/8"N.F. Thread. | 22.8 |
| 30037 | 3T 140B | 500 | 140 | 260 | 425 | 520 | | | | 27.0 |

* Overall height including pressure relief valve.
 Refrigerating Temperature 0.5°C, Beverage Outlet 3.5°C, Cond. Temp. 45°C
 Pressure vessel design 1.2 mPa.



4

TERRY — TYPE 2P

DLI APPROVED

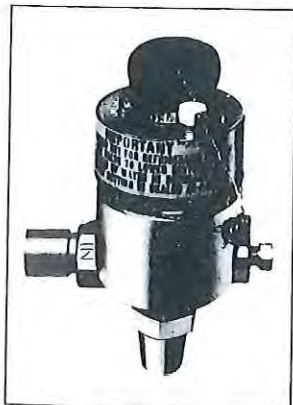
GENERAL DATA-REFRIGERANT CONTROL VALVE FITTED WITH REPLACEABLE STAINLESS STEEL NEEDLE AND SEAT ASSY.
 BEVERAGE COILS — 304 STAINLESS STEEL, SELF DRAINING.
 REFRIGERANT R12.
 EQUIPPED WITH RELIEF VALVE
 OUTER CASE-GALV. SHEET STEEL. FINISH-LACQUER GREY.

| CAT. NO. | TYPE NO. | NO. OF COILS | DIMENS. O/A | | REFRIG. CONN. | | BEV'GE CONN. | CAPACITY GALL./HR REFRIG. TEMP. 34°F | | |
|----------|----------|--------------|-------------|---------|---------------|---------|--------------|--------------------------------------|----|----|
| | | | DIAM. | HGT. | INLET | OUTLET | | BEV'GE INLET TEMP. °F. | | |
| 30034 | 2P | 2 | 11.3/4" | 15.1/2" | 3/8"FL. | 5/8"FL. | 7/8"-14NF. | 50 | 60 | 70 |
| | | | | | | | | 1 COIL | 48 | 38 |
| | | | | | | | | 2 COILS | 54 | 39 |

CAPACITY BASED ON FLOW RATE 75G.P.H. BEVERAGE OUTLET TEMPERATURE 38°F.



TEMPRITE F750 VALVE.



Factory pressure settings.

Primary cap adjustment:
 (factory sealed)
 197-200 kPa
 (28.5-29.0 psig)

Secondary adjustment:
 (screw under sealing cap)
 220-225 kPa
 (32.0-32.5 psig)

Secondary adjustment:
 (variable in field)
 Decrease 10 kPa (1.5 psi)
 Increase 45 kPa (6.5 psi)

Refrigerant connections:
 5/8" male flare

Packed weight: 2.16 kg

COOLER SPARES

| CAT. NO. | MANF. P/N | DESCRIPTION | SUIT |
|----------|-------------|-------------------------------|----------------------------------|
| 3001 | 134A11 | Needle | Coldstream R12 Float Valve |
| 3002 | 139A3 | Seat | |
| 3003 | 61B1 | Header Gasket | |
| 3004 | 92B26 | Det. Valve Gasket | |
| 3005 | 3121 | Float Gasket (Small) | |
| 3006 | 3124/3 | Float Gasket (Large) | Permacold |
| 3007 | M55LD (NLA) | Needle/Seat Assy. Cart.L.Duty | |
| 3008 | M70HD (NLA) | " " " " H.Duty | |
| 3009 | J257 | Needle/Seat Assy. Cartridge | Temprite |
| 30010 | | Use C699 Temprite | Terry |
| 30011 | 545 - 5 | Fusible Plug | Terry |
| 30012 | D248 | " " | Temprite |

CONSTANT PRESSURE VALVES FOR BEVERAGE COOLERS

| CAT. NO. | VALVE | | CONN. FLARE | RECOMMENDED COOLER SIZE |
|----------|---------|-------|-------------|-------------------------|
| | MAKE | TYPE | | |
| 119176 | AP | 235 | 1/2" | 1 TAP |
| 119177 | | 235 | 5/8" | 2 TAP |
| 119201 | Danfoss | CPP12 | 1/2" | 1 TAP |
| 119202 | | CPP15 | 5/8" | 2 TAP |
| 30025 | | F750 | 5/8" | 1 OR 2 TAP |

OIL SEPARATORS FOR R12 — R22 — R502



OIL SEPARATORS
Manufactured to Unfired Pressure Vessel Code AS 1210
FOR R12 R22 R502



| CAT. NO. | PART No. | CAPACITY — TONS | | | | | | Refrigerant Connections ins. | Oil Return Connections ins. | Dimensions L x W mm | Mass Empty kg |
|------------------------------------------------------------------------------------------|----------|-----------------|------|-----|------|------|------|------------------------------|-----------------------------|---------------------|---------------|
| | | R12 | | R22 | | R502 | | | | | |
| | | EVAP. TEMP. °C | | | | | | | | | |
| | | -35 | 5 | -35 | 5 | -40 | 5 | | | | |
| INTERNAL FLOAT — EXTERNAL INSULATION — ADJUSTABLE BRACKETS | | | | | | | | | | | |
| 30130 | 14160 | 0.2 | 1.0 | 0.4 | 1.5 | 0.5 | 1.5 | 3/8 M. Flare | 1/4 M. Flare | 300 x 125 | 3.63 |
| 30131 | 14161 | 0.5 | 3.0 | 1.0 | 5.0 | 1.5 | 5.0 | 5/8 F. Sld. Steel | 1/4 M. Fl. Brass | 380 x 125 | 4.53 |
| EXTERNAL FLOAT WITH INTERCONNECTING ISOLATING VALVE — EXT. INSULATION — ADJUST. BRACKETS | | | | | | | | | | | |
| 30133 | 14183 | 1.0 | 7.5 | 1.5 | 10.0 | 2.0 | 11.0 | 1-1/8 F.Sold.Steel | 1/4 M. Fl. Brass | 615 x 165 | 6.40 |
| EXTERNAL FLOAT WITH INTERCONNECTING ISOLATING VALVE — INTEGRAL BRACKETS | | | | | | | | | | | |
| 30134 | 14186 | 6.0 | 10.0 | 6.0 | 13.0 | 9.0 | 14.0 | 1-3/8 F.Sold.Steel | 1/4 M. Fl. Brass | 630 x 200 | 12.48 |
| 30137 | 14191 | 8.0 | 15.0 | 9.0 | 25.0 | 10.0 | 25.0 | 1-5/8 F.Sold.Steel | 1/4 M. Fl. Brass | 670 x 250 | 20.67 |

KELVINATOR OIL SEPARATORS

| CAT. NO. | MODEL | PART No. | SUITS MODELS | REFRIGERANT |
|----------|-------|----------|--------------------------------------------------------------|--------------|
| 30146 | C 696 | KA40811 | H42B, H42-641, A1775, TF2 | R22 |
| 30144 | G 312 | KA36112 | H42B, H42-641, K62B, K62-421 to 701, Y72-361, A2210 to A6630 | R12, 22, 502 |
| 30145 | G 313 | KA36129 | Y72-491 to 591, Y72B, T82 | R12, 22, 502 |

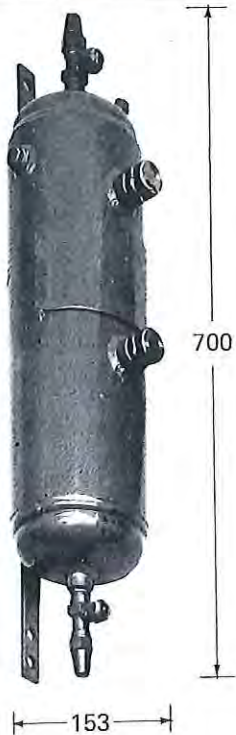


Oil separators. Type OUB For fluorinated refrigerants



| CAT. NO. | Code No. | MODEL OUB1 | Rated Plant Capacity * | | | | | |
|--------------------------------|----------|-----------------------------------|--------------------------------------------------------------------------------------------|-----|------|------|-----|------|
| | | | kW | | | Tons | | |
| | | | R12 | R22 | R502 | R12 | R22 | R502 |
| 3011 | 40B-0010 | Oil Separator Without Connections | 2.3 | 3.1 | 3.5 | 0.7 | 0.9 | 1.0 |
| CONNECTIONS — ORDER SEPARATELY | | | | | | | | |
| 3012 | 40B-0133 | 3/8" Flare Angleway | Ordering Examples : (By CAT. NO.) 3011 + 2 x 3012 or 3013 3011 + 2 x 3014 or 3015 | | | | | |
| 3013 | 40B-0135 | 1/2" Flare Angleway | | | | | | |
| 3014 | 40B-0140 | 3/8" Solder Straightway | | | | | | |
| 3015 | 40B-0142 | 1/2" Solder Straightway | | | | | | |

* Capacity based on Evaporator Temperature —15°C and Condensing Temperature +30°C.



OIL RESERVOIR

WITH SIGHT GLASSES TO AS 1210

Inlet & Outlet Connection 3/8" Flare
 Dimensions L x W 700 x 153 mm
 Oil Capacity:
 High Level 6.1 L
 Low Level 3.2 L
 Mass (empty) 10.8 kg

Part No. 14151
CAT. NO. 30126

HUDSON

OIL LEVEL REGULATOR

TO AS 1210



Inlet Connection 1/4" Male Flare
 Outlet to match sight glass flare
 Dimensions 160 x 150 mm
 L x W
 Mass (empty) 2.45 kg
 To ensure correct flanges specify compressor make and model.

Part No. 14150
CAT. NO. 30127

DISCHARGE MUFFLERS — HIGH SIDE FLOATS

| CAT. NO. | PART No. | NOMINAL RATING TONS | CONNECTION FEMALE SOLDER |
|----------|----------|---------------------|--------------------------|
| 30158 | 27300 | 2 | 3/8" |
| 30159 | 27301 | 3 | 1/2" |
| 30160 | 27302 | 5 | 5/8" |
| 30161 | 27303 | 7 - 10 | 7/8" |
| 30162 | 27304 | 10 - 15 | 1-1/8" |
| 30163 | 27305 | 15 - 25 | 1-3/8" |
| 30164 | 27306 | 25 - 50 | 1-5/8" |
| 30165 | 27307 | 50 - 75 | 2-1/8" |
| 30166 | 27308 | 75 - 100 | 2-5/8" |
| 30167 | 27309 | 100 - 125 | 3-1/8" |

HUDSON DISCHARGE MUFFLER
TO AS 1210



REFAC SPUN COPPER DISCHARGE MUFFLER

| CAT. NO. | PART No. | INLET Female Solder | OUTLET Female Solder | SYSTEM SIZE TONS | Overall Length | Body Length | Body Diameter |
|----------|------------|---------------------|----------------------|------------------|----------------|-------------|---------------|
| 30169 | 200015 - 1 | 3/8" | 3/8" | 2 | 7-3/4" | 6-1/4" | 2" |
| 30170 | 200015 - 2 | 1/2" | 1/2" | 3 | 7-3/4" | 6-1/4" | 2" |
| 30171 | 200015 - 3 | 5/8" | 5/8" | 5 | 7-3/4" | 6-1/4" | 2" |

4

FOR R12, R22, R502

Manufactured to unfired pressure vessel code AS 1210.

Provides optimum oil return to compressor crankcase under a wide range of conditions.

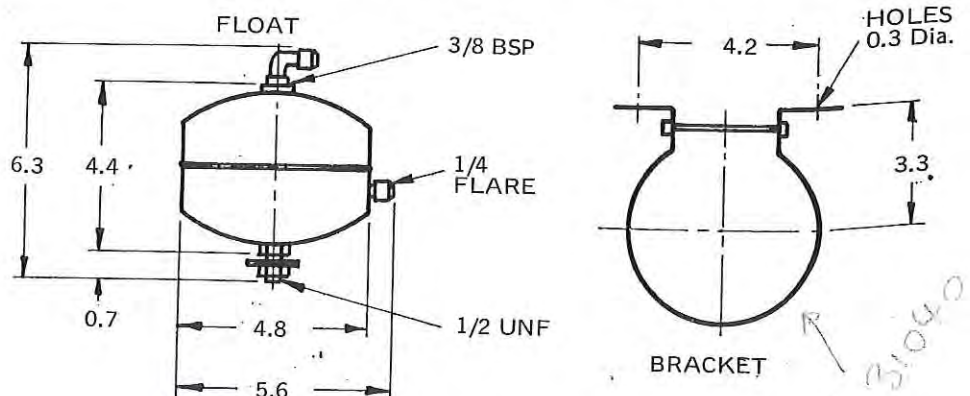
Alternative Mounting facilities:

- Wrap around bracket.
- Bottom stud mount.

BSP to flare elbow provided to facilitate piping.

| |
|-----------------------|
| Part No. 14181 |
| CAT. NO. 30139 |

HUDSON HIGH SIDE FLOAT



HUDSON OIL RETURN FLOAT CHAMBER
TO AS 1210

- Inlet Connection 3/8" F.BSP
- Oil Return Connection 1/4" Male Flare
- Dimensions L x W 135 x 125 mm
- Mass (empty) 1.42 kg

| |
|-----------------------|
| Part No. 14180 |
| CAT. NO. 30150 |





EQUALIZER TANKS TO AS 1210

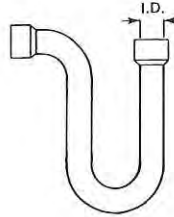
HUDSON

| CAT. NO. | Part No. | Conn. Male Flare | Volume L | Dims. Length x Diam. mm |
|----------|----------|------------------|----------|-------------------------|
| 3021 | 1641 | 1/2" | 15 | 622 x 205 |
| 3022 | 1642 | 5/8" | 15 | 622 x 205 |

KELVINATOR

| CAT. NO. | Part No. | Description | Conn. Male Flare | Dimensions Length x Diam. mm |
|----------|----------|------------------------------------|------------------|------------------------------|
| 3023 | G409 | No. E1 | 5/8" | 686 x 200 |
| 3024 | G291 | No. 2 | 5/8" | 990 x 355 |
| 3025 | C757 | As fitted to TP2 Silica Gel Charge | 1/2" | 324 x 152 |

IDEAL SUCTION LINE P-TRAPS



| CAT. NO. | PART No. | SIZE |
|----------|----------|--------|
| 302141 | R050 | 5/8" |
| 302142 | R051 | 3/4" |
| 302143 | R052 | 7/8" |
| 302144 | R053 | 1-1/8" |
| 302145 | R054 | 1-3/8" |
| 302146 | R055 | 1-5/8" |
| 302147 | R056 | 2-1/8" |



LIQUID RECEIVERS

KIRBY FOR R12 — R22 — R502

| CAT. NO. | KIRBY Part No. | CAPACITY kg Holding 80% Full | Connections - mm | | Dimensions - mm | |
|----------|----------------|------------------------------|------------------|------------|-----------------|------|
| | | | IN (OD) | OUT(OD) | Height | Diam |
| 3029 | MRD131-2 | 1.6 (R12) | 6.5 | 6.5 | 270 | 100 |
| 30210 | MRD131-3 | 1.9 (R12) | 6.5 | 6.5 | 320 | 100 |
| 3028 | MRD131-7 | 4.4 (R12) | 12.7 | 9.5 Valve | 322 | 150 |
| 3027 | MRD138-1 | 8.8 (R12) | 12.7 | 12.7 Valve | 560 | 150 |

HELDON

| CAT. NO. | Part No. | Length ins. | Diam. ins. | Conn. |
|----------|----------|-------------|------------|-------|
| 30271 | 10224 | 21-3/4 | 4 | As |
| 30270 | 10152 | 35-1/2 | 5 | |
| 30267 | 10225 | 28 | 5-1/2 | Req'd |
| 30268 | 10226 | 32 | 6 | |
| 30269 | 10267 | 36 | 8-1/2 | |

KELVINATOR

| CAT. NO. | MODEL | TYPE | LIQ. CAPACITY* | | CONNECTIONS | | DIMENSIONS | | RELIEF |
|------------------|-------|-------|----------------|---------|-------------------|----------|-----------------|----------------|-----------|
| | | | R12 | R502 | INLET | OUTLET | HEIGHT mm (ins) | DIAM. mm (ins) | VALVE NO. |
| SEALED UNITS | | | | | | | | | |
| 30211 | G403 | Vert. | 1 kg | 0.9 kg | 1/4" Copper Tails | | 195 (7-5/8) | 102 (4) | |
| 30215 | G404 | Vert. | 2 kg | 1.9 kg | 1/4" Copper Tails | | 316 (12-1/2) | 102 (4) | |
| R12 — R22 — R502 | | | | | | | | | |
| 30260 | G405 | | 5 kg | 4.7 kg | 3/8" ODS | 1/2" ODS | 740 (29) | 102 (4) | H314 |
| 30261 | G406 | | 20 kg | 18.7 kg | 1/2" ODS | 1/2" ODS | 813 (32) | 200 (8) | H315 |
| 30213 | G407 | | 23 kg | 21.5 kg | 5/8" ODS | 5/8" ODS | 914 (36) | 200 (8) | H315 |
| 30214 | G408 | | 30 kg | 28.0 kg | 5/8" ODS | 5/8" ODS | 1182 (47) | 200 (8) | H316 |

* Capacities based on 80% pump down at 40°C (105°F) saturated liquid.

REFRIGERATION COMPONENTS

| CAT. NO. | MODEL | Type | Volume L | Min. Op. Charge kg | | Storage Cap.* kg | | Connections | |
|----------|---------|--------|----------|--------------------|---------|------------------|---------|-------------|-----------|
| | | | | R12/502 | R22/500 | R12/502 | R22/500 | IN | OUT |
| 302283 | RCR-2V | Vert. | 11.0 | 1.5 | 1.5 | 11.0 | 9.8 | 5/8" | 1/2" |
| 302284 | RCR-3V | Vert. | 17.0 | 1.5 | 1.5 | 17.0 | 15.2 | 3/4" | 5/8" |
| 302285 | RCR-4V | Vert. | 35.0 | 2.5 | 2.0 | 35.0 | 31.5 | 3/4" | 5/8" |
| 302286 | RCR-5V | Vert. | 46.0 | 2.5 | 2.0 | 46.0 | 41.3 | 1-1/8" | 7/8" |
| 302287 | RCR-6V | Vert. | 57.0 | 2.5 | 2.0 | 57.0 | 51.2 | 1-1/8" | 7/8" |
| 302276 | RCR-15 | Horiz. | 42.5 | 14.0 | 12.0 | 42.0 | 38.0 | 1-3/8" ID | 1-1/8" ID |
| 302277 | RCR-25 | Horiz. | 70.8 | 16.0 | 14.5 | 72.0 | 64.0 | 1-3/8" ID | 1-1/8" ID |
| 302278 | RCR-35 | Horiz. | 99.1 | 20.1 | 18.5 | 100.0 | 89.0 | 1-5/8" ID | 1-3/8" ID |
| 302279 | RCR-50 | Horiz. | 141.6 | 23.0 | 20.0 | 142.0 | 127.0 | 1-5/8" ID | 1-3/8" ID |
| 302280 | RCR-70 | Horiz. | 198.2 | 32.0 | 29.0 | 198.0 | 178.0 | 2-1/8" ID | 1-5/8" ID |
| 302281 | RCR-100 | Horiz. | 283.2 | 45.0 | 41.0 | 284.0 | 254.0 | 2-1/8" ID | 1-5/8" ID |

* Refrig. Storage Capacity based on 80% volume with liquid at 40°C.

SELECTION

The minimum operating charge is calculated to provide a positive liquid seal in the receiver to prevent refrigerant gas entering the liquid line to the cooling coil. When selecting the receiver, calculate the total operating charge including all piping, condensers and cooling coils. The minimum operating charge of the receiver should also be included in this calculation. The refrigerant storage capacity allows for 20% of total volume for refrigerant expansion.

ACCUMULATORS



ACCUMULATORS

Copper

HELDON

| CAT. NO. | Part No. | Diam. | Length | Inlet - Outlet I.D. Solder |
|----------|----------|--------|--------|----------------------------|
| 302301 | 4100 | 1-1/4" | 8-1/4" | 5/16" |
| 302302 | 4101 | 1-3/8" | 8-3/4" | 5/16" - 1/4" |
| 302303 | 4102 | 1-1/2" | 8-3/4" | 3/8" - 1/4" |
| 302304 | 4103 | 2-1/2" | 9" | 5/8" |
| 302305 | 4104 | 1-3/4" | 9" | 5/8" |
| 302306 | 4105 | 1-1/2" | 8-5/8" | 3/8" |
| 302307 | 4106 | 1-1/4" | 8-1/2" | 3/8" |
| 302308 | 4107 | 1-1/2" | 11" | 1/2" |
| 302309 | 4108 | 1-3/4" | 6" | 1/2" |
| 302310 | 4109 | 1-1/2" | 8-5/8" | 1/2" |

REFAC

| CAT. NO. | Part No. | Diam. | Length | Inlet - Outlet I.D. Solder |
|----------|----------|---------|----------|----------------------------|
| 302314 | 100054-2 | 1" | 3" | 1/4" |
| 302315 | 100006-1 | 1" | 8" | 1/4" |
| 302316 | 100054-1 | 1" | 4-3/16" | 3/8" |
| 302317 | 100035 | 1" | 6" | 3/8" |
| 302318 | 112021-1 | 1-1/8" | 10" | 3/8" |
| 302319 | 118019-1 | 1-3/16" | 6" | 1/4" |
| 302320 | 118019-3 | 1-3/16" | 6" | 3/8" |
| 302321 | 118019-4 | 1-3/16" | 6" | 1/2" |
| 302322 | 137019 | 1-3/8" | 7" | 1/4" |
| 302323 | 137026-2 | 1-3/8" | 6-5/16" | 3/8" |
| 302324 | 137032-1 | 1-3/8" | 10-5/8" | 3/8" |
| 302325 | 162004-3 | 1-5/8" | 6" | 3/8" |
| 302326 | 162002 | 1-5/8" | 9" | 3/8" |
| 302327 | 162016 | 1-5/8" | 6-11/16" | 1/2" |
| 302328 | 200004-1 | 2" | 5" | 3/8" |
| 302329 | 200004-3 | 2" | 10-1/2" | 1/2" |

HUDSON

| | | | | |
|--------|-------|-------|--------|------|
| 302311 | 27010 | 25 mm | 356 mm | 3/8" |
| 302312 | 27030 | 30 mm | 378 mm | 3/8" |
| 302313 | 27053 | 35 mm | 381 mm | 1/2" |

SUCTION LINE ACCUMULATORS

Maximum ratings are based on a pressure drop through the accumulator of 7 kPa (1 psi)
Minimum ratings are selected to ensure adequate oil return through the accumulator

HUDSON

| WITHOUT LIQUID LINE | | WITH LIQUID LINE | | Suction Line Conns. Female Solder | Liquid Line (if fitted) Female Solder | Refrigerant Holding Capacity kg | | | Rating — Tons @ -18°C Evap. Temp. | | | | | | Dims. L x W mm | Mass empty kg |
|---------------------|----------|------------------|----------|-----------------------------------|---------------------------------------|---------------------------------|------|------|-----------------------------------|------|------|-------|------|-------|----------------|---------------|
| CAT. NO. | Part No. | CAT. NO. | Part No. | | | R12 | R22 | R502 | R12 | | R22 | | R502 | | | |
| | | | | | | | | | Max | Min | Max | Min | Max | Min | | |
| 302337 | 27350 | 302345 | 27360 | 3/4" | 5/8" | 3.9 | 3.6 | 3.8 | 0.7 | 0.11 | 1.5 | 0.16 | 1.4 | 0.16 | 355 x 125 | 5.4 |
| 302338 | 27351 | 302346 | 27361 | 7/8" | 5/8" | 3.8 | 3.5 | 3.7 | 1.0 | 0.26 | 2.3 | 0.39 | 2.0 | 0.39 | 355 x 125 | 5.5 |
| 302339 | 27352 | 302347 | 27362 | 1-1/8" | 5/8" | 6.2 | 5.7 | 5.9 | 2.1 | 0.37 | 4.3 | 0.56 | 4.0 | 0.56 | 445 x 155 | 8.6 |
| 302340 | 27353 | 302348 | 27363 | 1-3/8" | 5/8" | 12.3 | 11.3 | 11.7 | 3.8 | 1.00 | 7.7 | 1.60 | 7.0 | 1.60 | 475 x 205 | 13.4 |
| 302341 | 27354 | 302349 | 27364 | 1-5/8" | 7/8" | 11.9 | 11.0 | 11.4 | 6.0 | 1.00 | 12.5 | 1.60 | 12.0 | 1.60 | 475 x 205 | 13.5 |
| 302342 | 27355 | 302350 | 27365 | 2-1/8" | 7/8" | 16.9 | 15.6 | 16.1 | 14.0 | 2.60 | 27.3 | 4.30 | 26.0 | 4.30 | 685 x 205 | 18.2 |
| 302343 | 27356 | 302351 | 27366 | 2-5/8" | 1-1/8" | 32.2 | 29.7 | 30.8 | 22.0 | 4.20 | 42.0 | 7.00 | 40.0 | 7.00 | 730 x 275 | 26.3 |
| 302344 | 27357 | 302352 | 27367 | 3-1/8" | 1-3/8" | 37.9 | 35.0 | 36.2 | 37.0 | 6.80 | 60.0 | 11.00 | 60.0 | 11.00 | 890 x 275 | 30.8 |

HELDON

| WITHOUT LIQUID LINE | | WITH LIQUID LINE | | Body Diam. ins. | Body Length ins. | Suction Pipe Size ins. | Liquid Line Size ins. | Capacity — lbs. Refrig. | | |
|---------------------|----------|------------------|----------|-----------------|------------------|------------------------|-----------------------|-------------------------|------|------|
| CAT. NO. | Part No. | CAT. NO. | Part No. | | | | | R12 | R22 | R502 |
| 302353 | 11031-60 | 302361 | 11031 | 4-3/4 | 11-1/4 | 3/4 | 1/2 | 5.1 | 4.5 | 4.9 |
| 302354 | 11055-60 | 302362 | 11055 | 4-3/4 | 11-1/4 | 1-1/8 | 1/2 | 5.1 | 4.5 | 4.9 |
| 302355 | 11043-60 | 302363 | 11043 | 6 | 15 | 1-1/8 | 1/2 | 12.3 | 11.0 | 12.0 |
| 302356 | 13322-60 | 302364 | 13322 | 8-1/2 | 15 | 1-3/8 | 1/2 | 23.6 | 17.1 | 18.6 |
| 302357 | 13079-60 | 302365 | 13079 | 8-1/2 | 15 | 1-3/8 | 5/8 | 23.6 | 17.1 | 18.6 |
| 302358 | 10896-60 | 302366 | 10896 | 8-1/2 | 15 | 1-5/8 | 5/8 | 23.6 | 17.1 | 18.6 |
| 302359 | 13323-60 | 302367 | 13323 | 8-1/2 | 15 | 1-5/8 | 3/4 | 23.6 | 17.1 | 18.6 |
| 302360 | 10895-60 | 302368 | 10895 | 8-1/2 | 15 | 2-1/8 | 3/4 | 23.6 | 17.1 | 18.6 |



KIRBY

| CAT. NO. | PART No. | CAPACITY R12 kg | BODY DIAM. mm | BODY LENGTH mm | CONNECTIONS — mm | |
|----------|-----------|-----------------|---------------|----------------|------------------|----------|
| | | | | | IN I.D. | OUT I.D. |
| 302372 | MRD205-1 | 2.4 | 119 | 227 | 19.2 | 19.2 |
| 302373 | MRD205-11 | 3.2 | 119 | 290 | 19.2 | 19.2 |
| 302374 | MRD205-21 | 1.7 | 80 | 324 | 16.0 | 16.0 |
| 302375 | MRD206-1 | 5.9 | 158 | 312 | 22.4 | 22.4 |
| 302376 | MRD205-31 | 4.0 | 119 | 350 | 22.4 | 22.4 |

302-b

HEAT EXCHANGERS

ADVANTAGES

- Increases over-all system capacity
- Improves expansion valve performance
- Prevents liquid refrigerant return to compressor
- Reduces oil troubles
- Provides better operation of low temperature jobs
- Eliminates flash gas in liquid line
- Can eliminate necessity for insulating suction lines.

FRIGEMATIC TYPE HX AND FX



DO NOT MAKE FX SERIES ANY MORE 12/11/85

NO LONGER MADE (H/M/S)

NO LONGER MADE.

| CAT. NO. | MFR/P/N | NOM. CAP TONS | Connections Ins. | | DIAM. LGTH. | |
|----------|---------|------------------|------------------|----------|-------------|------------|
| | | | LIQ. | SUCT. | Ins. | O'all Ins. |
| 30216 | HX11F | 1 - 2 | 1/4FL. | 1/2FL. | 1.3/4 | 12.1/2 |
| 30217 | HX12F | | 1/4FL. | 5/8FL. | | |
| 30218 | HX21F | 2 - 3 | 3/8FL. | 5/8FL. | 1.3/4 | 12.1/2 |
| 30219 | HX22F | | 1/2FL. | 3/4FL. | | 15.1/2 |
| 30220 | HX11S | 1 - 2 | 1/4SL. | 1/2SL. | 1.3/4 | 12.1/2 |
| 30221 | HX12S | | 1/4SL. | 5/8SL. | | |
| 30222 | HX21S | 2 - 3 | 3/8SL. | 5/8SL. | 1.3/4 | 15.1/2 |
| 30223 | HX22S | | 1/2SL. | 3/4SL. | | |
| 30224 | HX23S | | 1/2SL. | 7/8SL. | | |
| 30225 | HX51S | | 5/8SL. | 1.1/8SL. | | |
| 30226 | HX52S | 5 - 7.1/2 | 5/8SL. | 1.3/8SL. | 1.3/4 | 23.1/2 |
| 30231 | FX8 | 8 | 3/4SL. | 1.5/8SL. | 2.1/2 | 22 |
| 30232 | FX10 | 10 | | 2.1/8SL. | 3 | 25 |
| 30233 | FX15 | 15 | 7/8SL. | 2.1/8SL. | 3 | 31 |
| 30234 | FX20 | 20 | | 2.5/8SL. | 3.1/2 | 34 |
| 30235 | FX25 | 25 | 1.1/8SL. | 2.5/8SL. | 3.1/2 | 40 |
| 30236 | FX30 | 30 | | | 3.1/2 | 46 |

Type HX is patented spiral counterflow design.

Type FX is Inner Film linear suction flow and spiral liquid flow jacket design.

DANFOSS



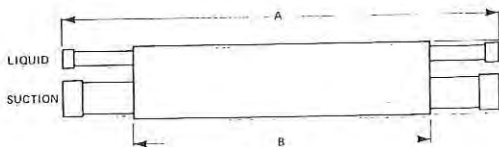
| CAT. NO. | TYPE | CODE NO. | DIMENSIONS INS. | | CONNECTIONS OD SOLDER | |
|----------|--------|----------|--------------------|---------|--------------------------|---------|
| | | | DIAM. | LENGTH | LIQUID | SUCTION |
| 30244 | HE 0.5 | 15D0002 | 1. 3/32 | 6.13/16 | 1/4" | 1/2" |
| 30245 | HE 1.0 | 15D0004 | 1. 3/16 | 10. 3/8 | 3/8" | 5/8" |
| 30246 | HE 1.5 | 15D0006 | 1. 7/16 | 12. 3/4 | 1/2" | 3/4" |
| 30247 | HE 4.0 | 15D0008 | 1.15/16 | 14. 1/2 | 1/2" | 1.1/8" |
| 30248 | HE 8.0 | 15D0010 | 2. 3/8 | 16 | 5/8" | 1.5/8" |

HUDSON



| CAT. NO. | MFG/P/N | TONS CAP. AT -7°C EVAP. TEMP. | DIMENSIONS mm | | CONNECTIONS FEMALE SOLDER | |
|----------|---------|-------------------------------------|------------------|-----|------------------------------|---------|
| | | | W | L | LIQUID | SUCTION |
| 302330 | 27320 | 1 to 2 | 46 | 318 | 1/4" | 1/2" |
| 302331 | 27321 | 1 to 2 | 46 | 318 | 1/4" | 5/8" |
| 302332 | 27322 | 2 to 3 | 46 | 394 | 3/8" | 5/8" |
| 302333 | 27323 | 2 to 3 | 46 | 394 | 1/2" | 3/4" |
| 302334 | 27324 | 2 to 3 | 46 | 394 | 1/2" | 7/8" |
| 302335 | 27325 | 5 to 7 | 46 | 597 | 5/8" | 1.1/8" |
| 302336 | 27326 | 5 to 7 | 46 | 597 | 5/8" | 1.3/8" |

IDEAL



| CAT. NO. | MODEL (HP) | CONNECTIONS O.D. SOLDER | | DIMENSIONS - INS. | | |
|----------|---------------|----------------------------|---------|-------------------|--------|-------|
| | | LIQUID | SUCTION | A | B | C |
| 302132 | 1/4 - 1/2 | 1/4" | 1/2" | 9-1/4 | 5-1/2 | 1-3/8 |
| 302133 | 3/4 - 1 | 3/8" | 5/8" | 15 | 9-1/2 | 1-5/8 |
| 302134 | 1 - 1-1/2 | 3/8" | 7/8" | 18-1/2 | 11-3/8 | 1-5/8 |
| 302135 | 2 - 3 | 1/2" | 1-1/8" | 20-1/4 | 13 | 3-3/8 |
| | 3 - 5 | 5/8" | 1-3/8" | 21-1/2 | 14-5/8 | 3-1/2 |

CAPACITY RATINGS - EVAPORATOR CAPACITY - kW (BTU/HR)

| MODEL (Horsepower) | SUCTION TEMPERATURE ENTERING HEAT EXCHANGER | | | | | | | |
|-----------------------|---------------------------------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| | 4.4°C 40°F | -1.1°C 30°F | -6.7°C 20°F | -12.2°C 10°F | -17.8°C 0°F | -23°C -10°F | -29°C -20°F | -34°C -30°F |
| 1/4 - 1/2 | 1.23 (4200) | 1.03 (3500) | 0.85 (2900) | 0.70 (2400) | 0.56 (1900) | 0.47 (1600) | 0.38 (1300) | 0.29 (1000) |
| 3/4 - 1 | 3.75 (12800) | 3.19 (10900) | 2.67 (9100) | 2.14 (7300) | 1.73 (5900) | 1.36 (4650) | 1.14 (3900) | 0.97 (3300) |
| 1 - 1-1/2 | 5.36 (18300) | 4.60 (15700) | 3.84 (13100) | 3.08 (10500) | 2.43 (8300) | 1.96 (6700) | 1.61 (5500) | 1.47 (5000) |
| 2 - 3 | 9.56 (32600) | 7.97 (27200) | 6.51 (22200) | 5.22 (17800) | 4.34 (14800) | 3.52 (12000) | 2.87 (9800) | 2.26 (7700) |
| 3 - 5 | 20.37 (69500) | 17.18 (58600) | 14.07 (48000) | 11.49 (39200) | 9.23 (31500) | 7.50 (25600) | 6.01 (20500) | 4.81 (16400) |

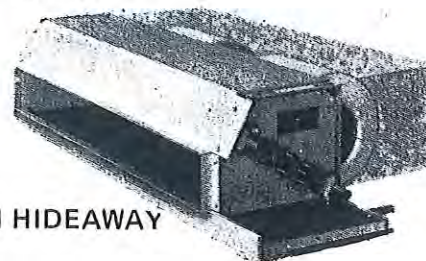
MULLER FAN COIL UNITS

THINLINE II

Seasonmaker



TYPE TSF CONSOLE MODEL



TYPE TSH HIDEAWAY

MODELS

- TSF – Standard Floor Mounted Console Unit
- TSB – Basic Unit for building into counterwork or furred-in installations
- TSC – Complete Units for exposed Ceiling Mounting
- TSH – Hideaway Unit for installation within ceiling space.

COOLING CAPACITY – STANDARD CHILLED WATER COIL

| NOMINAL RATINGS – STANDARD 3 ROW COIL | | | | | | | | | | | |
|---------------------------------------|-----------|-----------|-------------------------|------------------|--------------|-----------------------------------|-----------------------|----------------------------------------|-------|-----------------|---------------|
| UNIT TYPE & SIZE | MOTOR RPM | UNIT SIZE | TOTAL MOTOR INPUT WATTS | TOTAL MOTOR AMPS | AIR FLOW L/s | Water Flow L/s (6°K Rise Cooling) | Water Press. Drop kPa | WATER CAPACITY – WATTS | | | |
| | | | | | | | | COOLING | | HEATING | |
| | | | | | | | | 7°K Ent. Water 25°K D.B. and 19°K W.B. | | 80°K Ent. Water | |
| | | | | | | | | Total | Sens. | 10°K Ent. Air | 20°K Ent. Air |
| TSF021, TSC021, TSB021 | 920 | 021 | 50 | 0.3 | 100 | 0.06 | 2 | 1450 | 1090 | 5800 | 5000 |
| TSF031, TSC031, TSB031 | 920 | 031 | 60 | 0.3 | 150 | 0.10 | 6 | 2500 | 1710 | 8590 | 7390 |
| TSF041, TSC041, TSB041 | 920 | 041 | 105 | 0.6 | 200 | 0.15 | 15 | 3770 | 2460 | 11600 | 10100 |
| TSF061, TSC061, TSB061 | 920 | 061 | 120 | 0.6 | 300 | 0.20 | 7 | 5030 | 3400 | 17000 | 14600 |
| TSF081, TSC081, TSB081 | 920 | 081 | 195 | 1.0 | 400 | 0.32 | 22 | 7760 | 5010 | 24400 | 21000 |
| TSH021 | 920 | 021 | 60 | 0.3 | 100 | 0.06 | 2 | 1360 | 1020 | 5630 | 4860 |
| TSH031 | 920 | 031 | 68 | 0.3 | 150 | 0.08 | 3 | 1980 | 1460 | 7440 | 6400 |
| TSH041 | 920 | 041 | 107 | 0.6 | 200 | 0.13 | 10 | 3240 | 2190 | 9850 | 8490 |
| TSH061 | 920 | 061 | 120 | 0.6 | 300 | 0.21 | 26 | 5070 | 3340 | 15100 | 13000 |
| TSH081 | 920 | 081 | 188 | 1.0 | 400 | 0.25 | 11 | 6260 | 4250 | 21600 | 18600 |

Note: Air Volumes based on high speed fan operation with normal unit appurtenance and 240/50/1 electrical service.

COOLING CAPACITY – DIRECT EXPANSION COILS – R12 - R22 3 ROW

| UNIT SIZE | DIRECT EXPANSION CAPACITIES – WATTS R12 & R22 | | | | | | | | | | | |
|-----------|-----------------------------------------------|-------|-------------|-------|--------------|-------|------------------------------------|-------|-------------|-------|--------------|-------|
| | ENTERING AIR 25°K D.B. & 19°K W.B. | | | | | | ENTERING AIR 30°K D.B. & 21°K W.B. | | | | | |
| | Suction 4°K | | Suction 7°K | | Suction 10°K | | Suction 4°K | | Suction 7°K | | Suction 10°K | |
| | Total | Sens. | Total | Sens. | Total | Sens. | Total | Sens. | Total | Sens. | Total | Sens. |
| 021 | 2280 | 1390 | 1770 | 1180 | 1170 | 950 | 2810 | 1810 | 2280 | 1590 | 1660 | 1360 |
| 031 | 3320 | 2030 | 2580 | 1720 | 1770 | 1409 | 4030 | 2620 | 3330 | 2330 | 2490 | 2010 |
| 041 | 4430 | 2710 | 3550 | 2340 | 2530 | 1940 | 5300 | 3480 | 4440 | 3120 | 3440 | 2730 |
| 061 | 6340 | 3910 | 4990 | 3330 | 3410 | 2730 | 7720 | 5060 | 6360 | 4480 | 4830 | 3910 |
| 081 | 8590 | 5290 | 6990 | 4630 | 5070 | 3880 | 10300 | 6790 | 8610 | 6100 | 6770 | 5420 |

| CAT.NO. | MODEL | CAT.NO. | MODEL | CAT.NO. | MODEL | CAT.NO. | MODEL | AVAILABLE ON APPLICATION |
|---------|---------|---------|---------|---------|---------|---------|---------|--------------------------------------------------------------------------------------------|
| 3031 | TSF 021 | 3036 | TSC 021 | 30311 | TSB 021 | 30316 | TSH 021 | Direct Exp. Models High Capacity 4 Row Heating & Cooling coils Reheat 1 Row Coils |
| 3032 | TSF 031 | 3037 | TSC 031 | 30312 | TSB 031 | 30317 | TSH 031 | |
| 3033 | TSF 041 | 3038 | TSC 041 | 30313 | TSB 041 | 30318 | TSH 041 | |
| 3034 | TSF 061 | 3039 | TSC 061 | 30314 | TSB 061 | 30319 | TSH 061 | |
| 3035 | TSF 081 | 30310 | TSC 081 | 30315 | TSB 081 | 30320 | TSH 081 | |

SPECIFY THE FOLLOWING WHEN ORDERING

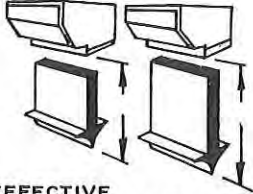
- TYPE : TSF – TSB – TSC – TSH
- SIZE : 021 – 031 – 041 – 061 – 081 (Suffix "C" for DX)
- MEDIUM : Chilled Water or Direct Expansion
- HANDING : LH or RH – Refers to cooling coil connections when facing front of unit.
- REMOTE MTD.SWITCH : Available for TSB, TSC & TSH units.

BELT DRIVE LARGE CAPACITY SEASONMAKERS AVAILABLE ON APPLICATION

TECO AIR CURTAINS



NC-13-LA NC-53B-LA
NC-14-LA NC-54B-LA



EFFECTIVE INSULATING DISTANCE

FUNCTIONS

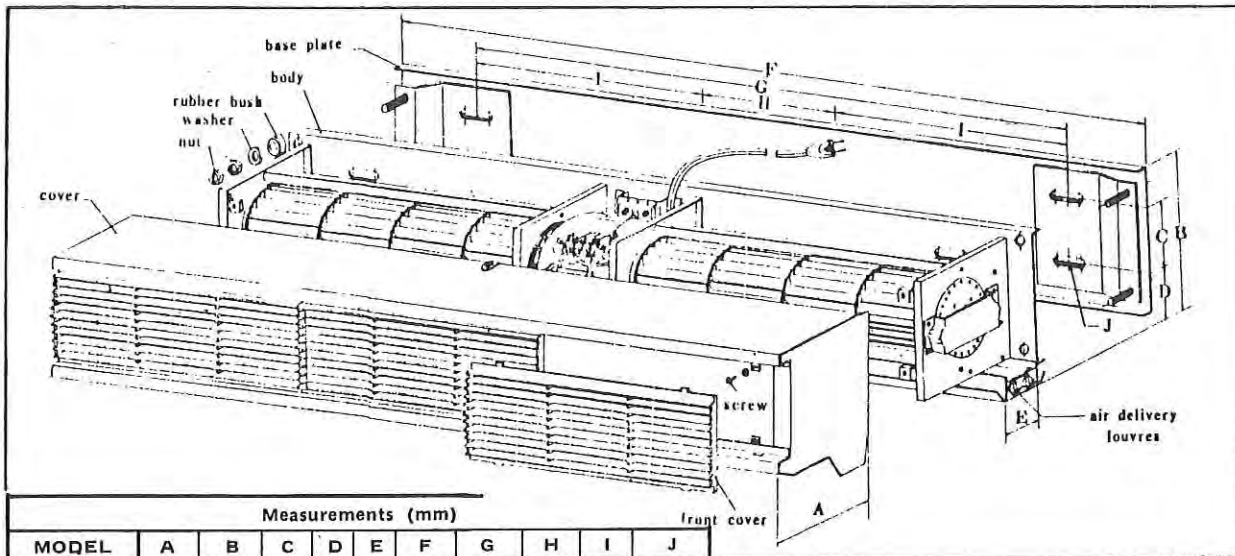
1. **Heat Insulation** — Prevents cool air from escaping when warm air moves in during summer. Savings in electricity. Effects maximum coldness with minimum power consumption.
2. **Coldness Insulation** — During winter, prevents warm air from escaping and cold air from moving in. Maintains a comfortable working temperature.
3. **Prevention** — Prevents entry of insects, odours, dusts, etc. and promotes a clean environment and physical health.

FEATURES

1. Smart appearance. Small size, easy installation.
2. Durable high performance fans.
3. Easy hand adjustment of air direction. Quiet operation.
4. Low power consumption with TECO class E motors.

APPLICATIONS

Public Establishments — Stores, Theatres, Restaurants, Hospitals, Offices, etc.
Industries — All factories with air-conditioned facilities, Pharmaceutical, Chemical, Food-Processing etc.
Residential — All houses, Apartments etc.



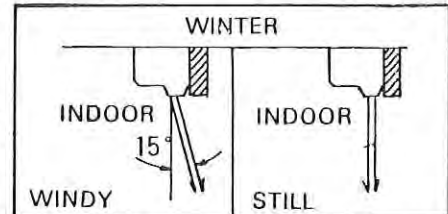
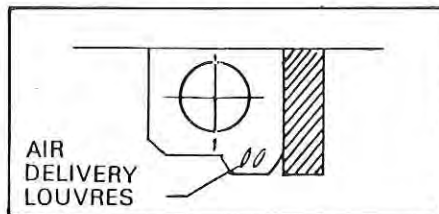
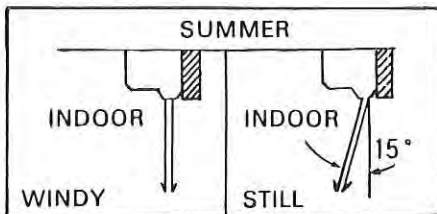
Measurements (mm)

| MODEL | A | B | C | D | E | F | G | H | I | J |
|-----------|-----|-----|-----|----|----|------|------|-----|-----|-------|
| NC-13-LA | 200 | 207 | 80 | 80 | 40 | 905 | 720 | — | — | 12x47 |
| NC-14-LA | 200 | 207 | 80 | 80 | 40 | 1205 | 1020 | — | — | 12x47 |
| NC-53B-LA | 265 | 265 | 150 | 90 | 70 | 910 | 800 | 170 | 315 | 12x22 |
| NC-54B-LA | 265 | 265 | 150 | 90 | 70 | 1210 | 1100 | 170 | 465 | 12x22 |

SPECIFICATIONS

| CAT.NO. | MODEL | WIDTH | | EFFECTIVE CURTAIN VERTICAL LENGTH | | DIA.FAN BLADES mm | POWER SUPPLY | WATTS | WEIGHT kg |
|---------|-----------|-------|----|-----------------------------------|-----|-------------------|---------------------------|-------|-----------|
| | | mm | FT | m | FT | | | | |
| 3041 | NC-13-LA | 905 | 3 | 2.5 | 8.2 | 110 | 220 Volt 50 Hz A.C. | 95 | 18 |
| 3042 | NC-14-LA | 1205 | 4 | 2.5 | 8.2 | 110 | | 120 | 21 |
| 3043 | NC-53B-LA | 910 | 3 | 3.0 | 9.8 | 150 | | 125 | 31 |
| 3044 | NC-54B-LA | 1210 | 4 | 3.0 | 9.8 | 150 | | 180 | 36 |

AIR FLOW ADJUSTMENTS



The direction of air flow affects efficiency of the Air Curtain. Please follow these instructions for optimum efficiency.

- Summer:**
1. On windy days allow the air to blow vertically downward.
 2. On still days, adjust the air to blow at an inward angle of approximately 15°.
- Winter:**
1. On windy days, allow the air to blow at an outward angle of approximately 15°.
 2. On still days, allow the air to blow vertically downward.

- Insect & Smoke Prevention:**
1. When indoor and outdoor temperatures are alike, allow the air to blow vertically downward, directly on to the ground.
 2. When indoor and outdoor temperatures differ, adjust air flow according to the above instructions.

NOTE: The directional air flow louvres can be easily adjusted by hand.

WE BELIEVE IN CONTINUALLY STUDYING THE LOCAL AND INTERNATIONAL MARKETS TO MAKE AVAILABLE THE MOST MODERN TYPE OF EQUIPMENT



TEMP. - CONTROL MODELS - MC 8/36 - MC 11/48 - MC 11/22

1. Conditionaire "Temperature Control" Jet Air Curtains form an invisible barrier between hot and cold.
2. The Air Curtain minimises convection currents in and out of heated or cooled areas.
3. Prevents fogging in zero or sub zero rooms.
4. Prevents excessive ice build up on evaporative coils.
5. Allows free access of people and/or merchandise in and out of heated or cooled areas.
6. Can be used to hold heated air in and cold air out with an open door.
7. Can be used to hold cold air in and heated air out with an open door.
8. Reduces considerably refrigeration requirements for cold rooms where the door is constantly open to traffic flow.
9. Reduces the cost of operation of cold rooms and shortens time for defrosting.
10. Provides an air barrier across an open door to contain heat or cold and allow free access.

| CAT. NO. | MODEL | NOMINAL LENGTH OUTLET GRILL | HEIGHT | DEPTH | MOTOR - 50 CYCLE | | | | | GROSS OUTLET GRILL L x T | AVERAGE START VELOCITY | NETT UNIT WT | CASE SIZE inch/mm |
|----------|---------|-----------------------------------|---------------|---------------|------------------|--------|-------|-----------------|-------|-----------------------------------|------------------------------|--------------------|----------------------------------|
| | | | | | H.P. kw | F.L.A. | Volts | Speed | Phase | | | | |
| 30417 | MC8/36 | 36" 914 mm | 14" 355 mm | 14" 355 mm | .33 .246 | 2.1 | 240 | 960 94 Rad/s | 1 | 36" x 3" 914 x 76 | 26 FPS 7.92 m/s | 58 lb 26.3 kg | 48 x 18 x 20 1219 x 457 x 608 |
| 30418 | MC11/48 | 48" 1219 mm | 19" 482 mm | 19" 482 mm | .33 .246 | 2.1 | 240 | 960 94 Rad/s | 1 | 48" x 3" 1219 x 76 | 31 FPS 9.45 m/s | 77 lb 34.8 kg | 57 x 24 x 24 1447 x 609 x 609 |
| 30419 | MC11/22 | 22" 558 mm | 19" 482 mm | 19" 482 mm | .33 .246 | 2.1 | 240 | 960 94 Rad/s | 1 | 22" x 5" 558 x 127 | 44 FPS 13.45 m/s | 54 lb 24.5 kg | 31 x 25 x 23 787 x 635 x 584 |



CONTAMINATION CONTROL MODELS - MC16

The Conditionaire MC16 Range of Air Curtains have been designed to discharge a high velocity narrow jet of air over the face of a door and are usually installed with grilles angled out 15 to 20 degrees to provide a powerful industrial air door with above average velocity. They are used to repel insects, dirt, dust, winds etc. and are approved by the Department of Primary Industry for usage in the meat industry for fly exclusion. Standard units can be fitted with motors up to 5 H.P. For selected start velocities and design criteria, refer to Manuf. Bulletins available on request.

4

| CAT. NO. | MODEL | NOMINAL LENGTH OUTLET GRILL | HEIGHT | DEPTH | MOTOR 415 VOLT 50 CYCLE | GROSS OUTLET AREA L x T | NETT UNIT WEIGHT | CASE SIZE |
|----------|---------|-----------------------------------|--------|-------|----------------------------|----------------------------------|------------------------|--------------|
| 30411 | MC16/36 | 36" | 27" | 28" | OPEN PROTECTED | 36" x 4" | 151 lb. | 47 x 32 x 32 |
| 30412 | MC16/42 | 42" | 27" | 28" | DRIP-PROOF | 42" x 4" | 162 lb. | 52 x 32 x 32 |
| 30413 | MC16/48 | 48" | 27" | 28" | H.P. 1 - 2 - 3 - 5 | 48" x 4" | 171 lb. | 58 x 32 x 32 |



CONDITIONAIRE "THERMO - CURTAIN"

This compact unit projects a controlled sheet of tempered air downward over an open doorway or entrance to seal off outside adverse conditions and temperatures and maintain a warm comfortable interior climate. Thermo-Curtain permits an un-interrupted flow of traffic and completely eliminates congested entrances - doors are left open at all times. **HOW THERMO-CURTAIN WORKS** - The Conditionaire Thermo-curtain forces tempered air, at temperatures between 43°C and 60°C (110°F and 140°F) downwards. This sheet of warmed air counteracts and absorbs the cold air inspill and at the same time accelerates natural warm convection currents inside. The result is a warm comfortable interior.

| CAT. NO. | MODEL | BURNER RATING MJ | OUTLET AIR TEMP. °C (°F) | AIR OUTPUT CFM | OUTLET VEL. FPM | MOTOR HP (Approx.) | OPERAT. NOISE LEVEL | WEIGHT kg | WIDTH mm | SAFETY DEVICES (both units) |
|----------|----------|------------------------|--------------------------------|----------------------|-----------------------|--------------------------|---------------------------|--------------|-------------|------------------------------------------|
| 30414 | HTC 900 | 42 | 43 to 60 | 1800 | 2400 | 1/3 | 55 db | 45 | 949 | Fall Safe DSI, Ignition |
| 30415 | HTC 1200 | 56 | (110 to 140) | 2400 | 2400 | 1/3 | 65 db | 60 | 1200 | Pressure switch Killxon O/Heat Switch |

Standard units - gas fired - steam and electric heated available on application

CONDITIONAIRE MODEL HMC - 16 - 36 HEATED AIR CURTAIN

SPECIFICATION

| | |
|-----------------------|------------------|
| Model No. | HMC-16-36 |
| Capacity | 2124 litres/sec. |
| Burner rating | 185 MJ |
| Motor | 2.4 KW 415 V |
| Operating Noise Level | 75DB |
| Safety Devices | As Stated |
| Weight Crated | 141 kg |
| Uncrated | 122 kg |

CAT. NO. 30416

FEATURES :

LARGE UNIT(S) FOR INDUSTRIAL DOORWAYS

Allows free access for people, goods and mobile equipment, yet maintains a hot air barrier. Large heat output provides heating to premises and cuts down other heating requirements. Basic outlet width is three feet but by adding a transform duct this width can be extended to five feet.

APPLICATIONS :

Industrial Buildings, Factories, Warehouses, Transport Terminals, Workshops - all buildings with large doorways.

OPERATION :

The operation of the unit is fully automatic. Instant lighting is achieved by means of electric ignition. Automatic gas shutdown is built on temperature rise within the premises to minimise gas usage and to provide desired controllable working conditions.

SAFETY FEATURES :

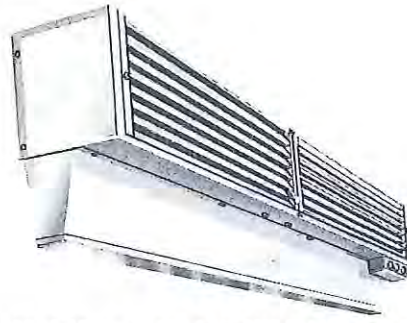
If flame failure occurs, the gas is instantly cut off by a flame sensing rod incorporated in the system. In the case of electrical or mechanical failure, a pressure switch falls the gas solenoid safe.

304-b

VIRCHEM[®] AIR DOORS

COMMERCIAL TYPE HEATED and UNHEATED

Air doors for all seasons



VIRCHEM AIR DOORS have a self-contained one piece housing, fire retardant and corrosion proof, incorporated with a double extended shaft motor, direct drive double width and double inlet squirrel cage blower wheels and fan housings.

Wedge shaped discharge nozzle containing adjustable air deflectors with a 40° girth sweep front to back.

Housing is of sufficient strength for fastening to wall on both ends without any intermediate support. Air intake is protected against inclement weather. Standard models require a minimum space of 318 mm (12½") and EHV models require 407 mm (16") over door header.

EASY INSTALLATION : VIRCHEM AIR DOORS are bolted to wall with four fasteners and connected to electric power source.

AIR DIRECTIONAL CONTROL : Adjustable vanes at outlet nozzle direct air to compensate for possible draft conditions through door openings. When used over a refrigeration door to retain cold temperature, proper directional adjustment is important for maximum efficiency.

AIR VELOCITY CONTROL : Adjustable louvre damper controls

are provided on STANDARD and HEATED MODELS in order to adjust rate of air flow. When used over a refrigeration door to retain cold temperature, proper velocity adjustment is important for maximum efficiency. Velocity Control can reduce air velocity up to 60% with louvres in totally closed position.

HEAVY DUTY ELECTRIC MOTOR : Continuous duty type motor, totally enclosed with sealed lubricated ball bearings, resilient mounted and protected by an automatic thermal overload switch.

FIRE RETARDANT AND CORROSION PROOF : Steel models are of 18 gauge paintlock metal and doubly protected with grey rust preventative coating. All interior parts are safeguarded against inclement weather. Heated models have polycarbonate cabinets.

NOISE LEVEL : The VIRCHEM AIR DOORS operate under a low noise level in the interest and comfort of personnel working in the immediate vicinity. Noise levels available on request.

HIGH PERFORMANCE : VIRCHEM AIR DOORS are scientifically engineered to exceed exacting U.S. government required specifications, to provide the highest quality material for long life and unsurpassed performance.

MODEL AVAILABILITY

| CAT. NO. | MODEL* | Length | | Motor H.P. | Electrical Volts/Hz | Nozzle Velocity | |
|-----------------------------------------|--------|--------|------|------------|-----------------------|-----------------|------------|
| | | mm | ins. | | | m/s | FPM |
| STANDARD MODELS | | | | | | | |
| 30421 | 36 | 915 | 36 | 1/2 | 240/50 | 15.7 | 3100 |
| 30422 | 48 | 1219 | 48 | 1/2 | 240/50 | 13.6 | 2680 |
| EXTRA HIGH VELOCITY (EHV) MODELS | | | | | | | |
| 30425 | EHV38 | 965 | 38 | 1½ | 240/50 | 22.9 | 4500 |
| 30424 | EHV48 | 1219 | 48 | 1½ | 240/50 | 19.6 | 3850 |
| HEATED AIR DOORS | | | | | | | |
| CAT. NO. | MODEL* | Length | | Motor H.P. | Capacity / Electrical | | |
| | | mm | ins. | | Watts | (Btu/hr) | Volts/Amps |
| 30423 | 38C-1 | 965 | 38 | 1/2 | 9000 | 30700 | 240V/38A |
| 30420 | 48C-1 | 1219 | 48 | 1/2 | 9000 | 30700 | 240V/38A |

* Model Number designates Length of Housing in inches. Add 75 mm (3") for control box.

NOTE: Data shown is for 60Hz 1750 RPM motors — Reduce capacities 10% for 50Hz power.

ADVANTAGES

- Keeps insects, dust, dirt and fumes out.
- For use over freezer and cooler doors to reduce humidity and prevent loss of cold air.
- Doors may be left open eliminating the nuisance of opening and closing automatic and manual doors.
- Reduces air conditioning costs.
- Open doors are conducive to attracting customers.
- Less risk of accidents yet speed up customer or personnel traffic.
- Keeps premises clean and sanitary.

SELECTION DATA

TO ASSURE MAXIMUM OPERATIONAL EFFICIENCY USE RECOMMENDED MODELS FOR VARIOUS DOOR SIZES

STANDARD MODELS

Purpose: Barrier to insects and dust.

| Door Widths up to | Door Heights up to | Use Model No. |
|-------------------|--------------------|---------------|
| 915 mm (36") | 1.8 m (7 ft.) | 36 |
| 1219 mm (48") | 1.8 m (7 ft.) | 48 |

REFRIGERATION DOORS

Purpose: Prevent loss of refrigerated air - Reduce Humidity.

Coolers: -4 to +16°C (+25 to +60°F)

| Door Widths up to | Door Heights* up to | Use Model No. |
|-------------------|---------------------|---------------|
| 915 mm (36") | 2.54 m (10 ft.) | 36 |
| 1219 mm (48") | 2.54 m (10 ft.) | 48 |

* Track Rail thru doorway.

FREEZERS

-29 to -7°C (-20 to +20°F)

| Door Widths up to | Door Heights† up to | Use Model No. |
|-------------------|---------------------|---------------|
| 915 mm (36") | 2.0 m (8 ft.) | 36 |

† for higher refrigeration doors refer to EHV models.

NOTE: Over wider door openings, use in multiples side by side spaced not more than 150 mm (6") between units. (Refer Questions and Answers next page - Item 4)

EXTRA HIGH VELOCITY (EHV) MODELS

Purpose: Barrier to insects, dust and refrigeration control.

| Door Widths up to | Door Heights up to | Use Model No. |
|-------------------|--------------------|---------------|
| 1067 mm (3½ ft.) | 2.8 m (11 ft.) | EHV38 |
| 1372 mm (4½ ft.) | 2.8 m (11 ft.) | EHV48 |

Notes: Virchem Air Doors will hold winds up to a maximum of 24 KPH (15 MPH) but cannot be completely stopped when there is an Indraft caused by an exhaust system in the building (negative pressure). Also, a severe wind tunnel effect will arise if other outside doors, windows or roof ventilators are completely open. Cold weather can be best deterred at door opening if direct fired gas heaters are ducted toward the intake of the Virchem Air Door.

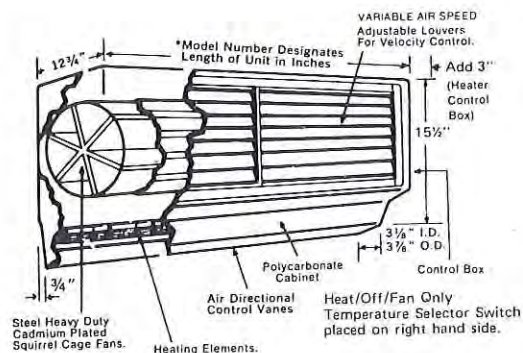
HEATED AIR DOORS

(With Polycarbon Cabinets)

FOR USE IN ALL SEASONS

1. WITH HEATER ON: Over entrance doors as protection against cold wintry drafts entering indoor heated areas. Contributes warmth to existing heating systems.
2. WITH FAN ON ONLY: In warm weather to prevent loss of air conditioning and provide an effective barrier against insects and dust.

| Door Widths up to | Door Heights up to | Use Model No. |
|-------------------|--------------------|---------------|
| 965 mm (38") | 2.0 m (8 ft.) | 38C-1 |
| 1219 mm (48") | 2.0 m (8 ft.) | 48C-1 |



1. Should the Virchem Air Doors be mounted inside or outside of the doorway?

Virchem Air Doors will operate efficiently regardless of which side of the doorway they are mounted. However, there are general rules to remember as follows:

- Either side of the door opening is acceptable when used for insect problems or over refrigerated coolers. When used over freezer doors outside installation is necessary as the fans tend to gather moisture and freeze.
- If there are people working inside, near the door opening, an outside installation is suggested because of the humming sound from motor/fans in operation.
- When using the Virchem Air Doors as a thermal barrier in a factory or store, e.g. for preventing loss of air conditioning in summer or keeping out the cold air in winter, inside installation is recommended. Sometimes an obstruction such as a pipe, roll-up door, exit sign, etc. will require exterior mounting. This will cut down on the efficiency of the units however.

2. Is there any difference in the sound level if a Virchem Air Door is installed outside or inside?

Yes. If high level of sound is a problem, mount the Virchem Air Door outside as the sound will dissipate.

3. How far above the doorway header should Virchem Air Doors be mounted?

12 to 50 mm (1/2" to 2") above the door opening whenever possible. The closer to the door opening the more effective the Virchem Air Doors. When there is an obstruction in the way, the Virchem Air Doors should be hung above it and away from the wall. If there is clearance of more than 100 mm (4") between the obstruction and the wall, the nozzle may be positioned to fit in that opening.

4. When more than one Virchem Air Door is installed over a doorway, how close together should they be mounted?

They can be mounted next to each other but if the door is wider than the Virchem Air Doors, the Standard model may be spaced approximately 150 mm (6") apart. The EHV model may be mounted as far as 250 mm (10") apart.

5. How far beyond the edge of the housing does the air spread extend and what is the depth?

The air leaves the exhaust nozzle at a very high velocity. It extends up to 150 mm (6") on each side of the EHV model. The depth of the curtain of air is about 610 mm (2') when measured 1.83 m (6') from the nozzle.

6. How do you mount a Virchem Air Door over a meat track that comes out through the center of the door opening?

Sometimes one unit can be utilized over the door opening on top of the track, but very often obstructions make this impractical. When this occurs, one unit on each side of the track would be more efficient because installation is then possible closer to the top of the door opening. A clearance of 75 mm (3") to 100 mm (4") on each side between the track and the Virchem Air Door is advised to prevent interference with meat being sent through.

How do you mount Virchem Air Doors over a large warehouse roll-up door?

Installation instructions are sent with each unit explaining the fabrication of brackets for a roll-up door.

8. If there is an obstruction over the doorway, how far away from the wall can a Virchem Air Door be installed & still function effectively?

Not more than 200 mm (8") for refrigeration and 355 mm (14") for insects. Sometimes the Virchem Air Door air outlet may be installed so it sets between the obstruction and the wall. Precaution is necessary to prevent the obstruction from deflecting the flow of air.

9. How do you clear existing utility lines and tracks over the doorway when you mount a Virchem Air Door?

Adjustable mounting brackets may have to be fabricated for standard models. This brings the unit 65 mm (2 1/2") farther out from the wall. The brackets can also be used to tilt the Virchem Air Door outward or inward, whichever is necessary to compensate for draft conditions. On all EHV models adjustable mounting brackets are furnished as standard equipment.

10. How long does it take to install a Virchem Air Door?

The average time required for inexperienced personnel to install a unit is two hours. After the second or third installation the time can usually be cut to one hour.

11. Why do Virchem Air Doors have adjustable air directional vanes?

The directional vanes will with proper adjustment maximize operational efficiency. For example, the vanes can be turned outward to compensate for drafts and repel insects entering the building or adjusted according to the temperature of the room. The colder the room the more the directional vanes would have to be pointed straight down to compensate for the cold air trying to escape at the floor level.

12. Why do Virchem Air Doors have adjustable louvers at the air intake?

The adjustable air intake louvers provide maximum efficiency for different requirements. When used as a barrier to insects, louvers should be set at the maximum open position for full volume of air. When used over refrigeration doors, the louvers can be adjusted to regulate the velocity and volume of air at the air outlet. This is important in order to form an air box with the warm outside air. The louvers should be set so the air barely hits the floor. The colder the air the stronger and stiffer the barrier should be.

EHV models do not contain velocity control louvers as standard equipment. When used for temperature control they must be ordered at extra charge.

13. What happens to the air when it hits the ground?

When using Virchem Air Doors for insect and dust control, the directional vanes in the air outlet nozzle should be directed outward not only to repel the insects and dust but to prevent inward air flow at floor level.

As the air reaches the floor it will divide simultaneously sending the air inward and outward and causing a draft both ways at the floorline.

If mounted on the outside of the doorway, and used for the purpose of holding cold air in refrigerated rooms when the door is open, the directional vanes should be slanted slightly outward. Mounted on the inside of a cooler the vanes should be turned slightly into the refrigerated room.

It is important to remember that when Virchem Air Doors are used over refrigeration it is absolutely necessary to adjust the velocity control so the airstream gently hits the floor with the least amount of disturbance. Hitting the floor too hard will cause a vacuum reaction which will pull the cold air out of the refrigerated room and defeat the intended purpose of the Air Doors.

14. If the velocity of an EHV model is too great how can it be cut down?

By restricting the intake of air using pieces of metal or plywood. However, Virchem Air Doors should not have restrictions placed at the air intake when used for the purpose of repelling insects and dust. The EHV models may be ordered with a velocity control. This is usually required over high refrigeration doors or when used to separate rooms at different temperatures. There is an additional charge for velocity controls on EHV models.

15. When the louvers are completely closed will the motor be starved for air and therefore overload?

No. On the contrary, the motor will be working under a lighter load. When the louvers are closed there is no air to load the fan blades which allows them to operate "free wheeling". This is a fundamental characteristic of the "forward curved" fan wheels.

16. Which Virchem Air Door models require a cover when mounted outside?

Weatherproof covers are necessary and therefore supplied as standard equipment with the EHV models and do not cost extra. They are unnecessary with Standard models as the design protects them from inclement weather.

17. Are there any situations which could cause Virchem Air Doors to operate poorly or not at all?

Yes. There are three applications to be avoided.

- Virchem Air Doors will not perform satisfactorily if there is an exhaust fan in operation as it will cause a negative pressure within the building. The curtain of air will be strongest near the nozzle and weakest at the floor. Since air entering the building always seeks the least line of resistance, it will flow into the building a few feet from the floor at the door opening.
- A wind tunnel effect will prevent Virchem Air Doors from operating properly. A wind tunnel occurs when there are two open doors on opposite sides of a building.
- A Virchem Air Door mounted on the outside of a building will not prevent the entrance of cold air into the building. They must be mounted inside a heated room.

18. If a warehouse is heated, and you want to hold in the warm air, where do you mount the Virchem Air Door?

On the inside over the top of the door opening. Also, whenever possible direct the warm air heaters toward the intake of the Air Door. This method of keeping out the cold air is only effective when the inside room is heated.

19. When a Virchem Air Door is mounted over a cooler doorway can the door itself be removed and the air curtain allowed to operate continuously?

Yes. Virchem Air Doors are equipped with continuous duty motors and will run for many years trouble free.

20. What happens when a forklift or truck goes through a doorway which has the Virchem Air Doors mounted over it? Is the air curtain still effective?

When used over warehouse doors for the purpose of keeping insects out, the forklift will not seriously effect the efficiency of the Virchem Air Doors.

When used over refrigeration doors the air curtain is temporarily ineffective because the forklift disturbs the airflow which is deflected and changes the balance of air pressure.

21. What is a Micro Switch and when is it used?

A Micro Switch is used to energize the air curtain when a door is opened and cuts off when the door is closed.

A Micro Switch is installed when a door is not in constant use such as some receiving and cold storage doors.

It is preferable to allow the Virchem Air Door to operate continuously and not to install a Micro Switch if there is heavy in and out traffic.

22. Should the customer use a thermal overload protection switch in the electrical circuit?

No! All motors are equipped with an automatic thermal overload switch for protection against burn out. The motor will automatically stop if for any reason the motor is overheating.

- Probably causes of overheating are:
- Wrong voltage being fed to the motor
 - Excessive vibration in fans caused by debris caught in the vanes.
 - Motor dirty. Air cannot get to motor housing for proper cooling.
 - Wiring hookup not properly followed.

23. Where are the junction boxes?

EHV models have a junction box on each motor. In the case of multiple motors, they are tied into a single junction box by an electrician. All Standard models have a junction box on the right front of the air door.

Polycarbonate models are supplied with a junction box that can be attached wherever most functional.

24. If air leaving the nozzle does not seem to have much velocity what could be the cause?

The cause is probably incorrect rotation of the fans. If this is the problem, the wires to the motors need to be reversed for correct rotation.

25. What type of maintenance do Virchem Air Doors require?

All motors have sealed lifetime lubricated bearings making greasing or oiling unnecessary.

Blowing dust off the fans twice a year with an air hose is advisable if Virchem Air Doors are to perform at top efficiency.

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NOTES

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ACTROL KEEPS YOU UP-TO-DATE
WE ARE CONTINUALLY STUDYING THE LOCAL AND INTERNATIONAL MARKETS
TO MAKE AVAILABLE THE MOST MODERN TYPE OF EQUIPMENT