

# Multicell Radiator Corporation

Lockport, N. Y.

Manufacturers of Multicell Unit Heaters and Multicell One-piece Pure Copper Heating Surface for Special Heating and Refrigerating Purposes

**Multicell Heating Surface** is made of one piece seamless copper by an exclusive and patented process of electrical deposition. The surface is cellular in design and has an accordion-like pattern which allows it to absorb expansion and contraction within itself.

Every Multicell section is tested with 100 pounds air pressure under water. Multicell Surface is heavily tinned inside and outside to make it proof against corrosion.

The accordion-like action of the Multicell section is made possible by the diagonal pattern of its one-piece sections. This feature takes care of any expansion or contraction.

**Multicell Frames** are of all cast-iron construction with flow and return headers cast integral with upper and lower frame members respectively. This rigid all cast frame absorbs all piping strains and will not deteriorate from corrosion.

In case of accidental damage individual sections on Multicell Heaters can easily be removed simply by uncoupling one union at each end of section.

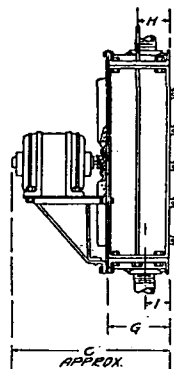
**Multicell Sections** have ample waterways. They present so little resistance to steam flow that pressures are practically the same at inlet and outlet.

**Multicell Elements** will not gather dust and lint. Their surfaces are smooth and self-cleaning, thus maintaining their original high efficiency without attention.

**Multicell Motors** do not require special wiring.

In addition to heating factories, Multicell Unit Heaters have many other uses. When equipped with variable speed motors, they are especially adaptable to churches, auditoriums, etc.

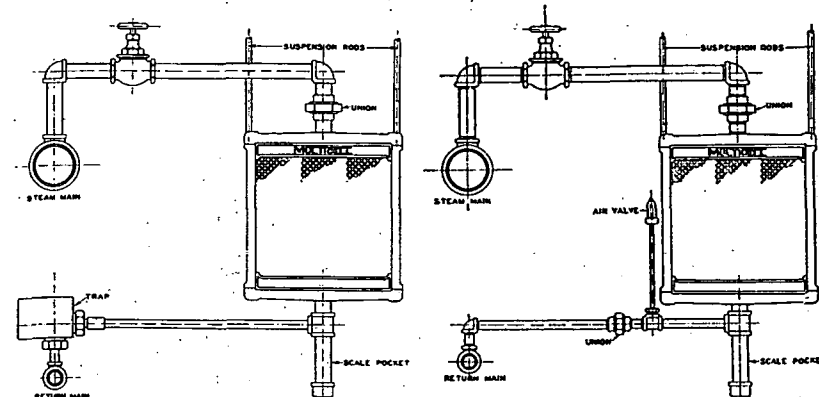
**Multicell Unit Heaters** are tested and rated in accordance with the standard code for testing and rating steam unit heaters, adopted January 1930, by Industrial Unit Heater Association and the American Society of Heating and Ventilating Engineers.



## DIMENSIONS OF MULTICELL UNIT HEATERS

| No. of Heater | Characteristic Speed | Net Weight | Tapping        |                | Dia. of Fan | Dimensions       |                  |              |                  |                  |                  |                |                |                |  |
|---------------|----------------------|------------|----------------|----------------|-------------|------------------|------------------|--------------|------------------|------------------|------------------|----------------|----------------|----------------|--|
|               |                      |            | Flow           | Return         |             | A                | B                | C            | D                | E                | F                | G              | H              | I              |  |
|               |                      |            |                |                |             |                  |                  |              |                  |                  |                  |                |                |                |  |
| 13-B          | Const. Var.          | 86         | 1 1/4<br>1 1/4 | 1 1/4<br>1 1/4 | 12<br>12    | 15<br>15         | 19<br>19         | 15<br>15     | 14<br>14         | 13 1/2<br>13 1/2 | 12 1/2<br>12 1/2 | 6<br>6         | 3<br>3         | 2 1/2<br>2 1/2 |  |
| 18            | Const. Var.          | 137        | 2<br>2         | 2<br>2         | 18<br>18    | 21 1/4<br>21 1/4 | 24 1/8<br>24 1/8 | 16<br>16     | 20 3/4<br>20 3/4 | 19 1/4<br>19 1/4 | 17 1/4<br>17 1/4 | 6 1/2<br>6 1/2 | 3 1/4<br>3 1/4 | 2 1/2<br>2 1/2 |  |
| 180           | Const. Var.          | 179        | 2 1/2<br>2 1/2 | 2 1/2<br>2 1/2 | 18<br>18    | 28 1/8<br>28 1/8 | 24 1/8<br>24 1/8 | 16<br>16     | 27 1/4<br>27 1/4 | 25 1/8<br>25 1/8 | 17 1/4<br>17 1/4 | 6 1/2<br>6 1/2 | 3 1/4<br>3 1/4 | 2 1/4<br>2 1/4 |  |
| 24            | Const. Var.          | 256        | 2 1/2<br>2 1/2 | 2 1/2<br>2 1/2 | 24<br>24    | 28 1/8<br>28 1/8 | 31 3/4<br>31 3/4 | 19 1/2<br>21 | 27 1/4<br>27 1/4 | 25 1/8<br>25 1/8 | 24<br>24         | 6 1/2<br>6 1/2 | 5 1/2<br>5 1/2 | 2 1/4<br>2 1/4 |  |

## PIPING DIAGRAMS FOR MULTICELL UNIT HEATERS



VACUUM RETURN SYSTEM

GRAVITY RETURN SYSTEM

### TABLES OF RATINGS

Tested and rated in accordance with the standard code for testing and rating steam unit heaters, adopted January, 1930 by the Industrial Unit Heater Association and the American Society of Heating and Ventilating Engineers.

#### NO. 13-B MULTICELL UNIT HEATER

| R.P.M.                     | Motor<br>H.P. | C.F.M.<br>at Ent.<br>Temp. | 2 Lbs. Steam       |        |                           |                  | 5 Lbs. Steam       |        |                           |                  |
|----------------------------|---------------|----------------------------|--------------------|--------|---------------------------|------------------|--------------------|--------|---------------------------|------------------|
|                            |               |                            | B.T.U.<br>per Hour | E.D.R. | Final<br>Temp.<br>Deg. F. | Cond.<br>Lb./Hr. | B.T.U.<br>per Hour | E.D.R. | Final<br>Temp.<br>Deg. F. | Cond.<br>Lb./Hr. |
| Air Entering Heater 70° F. |               |                            |                    |        |                           |                  |                    |        |                           |                  |
| 860                        | 1/30          | 445                        | 29,000             | 120.9  | 130.3                     | 30.0             | 30,600             | 127.5  | 133.4                     | 31.9             |
| 1140                       | 1/20          | 595                        | 36,300             | 151.1  | 126.5                     | 37.6             | 38,300             | 159.4  | 129.3                     | 39.9             |
| 1440*                      | 1/20          | 755                        | 43,400             | 181.0  | 122.9                     | 44.9             | 45,700             | 190.5  | 125.7                     | 47.6             |
| 1725                       | 1/10          | 900                        | 48,900             | 203.5  | 120.0                     | 50.6             | 51,600             | 214.9  | 122.6                     | 53.4             |

#### Air Entering Heater 60° F.

|       |      |     |        |       |       |      |        |       |       |      |
|-------|------|-----|--------|-------|-------|------|--------|-------|-------|------|
| 860   | 1/30 | 445 | 31,600 | 131.5 | 124.2 | 32.7 | 33,200 | 138.2 | 127.4 | 34.6 |
| 1140  | 1/20 | 595 | 39,500 | 164.5 | 120.1 | 40.9 | 41,500 | 173.0 | 123.1 | 43.2 |
| 1440* | 1/20 | 755 | 47,200 | 196.8 | 116.4 | 48.9 | 49,600 | 206.2 | 119.2 | 51.6 |
| 1725  | 1/10 | 900 | 53,300 | 220.0 | 113.3 | 55.2 | 56,000 | 233.0 | 116.0 | 58.0 |

#### NO. 18 MULTICELL UNIT HEATER

##### Air Entering Heater 70° F.

|       |      |      |        |       |       |      |        |       |       |      |
|-------|------|------|--------|-------|-------|------|--------|-------|-------|------|
| 860   | 1/15 | 1074 | 72,500 | 302.0 | 131.5 | 75.0 | 75,900 | 316.0 | 134.9 | 79.0 |
| 1140  | 1/6  | 1425 | 90,100 | 375.5 | 128.2 | 93.2 | 95,000 | 396.0 | 131.3 | 98.8 |
| 1440* | 1/6  | 1425 | 90,100 | 375.5 | 128.2 | 93.2 | 95,000 | 396.0 | 131.3 | 98.8 |

##### Air Entering Heater 60° F.

|       |      |      |        |       |       |       |         |       |       |       |
|-------|------|------|--------|-------|-------|-------|---------|-------|-------|-------|
| 860   | 1/15 | 1074 | 78,200 | 326.0 | 125.7 | 81.0  | 82,100  | 342.0 | 129.0 | 85.4  |
| 1140  | 1/6  | 1425 | 98,100 | 408.0 | 122.1 | 101.4 | 103,000 | 429.0 | 125.2 | 107.1 |
| 1440* | 1/6  | 1425 | 98,100 | 408.0 | 122.1 | 101.4 | 103,000 | 429.0 | 125.2 | 107.1 |

#### NO. 180 MULTICELL UNIT HEATER

##### Air Entering Heater 70° F.

|       |      |      |         |       |       |       |         |       |       |       |
|-------|------|------|---------|-------|-------|-------|---------|-------|-------|-------|
| 860   | 1/15 | 1288 | 87,600  | 365.0 | 132.8 | 90.6  | 92,500  | 386.0 | 136.1 | 96.2  |
| 1140  | 1/6  | 1705 | 109,200 | 456.0 | 129.1 | 113.1 | 115,100 | 480.0 | 132.1 | 120.0 |
| 1440* | 1/6  | 1705 | 109,200 | 456.0 | 129.1 | 113.1 | 115,100 | 480.0 | 132.1 | 120.0 |

##### Air Entering Heater 60° F.

|       |      |      |         |       |       |       |         |       |       |       |
|-------|------|------|---------|-------|-------|-------|---------|-------|-------|-------|
| 860   | 1/15 | 1288 | 95,500  | 389.0 | 126.9 | 98.8  | 100,300 | 417.5 | 130.3 | 104.4 |
| 1140  | 1/6  | 1705 | 118,900 | 495.0 | 122.9 | 123.0 | 124,800 | 520.0 | 126.1 | 129.9 |
| 1440* | 1/6  | 1705 | 118,900 | 495.0 | 122.9 | 123.0 | 124,800 | 520.0 | 126.1 | 129.9 |

#### NO. 24 MULTICELL UNIT HEATER

##### Air Entering Heater 70° F.

|       |     |      |         |       |       |       |         |       |       |       |
|-------|-----|------|---------|-------|-------|-------|---------|-------|-------|-------|
| 860   | 1/4 | 2560 | 152,100 | 634.0 | 124.6 | 157.5 | 161,500 | 674.0 | 128.0 | 168.0 |
| 1140  | 1/2 | 3380 | 190,000 | 791.0 | 121.7 | 196.8 | 200,800 | 835.0 | 124.6 | 209.0 |
| 1440* | 1/2 | 3380 | 190,000 | 791.0 | 121.7 | 196.8 | 200,800 | 835.0 | 124.6 | 209.0 |

##### Air Entering Heater 60° F.

|       |     |      |         |       |       |       |         |       |       |       |
|-------|-----|------|---------|-------|-------|-------|---------|-------|-------|-------|
| 860   | 1/4 | 2560 | 165,800 | 691.0 | 118.3 | 171.8 | 174,000 | 725.0 | 121.4 | 181.0 |
| 1140  | 1/2 | 3380 | 207,000 | 862.0 | 115.4 | 214.1 | 217,200 | 905.0 | 118.0 | 226.2 |
| 1440* | 1/2 | 3380 | 207,000 | 862.0 | 115.4 | 214.1 | 217,200 | 905.0 | 118.0 | 226.2 |

\*25 cycle motors only.