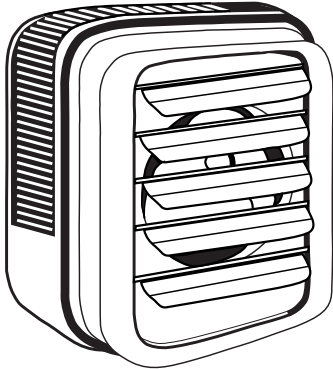




A Marley Engineered Products Brand

470 Beauty Spot Rd. E, Bennettsville, SC 29512

**SUBMITTAL SHEET  
HUHAA SERIES  
HORIZONTAL / VERTICAL  
UNIT HEATER**



| CAPACITIES   |
|--|
| 3KW through 50KW<br>208, 240, 277, 480V<br>1Ø or 3Ø<br>(Voltage & Phase varies with model) |

See Selection Chart

HUHAA SERIES - HORIZONTAL / VERTICAL UNIT HEATERS

| TAG | QTY. | CATALOG NUMBER | HEATER |       |   | AMPS | CONTROL CKT. VOLTS | MOTOR VOLTS | AIR FLOW |         | NO. OF STAGES |
|-----|------|----------------|--------|-------|---|------|--------------------|-------------|----------|---------|---------------|
|     |      |                | KW     | VOLTS | Ø |      |                    |             | CFM      | F° RISE |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |
|     |      |                |        |       |   |      |                    |             |          |         |               |

ACCESSORIES  
AND  
CONTROLS

| TAG | QTY. | CAT. NO. | DESCRIPTION |
|-----|------|----------|-------------|
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |
|     |      |          |             |

| SUBMITTED BY: | DATE |
|---------------|------|
|               |      |
|               |      |
|               |      |
|               |      |

| APPROVED BY: | DATE |
|--------------|------|
|              |      |
|              |      |
|              |      |
|              |      |

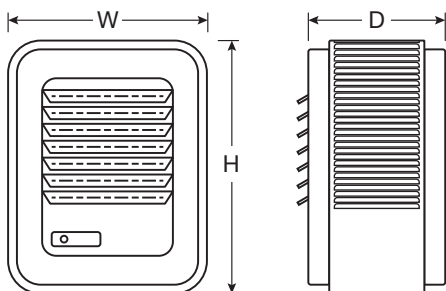
| CATALOG NUMBER | VOLTS   | KW        | AMPS        | PH  | STD.          |               | Air Delivery | FPM       | ^T (F) | Motor RPM | HP    | HORIZ. AIR THROW | SHIP. WT) |
|----------------|---------|-----------|-------------|-----|---------------|---------------|--------------|-----------|--------|-----------|-------|------------------|-----------|
|                |         |           |             |     | 2-STAGE ELEM. | CONTROL VOLTS |              |           |        |           |       |                  |           |
| HUHAA320       | 208     | 3         | 14.5        | 1   | NA            | 208           | 350          | 800       | 27     | 1600      | 1/100 | 12               | 24        |
| HUHAA520       | 208     | 5         | 24          | 1-3 | 5A            | 208           | 350          | 800       | 45     | 1600      | 1/100 | 12               | 24        |
| HUHAA720       | 208     | 7.5       | 36          | 1-3 | 5B            | 24            | 650          | 970       | 37     | 1600      | 1/30  | 18               | 36        |
| HUHAA1020      | 208     | 10        | 48          | 1-3 | 5B            | 24            | 650          | 970       | 49     | 1600      | 1/30  | 18               | 36        |
| HUHAA1520      | 208     | 15        | 72          | 1-3 | 5A            | 24            | 910          | 1640      | 52     | 1530      | 1/20  | 35               | 56        |
| HUHAA2020      | 208     | 20        | 56          | 3   | 5A            | 24            | 1320         | 2060      | 48     | 1500      | 1/10  | 41               | 63        |
| HUHAA3020      | 208     | 30        | 84          | 3   | 5A            | 24            | 2100/1800    | 2100/2030 | 45/53  | 1600/1375 | 1/4   | 50               | 91        |
| HUHAA5020      | 208     | 50        | 139         | 3   | 5A            | 24            | 3000/2600    | 3260/2900 | 53/61  | 1525/1420 | 1/2   | 60               | 125       |
| HUHAA324       | 208/240 | 2.2/3.0   | 11.0/12.5   | 1   | NA            | 208/240       | 350          | 800       | 27     | 1600      | 1/100 | 12               | 24        |
| HUHAA524       | 208/240 | 3.7/5.0   | 18.0/21.0   | 1-3 | 5A            | 208/240       | 350          | 800       | 45     | 1600      | 1/100 | 12               | 24        |
| HUHAA724       | 208/240 | 5.6/7.5   | 27.0/31.3   | 1-3 | 5B            | 24            | 650          | 970       | 37     | 1600      | 1/30  | 18               | 36        |
| HUHAA1024      | 208/240 | 7.5/10.0  | 36.0/42.0   | 1-3 | 5B            | 24            | 650          | 970       | 49     | 1600      | 1/30  | 18               | 36        |
| HUHAA1524      | 208/240 | 11.2/15.0 | 31.3/36.1   | 3   | 5C            | 24            | 910          | 1640      | 52     | 1530      | 1/20  | 35               | 56        |
| HUHAA2024      | 208/240 | 15.0/20.0 | 41.2/48     | 3   | 5C            | 24            | 1320         | 2060      | 48     | 1500      | 1/10  | 41               | 63        |
| HUHAA2524      | 208/240 | 18.7/25.0 | 52.0/60.0   | 3   | 5A            | 24            | 2100/1800    | 2100/2030 | 38/44  | 1600/1375 | 1/4   | 50               | 91        |
| HUHAA3024      | 208/240 | 22.5/30.0 | 63.0/72.3   | 3   | 5A            | 24            | 2100/1800    | 2100/2030 | 45/53  | 1600/1375 | 1/4   | 50               | 91        |
| HUHAA4024      | 208/240 | 30.0/40.0 | 83.4/96.4   | 3   | 5A            | 24            | 3000/2600    | 3260/2900 | 42/49  | 1525/1420 | 1/2   | 60               | 125       |
| HUHAA5024      | 208/240 | 37.5/50.0 | 104.2/120.0 | 3   | 5A            | 24            | 3000/2600    | 3260/2900 | 53/61  | 1525/1420 | 1/2   | 60               | 125       |
| HUHAA327       | 277     | 3         | 11          | 1   | NA            | 277           | 350          | 800       | 27     | 1600      | 1/100 | 12               | 24        |
| HUHAA527       | 277     | 5         | 18          | 1   | NA            | 277           | 350          | 800       | 45     | 1600      | 1/100 | 12               | 24        |
| HUHAA727       | 277     | 7.5       | 27          | 1   | 5B            | 24            | 650          | 970       | 37     | 1600      | 1/30  | 18               | 36        |
| HUHAA1027      | 277     | 10        | 36          | 1   | 5B            | 24            | 650          | 970       | 49     | 1600      | 1/30  | 18               | 36        |
| HUHAA348       | 480     | 3         | 3.6         | 3   | NA            | 24            | 350          | 800       | 27     | 1600      | 1/100 | 12               | 24        |
| HUHAA548       | 480     | 5         | 6           | 3   | NA            | 24            | 350          | 800       | 45     | 1600      | 1/100 | 12               | 24        |
| HUHAA748       | 480     | 7.5       | 9           | 3   | 5B            | 24            | 650          | 970       | 37     | 1600      | 1/30  | 18               | 36        |
| HUHAA1048      | 480     | 10        | 12          | 3   | 5B            | 24            | 650          | 970       | 49     | 1600      | 1/30  | 18               | 36        |
| HUHAA1548      | 480     | 15        | 18          | 3   | 5C            | 24            | 910          | 1640      | 52     | 1530      | 1/20  | 35               | 56        |
| HUHAA2048      | 480     | 20        | 24          | 3   | 5C            | 24            | 1320         | 2060      | 48     | 1500      | 1/10  | 41               | 63        |
| HUHAA2548      | 480     | 25        | 30          | 3   | 5C            | 24            | 2100/1800    | 2100/2030 | 38/44  | 1600/1375 | 1/4   | 50               | 91        |
| HUHAA3048      | 480     | 30        | 36          | 3   | 5C            | 24            | 2100/1800    | 2100/2030 | 45/53  | 1600/1375 | 1/4   | 50               | 91        |
| HUHAA4048      | 480     | 40        | 48          | 3   | 5A            | 24            | 3000/2600    | 3260/2900 | 42/49  | 1525/1420 | 1/2   | 60               | 125       |
| HUHAA5048      | 480     | 50        | 60.2        | 3   | 5A            | 24            | 3000/2600    | 3260/2900 | 53/61  | 1525/1420 | 1/2   | 60               | 125       |

**NOTE:**

- All standard units are supplied with a low voltage control transformer and contactor (24V) except HUHAA-3 & 5 Kw, 208, 240, & 277 volt models. Low voltage control on these units is available on made-to-order. All units are also available on special order 120 volt control; internal with transformer or external without transformer.
- On dual voltage units, CFM, FPM, and RPM are shown at higher voltage.
- On dual phase units, maximum amp draw is listed for respective voltage.

- 25 thru 50 Kw models have two speed motors and dual CFM ratings.
- 5A. Standard
- 5B. Optional-made to order-amp load unbalanced on 3 phase.
- 5C. Optional-made to order-amp load balanced on 3 phase.  
\*\* Must use 2-stage thermostat on 3Ø operation.

**DIMENSIONS**



| HEATER   | HEIGHT  | WIDTH   | DEPTH   |
|----------|---------|---------|---------|
| 3 & 5    | 16"     | 14"     | 8-1/2"  |
| 7.5 & 10 | 21-3/4" | 19"     | 8-1/2"  |
| 15 & 20  | 21-3/4" | 19"     | 13-3/4" |
| 25 & 30  | 30"     | 26-5/8" | 13-3/4" |
| 40 & 50  | 30"     | 26-5/8" | 18-1/8" |

**MOUNTING LIMITATIONS**

Unit heaters should not be used in potentially explosive atmospheres. The finish is not intended for direct salt spray exposure in marine applications or the highly corrosive atmospheres of swimming pools, chemical storage bins, etc. Do not install unit heaters above recommended maximum mounting height. Obstructions must not block unit heater air inlet or discharge. Heaters must be mounted at least 7' above the floor to prevent accidental contact with the heating element or fan blade which could cause injury.

**OPTIONAL FACTORY INSTALLED CONTROLS & ACCESSORIES**

(Factory Installed Only - Not to be Field Installed)

|  |
|--|
| 3 & 5 KW Heaters with 208, 208/240 or 277 Volt Supply <ul style="list-style-type: none"> <li>• Control Transformer (120 or 24 Volt Sec.)</li> <li>• Power Contactor (120 or 24 Volt Holding Coil)</li> </ul> |
| Optional 120 Volt control <ul style="list-style-type: none"> <li>• 3 &amp; 5 KW with 480 Volt supply and 7.5 KW thru 50 KW.</li> </ul>   |
| Two Stage Element Control (See Note 5 Page 2)  |
| Manual Reset   |
| Bird Screen (Outlet Mesh)  |

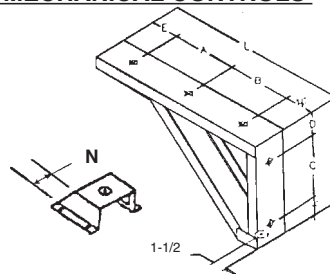
**OPTIONAL FIELD INSTALLED ELECTRICAL CONTROLS**

| CAT. NO.  | ACCESSORY   | ELECTRICAL RATING   | USE WITH  |
|-----------|---|---|---|
| UHMT1     | Single Pole Internal Thermostat - Temp. Range: 40F - 85F                                      | 25A @ 120, 240VAC Res.<br>22A @ 277VAC Res.                       | All HUHAA Series Heaters (except 5 KW, 208V - 3PH, 208/240V - 3PH, 277V)  |
| UHMT2     | Two-Stage Internal Thermostat - Temp. Range: 40F - 85F  | 22A @ 120, 240VAC Res.<br>22A @ 277VAC Res 125V,<br>A: Pilot Duty | 5 KW, 208 volt 3 ph & 208/240 volt 3 ph, 208 volt: 15, 20, 30 & 50 KW,<br>208/240 volt: 25, 30, 40 & 50 KW,<br>480 volt: 40 & * 50 KW heaters.                  |
| HUHAAFS   | Internal Summer Fan Switch  | 6A, 600VAC Res 2 Hp - 250, 480, 600VAC                            | All HUHAA Series Heaters  |
| HUHAARFS1 | Remote Summer Fan Switch (Line Voltage)   | 2 HP, 250-480VAC  | All HUHAA Series Heaters  |
| HUHAARFS2 | Remote Summer Fan Switch with Relay (24V Coil-Single Pole Normally Open)                      | 6 AFL, 35 ALR, 250VAC, 60Hz<br>3 AFL, 18 ALR, 480VAC, 60Hz        | All HUHAA Series Heaters (except 3 & 5 KW & 208, 208/240 & 277 volt units, unless optional control transformer is supplied)                                     |
| HUHAHRT   | Heat Recovery Thermostat with Relay (24V Coil-Single Pole Normally Open) Hi - 120F, Low - 60F | 6 AFL, 35 ALR, 250VAC, 60Hz<br>3 AFL, 18 ALR, 480VAC, 60Hz        | All HUHAA Series Heaters (except 3 & 5 KW & 208, 208/240 & 277 volt units, unless optional control transformer is supplied)                                     |
| HUHAADS25 | Power Disconnect Switch (3 Pole)  | 30A @ 600VAC, Res   | HUHA520HUHAA348, HUHAA548, HUHAA748, HUHAA327, HUHAA1048, HUHAA324, HUHAA320, HUHAA527, HUHAA1548, HUHAA524   |
| HUHAADS60 | Power Disconnect Switch (3 Pole)  | 80A @ 600VAC, Res.  | HUHA2048, HUHAA727, HUHAA2548, HUHAA724, HUHAA720, HUHAA1027, HUHAA1524, HUHAA3048, HUHAA1024, HUHAA1020, HUHAA2024, HUHAA4048, HUHAA2020, HUHAA2524, HUHAA5048 |

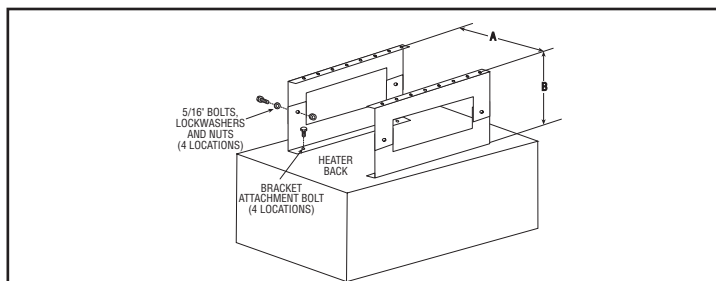
**NOTE:** Any field installed options assembled in the factory require added surcharge.

**OPTIONAL FIELD INSTALLED MECHANICAL CONTROLS**

| UNIVERSAL WALL & CEILING MOUNTING BRACKET CATALOG NO. | CEILING MOUNTING BRACKET CATALOG NO. | USED ON HEATER KW |
|---|--------------------------------------|-------------------|
| B10   | CMB10                                | 3.5, 7.5, & 10    |
| B20   | CMB20                                | 15 & 20           |
| B30   | CMB30                                | 25 & 30           |
| B50   | CMB50                                | 40 & 50           |



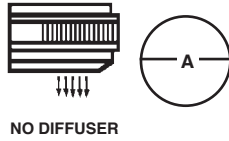
| DIM | 3-20KW   | 25-50KW  |
|-----|----------|----------|
| A   | 7-1/4"   | 9-7/16"  |
| B   | 9-1/2"   | 14-3/8"  |
| C   | 7-1/4"   | 12-1/8"  |
| D   | 1-15/16" | 2-1/16"  |
| E   | 2-1/4"   | 3"       |
| L   | 20-1/2"  | 28-5/16" |
| N   | 3-1/4"   | 4-1/2"   |



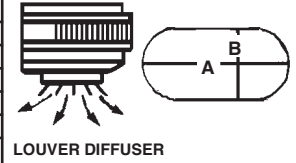
| CATALOG NO. | KW          | A                | B               |
|-------------|-------------|------------------|-----------------|
| VDMB5       | 3 - 5 KW    | 6" (152mm)       | 6 1/8" (156mm)  |
| VDMB20      | 7.5 - 20 KW | 8 7/8" (225mm)   | 6 1/8" (156mm)  |
| VDMB50      | 25 - 50 KW  | 12 1/2" (318 mm) | 12 1/8" (308mm) |

| DIFFUSER | HEATER KW | MAX MNT. HT. | A DIM |
|----------|-----------|--------------|-------|
| NONE     | 3 & 5     | 9            | 18    |
| NONE     | 7.5 & 10  | 14           | 26    |
| NONE     | 15        | 20           | 35    |
| NONE     | 20        | 23           | 40    |
| NONE     | 25        | 23           | 63    |
| NONE     | 30        | 20           | 55    |
| NONE     | 40        | 28           | 70    |
| NONE     | 50        | 25           | 63    |

**DIFFUSER PATTERN AND AREA**



| DIFFUSER CAT. NO. | USED ON HEATER KW | MAX. MNT. HT. | A DIM | B DIM |
|-------------------|-------------------|---------------|-------|-------|
| HUHAALDS          | 3 & 5             | 9             | 25    | 12    |
| HUHAALDM          | 7.5 & 10          | 14            | 39    | 19    |
| HUHAALDM          | 15                | 18            | 50    | 25    |
| HUHAALDM          | 20                | 20            | 56    | 28    |
| HUHAALDL          | 25                | 23            | 68    | 32    |
| HUHAALDL          | 30                | 20            | 72    | 36    |
| HUHAALDL          | 40                | 24            | 88    | 44    |
| HUHAALDL          | 50                | 22            | 80    | 40    |



**ARCHITECT'S AND ENGINEER'S SPECIFICATIONS\***

Furnish and install type HUHAA horizontal / vertical unit heaters as manufactured by Berko, A Marley Engineered Products Brand, Bennettsville, SC with heating and air delivery capacities as shown on the heating schedule.

The cabinet shall be made of 18 gauge die formed furniture grade steel. Individual adjustable louvers with 30 degrees downward stops shall be furnished to provide desired control of discharge air. All metal surfaces of the enclosure shall be phosphate coated to resist corrosion and finished in a durable polyester powder coat finish. Mounting brackets designed for either ceiling or wall swivel mounting shall be furnished as shown on the heating schedule.

Heaters shall be of the draw-through air flow design to eliminate the element hot spots and extend design life.

Fans shall be aluminum, directly connected to fan motor, and designed specifically for unit heater application.

Low voltage control 24 volt transformers shall be standard on models 7.5 KW and greater (Optional 120V), to allow safer more precise temperature control.

Individual optional field installable control kits shall be available for all models. All controls shall have pig tails and spade terminals for ease of wiring to centrally located terminal board. All heaters of 63 amperes or less shall be provided with power disconnect switches (field installed kits or factory installed).

All heaters shall be UL Listed and meet the requirements of the National Electrical Code.

For safety, the electric heating bank shall consist of metal sheath heating elements. The elements shall consist of 80/20 Nichrome wire encased in refractory material (MGO) and have a copper clad steel sheath for strength and corrosion resistance, and aluminum fins for faster heat transfer. Automatic reset thermal overload protection shall be of the linear capillary type wired for instantaneous de-energizing in case of the thermal overload. Heating bank to have protective air inlet louvers.

All heaters drawing in excess of 48 amperes shall be provided with factory installed subdivided and fused circuits of 48 amps or less.

Motors shall be totally enclosed, designed for continuous heavy-duty all-angle operation and equipped with built-in thermal overload protection, with stainless steel louvers. Motors used on 25 thru 50 KW models shall be rated for two speed operation.

\* Berko reserves the right to change specifications without prior notice.