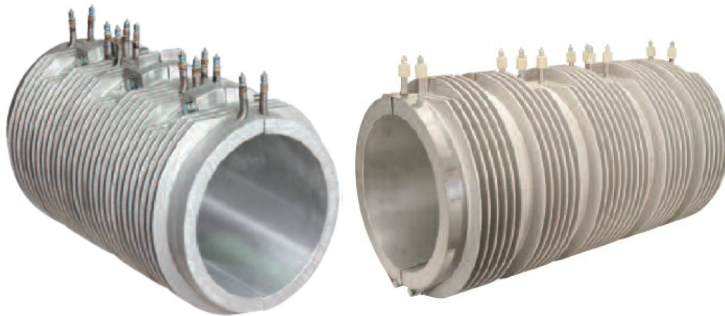


### STANDARD CAST-IN FINNED HEATER DESIGNS FOR AIR-COOLED EXTRUDER SYSTEMS

Aluminum Finned Cast-In Band Heaters are used as an alternative to Liquid Cooled Cast-In Band Heaters for heating and cooling the barrels of plastic extruders. As a standard, Finned Cast-In Band Heaters are manufactured in aluminum alloys because this material provides very good thermal conductive properties. For applications requiring higher operating temperatures and/or higher watt densities, bronze or brass alloys can be used. Precision machining of the inside diameter yields superior heat transfer between the heater and the machine barrel, thereby ensuring uniform heating and cooling of the extrusion process. The heaters are secured to the barrel either by Stainless Steel Clamp Bands or by means of Bolt Clamping the heater halves together. Finned Cast-In Band Heaters can be designed to meet the mechanical and physical constraints of existing extruder shroud systems. They are manufactured for Original Equipment Manufacturers (OEM) and maintenance (MRO) applications to customer specifications.

### FINNED CAST-IN HEATER END TYPES



#### TYPE FS1 – FINNED CAST-IN HEATER WITHOUT SIDE FLANGES

These cast-in band heaters are normally made to be used in conjunction with the Cool to-the-Touch and Multi-Versal Shroud Systems. They can also be used as replacements for other heating and cooling extrusion systems. The standard mounting is bolt clamping or stainless straps with type "T" screw terminals.

#### TYPE FS2 – FINNED CAST-IN HEATER WITH SIDE FLANGES

These cast-in band heaters are normally made to be used in conjunction with the Arctic Cast Shroud System. They can also be used as stand alone replacements for other heating and air cooling extrusion systems. The standard mounting method for these designs is bolt clamping. An alternative mounting method is to use stainless steel straps. Type "E" screw terminals are the standard termination.



### STOCK AND STANDARD (NON-STOCK) AIR COOLED

THESE SIZES AND RATINGS ARE AMONG THE MOST COMMONLY USED. THEY WILL PROVIDE THE SHORTEST DELIVERY TIMES. STOCK ITEMS ARE SHOWN IN RED

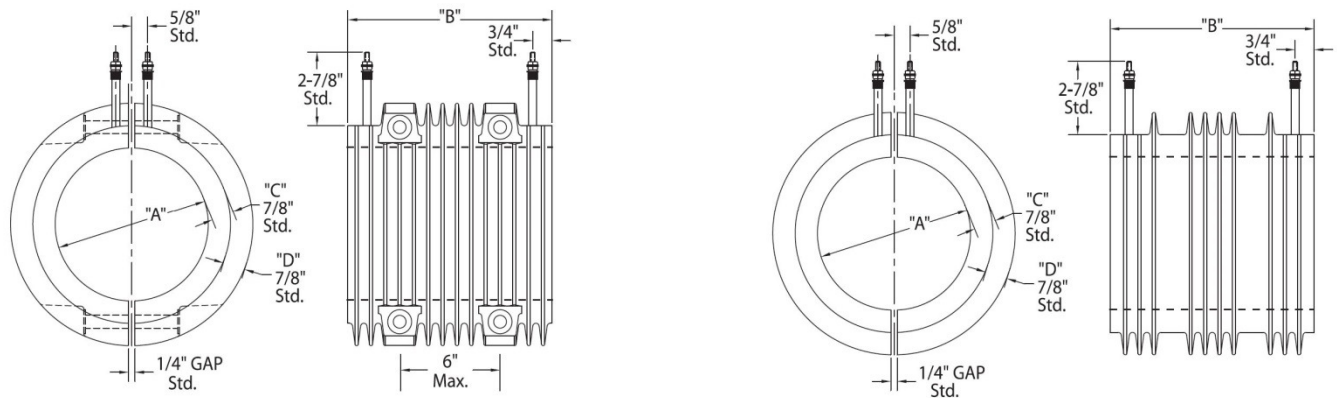
| I.D.<br>(inches) | O.D.<br>(inches) | LENGTH<br>(inches) | MATERIAL        | WATTS<br>EA HALF | VOLTS<br>EA HALF | PHASE    | TERM.<br>TYPE | CLAMP<br>TYPE | END<br>TYPE | PART<br>NUMBER  |
|------------------|------------------|--------------------|-----------------|------------------|------------------|----------|---------------|---------------|-------------|-----------------|
| 2.2500           | 4.0000           | 5.5000             | Bronze          | 600              | 230              | 1        | R             | Bolt          | FS2         | CBH12388        |
| 3.0000           | 4.7500           | 7.5000             | Bronze          | 1000             | 230              | 1        | R             | Bolt          | FS2         | CBH12387        |
| 3.7500           | 8.0000           | 9.8750             | Alum 319        | 1350             | 207              | 1        | S             | Bolt          | FS2         | CBH10404        |
| 4.0000           | 8.0000           | 8.7500             | Alum 443        | 2000             | 230              | 1        | S             | Strap         | FS1         | CBH09461        |
| 4.0000           | 8.0000           | 9.0000             | Alum 319        | 1500             | 230              | 1        | S             | Strap         | FS1         | CBH08712        |
| 4.0000           | 8.0000           | 11.0000            | Alum 319        | 1850             | 230              | 1        | S             | Strap         | FS1         | CBH08713        |
| <b>4.3750</b>    | <b>8.2500</b>    | <b>12.2500</b>     | <b>Alum 319</b> | <b>2000</b>      | <b>230</b>       | <b>1</b> | <b>R</b>      | <b>Strap</b>  | <b>FS1</b>  | <b>CBH01139</b> |
| 4.5000           | 8.2500           | 12.5000            | Alum 319        | 2500             | 190              | 1        | C4            | Bolt          | FS2         | CBH14634        |
| 4.5000           | 8.5000           | 12.0000            | Alum 319        | 2750             | 240              | 1        | R             | Bolt          | FS2         | CBH06640        |
| 4.5000           | 8.5000           | 12.0000            | Alum 319        | 2750             | 200              | 1        | R             | Bolt          | FS2         | CBH08651        |
| 4.5000           | 9.0000           | 11.5000            | Alum 319        | 2000             | 230              | 1        | S             | Strap         | FS1         | CBH05533        |
| 4.9210           | 8.4210           | 9.0000             | Bronze          | 2500             | 480              | 3        | C4            | Strap         | FS1         | CBH08576        |
| 4.9220           | 7.5000           | 5.9060             | Alum 319        | 1630             | 230              | 1        | T7            | Bolt          | FS2         | CBH10044        |
| 4.9220           | 7.5000           | 7.0870             | Alum 319        | 2180             | 230              | 1        | T7            | Bolt          | FS2         | CBH10045        |
| 5.0000           | 7.7500           | 12.7500            | Alum 319        | 2625             | 200              | 1        | R             | Bolt          | FS2         | CBH11859        |
| 5.0000           | 9.0000           | 13.0000            | Alum 319        | 2750             | 240              | 1        | S             | Strap         | FS1         | CBH12840        |
| 5.0020           | 9.2500           | 12.2500            | Alum 319        | 2000             | 240              | 1        | T             | Strap         | FS1         | CBH03319        |
| 5.5000           | 8.7500           | 12.5000            | Alum 319        | 2800             | 600              | 1        | S             | Bolt          | FS1         | CBH07945        |
| 5.5000           | 8.7500           | 12.5000            | Alum 319        | 2800             | 460              | 1        | S             | Bolt          | FS1         | CBH07952        |
| 5.5000           | 8.7500           | 12.5000            | Alum 319        | 2800             | 240              | 1        | S             | Bolt          | FS1         | CBH10362        |
| 5.5000           | 9.5000           | 12.0000            | Alum 319        | 2300             | 240              | 1        | S             | Strap         | FS1         | CBH06724        |
| 5.5000           | 9.5000           | 12.5000            | Alum 319        | 2800             | 240              | 1        | S             | Bolt          | FS2         | CBH04982        |
| 5.5000           | 9.5000           | 12.5000            | Alum 319        | 2800             | 415              | 1        | S             | Bolt          | FS2         | CBH12906        |
| 6.0000           | 10.5000          | 11.5000            | Alum 319        | 2700             | 230              | 1        | S             | Strap         | FS1         | CBH02588        |
| 6.0000           | 10.5000          | 14.5000            | Alum 319        | 3500             | 230              | 1        | T7            | Strap         | FS1         | CBH02432        |
| 6.2500           | 10.2500          | 6.2500             | Alum 319        | 1400             | 200              | 1        | S             | Bolt          | FS2         | CBH08653        |
| 6.2500           | 10.2500          | 6.2500             | Alum 319        | 1700             | 240              | 1        | R             | Bolt          | FS2         | CBH06373        |
| <b>6.2500</b>    | <b>10.2500</b>   | <b>13.6880</b>     | <b>Alum 319</b> | <b>3000</b>      | <b>230</b>       | <b>1</b> | <b>R</b>      | <b>Strap</b>  | <b>FS2</b>  | <b>CBH01406</b> |
| 6.2500           | 10.2500          | 17.7500            | Alum 319        | 5800             | 240              | 1        | R             | Bolt          | FS2         | CBH06623        |
| 6.2500           | 11.2500          | 15.8750            | Alum 319        | 5000             | 230              | 1        | S             | Bolt          | FS1         | CBH03365        |
| 6.3000           | 9.5500           | 15.7500            | Alum 319        | 5000             | 240              | 1        | C4            | Strap         | FS1         | CBH03793        |
| 6.3000           | 9.5500           | 15.7500            | Alum 319        | 5000             | 380              | 1        | S             | Strap         | FS1         | CBH11795        |
| 6.3000           | 10.0500          | 15.7500            | Alum 319        | 5000             | 380              | 1        | S             | Bolt          | FS1         | CBH12907        |
| 6.3000           | 10.0500          | 15.7500            | Alum 319        | 5000             | 415              | 1        | S             | Bolt          | FS1         | CBH12908        |
| 6.3000           | 10.0500          | 15.7500            | Alum 319        | 5000             | 440              | 1        | S             | Bolt          | FS1         | CBH12668        |
| 6.5000           | 9.5000           | 15.0000            | Alum 319        | 3250             | 230              | 1        | T7            | Bolt          | FS1         | CBH14207        |
| 6.5000           | 9.5000           | 17.5000            | Alum 356        | 3400             | 230              | 1        | T             | Bolt          | FS2         | CBH07553        |
| 6.5000           | 10.5000          | 13.0000            | Alum 319        | 4300             | 230              | 1        | E             | Bolt          | FS2         | CBH09631        |
| 6.5000           | 10.5000          | 13.0000            | Alum 319        | 4300             | 190              | 1        | E             | Bolt          | FS2         | CBH09424        |
| 6.6000           | 10.6250          | 14.7500            | Alum 319        | 3250             | 240              | 1        | S             | Strap         | FS1         | CBH07649        |
| 6.6250           | 9.8750           | 18.0000            | Alum 319        | 4400             | 600              | 1        | S             | Bolt          | FS1         | CBH07946        |
| 7.0000           | 10.2500          | 18.0000            | Alum 319        | 6000             | 290              | 3        | E             | Strap         | FS2         | CBH09420        |
| 7.5000           | 11.0000          | 16.5000            | Bronze          | 5100             | 230              | 1        | R             | Strap         | FS2         | CBH11105        |
| 7.5000           | 11.2500          | 19.0000            | Alum 319        | 8000             | 380              | 1        | S             | Bolt          | FS1         | CBH12447        |

### STOCK AND STANDARD (NON-STOCK) AIR COOLED (CONTD)

| I.D.<br>(inches) | O.D.<br>(inches) | LENGTH<br>(inches) | MATERIAL | WATTS<br>EA HALF | VOLTS<br>EA HALF | PHASE | TERM.<br>TYPE | CLAMP<br>TYPE | END<br>TYPE | PART<br>NUMBER |
|------------------|------------------|--------------------|----------|------------------|------------------|-------|---------------|---------------|-------------|----------------|
| 7.5000           | 11.5000          | 19.5000            | Alum 319 | 6000             | 240              | 1     | C4            | Strap         | FS1         | CBH10129       |
| 7.5000           | 12.0000          | 18.0000            | Alum 319 | 4500             | 230              | 1     | S             | Strap         | FS2         | CBH07058       |
| 7.6250           | 11.6250          | 14.4380            | Alum 319 | 3500             | 230              | 1     | R             | Strap         | FS2         | CBH01401       |
| 7.6800           | 12.0000          | 8.4600             | Alum 319 | 4000             | 230              | 1     | R1A           | Bolt          | FS2         | CBH10371       |
| 7.6800           | 13.4300          | 8.4600             | Alum 319 | 4000             | 230              | 1     | R1A           | Bolt          | FS2         | CBH07906       |
| 7.6800           | 13.4300          | 8.4600             | Alum 319 | 4000             | 230              | 1     | C4            | Bolt          | FS2         | CBH09690       |
| 8.0000           | 12.0000          | 8.0000             | Alum 319 | 2500             | 240              | 1     | S             | Bolt          | FS2         | CBH06574       |
| 8.0000           | 12.0000          | 8.0000             | Alum 319 | 2500             | 300              | 1     | S             | Bolt          | FS2         | CBH06144       |
| 8.0000           | 12.0000          | 8.0000             | Alum 319 | 2850             | 240              | 1     | S             | Bolt          | FS2         | CBH06642       |
| 8.0000           | 12.0000          | 10.0000            | Alum 319 | 3550             | 240              | 1     | R             | Bolt          | FS2         | CBH06643       |
| 8.0000           | 12.0000          | 17.5000            | Alum 319 | 4600             | 575              | 3     | S             | Bolt          | FS1         | CBH08418       |
| 8.0000           | 12.0000          | 20.0000            | Alum 319 | 5600             | 240              | 1     | S             | Bolt          | FS2         | CBH11002       |
| 8.0000           | 12.0100          | 12.6250            | Alum 319 | 2875             | 240              | 1     | R             | Bolt          | FS2         | CBH13795       |
| 8.2500           | 12.2500          | 16.0000            | Alum 319 | 7000             | 230              | 3     | E             | Bolt          | FS2         | CBH10653       |
| 8.2500           | 12.2500          | 16.0000            | Alum 319 | 10000            | 200              | 3     | R1            | Bolt          | FS2         | CBH11081       |
| 8.2680           | 11.5040          | 21.4570            | Alum 319 | 7500             | 240              | 3     | C4            | Strap         | FS1         | CBH04167       |
| 8.5000           | 11.0000          | 12.7500            | Alum 319 | 4500             | 460              | 3     | S             | Bolt          | FS1         | CBH12389       |
| 8.5000           | 11.5000          | 20.5000            | Alum 319 | 6300             | 240              | 3     | T             | Bolt          | FS1         | CBH10923       |
| 8.5000           | 11.7500          | 10.0000            | Alum 319 | 4425             | 190              | 3     | E             | Strap         | FS2         | CBH14903       |
| 8.5000           | 12.0000          | 8.5000             | Alum 319 | 2750             | 230              | 1     | S             | Strap         | FS1         | CBH05417       |
| 8.5000           | 12.2500          | 6.0000             | Alum 356 | 2250             | 230              | 1     | S             | Bolt          | FS1         | CBH13082       |
| 8.5020           | 13.5000          | 12.7500            | Alum 319 | 4500             | 415              | 3     | S             | Bolt          | FS1         | CBH09902       |
| 8.5020           | 13.5000          | 12.7500            | Alum 319 | 4500             | 480              | 3     | S             | Bolt          | FS1         | CBH07212       |
| 9.5000           | 12.5000          | 27.2500            | Alum 319 | 12000            | 230              | 3     | T             | Bolt          | FS1         | CBH09759       |
| 9.5000           | 13.0000          | 5.0000             | Alum 319 | 2250             | 480              | 1     | R2            | Bolt          | FS2         | CBH14691       |
| 9.5000           | 13.2500          | 25.5000            | Alum 319 | 15000            | 380              | 1     | S             | Bolt          | FS1         | CBH12448       |
| 9.5000           | 13.7500          | 20.5000            | Alum 319 | 6000             | 575              | 3     | E             | Bolt          | FS1         | CBH10947       |
| 9.5020           | 14.5000          | 13.0000            | Alum 319 | 5250             | 480              | 3     | T7            | Bolt          | FS2         | CBH07231       |
| 9.7500           | 13.2500          | 21.2500            | Alum 319 | 7500             | 480              | 3     | T             | Bolt          | FS1         | CBH14419       |
| 9.7500           | 13.2500          | 25.0000            | Alum 319 | 9000             | 230              | 3     | T             | Bolt          | FS1         | CBH10138       |
| 9.7500           | 13.7500          | 17.7500            | Alum 319 | 7500             | 230              | 1     | S             | Bolt          | FS1         | CBH07658       |
| 9.7500           | 13.7500          | 22.0000            | Alum 319 | 7000             | 230              | 1     | C4            | Bolt          | FS2         | CBH10177       |
| 9.7500           | 13.7500          | 22.0000            | Alum 319 | 11000            | 200              | 3     | F             | Bolt          | FS2         | CBH11080       |
| 9.7500           | 13.8750          | 23.8750            | Alum 319 | 6000             | 230              | 1     | R             | Strap         | FS2         | CBH02945       |
| 9.7500           | 14.0000          | 19.4380            | Alum 319 | 6000             | 230              | 1     | R             | Strap         | FS2         | CBH01262       |
| 9.8400           | 14.1560          | 6.0600             | Alum 319 | 4000             | 230              | 1     | R1A           | Bolt          | FS2         | CBH10372       |
| 9.8750           | 13.8750          | 8.5000             | Alum 319 | 3500             | 240              | 1     | R             | Bolt          | FS2         | CBH06644       |
| 10.0000          | 13.0000          | 8.0000             | Alum 319 | 4600             | 240              | 1     | T             | Bolt          | FS2         | CBH06570       |
| 10.0390          | 13.2890          | 12.9920            | Alum 319 | 6000             | 230              | 3     | C4            | Strap         | FS1         | CBH04738       |
| 10.6230          | 13.6250          | 13.7500            | Alum 319 | 3000             | 480              | 1     | T             | Strap         | FS1         | CBH11140       |
| 12.2500          | 18.5000          | 11.5630            | Alum 356 | 5500             | 460              | 1     | R1A           | Bolt          | FS1         | CBH11575       |
| 13.0000          | 17.0000          | 7.0000             | Alum 319 | 3450             | 190              | 1     | R             | Bolt          | FS2         | CBH09810       |
| 13.0000          | 17.0000          | 7.0000             | Alum 319 | 3450             | 240              | 1     | R             | Bolt          | FS2         | CBH06583       |
| 15.7500          | 20.8750          | 3.2500             | Alum 319 | 2000             | 282              | 1     | F             | Bolt          | FS2         | CBH10084       |
| 18.8970          | 24.0200          | 3.3460             | Alum 319 | 2250             | 266              | 1     | F             | Bolt          | FS2         | CBH10224       |

**KEY FOR ABBREVIATIONS FOUND UNDER THE TERMINATION COLUMN ABOVE**

- |   |   |   |
|---|---|---|
| <b>C4</b> = Screw Terminal with Ceramic Cover | <b>F</b> = Flexible Lead Wire                               | <b>R1</b> = Flexible Armor Cable                  |
| <b>R1A</b> = Stainless Steel Wire Overbraid   | <b>S</b> = Screw Terminal with Heavy Duty Ceramic Insulator | <b>T7</b> = Screw Terminal with Ceramic Insulator |
| <b>E</b> = Right-Angle Lug                    | <b>R</b> = 90° Blockhead Screw Terminal                     |   |
| <b>R2</b> = Blockhead Screw Terminal          | <b>T</b> = Screw Terminal with Mica Insulator               |   |



Recommended dimensions shown.

### ORDERING INFORMATION

**TO PROCESS YOUR ORDER, PLEASE SUPPLY THE FOLLOWING INFORMATION:**

**DIMENSIONS**    Inside Dia. "A" \_\_\_\_\_  in.    cm    Length "B" \_\_\_\_\_  in.    cm  
                          Thickness "C" \_\_\_\_\_  in.    cm    Fin Height "D" \_\_\_\_\_  in.    cm

**MATERIAL**     Aluminum     Bronze     Brass

**END TYPE**     Type SF1     Type SF2

**CLAMP**         Straps         Bolt Clamp

**ELECTRICAL**    Watts (ea ½) \_\_\_\_\_    Volts (ea ½) \_\_\_\_\_    Phase \_\_\_\_\_

**TERMINAL STYLE**     "S" Post Terms     "T" Mica Washers     "T7" Post Terms     "F" Plain Leads  
 "TS" Leads and Shrink Sleeve     "C4" Ceramic Cover     "R1" Armord Cable Leads  
 "E" Right-Angled Lugs     Other: \_\_\_\_\_

**FINISH**         125 RMS Standard     Other: \_\_\_\_\_

**SPECIAL FEATURES**     Holes     Cutouts     Slots     Bevels  
 Stand-Offs     Mounting Studs     Taper Angles

*For Special Features, a detailed drawing is required*



# Air-Cooled Extruder

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## CAST-IN HEATERS