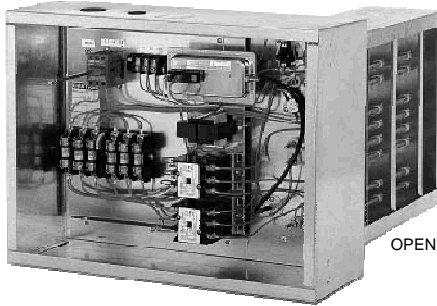


Brasch Duct Heater Submittal Data

I-114 (03/09)

STANDARD CONSTRUCTION FEATURES

- Stainless Steel Terminals
- High Temperature Ceramic Bushings
- Properly Sized Knockouts
- Replacable Secondary Thermal Protection
- Automatic Reset Thermal Cutout
- Heavy Gauge Corrosion Protected Steel
- Highest Grade, 80% Nickel, 20% Chromium Resistance Wire



UL Listed Under File No. E39836
unless otherwise noted

OPEN COIL DUCT HEATER

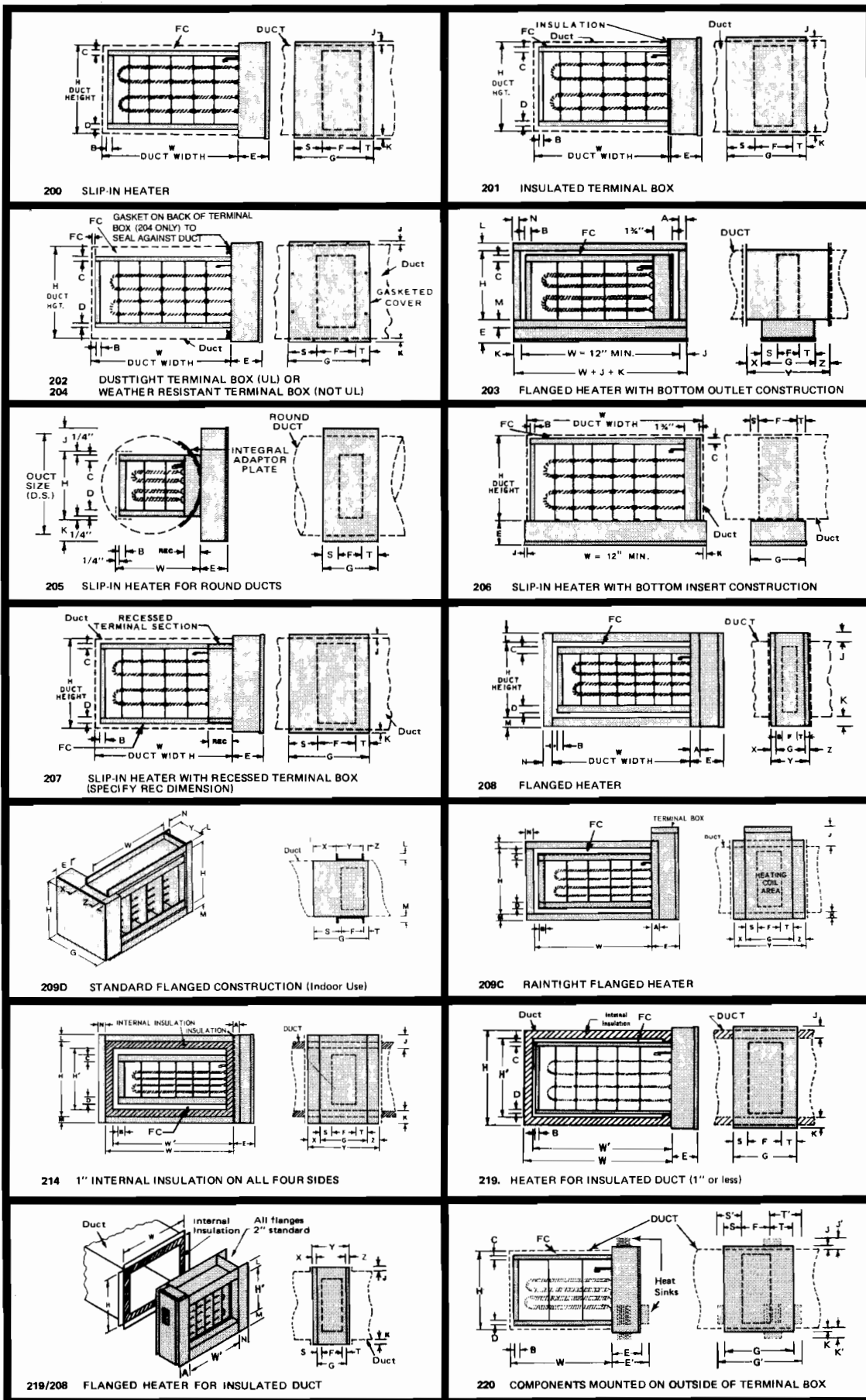
Shown with optional contactors, fuses, airflow switch, transformer and disconnect.

KEY TO OPTIONAL CONTROLS

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| <p>1 Magnetic Contactor, Deenergizing
(deenergizing contactors not available in open coil applications after 5/31/09)</p> <ul style="list-style-type: none"> A Back-up B Safety E Operating <p>2 Magnetic Contactor, Disconnecting
(use Key 1 options)</p> <p>3 Mercury Contactor, Deenergizing
(deenergizing contactors not available in open coil applications after 5/31/09)</p> <ul style="list-style-type: none"> A Back-up B Safety C Horizontal Airflow D Vertical Airflow E Operating <p>4 Mercury Contactor, Disconnecting
(use Key 3 options)</p> <p>5 Fuses, Main Supply (Applicable to heaters of 48 amperes or less) with Hinged Cover</p> <p>6 Fuses, One Set per Step</p> <p>7 Fuses per NEC
(Applicable to heaters of more than 48 amperes total current)</p> <p>8 Automatic Circuit Breakers, Main Supply (Applicable to heaters of 48 amperes or less total current)</p> <ul style="list-style-type: none"> B Handle Protrudes Through Cover C Handle Concealed D Interlocking Handle <p>9 Automatic Circuit Breakers, One per Step
(use Key 8 options)</p> <p>10 Automatic Circuit Breakers per NEC
(Applicable to heaters of more than 48 amperes total current)
(use Key 8 options)</p> | <p>11 Transformer</p> <ul style="list-style-type: none"> A with Primary Fusing B with Secondary Fusing C1 used as Fan Interlock - 120V C2 used as Fan Interlock - 208V C3 used as Fan Interlock - 277V C4 used as Fan Interlock - 480V C5 used as Fan Interlock - 240V <p>12 Airflow Switch, Positive Pressure</p> <ul style="list-style-type: none"> A Non-adjustable B with Remote Sensor C Adjustable, High Pressure Applications <p>13 (use Key 12 options)</p> <p>14 Fan Interlock Relay</p> <ul style="list-style-type: none"> A 24 Volt B 120 Volt C 208/240 Volt D 277 Volt E 480 Volt <p>15 Disconnect Switch - Main</p> <ul style="list-style-type: none"> A Fused, Interlocking C Non-fused, Interlocking <p>16 Pilot Lights</p> <ul style="list-style-type: none"> A One per Step B Control Voltage On C Power On (Line Volts) D Normal Operation E Airflow Switch Open F Manual Reset Thermal Cutout On G Push-to-Test (UL only with E) J Over Temperature K NEMA4 (not UL) or NEMA12 (UL) L Heater On <p>17 Toggle Switch(es)</p> <ul style="list-style-type: none"> A One per Step (except Step 1) B Interrupts Control Voltage D NEMA 12 | <p>18 P.E. Switches</p> <ul style="list-style-type: none"> A Close on Pressure Rise, Reverse Acting 1. Fixed Differential 2. Adjustable Differential B Open on Pressure Rise, Direct Acting (use Key 18A options) C1 Furnished by Others, Factory installed, wired, piped & calibrated C2 Furnished by Others, Factory installed & wired D1 Factory furnished, installed, wired, piped & calibrated D2 Factory furnished, installed & wired <p>19 Secondary Thermal Cutout</p> <ul style="list-style-type: none"> A In Control Circuit B In Power Lines C Pilots Back-up Contactors D Manual, with External Reset E Manual, with Internal Reset F Bulb Type G Waterproof External Reset - Not UL H All Ungrounded Conductors K Replacable Link Type <p>21 Step Controller</p> <ul style="list-style-type: none"> A1 Direct Acting Pneumatic Signal A2 Reverse Acting Pneumatic Signal C Furnished by Others, Factory installed & wired D Factory furnished, installed & wired P Pilot Duty Q Vernier S2 0-135 Ohm Input S3 4-20 ma. Input S6 0-10 VDC Input V Step Controller Carries Load | <p>22 SCR Controller</p> <ul style="list-style-type: none"> A Horizontal Airflow B Vertical Airflow J1 Pneumatic Input - Direct Acting J2 Pneumatic Input - Reverse Acting K 0-135 Ohm Input M 0-10 VDC Input T 4-20 ma. Input V Other Input (specify) <p>23 Door Interlock Switch</p> <ul style="list-style-type: none"> A Defeatable B Non-defeatable C Interrupting Relay <p>24 Time Delay Relay</p> <p>25 Uneven Steps</p> <p>26 Coils Derated to 25 Watts per sq. in.</p> <p>27 Coils Derated to 35 Watts per sq. in.</p> <p>31 1 Ph Circuits from 3 Ph 3 wire supply</p> <p>32 1 Ph Circuits from 3 Ph 4 wire supply</p> <p>35 Other - See Order Acknowledgement</p> <p>38 Pressure Transducer, Pneumatic to 135 Ohm</p> <ul style="list-style-type: none"> A Direct Acting Pneumatic Signal B Reverse Acting Pneumatic Signal C Furnished by Others, Factory installed & wired D Factory furnished, installed & wired <p>48 Thermal Cutout, Interlocks and Control Devices Carry the Load</p> <p>52 Special Line Blocks for Single Supply (over 285 amperes)</p> <p>53 Motor Starter</p> <ul style="list-style-type: none"> A with Hand-Off-Auto Button B with Start-Stop Button C Furnished by Others, Factory installed & wired D Factory furnished, installed & wired E with Motor Branch Circuit Fusing <p>88 Automatic Reset Thermal Cutout</p> <ul style="list-style-type: none"> B Linear Type C Adjustable Bulb Type |
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KEY TO FRAME CONSTRUCTION

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| <p>200 Slip-in Heater Construction (standard)</p> <p>201 Insulated Terminal Box</p> <p>202 Dusttight Terminal Box</p> <ul style="list-style-type: none"> A Welded, Painted & Gasketed B Galvanized, Gasketed & Sealed C NEMA12 <p>204 Weather Resistant Terminal Box (Not UL)</p> <ul style="list-style-type: none"> A Welded, Painted & Gasketed C NEMA4 <p>205 Round Duct Slip-in Heater</p> <p>206 Bottom Insert Heater</p> | <p>207 Recessed Terminal Box</p> <p>208 Flanged, Removable Heater Section</p> <p>209 Flanged, Non-removable Heater Section</p> <ul style="list-style-type: none"> C Raintight (Outdoor Use) Horizontal Airflow Only 1. Air Enters "T" Side, Right 2. Air Enters "S" Side, Left D Standard (Indoor Use) <p>210 Oven Heater Construction (Not UL)</p> <p>212 Stainless Steel Frame & Terminal Box</p> | <p>213 Protective Screens</p> <ul style="list-style-type: none"> A "S" Dimension Side (Left) B "T" Dimension Side (Right) C Both Sides <p>214 Internal Insulation (Flanged Heater Only)</p> <ul style="list-style-type: none"> A 4 Sides 1. 1" Insulation 2. 2" Insulation B 3 Sides (Use Key 214A options) <p>215 High Pressure Construction</p> <p>216 Not UL Listed</p> | <p>218 Hinged Terminal Box Cover</p> <ul style="list-style-type: none"> A "S" Dimension Side (Left) B "J" Dimension Side (Right) C "T" Dimension Side (Top) D "K" Dimension Side (Bottom) <p>219 For Insulated Duct</p> <p>220 Externally Mounted Components</p> <p>221 Finned Tubular Elements</p> <ul style="list-style-type: none"> A Non-removable (Standard) B Removable C Non-standard Elements |
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STANDARD DIMENSIONS
 See Certified Print for Exceptions and Complete dimensions Printed in U.S.A.

T = 1" Std.
 B = 1/2" Std.
 X = Z = 1/2" Std.
 FC = 1/4" except on 202C, 204A and 204C where FC = 3/4"

L = M = N = A = 1" Std.
 (2" if W > 48" or H > 36")