

**SUBMITTAL  
DATA**



**GAS-FIRED**

**CAR WASH / HARSH ENVIRONMENT**

**IW**

**SERIES  
LOW INTENSITY TUBE TYPE  
INFRA RED HEATERS**

|              |  |
|--------------|--|
| PROJECT:     |  |
| ENGINEER:    |  |
| CONTRACTOR:  |  |
| DISTRIBUTOR: |  |
| MODEL #:     |  |
| FUEL:        |  |
| APPROVED BY: |  |
| DATE:        |  |
| APPROVAL #:  |  |



**MEMBER OF**



**Canadian Restaurant  
and Foodservices  
Association**

**Association canadienne  
des restaurateurs et des  
services alimentaires**



**NOTICE:**

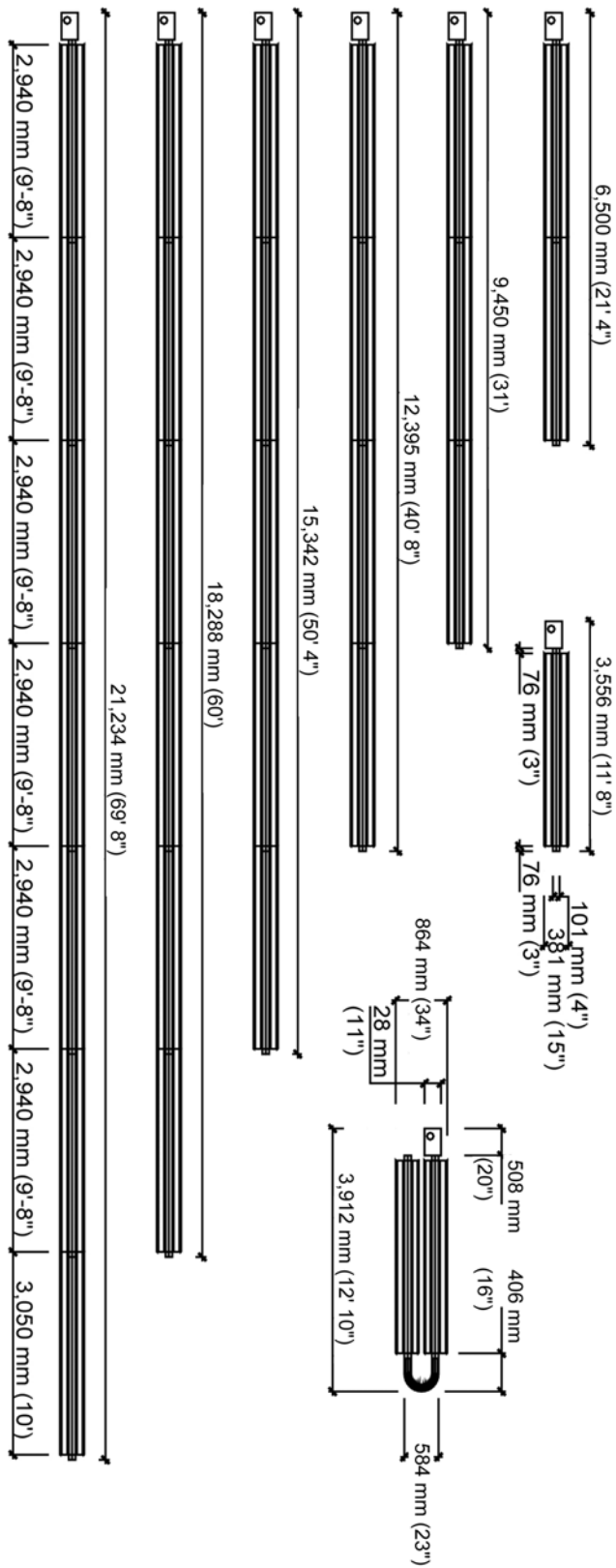
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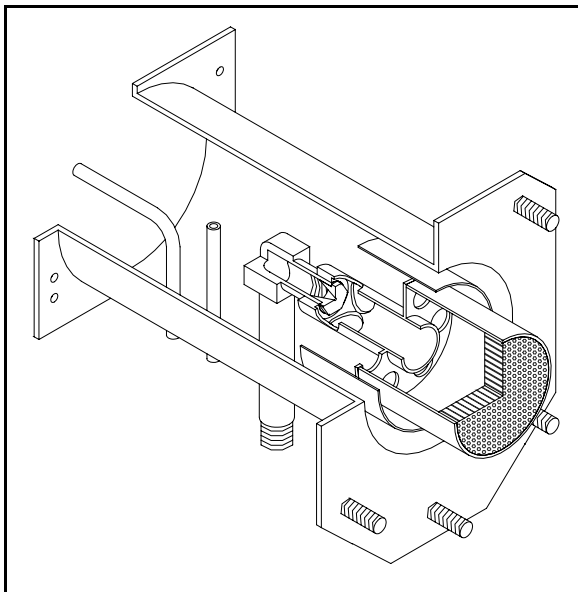
| <u>TABLE 1:</u><br><u>MODEL</u><br><u>CONFIGURA-</u><br><u>TIONS</u> | TOTAL<br>HEATER<br>LENGTH | Kilojoules/Hr<br>(Btu/hr)<br>0 to 1373metres<br>(4500 ft)<br>ABOVE<br>SEA LEVEL | TURBULATOR         |                       | GAS<br>PRESSURE<br>&<br>ELECTRICAL                                                                                              | FLUE<br>& AIR<br>VENT    | SHIPPING<br>WEIGHT<br>KG<br>(LBS.) | FOR<br>PATIO<br>APPLICA-<br>TIONS |
|----------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------|--------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------|-----------------------------------|
|                                                                      |                           |                                                                                 | REQUIRED<br>LENGTH | NONE<br>RE-<br>QUIRED |                                                                                                                                 |                          |                                    |                                   |
| IW-200-70                                                            | 21,234mm<br>(69' 8")      | 210,000 kilojoules<br><br>(200,000 Btu/hr)                                      | 3048mm<br>(10 ft)  |                       | <u>LINE<br/>MINIMUM</u><br><br>12.45mbar NG<br><br>(5" w.c. NG)<br>—<br>27.39mbar LP<br><br>(11" wc. LP)                        | 101.6<br>mm<br><br>(4" ) | 151 kg<br>(332 lbs)                |                                   |
| IW-200-60                                                            | 18,288mm<br>(60'0")       |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 132 kg<br>(290 lbs)                |                                   |
| IW-200-50                                                            | 15,342mm<br>(50' 4")      |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 112 kg<br>(247 lbs)                |                                   |
| IW-175-70                                                            | 21,234mm<br>(69' 8")      | 184,712 kilojoules<br><br>(175,000 Btu/hr)                                      | 3048mm<br>(10 ft)  |                       | <u>LINE<br/>MAXIMUM</u><br><br>34.86 mbar<br>N.G. or L.P.<br>(14" w.c.)                                                         |                          | 151 kg<br>(332 lbs)                |                                   |
| IW-175-60                                                            | 18,288mm<br>(60'0")       |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 132 kg<br>(290 lbs)                |                                   |
| IW-175-50                                                            | 15,342mm<br>(50' 4")      |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 112 kg<br>(247 lbs)                |                                   |
| IW-155-60                                                            | 18,288mm<br>(60'0")       | 162,750 kilojoules<br><br>(155,000 Btu/hr)                                      |                    | X                     | <u>MANIFOLD</u><br><br>8.71 mbar NG<br><br>(3½" w.c. NG)<br>—<br>24.9 mbar LP<br><br>(10" wc. L.P)                              |                          | 132 kg<br>(290 lbs)                |                                   |
| IW-155-50                                                            | 15,342mm<br>(50' 4")      |                                                                                 |                    | X                     |                                                                                                                                 |                          | 112 kg<br>(247 lbs)                | X                                 |
| IW-155-40                                                            | 12,395mm<br>(40' 8")      |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 93 kg<br>(205 lbs)                 | X                                 |
| IW-130-50                                                            | 15,342mm<br>(50' 4")      | 136,500 kilojoules<br><br>(130,000 Btu/hr)                                      |                    | X                     | <u>GAS INLET</u><br><br>12.7mm<br><br>(½" NPT)                                                                                  |                          | 112 kg<br>(247 lbs)                |                                   |
| IW-130-40                                                            | 12,395mm<br>(40' 8")      |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 93 kg<br>(205 lbs)                 | X                                 |
| IW-130-30                                                            | 9,450mm<br>(31'0")        |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 74 kg<br>(162 lbs)                 | X                                 |
| IW-110-50                                                            | 15,342mm<br>(50' 4")      | 115,500 kilojoules<br><br>(110,000 Btu/hr)                                      |                    | X                     | <u>ELECTRICAL</u><br><br>120V,<br><br>60 HZ<br><br>145 VA<br><br>THERMOSTAT<br>Factory ready for<br>24V or 120V ther-<br>mostat |                          | 112 kg<br>(247 lbs)                |                                   |
| IW-110-40                                                            | 12,395mm<br>(40' 8")      |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 93 kg<br>(205 lbs)                 | X                                 |
| IW-110-30                                                            | 9,450mm<br>(31'0")        |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 74 kg<br>(162 lbs)                 | X                                 |
| IW-80-40                                                             | 12,395mm<br>(40' 8")      | 84,000 kilojoules<br><br>(80,000 Btu/hr)                                        | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 93 kg<br>(205 lbs)                 |                                   |
| IW-80-30                                                             | 9,450mm<br>(31'0")        |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 74 kg<br>(162 lbs)                 | X                                 |
| IW-80-20                                                             | 6,500mm<br>(21' 4")       |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 54 kg<br>(119 lbs)                 | X                                 |
| IW-60-30                                                             | 9,450mm<br>(31'0")        | 63,000 kilojoules<br><br>(60,000 Btu/hr)                                        | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 74 kg<br>(162 lbs)                 | X                                 |
| IW-60-20                                                             | 6,500mm<br>(21' 4")       |                                                                                 | 3048mm<br>(10 ft)  |                       |                                                                                                                                 |                          | 54 kg<br>(119 lbs)                 | X                                 |
| IW-45-20                                                             | 6,500mm<br>(21' 4")       | 47,000 kilojoules<br><br>(45,000 Btu/hr)                                        | 1524mm<br>(5 ft)   |                       |                                                                                                                                 |                          | 54 kg<br>(119 lbs)                 |                                   |
| IW-45-10                                                             | 3,556mm<br>(11'8)         |                                                                                 | 1524mm<br>(5 ft)   |                       |                                                                                                                                 |                          | 35 kg<br>(76 lbs)                  | X                                 |

## TOP VIEWS OF SYSTEMS



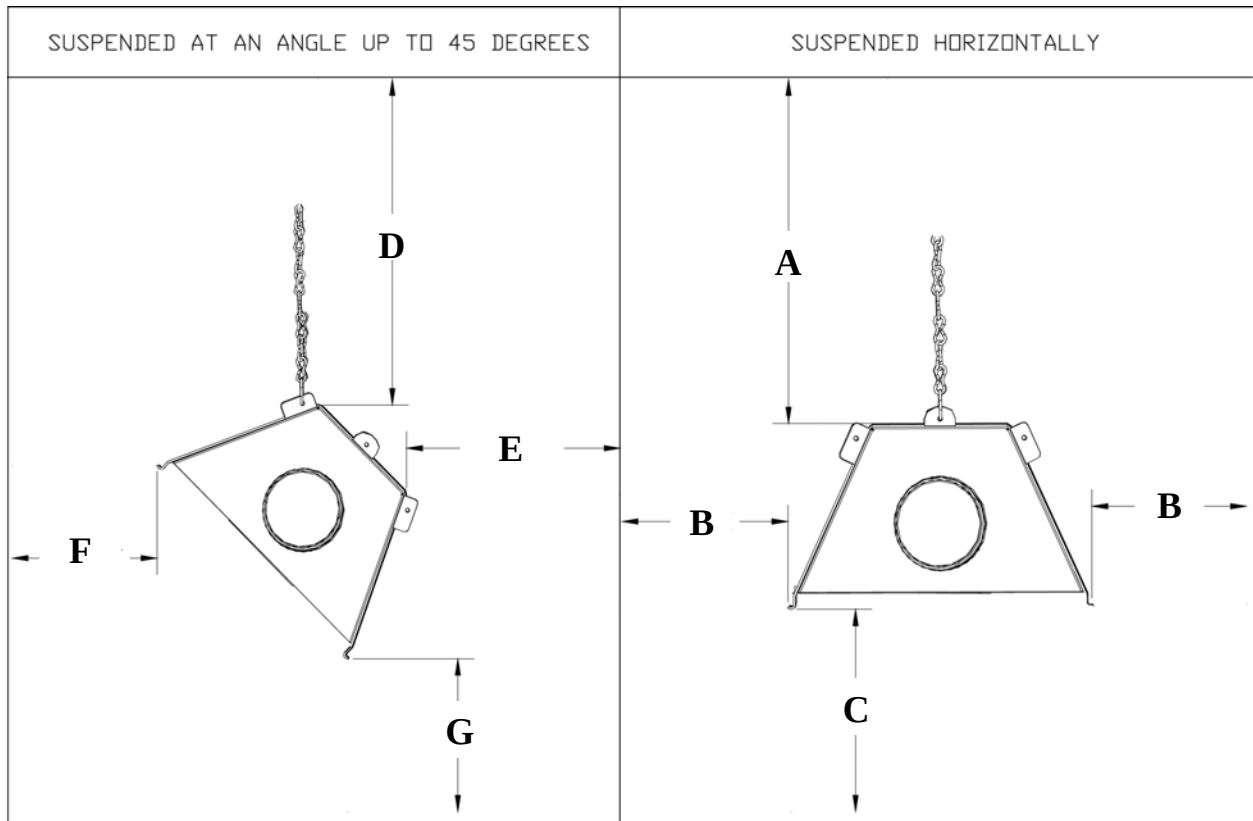
| <u>COMPONENT<br/>QUANTITIES<br/>PER HEATER MODEL</u>     | <u>IW<br/>45-10</u> | <u>IW<br/>45-20</u> | <u>IW<br/>60-20<br/>80-20</u> | <u>IW<br/>60-30<br/>80-30<br/>110-30<br/>130-30</u> | <u>IW<br/>80-40<br/>110-40<br/>130-40<br/>155-40</u> | <u>IW<br/>110-50<br/>130-50<br/>155-50</u> | <u>IW<br/>175-50<br/>200-50</u> | <u>IW<br/>155-60</u> | <u>IW<br/>175-60<br/>200-60</u> | <u>IW<br/>175-70<br/>200-70</u> |
|----------------------------------------------------------|---------------------|---------------------|-------------------------------|-----------------------------------------------------|------------------------------------------------------|--------------------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|
| 3048 mm (10') ALUMATHERM SWAGED TUBE w/ FLANGE           | 0                   | 0                   | 0                             | 0                                                   | 0                                                    | 0                                          | 1                               | 0                    | 1                               | 1                               |
| 3048 mm (10') ALUMINIZED SWAGED TUBE c/w FLANGE          | 1                   | 1                   | 1                             | 1                                                   | 1                                                    | 1                                          | 0                               | 1                    | 0                               | 0                               |
| 3048 mm (10') ALUMINIZED SWAGED TUBE                     | 0                   | 0                   | 0                             | 0                                                   | 0                                                    | 0                                          | 1                               | 0                    | 1                               | 1                               |
| 3048 mm (10') ALUMINIZED SWAGED TUBE w/ EMISSIVE COATING | 0                   | 1                   | 1                             | 2                                                   | 3                                                    | 4                                          | 3                               | 5                    | 4                               | 5                               |
| 2946 mm (9' 8") FOCUS SHIELD REFLECTOR                   | 1                   | 2                   | 2                             | 3                                                   | 4                                                    | 5                                          | 5                               | 6                    | 6                               | 7                               |
| ALUMINIZED COUPLER                                       | 0                   | 1                   | 1                             | 2                                                   | 3                                                    | 4                                          | 4                               | 5                    | 5                               | 6                               |
| END WEBBED PLATE                                         | 2                   | 2                   | 2                             | 2                                                   | 2                                                    | 2                                          | 2                               | 2                    | 2                               | 2                               |
| TUBE / REFLECTOR WEBBED HANGER                           | 0                   | 1                   | 1                             | 2                                                   | 3                                                    | 4                                          | 4                               | 5                    | 5                               | 6                               |
| REFLECTOR STABILIZER                                     | 3                   | 6                   | 6                             | 9                                                   | 12                                                   | 15                                         | 15                              | 18                   | 18                              | 21                              |
| 3048 mm (10') ALUMINIZED STEEL TURBULATOR                | 1                   | 1                   | 1                             | 1                                                   | 1                                                    | 0                                          | 1                               | 0                    | 1                               | 1                               |
| 1220 mm (4') ALUMINIZED STEEL TURBULATOR                 | 0                   | 0                   | 1                             | 1                                                   | 0                                                    | 0                                          | 0                               | 0                    | 0                               | 0                               |
| QUANTITY OF HEATERS ON THIS PROJECT                      |                     |                     |                               |                                                     |                                                      |                                            |                                 |                      |                                 |                                 |

## CUT-AWAY BURNER VIEW



| <u>OPTIONAL ACCESSORIES</u>                                                          | <u>QUANTITIES<br/>ON THIS<br/>PROJECT</u> |
|--------------------------------------------------------------------------------------|-------------------------------------------|
| 90 DEGREE SWAGED ELBOW KIT<br>1 elbow, 2 end hangers, 1 coupler                      |                                           |
| 180 DEGREE SWAGED ELBOW KIT<br>2 90 degree elbow kits - 3 webbed hangers, 2 couplers |                                           |
| 100 mm (4") ROOF FLUE VENT TERMINAL                                                  |                                           |
| 150 mm (6") ROOF FLUE VENT TERMINAL                                                  |                                           |
| 100 mm (4") WALL FLUE VENT TERMINAL                                                  |                                           |
| 150 mm (6") WALL FLUE VENT TERMINAL                                                  |                                           |
| FLUE VENT TEE 100 mm x 100 mm x 150 mm<br>(4" x 4" x 6")                             |                                           |
| ALUMINIZED STEEL COUPLING KIT FOR TEE                                                |                                           |
| MOISTURE - PROOF THERMOSTAT                                                          |                                           |
| 24V OPTION: 2 TO 7 HEATERS PER THERMOSTAT                                            |                                           |
| TYPE 1 HOSE GAS CONNECTOR (CANADA)                                                   |                                           |
| FLEXIBLE GAS CONNECTOR (USA)                                                         |                                           |
| FRESH AIR INTAKE HOOD                                                                |                                           |

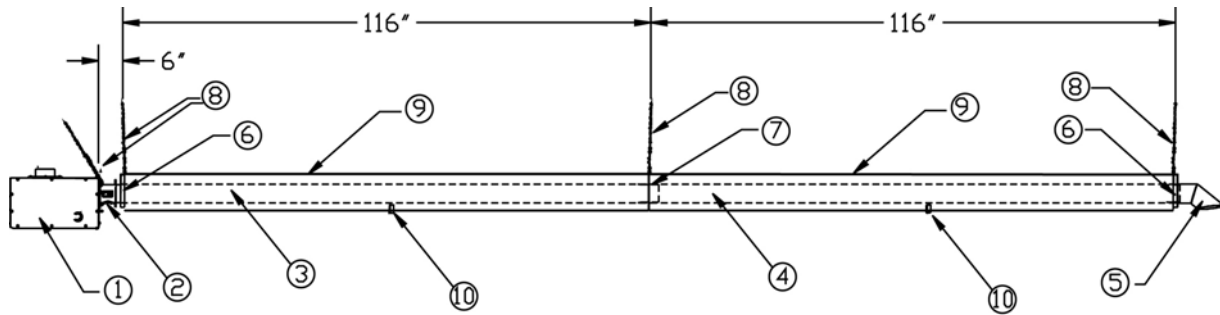
## MINIMUM CLEARANCES TO COMBUSTIBLES



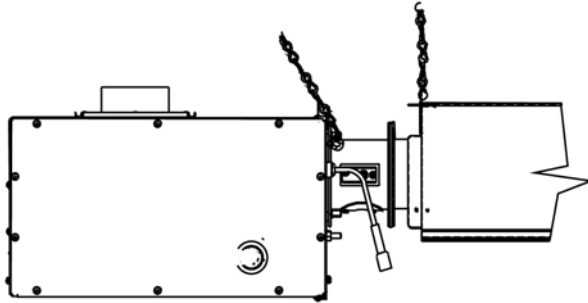
| MODEL  | SUSPENDED AT AN ANGLE<br>UP TO 45 DEGREES |    |     |     | SUSPENDED<br>HORIZONTALLY |      |     |
|--------|-------------------------------------------|----|-----|-----|---------------------------|------|-----|
|        | D                                         | E  | F   | G   | A                         | B    | C   |
| IW-200 | 6"                                        | 1" | 57" | 68" | 6.5"                      | 22"  | 68" |
| IW-175 | 4.5"                                      | 1" | 47" | 68" | 5.5"                      | 20"  | 68" |
| IW-155 | 3.5"                                      | 1" | 44" | 64" | 5.5"                      | 19"  | 64" |
| IW-130 | 3.3"                                      | 1" | 35" | 56" | 4.5"                      | 11"  | 60" |
| IW-110 | 2"                                        | 1" | 26" | 54" | 3.5"                      | 10"  | 54" |
| IW-80  | 1.75"                                     | 1" | 23" | 38" | 3"                        | 6.0" | 36" |
| IW-60  | 1.5"                                      | 1" | 17" | 34" | 2.5"                      | 5.5" | 34" |
| IW-45  | 2.25"                                     | 1" | 24" | 32" | 2.75"                     | 7"   | 32" |

The clearances to combustibles are established at points reaching a surface temperature of 160°F. Some materials such as awnings or plastic may require higher distances. Respect clearances as shown above.

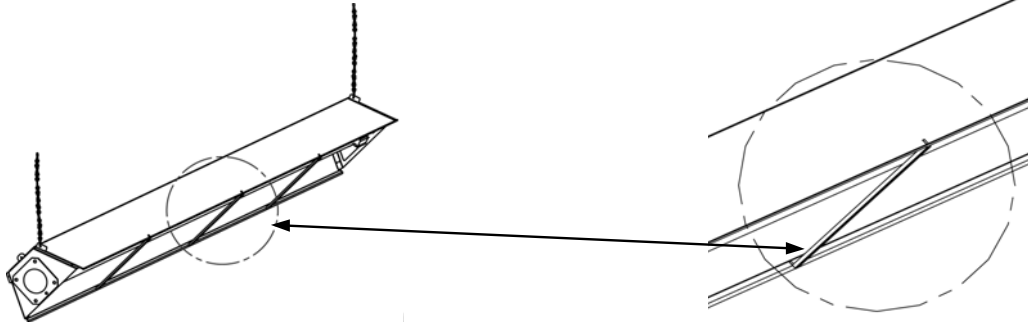
## TYPICAL HANGER & SUPPORT SPACING RECOMMENDATIONS



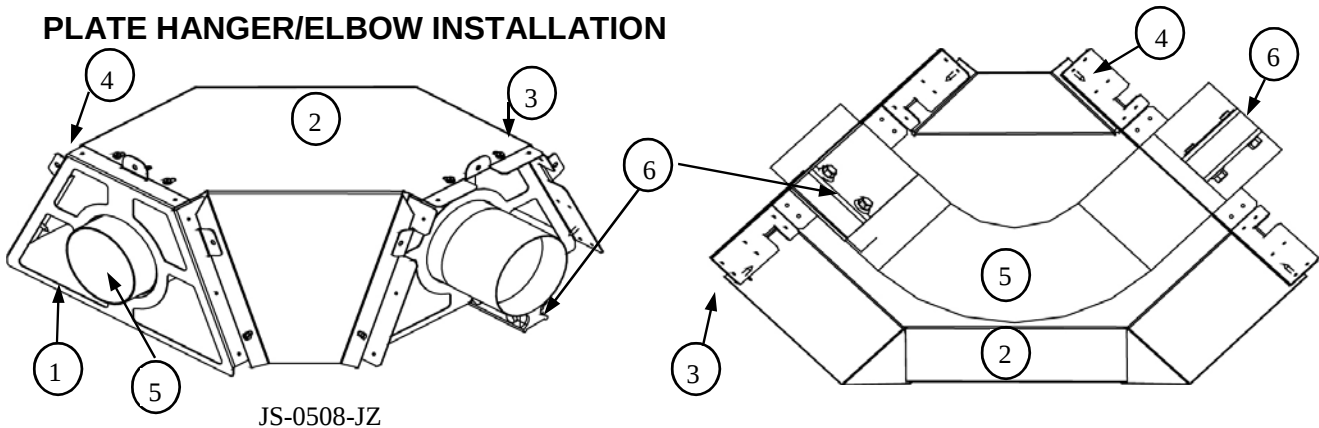
1. Burner Assembly
2. Flange Adapter
3. Flanged Tube
4. Swaged Tube
5. Flue Vent Terminal
6. End Plate Hanger
7. Webbed Hanger
8. Hanging Chains
9. Focus Shield Reflector



## REFLECTOR STABILIZER



## PLATE HANGER/ELBOW INSTALLATION



1. Webbed-Hanger
2. Reflectors
3. Webbed-Hanger Flange UNDER Reflector

4. Webbed Hanger Flange to mount UNDER the next Reflector
5. 90° Elbow (shown)
6. Tube/Elbow Coupler

## **COMPONENT DESCRIPTION**

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IGNITION</b>                        | DIRECT SPARK IGNITION MODULE                                                                                                                                                                                                                                                                                                                                                                   |
| <b>COMBINATION GAS VALVE</b>           | 24 VOLT <input type="checkbox"/> NATURAL GAS 8.7 mbar (3 ½ wc. ) MANIFOLD PRESSURE<br><br><input type="checkbox"/> PROPANE 24.9 mbar (10" wc) MANIFOLD PRESSURE                                                                                                                                                                                                                                |
| <b>REFLECTORS</b>                      | REFLECTORS PROTRUDE 25.4 mm (1") BELOW BOTTOM SURFACE OF TUBE<br>REFLECTORS ARE CLOSED AT START AND END OF EACH STRAIGHT RUN OF TUBES BY MEANS OF END PLATE HANGERS                                                                                                                                                                                                                            |
| <b>TUBES 40 THRU 155 MBTUH INPUT</b>   | THE FIRST SECTION IS 3048 mm, (10 ft) - 10 cm (4") DIAMETER - 1.58 mm Thickness (16 GA) .ALUMINIZED STEEL SWAGED ONE END<br>EACH ADDITIONAL SECTION IS 3048 mm (10 ft) - 10 cm (4") DIAMETER, 1.58 mm Thickness (16 GA) HOT ROLLED STEEL WITH EMISSIVE COATING SWAGED ONE END                                                                                                                  |
| <b>TUBES 175 &amp; 200 MBTUH INPUT</b> | THE FIRST SECTION IS 3048 mm (10 ft) - 10 cm (4") DIAMETER, 1.58 mm Thickness (16 GA) ALUMATHERM SWAGED ONE END<br>THE SECOND SECTION IS 3048 mm (10 ft) - 10 cm (4") DIAMETER, 1.58 mm Thickness (16 GA) ALUMINIZED STEEL SWAGED ONE END<br>EACH ADDITIONAL SECTION IS 3048 mm (10 ft) - 10 cm (4") DIAMETER, 1.58 mm Thickness (16 GA) HOT ROLLED STEEL WITH EMISSIVE COATING SWAGED ONE END |
| <b>HANGERS</b>                         | ONE WEBBED HANGERS SUPPORT EACH 3048 mm, (10 ft) OF TUBE, EXCEPT THE FIRST AND LAST TUBES WHICH HAVE ONE WEBBED HANGER AND ONE END PLATE HANGER.                                                                                                                                                                                                                                               |
| <b>COUPLING KIT</b>                    | ALUMINIZED STEEL COUPLER                                                                                                                                                                                                                                                                                                                                                                       |
| <b>ELBOWS</b>                          | 90 DEGREE ELBOW 100 mm (4") DIAMETER, 1.58 mm Thickness (16 GA) .ALUMINIZED STEEL, 215.9 mm (8 ½") CENTRE RADIUS SWAGED ONE END<br>180 DEGREE ELBOW 100 mm (4") DIAMETER, 1.58 mm Thickness (16 GA) ALUMINIZED STEEL, 215.9 mm (8 ½") CENTRE RADIUS (ASSEMBLY OF TWO 90 DEGREE ELBOW KITS)                                                                                                     |
| <b>BURNER HOUSING</b>                  | STAINLESS STEEL, WEATHER-PROOF WITH TWO ACCESS PANELS.                                                                                                                                                                                                                                                                                                                                         |
| <b>BURNER</b>                          | INCORPORATES EFFECTILE CERAMIC BURNER HEAD WITH MINIMUM OF 835 FLAME PORTS                                                                                                                                                                                                                                                                                                                     |
| <b>SAFETY SWITCHES</b>                 | TWO SEPARATE AIR PRESSURE SWITCHES SENSE ADEQUATE COMBUSTION AIR AND BLOCKED FLUE                                                                                                                                                                                                                                                                                                              |
| <b>BLOWER</b>                          | COMBUSTION AIR DUCTED DIRECTLY TO INTAKE OF BLOWER                                                                                                                                                                                                                                                                                                                                             |
| <b>THERMOSTAT OPTIONS</b>              | INFRASAVE TRUTEMP SET BACK THERMOSTAT WITH RADIANT & AMBIENT SENSORS, AND AUTOMATIC UNOCCUPIED SETBACK MODE<br>24V THERMOSTAT<br>LINE VOLTAGE THERMOSTAT                                                                                                                                                                                                                                       |
| <b>TERMINAL BLOCK</b>                  | ALL WIRING CONNECTIONS BY MEANS OF ONE COMMON TERMINAL BLOCK; JUMPER FOR 120V / 24V THERMOSTAT CONTROL                                                                                                                                                                                                                                                                                         |
| <b>ELECTRICAL CORD</b>                 | 1220 mm (4') LENGTH 16/3 ELECTRICAL SUPPLY CORD WITH 3 PIN GROUNDED PLUG                                                                                                                                                                                                                                                                                                                       |