

**SUBMITTAL  
DATA**



**Infrasave superTube Series  
Model IST-M**

**MODULATING LOW INTENSITY GAS-FIRED  
INFRARED TUBE HEATERS**

<b>PROJECT:</b>	
<b>ENGINEER:</b>	
<b>CONTRACTOR:</b>	
<b>DISTRIBUTOR:</b>	
<b>INFRASAVE MODEL #:</b>	
<b>FUEL:</b>	N.G. Propane
<b>APPROVED BY:</b>	
<b>DATE:</b>	
<b>APPROVAL #:</b>	



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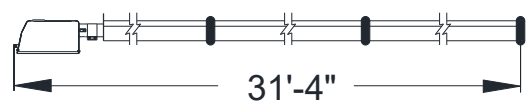
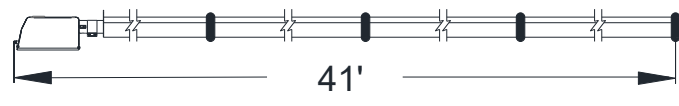

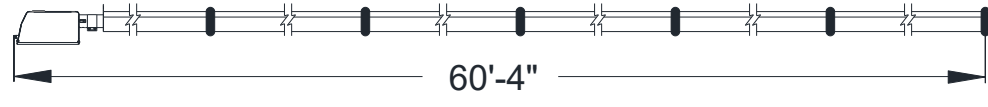
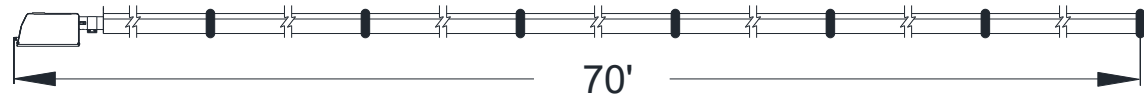
e-mail: [csr@infrasave.com](mailto:csr@infrasave.com)

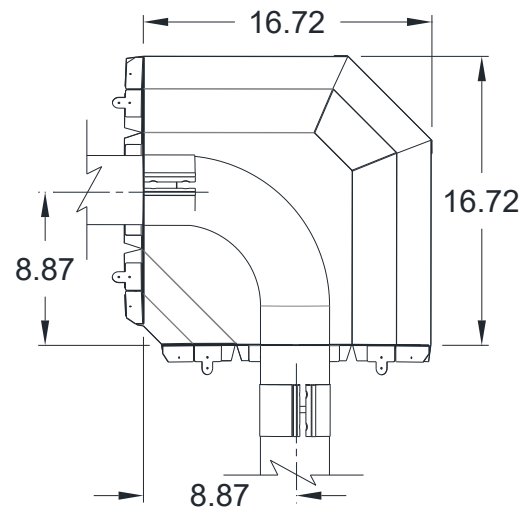
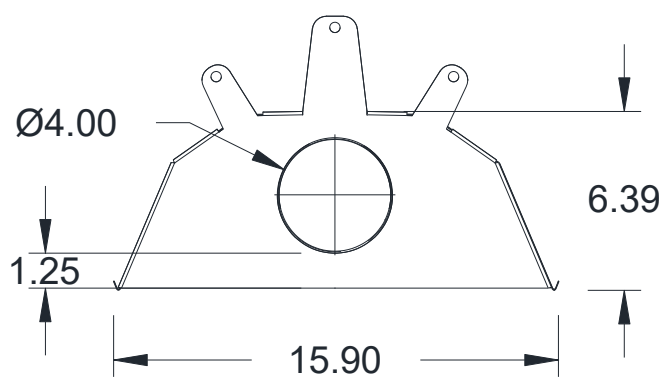
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QTY.	MODEL	TOTAL HEATER LENGTH	MAXIMUM INPUT (BTU/HR)	MODULATING RANGE (MBH)	TURBULATOR LENGTH & LOCATION	LINE PRESSURE NG / LP	MANIFOLD PRESSURE NG / LP	FLUE & AIR VENTS	SHIPPING WEIGHT (lbs.)
	<b>IST-MB-25-70</b>	70' 0"	250,000	160 — 250	1X 36" in 6th tube	NG 6.0" LP 12.0"	NG 4.0"-2.3" LP 10.0"-5.0"	5.0"	324 lbs.
	<b>IST-MB-25-60</b>	60' 4"						5.0"	282 lbs.
	<b>IST-MB-20-60</b>	60' 4"	205,000	125 — 205	2X 36" in 5th tube	NG 5.0" LP 11.0"	NG 3.5"-2.0" LP 10.0"-5.0"	5.0"	282 lbs.
	<b>IST-MB-20-50</b>	50' 8"						5.0"	239 lbs.
	<b>IST-MB-15-50</b>	50' 8"	155,000	100 — 155	2X 36" in 4th tube		NG 3.5"-2.0" LP 10.0"-4.5"	4.0"	239 lbs.
	<b>IST-MB-15-40</b>	41' 0"						4.0"	197 lbs.
	<b>IST-MB-11-40</b>	41' 0"	115,000	72 — 115	2X 36" in 3rd tube		NG 3.5"-1.8" LP 10.0"-4.5"	4.0"	197 lbs.
	<b>IST-MB-11-30</b>	31' 4"						4.0"	154 lbs.
	<b>IST-MB-08-30</b>	31' 4"	80,000	60 — 80	3X 36" in 2nd tube		NG 3.5"-2.2" LP 10.0"-5.5"	4.0"	154 lbs.
	<b>IST-MB-08-20</b>	21' 8"						4.0"	111 lbs.

For all the heaters above; Gas Inlet is 1/2" NPT & Electrical is 120V-60Hz, 145 VA

**SIDE VIEWS OF SYSTEMS**

QTY	
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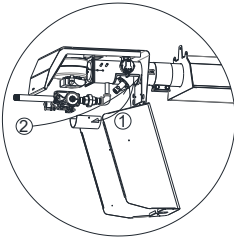


## IST-M STRAIGHT TUBE SYSTEM

<u>COMPONENT QUANTITIES PER HEATER MODEL</u>	<u>IST-M 80-20</u>	<u>IST-M 80-30 115-30</u>	<u>IST-M 115-40 155-40</u>	<u>IST-M 155-50 205-50</u>	<u>IST-M 205-60</u>	<u>IST-M 250-60</u>	<u>IST-M 250-70</u>
10' ALUMINIZED STEEL, SWAGED	1	1	1	1	1	1	1
10' STEEL TUBE, SWAGED, WITH HIGH TEMPERATURE EMISSIVE COATING	1	2	3	4	5	3	4
10' STAINLESS STEEL TUBE, SWAGED	0	0	0	0	0	2	2
FOCUS SHIELD REFLECTOR 10'	2	3	4	5	6	6	7
ALUMINIZED COUPLER	1	2	3	4	5	3	4
ACCUSEAL TUBE CLAMP	0	0	0	0	0	2	2
END PLATE HANGER	1	1	1	1	1	1	1
END PLATE	1	1	1	1	1	1	1

### NOTE: GAS CONNECTOR SIZE

- CANADA: TYPE 1 HOSE GAS CONNECTOR  
 1/2" X 30" 50,000 TO 130,000  
 3/4" X 30" 155,000 TO 250,000
- U.S.A.: STAINLESS STEEL FLEXIBLE GAS CONNECTOR  
 1/2" X 24" 50,000 TO 130,000  
 3/4" X 24" 155,000 TO 250,000



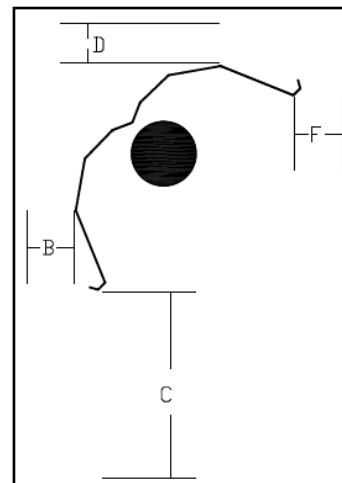
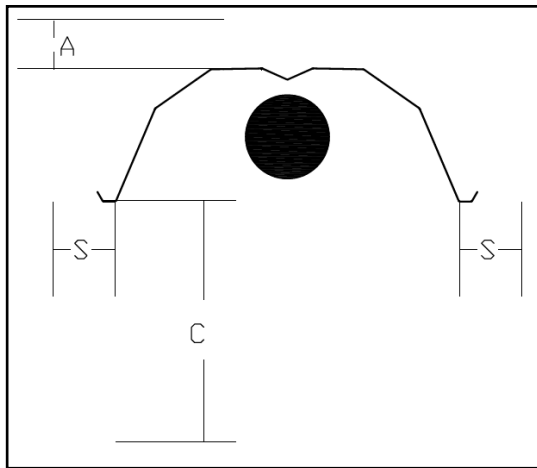
### REMOVING THE BURNER CUP AND THE ORIFICE

- Unscrew the 2 screws holding the burner cup cover and remove the cover
- Break the burner cup loose and unscrew it.
- Move the burner cup forward a little and tilt the stem down.
- Pull out the Burner cup.
- Once the burner cup is removed the orifice can be reached at the orifice holder in the combustion chamber.

<u>OPTIONAL ACCESSORIES</u>	QTY THIS PROJECT
90 DEGREE SWAGED ELBOW KIT JS-0508-IST 1 elbow, 1 coupler, 2 webbed braces, 90 deg. Reflector & hardware	
180 DEGREE SWAGED ELBOW KIT 2 x JS-0508-IST Two 90 degree swaged elbow kits	
FRESH AIR INTAKE WALL HOOD JS-0532-VC	
WALL VENT TERMINAL 102 mm (4") JA-0528-XX	
WALL VENT TERMINAL 152 mm (6") JA-0529-XX	
FLUE VENT TEE 4" x 4" x 6") JA-0514-XX	
COUPLING KIT FOR VENT TEE JA-0516-SW	
TRU-TEMP 24V SET BACK THERMOSTAT JM-0150-XX	
24 VOLT DIGITAL THERMOSTAT JS-0569-WR	
MODULATING THERMOSTAT 24 VOLT JS-0569-MT	
RELAY MULTIPLE HEATERS / 24V THERMOSTAT 2 TO 7 HEATERS PER THERMOSTAT JM-0303-KT	
NOTE: ALL VENT PIPE FIELD SUPPLIED BY OTHERS	
ROOF VENT TERMINALS FIELD SUPPLIED BY OTHERS	

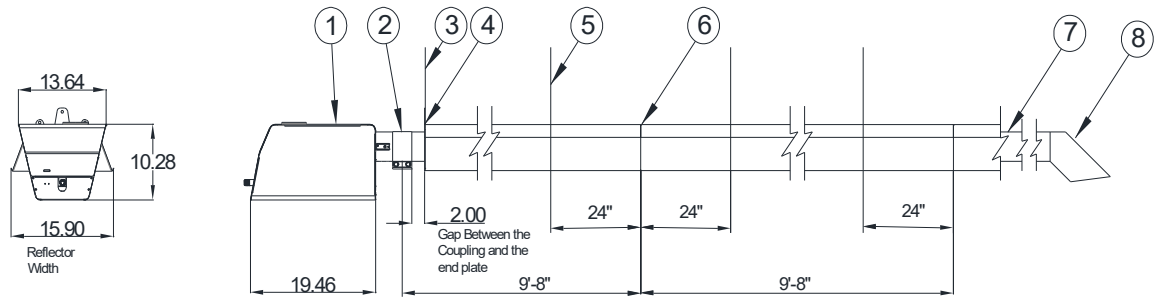
## MINIMUM CLEARANCES TO COMBUSTIBLES

superTube IST Models (BTU/HR)	superTube HEATER SERIES CLEARANCES IN INCHES							
	SUSPENDED HORIZONTALLY				SUSPENDED AT AN ANGLE UP TO 45°			
	Top A	Side S	Bottom C	Side S	Top D	Back B	Bottom C	Front F
80,000	5	24	62	24	5	3	60	54
115,000	5	26	74	26	5	3	70	62
155,000	6	30	80	30	7	4	74	66
205,000	8	40	88	40	10	6	78	74
250,000	12	44	95	44	14	6	78	82

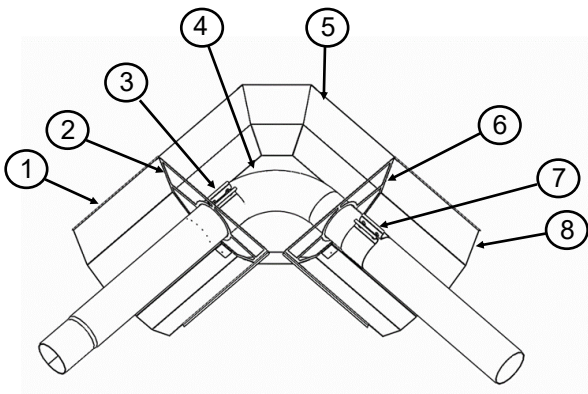


The clearance to combustible material represents the minimum distance that must be maintained between heater and a nearby combustible surface. **The stated clearance to combustibles represents a surface temperature of 90°F (50°C) above room temperature. Some materials such as awnings or plastic may require higher clearances. It is the installer's responsibility to ensure that building materials with a low heat tolerance which may degrade at lower temperature are protected to prevent degradation.**

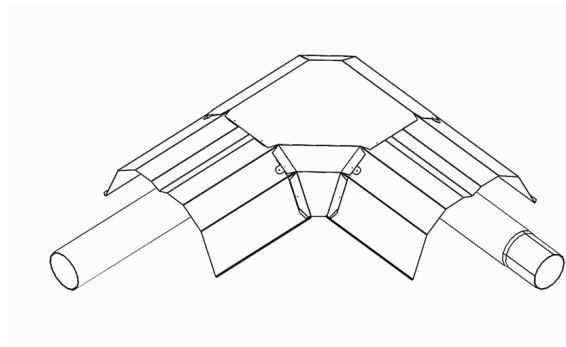
# TYPICAL HANGER & SUPPORT SPACING RECOMMENDATIONS



- 1. Burner Assembly
- 2. Coupling
- 3. Suspension Chain or Rod
- 4. Hanger End Plate
- 5. Suspension Chain or Rod
- 6. Section End of Tube Not The Reflector
- 7. 10 ft. Swaged Tube At One End
- 8. Flue Vent Terminal



- 1. 10 ft. long reflector
- 2. Webbed brace (flanges facing the 10 long reflector it is attached to)
- 3. Coupling
- 4. 90-degree 4-inch tube elbow
- 5. 90-degree reflector
- 6. Webbed brace (flanges facing the 10 ft. reflector it is attached to)
- 7. Coupling
- 8. 10 ft. long reflector



- 1. Install the Webbed Brace on each of the tubes. Be sure to have the flanges facing the ends of the reflectors they are attached to.
- 2. Attach the webbed braces to the ends of the 10 ft. long reflectors, by placing the brace's flanges on top of the reflectors and installing 2 screws in the screw holes.
- 3. Install the 90-degree, 4 inch tube elbow and attach the couplings. Pay attention to the position of the parts with respect to the direction of flow of heat.
- 4. Install the 90-degree reflector over the ends of the two straight reflectors and attach the corner reflector using self drilling screws.

## COMPONENT SPECIFICATIONS

<b>IGNITION</b>	FENWAL DIRECT SPARK MODULE: PRE-PURGE AND POST-PURGE OF TUBE SYSTEM
<b>THERMOSTAT OPTIONS</b> <i>(Factory ready for 24Vac control)</i>	24V MODULATING DIGITAL THERMOSTATNOTE: MULTIPLE HEATERS PER 24V THERMOSTAT REQUIRE RELAY CONTROL CENTER KIT JM-0303-KT
	FIELD SUPPLIED THERMOSTAT BY OTHERS
<b>ELBOWS</b>	90 DEGREE ELBOW 4" DIAMETER, 16 GA. ALUMINIZED STEEL, SWAGED ONE END
	180 DEGREE ELBOW 4" DIAMETER, 16 GA. ALUMINIZED STEEL, 19" ON CENTRE (ASSEMBLY OF TWO 90 DEGREE ELBOW KITS)
<b>HEATER TUBE(S)</b> <b>80 to 205 MBH</b>	COMBUSTION TUBE: 10' x 4" DIAMETER 16 GA. ALUMINIZED STEEL SWAGED ONE END. EACH ADDITIONAL TUBE: 10' x 4" DIAMETER, .16 GA. STEEL TUBES WITH OR WITHOUT HIGH TEMPERATURE EMISSIVE COATING, SWAGED ONE END
<b>HEATER TUBE(S)</b> <b>250 MBH</b>	COMBUSTION TUBE: 10' x 4" DIAMETER, 16 GA. 439 STAINLESS STEEL SWAGED ONE END SECOND TUBE: 10' x 4" DIAMETER, 16 GA. 439 STAINLESS STEEL SWAGED ONE END THIRD TUBE: 10' x 4" DIAMETER, 16 GA. ALUMINIZED STEEL SWAGED ONE END. EACH ADDITIONAL TUBE: 10' x 4" DIAMETER, 16 GA. STEEL WITH OR WITHOUT HIGH TEMPERATURE EMISSIVE COATING SWAGED ONE END
<b>MODULATING CONTROL BOARD</b>	PROPRIETARY MODULATING CONTROL BOARD. MODULATES BLOWER CFM AND GAS VALVE MANIFOLD PRESSURE. FACTORY PREPROGRAMMED FOR NG & LP FUELS. ACCEPTS CONTROL SIGNAL FROM A MODULATING THERMOSTAT OR MODULATION CAN BE CONTROLLED MANUALLY
<b>COMBINATION GAS VALVE</b>	HONEYWELL 24 VOLT NATURAL GAS: 3 1/2" W.C. MANIFOLD UP TO 205,000 MBTUH & FOR 225,000 & 250,000 4.2" MANIFOLD
<b>GAS CONNECTION</b>	USA: FLEXIBLE STAINLESS STEEL GAS CONNECTOR REQUIRED BY CODE: SUPPLIED WITH BURNER CANADA: TYPE 1 GAS HOSE CONNECTOR REQUIRED BY CODE: SUPPLIED WITH BURNER
<b>REFLECTORS</b>	26 GA. ALUMINIZED STEEL REFLECTOR EXTENDS BELOW BOTTOM OF TUBE SURFACE REFLECTORS ARE CLOSED AT START AND END OF EACH STRAIGHT RUN OF TUBES BY MEANS OF END PLATE HANGERS
<b>HANGERS</b>	SYSTEM UTILIZES WIRE HANGERS, TWO PER 10' TUBE. ALLOWING CONVECTION HEAT FLOW ALONG SYSTEM.
<b>COUPLING KIT</b>	ALL ALUMINIZED STEEL COUPLER UP TO 205,000 MBTUH ; STAINLESS STEEL COUPLER FOR FIRST TWO TUBE CONNECTIONS ON 225 & 250 MBTUH
<b>BURNER HOUSING</b>	BOTTOM FOLDS AWAY, PROVIDING ACCESS FROM TWO SIDES, END AND BOTTOM
<b>BURNER</b>	INCORPORATES STEEL BURNER HEAD 24VDC HI EFFICIENCY ECM BLOWER
<b>TRANSFORMER</b>	120/24VAC; 20VA
<b>SAFETY SWITCHE</b>	ONE DIFFERENTIAL PRESSURE SWITCHE SENSES ADEQUATE COMBUSTION AIR AND BLOCKED FLUE
<b>24VDC POWER</b>	120V/24VDC SMPS POWER SUPPLY FOR THE ECM BLOWER
<b>COMBUSTION AIR</b>	COMBUSTION AIR DUCTED DIRECTLY TO 4" COLLAR AT NTAKE OF BLOWER
<b>TERMINAL BLOCK</b>	ALL WIRING CONNECTIONS BY MEANS OF COMMON TERMINAL BLOCK; JUMPER: FOR 120V THERMOSTAT; REMOVE FOR 24V THERMOSTAT
<b>ELECTRICAL CORD</b>	1220 mm (4') LENGTH 16/3 ELECTRICAL SUPPLY CORD WITH 3 PIN GROUNDED PLUG
<b>VENT PIPE</b>	ALL VENT PIPE IS FIELD SUPPLIED BY OTHERS; SINGLE WALL VENT PIPE OTHER THAN PORTION THROUGH WALL OR ROOF MAY BE DOUBLE WALL VENT PIPE
<b>ROOF VENT CAPS</b>	FIELD SUPPLIED BY OTHERS TO MATE WITH VENT PIPE