

**SUBMITTAL  
DATA**



**ITB & ITBU**

**POSITIVE PRESSURE SERIES 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.                      L.P.G
<b>APPROVED BY:</b>	
<b>DATE:</b>	
<b>APPROVAL #:</b>	

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QTY ON PROJECT	<u>TABLE 1: MODEL CONFIGURATIONS</u>	OVERALL HEATER LENGTH	BTU/HOUR INPUT	TURBULATOR REQUIRED LENGTH	GAS PRESSURE & ELECTRICAL	SHIPPING WEIGHT (LBS.)		
	ITB 200-70	69' 4"	200,000	10'	<u>LINE MINIMUM</u> 5" W.C. N.G. 11" W.C. L.P.	240		
	ITB 200-60	59' 8"		10'		210		
	ITB 200-50	50' 0"		10'		180		
	ITBU 200-30	31' 11"		10'		210		
	ITB 175-70	69' 4"	175,000	10'	<u>LINE MAXIMUM</u> 14" W.C. N.G. 14" W.C. L.P.	240		
	ITB 175-60	59' 8"		10'		210		
	ITB 175-50	50' 0"		10'		180		
	ITBU 175-30	31' 11"		10'		210		
	ITB 155-60	59' 8"	155,000	Not Required	<u>MANIFOLD</u> 3.5" W.C. N.G. 10" W.C. L.P.  ½" INLET	210		
	ITB 155-50	50' 0"		Not Required		180		
	ITB 155-40	40' 4"		10'		150		
	ITBU 155-30	31' 11"		Not Required		210		
	ITBU 155-20	22' 3"		10'		150		
	ITB 130-50	50' 0"		130,000		Not Required	<u>MANIFOLD</u> 3.5" W.C. N.G. 10" W.C. L.P.  ½" INLET	180
	ITB 130-40	40' 4"	10'		150			
	ITB 130-30	30' 8"	14'		120			
	ITBU 130-20	22' 3"	10'		150			
	ITBU 130-15	17' 3"	14'		120			
	ITB 110-50	50' 0"	110,000		Not Required	ELECTRICAL 120V, 60 HZ		180
	ITB 110-40	40' 4"		10'	150			
	ITB 110-30	30' 8"		14'	120			
	ITBU 110-20	22' 3"		10'	150			
	ITBU 110-15	17' 3"		14'	120			
	ITB 100-20	21' 0"		100,000	10'			90
	ITB 80-40	40' 4"	10'		150			
	ITB 80-30	30' 8"	80,000	14'		120		
	ITB 80-20	21' 0"		14'		90		
	ITBU 80-15	17' 3"		14'		120		
	ITBU 80-10	12' 7"		14'		90		
	ITB 60-30	30' 8"		60,000		14'		120
	ITB 60-20	21' 0"				14'		90
	ITBU 60-10	12' 7"	14'		90			
	ITB 45-20	21' 0"	45,000		14'	90		

NOTE: As required Series ITB / ITBU heaters will be supplied with the turbulator snugly installed into the end tube(s) of the system configuration.

## ITB STRAIGHT TUBE SYSTEM

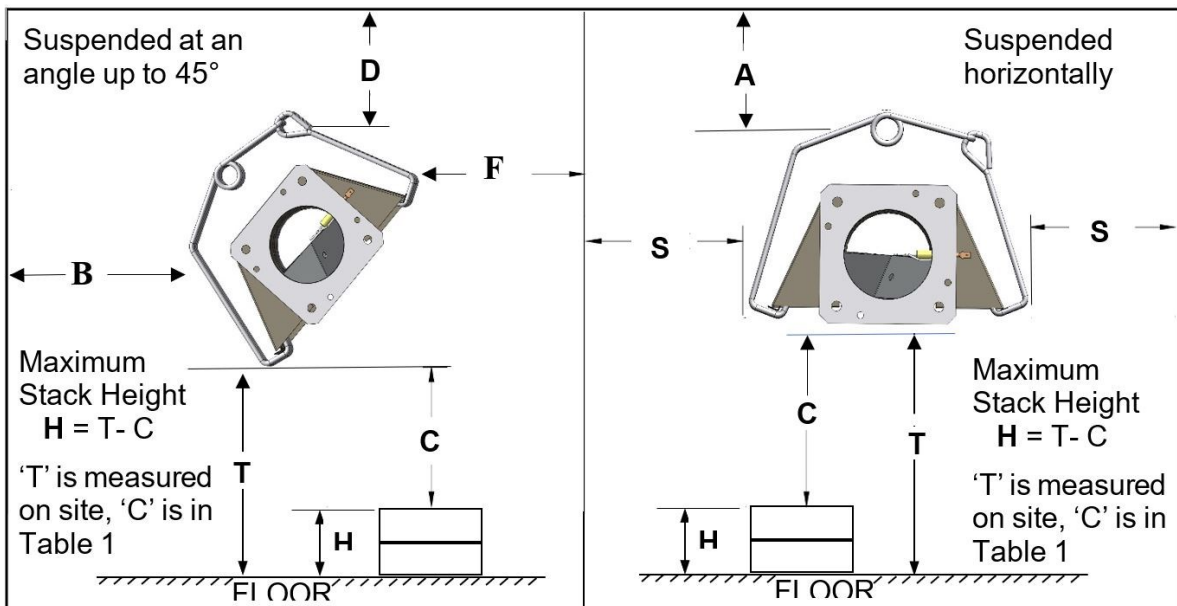
<b><u>TABLE 2: COMPONENT QUANTITIES PER HEATER MODEL</u></b>	<b><u>ITB 45-20</u></b>	<b><u>ITB 60-20 80-20</u></b>	<b><u>ITB 100-20</u></b>	<b><u>ITB 60-30 80-30 110-30 130-30</u></b>	<b><u>ITB 80-40 110-40 130-40 155-40</u></b>	<b><u>ITB 110-50 130-50 155-50</u></b>	<b><u>ITB 175-50 200-50</u></b>	<b><u>ITB 155-60</u></b>	<b><u>ITB 175-60 200-60</u></b>	<b><u>ITB 175-70 200-70</u></b>
HEATER QUANTITY ON PROJECT										
10' ALUMATHERM TUBE w/ FLANGE	0	0	0	0	0	0	1	0	1	1
10' ALUMINIZED TUBE w/ FLANGE	1	1	1	1	1	1	0	1	0	0
10' ALUMINIZED TUBE	0	0	0	0	0	0	1	0	1	1
10' STEEL TUBE	1	1	1	2	3	4	3	5	4	5
10' REFLECTOR	2	2	2	3	4	5	5	6	6	7
REFLECTOR END CAP	2	2	2	2	2	2	2	2	2	2
TORCTITE COUPLER	1	1	0	2	3	4	3	5	4	5
ACCUSEAL TUBE CLAMP	0	0	1	0	0	0	1	0	1	1
TUBE / REFLECTOR WIRE HANGER	4	4	4	6	8	10	10	12	12	14
5' STAINLESS STEEL TURBULATOR	0	0	0	0	0	0	0	0	0	0
10' STAINLESS STEEL TURBULATOR	0	0	1	0	0	0	0	0	0	0
10' ALUMINIZED STEEL TURBULATOR	1	1	0	1	1	0	1	0	1	1
4' ALUMINIZED STEEL TURBULATOR	1	1	0	1	0	0	0	0	0	0

## ITBU 'U' TUBE SYSTEM

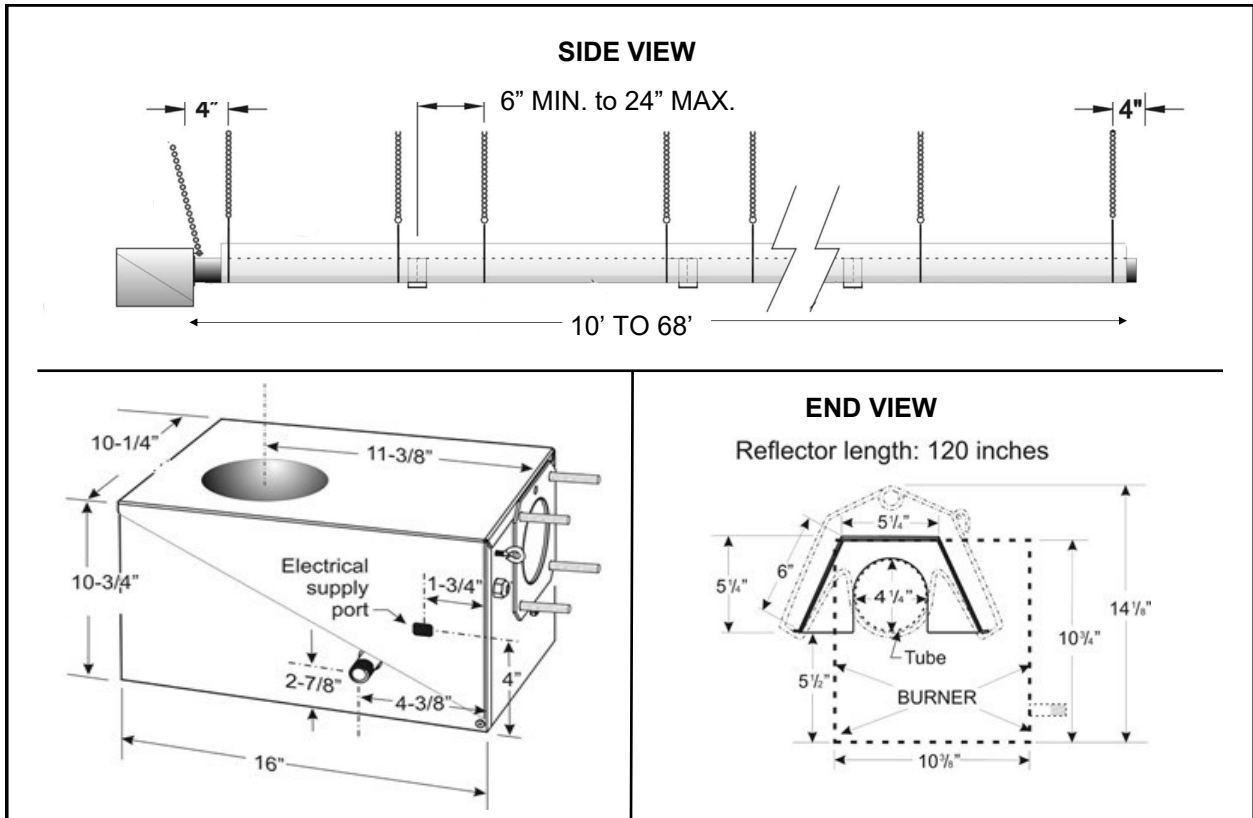
<b><u>TABLE 2: COMPONENT QUANTITIES PER HEATER MODEL</u></b>	<b><u>ITBU 60-10 80-10</u></b>	<b><u>ITBU 110-15 130-15 80-15</u></b>	<b><u>ITBU 110-20 130-20 155-20</u></b>	<b><u>ITBU 155-30</u></b>	<b><u>ITBU 175-30 200-30</u></b>
HEATER QUANTITY ON PROJECT					
10' ALUMA-THERM TUBE w/ FLANGE	0	0	0	0	1
10' ALUMINIZED TUBE w/ FLANGE	1	1	1	1	0
10' ALUMINIZED TUBE	0	0	0	0	1
10' STEEL TUBE	1	1	3	5	4
5' STEEL TUBE	0	2	0	0	0
10' REFLECTOR	1	2	2	3	3
5' REFLECTOR	0	2	0	0	0
REFLECTOR END CAP	2	2	2	2	2
TORCTITE COUPLER	2	4	4	6	5
ACCUSEAL TUBE CLAMP	0	0	0	0	1
TUBE / REFLECTOR WIRE HANGER	2	4	4	6	6
10' ALUMINIZED STEEL TURBULATOR	1	1	1	0	1
4' ALUMINIZED STEEL TURBULATOR	1	1	0	0	0
180 DEGREE TURN-AROUND BOX	1	1	1	1	1

**TABLE 3: APPROVED MINIMUM CLEARANCES TO COMBUSTIBLES**

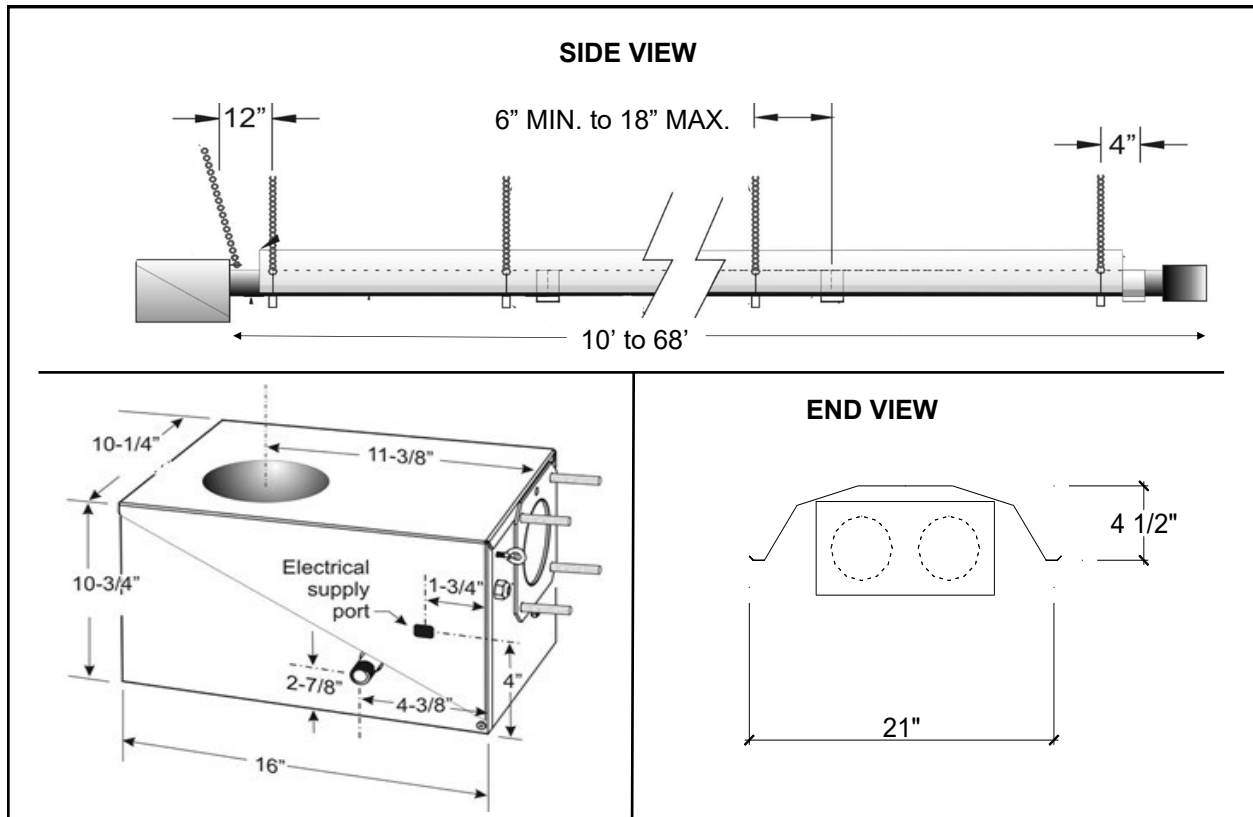
MODEL  BOTH "STRAIGHT" & "U-TUBE"	SUSPENDED AT AN ANGLE UP TO 45 DEGREES				SUSPENDED HORIZONTALLY		
	D inches	B inches	F inches	C inches	A inches	S inches	C inches
S100(U)/ITB(U) 200	13	6	74	70	14	44	76
S100(U)/ITB(U) 175	12	6	72	68	13	42	74
S100(U)/ITB(U) 155	10	4	50	64	11	34	70
S100(U)/ITB(U) 130	10	3	45	60	10	32	65
S100(U)/ITB(U) 110	9	3	36	54	9	30	60
S100(U)/ITB(U) 80	7	2	31	38	7	24	42
S100(U)/ITB(U) 60	7	2	25	34	7	20	34
S100/ITB 45	7	2	29	32	7	16	32
S100 /ITB 100	10	4	57	68	11	32	68



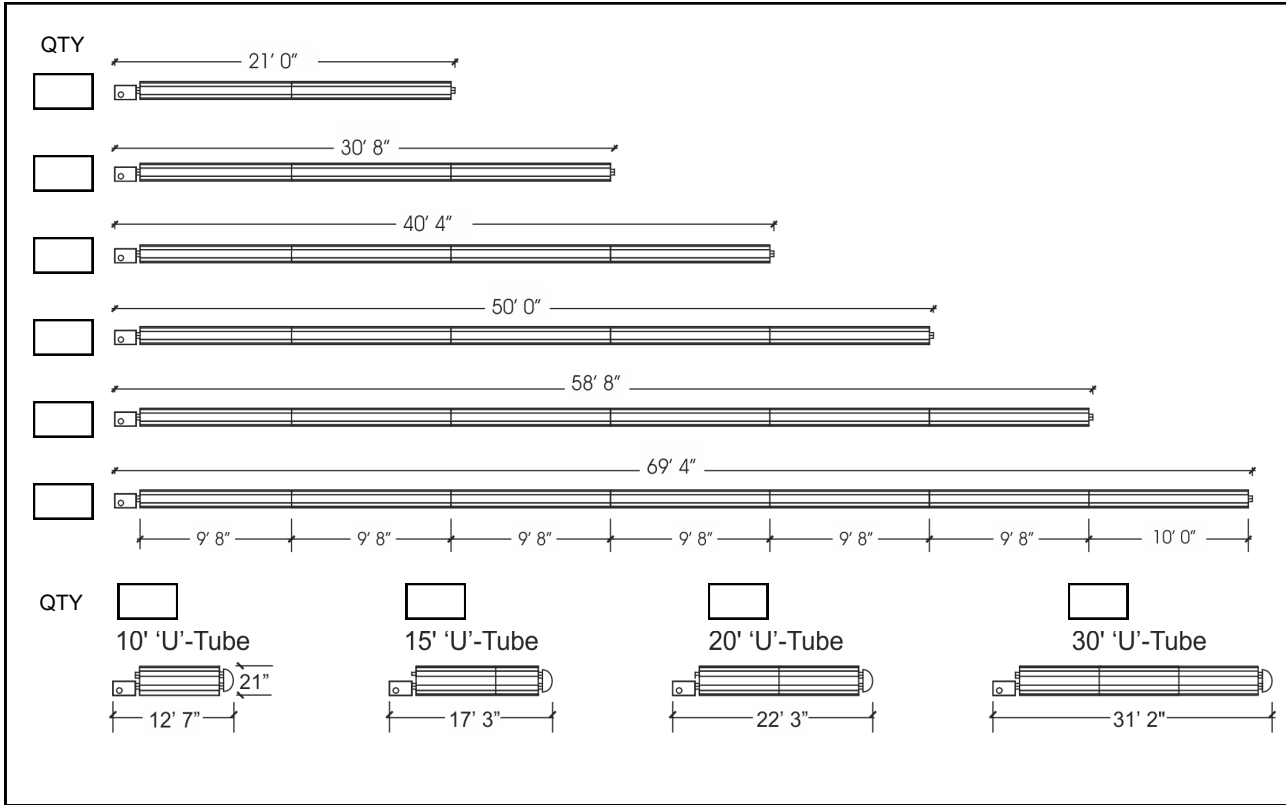
## SECTION DETAILS—STRAIGHT TUBE



## SECTION DETAILS—'U' TUBE



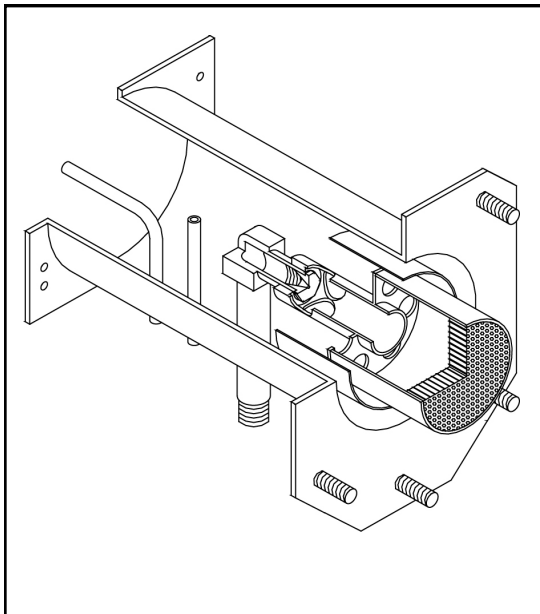
# TOP VIEWS OF SYSTEMS



**NOTE:**

- CANADA: TYPE 1 HOSE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT
  - 1/2" x 30" 45,000 TO 130,000
  - 3/4" x 30" 155,000 TO 200,000
- U.S.A. : FLEXIBLE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT
  - 1/2" X 24" 45,000 TO 130,000
  - 3/4" X 24" 155,000 TO 200,000

## CUT-AWAY BURNER VIEW



OPTIONAL ACCESSORIES	PROJECT QTY
90 DEGREE ELBOW KIT JM-0508-KT 1 ELBOW, 2 REFLECTOR END CAPS, 1 CLAMP.	
<del>180 DEGREE ELBOW KIT JM-0513-KT 1 ELBOW, 2 REFLECTOR END CAPS, 1 CLAMP.</del>	<b>DISCONTINUED</b>
4" FRESH AIR INTAKE CAP JS-0532-VC	
4" WALL FLUE VENT TERMINAL JA-0528-XX	
6" WALL FLUE VENT TERMINAL JA-0529-XX	
FLUE VENT TEE (4" x 4" x 6") JA-0514-AA	
TRU-TEMP THERMOSTAT JM-0150-XX	
THERMOSTAT 120 VOLT* JL-0772-XX	
THERMOSTAT 24 VOLT DIGITAL JL-0569-WR	
<b>24V CONTROL CENTER:</b> Multiple Heaters per 24V T-stat JM-0303-KT	

## 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 or 120Vac control)</i>	SCHWANK TRU-TEMP (24V) SET BACK THERMOSTAT WITH RADIANT & AMBIENT SENSORS, AND AUTOMATIC UNOCCUPIED SETBACK MODE
	24V DIGITAL THERMOSTAT NOTE: MULTIPLE HEATERS PER 24V THERMOSTAT REQUIRE RELAY CONTROL CENTER KIT
	LINE VOLTAGE THERMOSTAT; <i>Caution: Post-purge feature disabled with 120V thermostat</i>
	THERMOCONTROL PLUS FIELD SUPPLIED THERMOSTAT BY OTHERS
<b>ELBOWS</b>	90 DEGREE ELBOW 4" DIAMETER, 16 GA. ALUMINIZED STEEL, SWAGED ONE END
	180 DEGREE ALUMINIZED STEEL TURN-AROUND BOX WITH ONE SWAGED END. (S100U Series)
<b>HEATER TUBE(S)</b> 45 to 155 MBH	COMBUSTION TUBE: FLANGED 10' x 4" DIAMETER 16 GA. ALUMINIZED STEEL SWAGED ONE END SECOND TUBE: 10' x 4" DIAMETER 16 GA. ALUMINIZED STEEL SWAGED ONE END EACH ADDITIONAL TUBE: 10' x 4" (3048mm X 102mm) DIAMETER, .16 GA. STEEL TUBES WITH HIGH TEMPERATURE EMISSIVE COATING, SWAGED ONE END
<b>HEATER TUBE(S)</b> 175 & 200 MBH	COMBUSTION TUBE: 10' x 4" DIAMETER, 16 GA. 439 STAINLESS STEEL SWAGED ONE END SECOND TUBE: 10' x 4" (3048mm X 102mm) DIAMETER, 16 GA. ALUMINIZED STEEL SWAGED ONE END EACH ADDITIONAL TUBE: 10' x 4" (3048mm X 102mm) DIAMETER, 16 GA. STEEL WITH HIGH TEMPERATURE EMISSIVE COATING SWAGED ONE END
<b>COMBINATION GAS VALVE</b>	HONEYWELL 24 VOLT NATURAL GAS: 3 1/2" W.C. MANIFOLD PROPANE: 10" W.C. 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 10 FT LENGTH OVERLAP ENTIRE LENGTH OF SYSTEM; S100U x 15 FT MODEL INCLUDES ONE x 10 FT AND ONE x 5 FT REFLECTOR
	REFLECTORS ARE CLOSED AT START AND END OF EACH STRAIGHT RUN OF TUBES BY MEANS OF END PLATE HANGERS
<b>HANGERS</b>	TWO 1/4" PLATED WIRE HANGERS SUPPORT EACH LENGTH OF TUBE / REFLECTOR
<b>COUPLING KIT</b>	ALUMINIZED STEEL COUPLER; STAINLESS STEEL COUPLER FIRST TUBE CONNECTION 175 & 200 MBH
<b>BURNER HOUSING</b>	BOTTOM FOLDS AWAY, PROVIDING ACCESS FROM TWO SIDES, END AND BOTTOM
<b>BURNER</b>	INCORPORATES EFFECTILE CERAMIC BURNER HEAD WITH MINIMUM OF 835 FLAME PORTS
	COMPLETE WITH OPERATION STATUS INDICATOR LIGHTS
<b>TRANSFORMER</b>	120/24VAC; 20VA
<b>SAFETY SWITCHES</b>	TWO SEPARATE AIR PRESSURE SWITCHES SENSE ADEQUATE COMBUSTION AIR AND BLOCKED FLUE
<b>COMBUSTION AIR</b>	COMBUSTION AIR DUCTED DIRECTLY TO 4" COLLAR AT INTAKE OF BLOWER
<b>TERMINAL BLOCK</b>	ALL WIRING CONNECTIONS BY MEANS OF COMMON TERMINAL BLOCK; JUMPER: FOR 120V THERMOSTAT; REMOVE FOR 24V THERMOSTAT
<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