

**SUBMITTAL  
DATA**



**GAS-FIRED INFRARED RADIANT TUBE HEATERS**

**CAR WASH / HARSH ENVIRONMENT  
TWO-STAGE HEATERS**

**STWS2 SERIES**

- 2-STAGE
- 304 GRADE STAINLESS STEEL
  - BURNER HOUSING
  - TUBE / REFLECTOR SYSTEM

PROJECT:	
ENGINEER:	
CONTRACTOR:	
DISTRIBUTOR:	
SCHWANK MODEL #:	
FUEL:	<input type="checkbox"/> N.G. <input type="checkbox"/> L.P.G.
APPROVED BY:	
DATE:	
APPROVAL #:	



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Customer and Technical Services

Phone: 1-877-446-3727

Fax: 1-866-361-0523

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

[www.schwankgroup.com](http://www.schwankgroup.com)

QTY ON PROJECT	MODEL	TOTAL HEATER LENGTH	Btu/hr Up to 4500 ft [1373 meters] ABOVE SEA LEVEL	FLUE & AIR VENT	SHIPPING WEIGHT
	STWS2-200-60	60'0" [18,288mm]	<b>195/140,000 NG or LP</b>	4"  101.6 mm (4")	290 lbs [132 kg]
	STWS2-175-60	60'0" [18,288mm]	<b>162/115,000 NG or LP</b>		290 lbs [132 kg]
	STWS2-155-50	50' 4" [15,342mm]	<b>150/110,000 NG or LP</b>		247 lbs [112 kg]
	STWS2-130-40	40' 8" [12,395mm]	<b>120/85,000 NG or LP</b>		205 lbs [93 kg]
	STWS2-110-40	40' 8" [12,395mm]	<b>110/80,000 NG 108/70,000 LP</b>		205 lbs [93 kg]
	STWS2-80-30	31'0" [9,450mm]	<b>78/58,000 NG or LP</b>		162 lbs [74 kg]

**GAS SUPPLY MINIMUM PRESSURE:** 5" w.c. NG (12.45mbar NG); 11" wc. LP (27.39mbar LP)

**GAS SUPPLY MAXIMUM PRESSURE:** N.G. or L.P. : 14" w.c. (34.86 mbar)

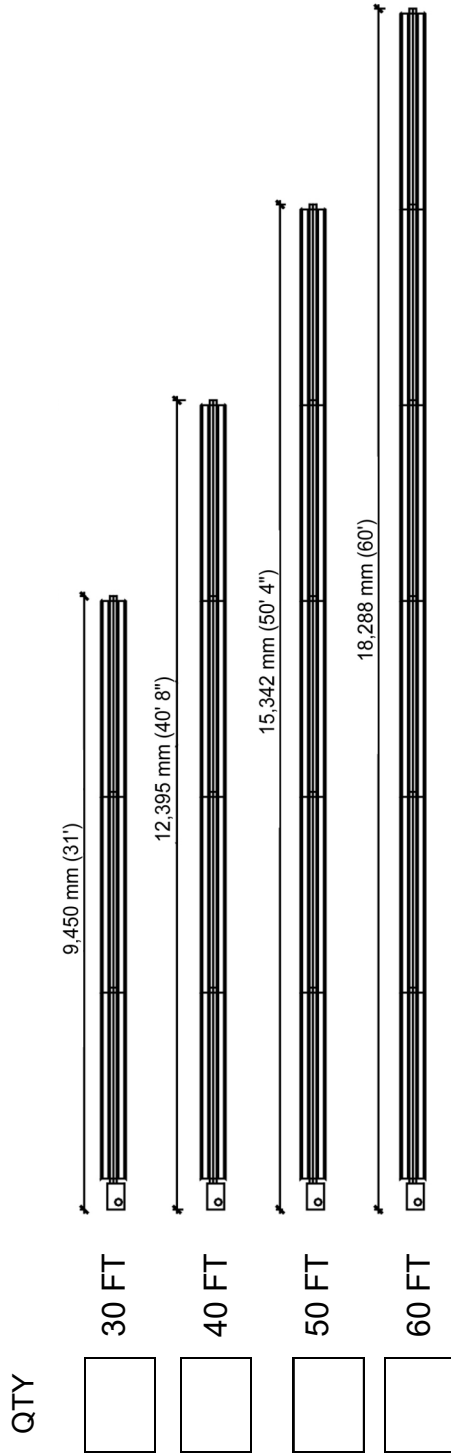
**GAS MANIFOLD PRESSURE:** 3½" w.c. NG (8.71 mbar NG); 10" wc. L.P (24.9 mbar LP)

**GAS INLET DIAMETER:** ½" NPT

**ELECTRICAL:** 120V, 60 HZ, 145 VA

**THERMOSTAT:** Factory ready for 24V or 120V thermostat

**STWS2 TOP VIEWS OF SYSTEMS**

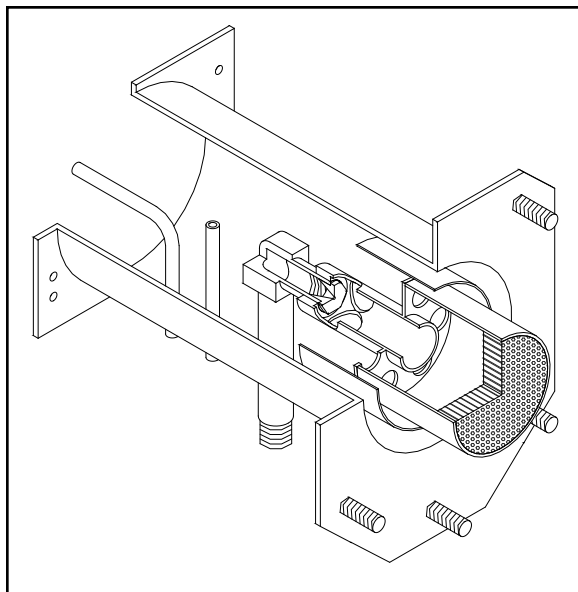


STAINLESS STEEL COMPONENT QUANTITIES PER HEATER MODEL	STWS2 80-30	STWS2 110-40 130-40	STWS2 155-50	STWS2 175-60 200-60
QUANTITY OF HEATERS ON THIS PROJECT				
10' [3048 mm] 304 GRADE STAINLESS STEEL SWAGED TUBE c/w FLANGE	1	1	1	1
10' [3048 mm] 304 GRADE STAINLESS STEEL SWAGED TUBE	2	3	4	5
9' 8" [2946 mm] 304 GRADE STAINLESS STEEL FOCUS SHIELD REFLECTOR	3	4	5	6
STAINLESS STEEL COUPLER	2	3	4	5
END WEBBED PLATE HANGER	2	2	2	2
TUBE / REFLECTOR WEBBED HANGER	2	3	4	5
REFLECTOR STABILIZER	9	12	15	18

**NOTE:**

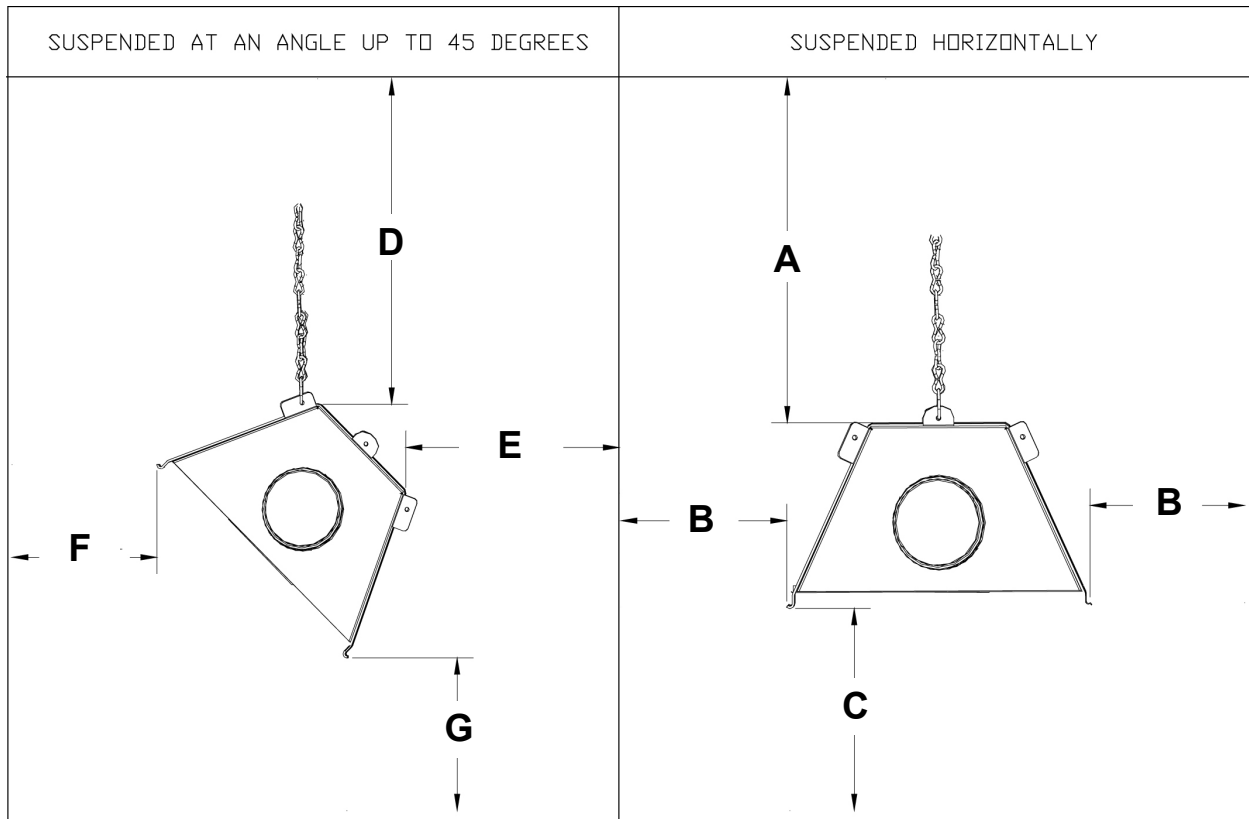
- CANADA: TYPE 1 HOSE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT  
1/2" X 30" 45,000 TO 125,000  
3/4" X 30" 155,000 TO 200,000
- USA : FLEXIBLE GAS CONNECTOR IS INCLUDED WITH EACH BURNER KIT  
1/2" x 24" 45,000 TO 125,000  
3/4" X 24" 155,000 TO 200,000

**CUT-AWAY BURNER VIEW**



<b>OPTIONAL ACCESSORIES</b>	QUANTITIES ON THIS PROJECT
90 DEGREE SWAGED ELBOW KIT 1 elbow, 2 end hangers, 1 coupler	
180 DEGREE SWAGED ELBOW KIT 2 x 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 (4" x 4" x 6")	
STAINLESS STEEL COUPLING KIT FOR TEE	
NEMA 4X THERMOSTAT— JS-0570-XX	

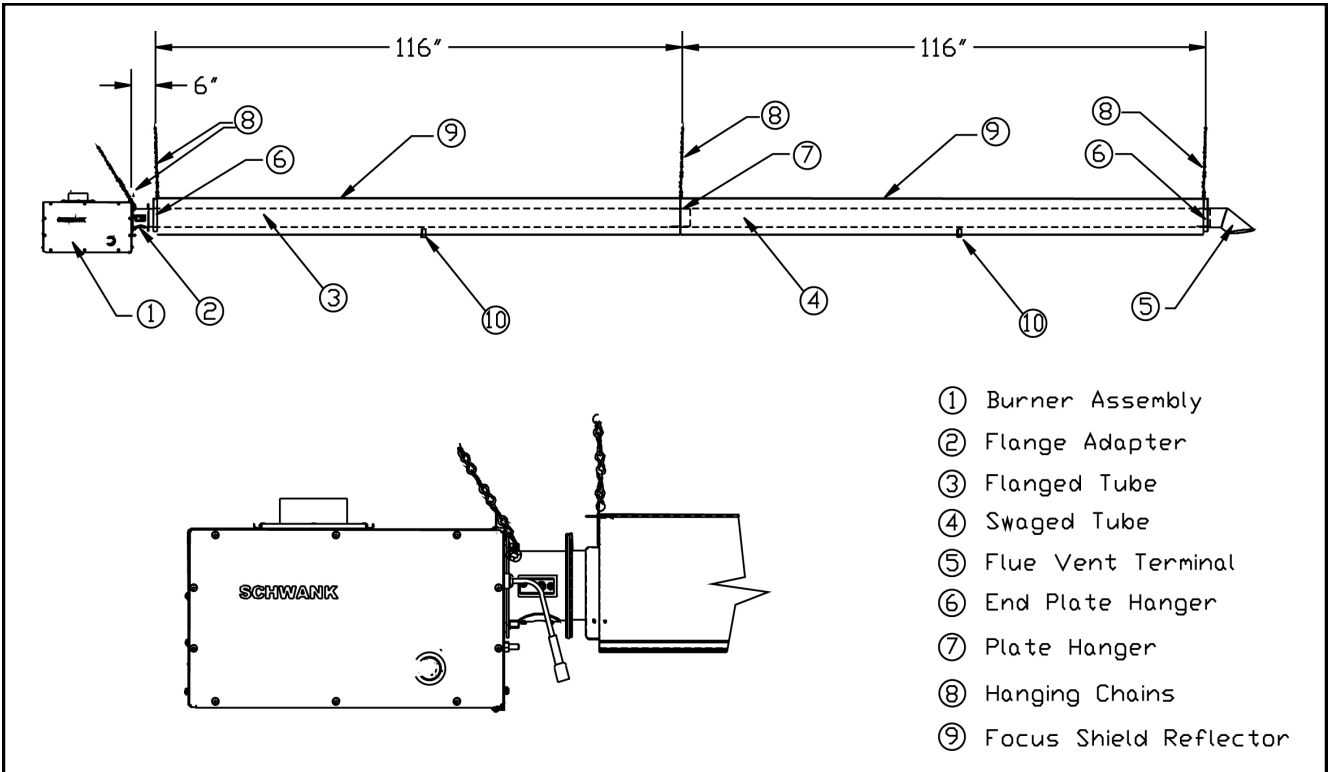
## MINIMUM CLEARANCES TO COMBUSTIBLES



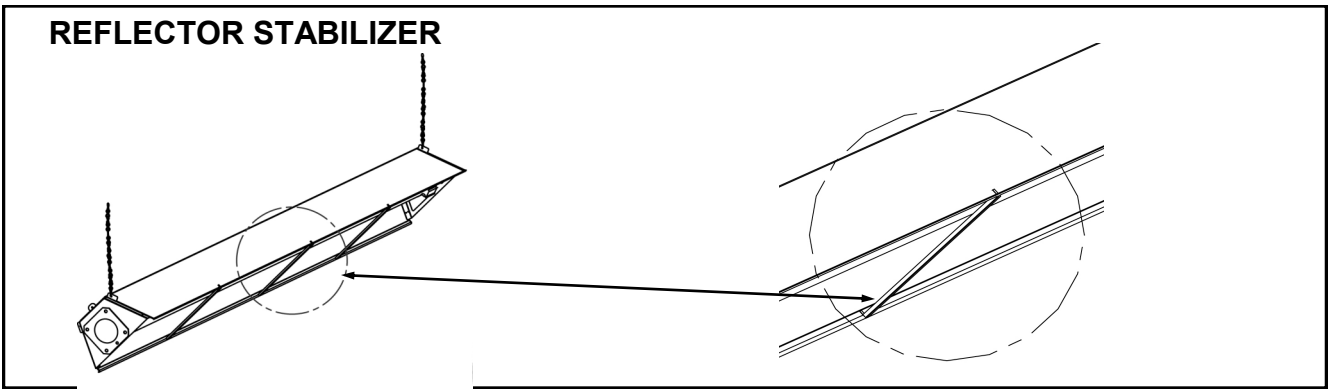
QTY	MODEL	SUSPENDED AT AN ANGLE UP TO 45 DEGREES				SUSPENDED HORIZONTALLY		
		D	E	F	G	A	B	C
	STWS2-200	6.5"	1"	57"	68"	6"	22"	68"
	STWS2-175	5.5"	1"	47"	68"	4.5"	20"	68"
	STWS2-155	5.5"	1"	44"	64"	3.5"	19"	64"
	STWS2-130	4.5"	1"	35"	56"	3.3"	11"	60"
	STWS2-110	3.5"	1"	26"	54"	2"	10"	54"
	STWS2-80	3"	1"	23"	38"	1.75"	6.0"	36"

The clearances to combustibles are established at points reaching a surface temperature of 90°F above ambient air temperature. Some materials such as awnings or plastic may require higher clearances. Maintain at least the minimum clearances as shown above.

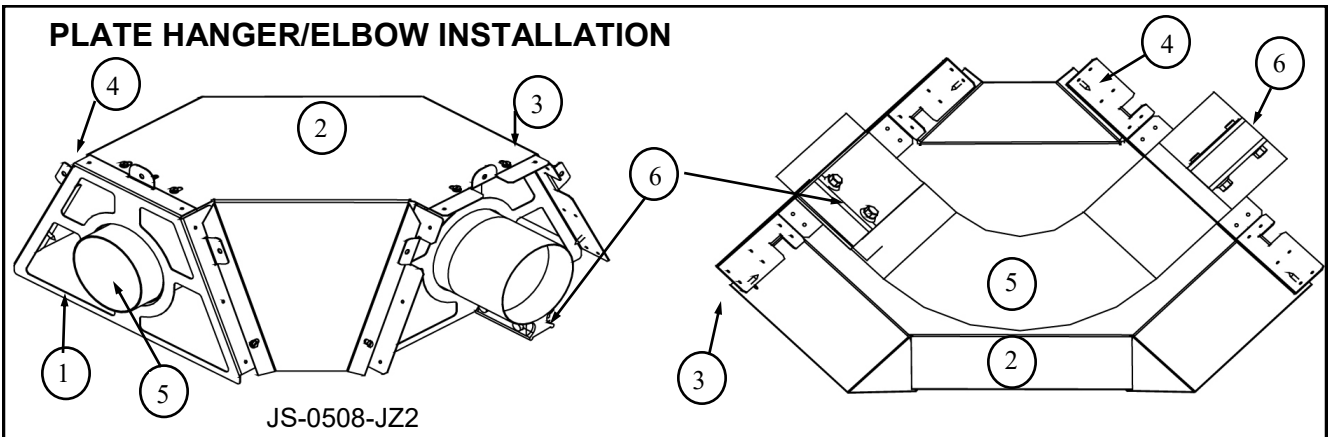
# TYPICAL HANGER & SUPPORT SPACING RECOMMENDATIONS



## REFLECTOR STABILIZER



## PLATE HANGER/ELBOW INSTALLATION



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

- 4. Plate 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>THERMOSTAT OPTIONS</b>	SCHWANK TRUTEMP SET BACK THERMOSTAT WITH RADIANT & AMBIENT SENSORS, AND AUTOMATIC UNOCCUPIED SETBACK MODE
		NEMA 4X THERMOSTAT: 24V-120V
		THERMOCONTROL PLUS
	<b>ELBOWS</b>	90 DEGREE ELBOW 4" DIAMETER, 16 GA, 304 GRADE STAINLESS STEEL, 8 ½" CENTRE RADIUS SWAGED ONE END
		180 DEGREE ELBOW (ASSEMBLY OF TWO 90 DEGREE ELBOW KITS): 4" DIAMETER, 16 GA, 304 GRADE STAINLESS STEEL, 8 ½" CENTRE RADIUS EACH 90 DEGREE ELBOW

	<b>COMBINATION GAS VALVE</b>	24 VOLT          NATURAL GAS 3.5" w.c. MANIFOLD PRESSURE  PROPANE 10" w.c. MANIFOLD PRESSURE
	<b>REFLECTORS</b>	304 GRADE STAINLESS STEEL REFLECTORS PROTRUDE 1-5/8" (38) mm BELOW BOTTOM SURFACE OF TUBE
		REFLECTORS ARE CLOSED AT START AND END OF EACH STRAIGHT RUN OF TUBES BY MEANS OF END PLATE HANGERS
	<b>TUBES ALL INPUTS</b>	THE FIRST SECTION IS 10 ft x 4" DIAMETER - 16 GA 304 GRADE STAINLESS STEEL SWAGED ONE END WITH A FLANGE TO MOUNT THE BURNER AT THE OPPOSITE END
		EACH ADDITIONAL TUBE SECTION IS 10 ft x 4" DIAMETER, 16 GA 304 GRADE STAINLESS STEEL SWAGED ONE END
	<b>HANGERS</b>	304 GRADE STAINLESS STEEL: ONE WEBBED HANGER SUPPORTS EACH 10 ft SECTION OF TUBE, EXCEPT THE FIRST AND LAST TUBES WHICH HAVE ONE WEBBED HANGER AND ONE END PLATE HANGER.
	<b>COUPLING KIT</b>	STAINLESS STEEL COUPLER
	<b>BURNER HOUSING</b>	304 GRADE STAINLESS STEEL, WEATHER-PROOF WITH TWO SIDE ACCESS PANELS.
	<b>BURNER</b>	INCORPORATES EFFECTILE CERAMIC BURNER HEAD WITH MINIMUM OF 835 FLAME PORTS
	<b>SAFETY SWITCHES</b>	SEPARATE AIR PRESSURE SWITCHES SENSE ADEQUATE COMBUSTION AIR AND BLOCKED FLUE CONDITION
	<b>COMBUSTION AIR</b>	COMBUSTION AIR DUCTED DIRECTLY TO INTAKE OF BLOWER
	<b>TERMINAL BLOCK</b>	ALL WIRING CONNECTIONS BY MEANS OF ONE COMMON TERMINAL BLOCK; JUMPER FOR 120V / 24V THERMOSTAT CONTROL
	<b>ELECTRICAL CORD</b>	4' LENGTH 16/3 ELECTRICAL SUPPLY CORD WITH 3 PIN GROUNDED PLUG