

SUBMITTAL DATA



ERSP ER2STG GSP

SINGLE AND TWO STAGE GAS FIRED INFRARED TUBE HEATERS

PROJECT	
ENGINEER	
CONTRACTOR	
DISTRIBUTOR	
HEATSTAR MODEL	
FUEL	<input type="checkbox"/> NATURAL GAS <input type="checkbox"/> LIQUID PROPANE GAS
APPROVED BY	
DATE	
APPROVAL #	

NOTICE:

Heatstar reserves the right to make changes to equipment and specifications without obligation or notification.

This publication, or parts thereof, may not be reproduced in any form, without prior written consent from Heatstar. Unauthorized use or distribution of this publication is strictly prohibited.

Heatstar by Enerco

4560 West 160th Street
Cleveland, Ohio 44135
USA

Customer and Technical Services

Phone: 866-447-2194

Fax: 800-321-0552

E-mail: technicalservice@us-egi.com

www.heatstarbyenerco.co



Enerco Heat Star Low Intensity Infrared Tube Heater Specifications

ERSP Series / ER2STG Series / GSP

1. Heater Specifications

- a. Gas fired vented infrared heaters shall be furnished and installed in accordance with local codes and as shown per building drawings.
- b. Heaters shall be Design Certified by C.S.A. (Canadian Gas Association) formally A.G.A. Under the American National Standard (ANSI) Z83.20-2016 • 2.34-2016. The supplier shall provide C.S.A. certificate numbers and heaters shall bear the C.S.A. Seal of Certification.
- c. Manufacture shall warrant mechanical and electrical components for a period of ten (10) years from original invoice date.
- d. The supplier shall furnish owner/contractor with copies of engineering specification forms for each model, showing the physical dimensions, installation detail and recommendations, control wiring diagrams, and spare parts list.
- e. Heaters shall be so designed to satisfactory operate at a minimum inlet gas pressure of 11" LP / 4.5" NG inches W.C. to a maximum inlet gas pressure of 14" LP / 11" NG inches W.C.
- f. Heater shall be certified for use with natural or LP (Propane) gas and will be designated type gas on heater per the nameplate. All natural gas units will include LP gas conversion kits for field conversion from natural to LP gas.
- g. No condensation shall form from the products of combustion in the combustion chamber or heat exchangers while at operating temperature.

2. Heater Control System

- a. ERSP/GSP heaters are equipped direct spark ignition and ER2STG heater shall be equipped with direct sense silicon-carbide hot surface ignition control system, both operate with 100% shut-off ignition device. Power supplied to each heater shall be 120 V, 60Hz, single phase. Burners shall be rated for 1.0 amp (run) and 5.0 amp (start).
- b. The heater's control system shall be designed to shut off the gas flow to the main burner in the event of either a main gas supply line or power supply line interruption or failure occurs.
- c. Heater controls shall include a dual pressure switch. One side to monitor block flu back pressure and one side to monitor air intake flow so as to provide complete unit shut off in the event of insufficient air or flue blockage.
- d. Heater shall be capable of being controlled with a low voltage (24 volt) or line voltage (120v) thermostat without additional external, internal wiring, or relays.
- e. The burner control box shall be constructed of 18-gauge steel with an industrial coated finish.
- f. The fan blower motor shall be totally enclosed and have a thermal overload switch.
- g. The burner control box shall be fitted with interlock that will shut off the unit when the burner side of the box is opened under fire.*ERSP/ER2STG Only*
- h. The burner control box shall be equipped with a sight glass for visual inspection of the igniter operation and burner flame.
- i. The burner control box shall have an intake air collar (4" ERSP/ER2STG - 3" GSP) that allows outside combustion air to be provided to the unit at the customer's option.

3. Heater Construction

- a. The material used in the heater's combustion chamber, as well as all heat exchanger tubes shall be 16 gauge aluminized steel (4" OD ERSP/ER2STG - 3" OD GSP).
- b. Tube couplers shall be a complete wrap around design of 430 stainless steel material (ERSP/ER2STG Only).
- c. The reflectors shall be made of .032 polished aluminum to maximize reflection of infrared rays.

- d. Hangers are to be chrome plated and allow the reflector to be mounted horizontal or up to a 45-degree angle.

1. Certification

- a. The heaters shall be of the ERSP series as manufactured by Enerco Technical Products, Cleveland, Ohio. The heaters are design certified by C.S.A. (Canadian Gas Association) formally A.G.A. Under The American National Standard (ANSI) Z83.20-2016 • CSA 2.34-2016.
- b. Heaters shall be certified with natural or LP (propane) gas and will be designated as such on the heater name plate.
- c. Heater must be capable of operating with the reflector face down or at an angle of 45 degrees.
- d. Heaters shall be approved for vented or un-vented operation. If installed un-vented power exhaust must be incorporated into the system.

2. Warranty

Enerco Technical Products ERSP series heaters are warranted to the original user against defects in workmanship or materials for a period of ten (10) years. Any part that is deemed defective will be either repaired or replaced at the discretion of Enerco.

****For installation in a car wash and in areas with exposure to corrosive chemicals, such as ammonia, chlorine, etc. the warranty will be limited to 2 years on tubes and 1 year on all other components.****

TABLE 1A: MODEL CONFIGURATIONS			ERSP SINGLE STAGE LOW INTENSITY			
TUBE HEATERS						
QUANTITY ON THIS PROJECT	STOCK #	MODEL #	OVERALL HEATER LENGTH	BTU/HOUR INPUT 0 TO 4500 FT ABOVE SEA LEVEL	TURBULATOR REQUIRED LENGTH	SHIPPING WEIGHT (LBS.)
	F102594SP	ERSP-40N Burner Box w/LP conversion kit	17.75"	40,000	N/A	36
	F106408XL	ERSP-40 Tube Set	10'		9'	60
	F102650SP	ERSP-60N Burner Box w/LP conversion kit	17.75"	60,000	N/A	36
	F106404XL	ERSP-60/80 Tube set	20'		10'	110
	F102652SP	ERSP-80N Burner Box w/LP conversion kit	17.75"	80,000	N/A	36
	F106405XL	ERSP-80 Tube set	30'		10'	160
	F102654SP	ERSP-100N Burner Box w/LP conversion kit	17.75"	100,000	N/A	36
	F106401XL	ERSP-100/125 Tube set	30'		None	160
	F102656SP	ERSP-125N Burner Box w/LP conversion kit	17.75"	125,000	N/A	36
	F106406XL	ERSP- 100-125 Tube Set	40'		None	190
	F102658SP	ERSP-150N Burner Box w/LP conversion kit	17.75"	150,000	N/A	36
	F106407XL	ERSP-125/150 Tube set	50'		None	210
	F102660SP	ERSP-175N Burner box w/LP conversion kit	17.75"	175,000	N/A	36
	F106403XL	ERSP-150/175 Tube set	60'		None	240
	F102857	45GSP(NG) Burner Box/Tube Set	10'-3"	45,000	5'	91
	F102855	45GSP(LP) Burner Box/Tube set	10'-3"		5'	91

Complete burner assembly either single stage or two stage. Tube kit comes complete with Tubes, Reflectors, Hangers, S/S Couplers w/Keys and Vent Adapter. (Turbulator included if required.) Accessories sold separately.

TABLE 1B: MODEL CONFIGURATIONS			ER2STG TWO-STAGE LOW INTENSITY TUBE HEATERS			
QUANTITY ON THIS PROJECT	STOCK #	MODEL #	OVERALL HEATER LENGTH	BTU/HOUR INPUT 0 TO 4500 FT ABOVE SEA LEVEL	TURBULATOR REQUIRED LENGTH	SHIPPING WEIGHT (LBS.)
	F102600	ER2STG 60-100-N Burner Box	17.75"	60-100,000	N/A	36
	F102602	ER2STG 60-100-LP Burner Box				
	F106401XL	ER2STG-100 Tube Set	30'		None	160
	F102605	ER2STG 80-125-N Burner Box	17.75"	80-125,000	N/A	36
	F102607	ER2STG 80-125-LP Burner Box				
	F106406XL	ER2STG-125 Tube Set	40'		None	190
	F102610	ER2STG 125-175-N Burner Box	17.75"	125-150,000	N/A	36
	F102612	ER2STG 125-175-LP Burner Box				
	F106403XL	ER2STG 175 Tube Set	60'		None	240

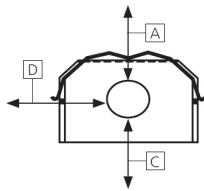
-Complete burner assembly either single stage or two stage. Tube kit comes complete with Tubes, Reflectors, Hangers, S/S Couplers w/Keys and Vent Adapter. (Turbulator included if required.) Accessories sold separately.
-Item numbers are included for reference only.

GAS PRESSURE & ELECTRICAL – Same for all models				
LINE MINIMUM	LINE MAXIMUM	MANIFOLD	ELECTRICAL	GAS CONNECTION
4.5" WC NG 11" WC LP	11" WC NG 14" WC LP	3.5" WC NG (4" GSP) 10" WC LP	120V, 60 HZ.	½" INLET

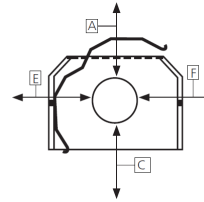
TABLE 5: IGNITION INFORMATION	
DIRECT SPARK IGNITION (ERSP, GSP)	24V Honeywell Combination Valve with FENWAL Ignition Module and 15 second pre- purge
HOT SURFACE IGNITION (ER2STG)	Two Stage Honeywell Valve with FENWAL Ignition Module and 15 second pre-purge
Burner Box	Steel with power coated black finish
Hangers	Chrome plated two per tube and 90° & 45° hang options
Tube Couplings	Stainless steel with stainless steel locking keys
Tubes	10 foot aluminized steel 4 inch diameter
Transformer	120/24VAC; 20 VA
Reflectors	Polished aluminum
Safety Switches	Micro door switch (ERSP/ER2STG Only)

TABLE 3: APPROVED MINIMUM CLEARANCES TO COMBUSTIBLES

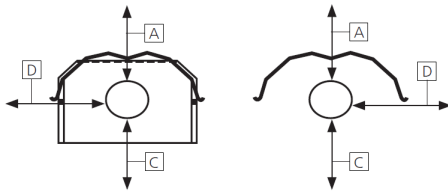
MODEL	SUSPENDED HORIZONTALLY			SUSPENDED AT AN ANGLE AT 45 DEGREES				U-TUBE HORIZONTALLY			U-TUBE 45 DEGREES			
	TOP	SIDE	BELOW	TOP	REAR	FRONT	BELOW	ABOVE	BELOW	SIDE	ABOVE	BELOW	SIDE	FRONT & BACK
	A	C	D	D	E	F	C	A	C	D	A	C	E	B
ERSP-40	6	30	55	12	36	60	55	18"	55	30	18	55	36	30
ERSP-60	6	30	55	18	36	60	55	18"	55	30	18	55	36	30
ERSP-80	6	36	55	18	36	60	55	18"	55	36	18	55	36	36
ERSP-100	6	36	74	18	36	60	74	18"	74	36	18	74	36	36
ER2STG-100	6	36	74	18	36	60	74	18"	74	36	18	74	36	36
ERSP-125	6	36	87	18	36	60	87	18"	87	36	18	87	36	36
ER2STG-125	6	36	87	18	36	60	87	18"	87	36	18	87	36	36
ERSP-150	6	36	87	18	36	60	87	18"	87	36	18	87	36	36
ERSP-175	6	36	87	18	36	60	87	18"	87	36	18	87	36	36
ER2STG-175	6	36	87	18	36	60	87	18"	87	36	18	87	36	36
45GSP	6	24	54	6	24	36	36							
U-tube	5	30	55	12										



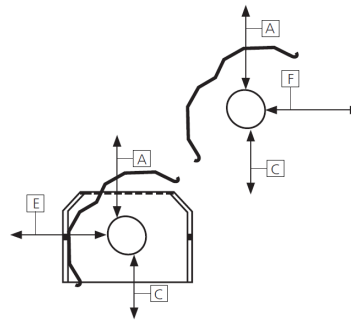
Standard Horizontal



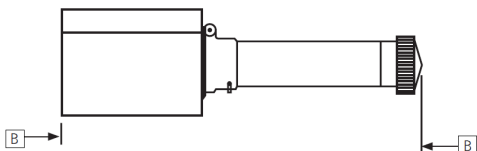
Standard 45 Degree Angle



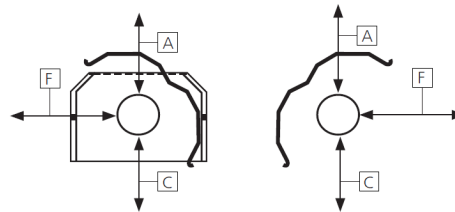
U-Tube Horizontal



U-Tube 45 Degree Angle



Front and Back Clearance



U-Tube opposite 45 Degree Angle

REPLACEMENT PARTS & OPTIONAL ACCESSORIES – FOR SINGLE & TWO STAGE

Item #	Item Description	QTY	Item #	Item Description	QTY
10371	24 volt thermostat		19021	Vent adapter 4"	
10392	120 volt thermostat		19031	Turnbuckle 5/16"-18"	
F102601	ER 2STG two stage thermostat		16401	S/S flex connector ½" x 24"	
17370	Chain kit (1-req. per 10')		16359	Gas shut-off valve ½"	
F106414	180 degree U-Tube kit		16405	S/S flex connector ¾" x 24"	
F106415	90 Degree elbow kit		16360	Gas shut-off valve ¾"	
06430	Vent cap		14585P	Hanger kit (1 per 10')	
14612	Tube coupling		11749	Conversion kit 100/60 ER2STG NG to LP	
14616	Key for tube coupling		11750	Conversion kit 125/80 ER2STG NG to LP	
00418A	Reflector 10' long		11756	Conversion kit 175/125 ER2STG NG to LP	
06413	10' tube heat exchanger 4" OD		17389	Burner manifold ER2STG 5"	
03445	10' Turbulator baffle		00021	Gas valve NG ER2STG	
03447	5' Turbulator baffle		02764	Gas valve wire harness ER2STG	
02797	Hot surface ignitor ER2STG		02768	Wire harness ER2STG	
00438	Side reflector kit		02835	Ignition module ER2STG	
F102859	45GSP Decorative Grid Kit		00056	Honeywell Gas valve (LP) single stage	
F102848	45GSP Vent Kit-Vertical 4"		00055	Honeywell Gas valve (NG) single stage	

TABLE 4: COMPONENT QUANTITIES PER TUBE SET

STRAIGHT TUBE SETS	STOCK #COMPATIBLE #BURNER BOX(ES)	F106408XL	F106404XL	F106405XL	F106401XL	F106406XL	F106407XL	F106403XL
		ERSP-40	ERSP-60/80	ERSP-80	ERSP-100 ER2STG-100	ERSP-100/125 ER2STG-125	ERSP-125/150/175 ER2STG-125	ERSP-150/175 ER2STG-175
HEATERS ON THIS JOB								
Item Description	Item #	ITEMS INCLUDED IN TUBE SETS						
10' Aluminized Tube	06413	1	2	3	4	4	5	6
Tube Coupling	14612	1	2	3	4	4	5	6
Locking Keys	14646	1	2	3	4	4	5	6
Reflectors	00418A	1	2	3	4	4	5	6
Reflector End Cap	00419	1	1	1	1	1	1	1
Clip Reflectors	09369	4	4	4	4	4	4	4
Wire Hangers	14585P	2	4	6	8	8	10	12
Turbulator Baffle 9'	03446	1						
Turbulator Baffle 10'	03445		1	1				
Turbulator Baffle 5'	03447				1			
Vent Adapter	19021	1	1	1	1	1	1	1

Tube Sets ordered under single stock number. Item numbers are included for reference only.

TABLE 4: COMPONENT QUANTITIES PER ACCESSORY KIT

-Installation Kit -90° Kit & U-Tube Kit		SINGLE STAGE						TWO STAGE					
		F102848	F111751	F111752	F111753	F111754	F111755	F102603	F102604	F102606	F102608	F106415	F106414
(Tube Set Length)		10'	20'	30'	40'	50'	60'	30'	40'	50'	60'	90° Kit	U-Tube Kit
Item Description	Item #	Installation Kit						Installation Kit					
90° Elbow Tube	06419											1	
180° U-Tube	06418												1
Tube Coupling	14612		1	2	3	4	5	2	3	4	5	1	1
Key for Coupling	14616		1	2	3	4	5	2	3	4	5	1	1
Single Stage 24-Volt Thermostat	10371	1	1	1	1	1	1						
Two Stage 24-Volt Thermostat	F102601							1	1	1	1		
Vent Cap	06430	1	1	1	1	1	1	1	1	1	1		
36" Stainless Steel Flexible Gas Connector	16401	1	1	1	1	1	1	1	1	1	1		
Gas Shut-off Valve	16359	1	1	1	1	1	1	1	1	1	1		
Chain Kits 2-4' Long & 4 S-Hooks	17370	1	2	3	4	5	6	4	5	6	6		