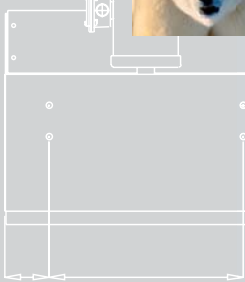




Hazloc Heaters™

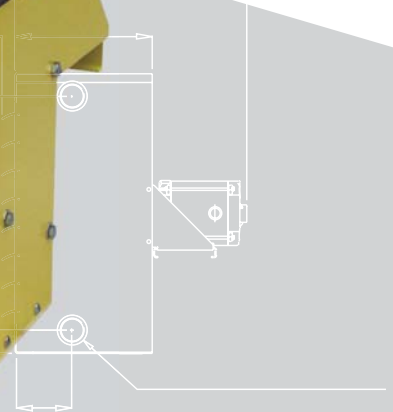
Safe heat when you need it!



Includes our

SAFE DEFORM™

Feature!



SRH

Steam Rig Heater

Alberta CRN: 0H6664.2

Industrial Grade

Heat-Exchanger Unit Heaters

www.HazlocHeaters.com



Hazloc Heaters™ is a manufacturer of industrial-grade unit heaters suitable for hazardous and severe-duty locations.



The **Steam Rig Heater (SRH)** series of heat-exchanger unit heaters is specifically designed to meet the demanding requirements of the oil & gas well drilling industry. The harsh operating conditions of this industry require heating equipment that is safe, reliable, dependable, and available when you need it. The SRH series of heaters are built with you in mind, because we know that boiler failure or crew neglect could result in an accidental freeze-up of the heating system.

Simple, yet effective... with you in mind!

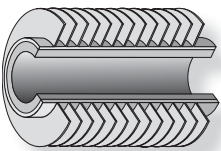
All **Hazloc Heaters™ SRH** models are **designed to ASME requirements** for steam applications with **maximum operating pressures up to 100 PSIG (689 kPa)**. The five sizes of **SRH** heaters include our **SafeDeform™** top and bottom core headers which are designed to deform to the increased volume, due to ice expansion, during freeze-up conditions. This feature allows **SRH** heaters to be frozen several times without critical damage which keeps your safety in mind. With our **SafeDeform™** feature, multi-pass core configurations are not available.



Interchangeable with other brands of heaters!

Hazloc Heaters™ SRH series are designed with cabinet dimensions and mounting holes equivalent to a major competitor's heaters making them easily interchangeable. Furthermore, Hazloc Heaters' rugged and superior **SRH SafeDeform™** replacement cores are also designed to slide into equivalent sizes of their heaters. An added benefit is our 18-month heater warranty!

Maximum durability... rugged fin tubes and headers!



All **SRH SafeDeform™** heat-exchanger cores are constructed using rugged 16-gauge (0.065 in.) carbon-steel tubes with tension-wound aluminum fins and 12-gauge (0.105 in.) carbon-steel headers for **maximum durability, resistance to corrosion, and longer life** in your demanding applications.



Hazloc Heaters™

“Safe heat when you need it!”

- Female inlet/outlet connections for easy core removal
- Rivets in top panel for extra strength
- Aluminum louvers attached to dimpled cabinet panels for easy control of air flow direction
- 16-gauge (0.065 in.) tension-wound aluminum fin tubes for longer life
- Epoxy coated 14-gauge steel cabinet construction for durability
- Aluminum fan blade with easy-off replacement feature
- Totally enclosed or explosion-proof motors available
- Robust three-piece motor mount design prevents premature cracking
- Epoxy coated split fan guard for easy access to fan blade

SRH Model Coding



Model Code Sequence Required for Ordering Factory Assigned

SRH 1 - 12 - C - 1 - 230 1 60 - T - S - A

Model Series		Product Revision No.	
Generation		For minor revisions	
For major revisions		Special Items	
Fan Size		S Standard product	
12 inches 12		C Custom product	
16 inches 16		Motor Enclosure	
20 inches 20		T Totally enclosed	
24 inches 24		E Explosion proof	
30 inches 30		Frequency	
Approvals		50 50 hertz	
CRN C		60 60 hertz	
Tube Passes		Phase	
1 Pass [†] 1		1 1 phase	
		3 3 phase	
		Motor Voltage*	
		115 115 volts	
		208 208 volts	
		230 230 volts	
		460 460 volts	
		575 575 volts	

- † Available in single-pass configuration only due to **SafeDeform™** design.
- * Other voltages and 3-phase motors available upon request. Longer lead times may apply. Contact factory.
- Motors are designed to be operated at rated voltage with tolerances of ± 15%.
- If ordering explosion-proof motor, ensure equipment meets the requirements of your hazardous area rating.

SRH Physical Dimensions

Heater Size	12	16	20	24	30
Dim.	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)
A	12.6 (320)	15.51 (394)	19.49 (495)	23.46 (596)	29.53 (750)
B	4.02 (102)	4.02 (102)	4.02 (102)	4.65 (118)	5.71 (145)
C	1.85 (47)	2.38 (60.5)	2.4 (61)	2.4 (61)	2.4 (61)
D	16.3 (414)	20.28 (515)	24.29 (617)	28.27 (718)	34.33 (872)
E	9.76 (248)	9.76 (248)	10.51 (267)	11.81 (300)	13.78 (350)
F	6.77 (172)	5.77 (146.5)	5.75 (146)	6.69 (170)	7.48 (190)
G	(2 holes)	1.75 (44.5)	2.5 (63.5)	2.76 (70)	3.15 (80)
H	2.64 (67)	2.64 (67)	3.62 (92)	4.29 (109)	4.37 (111)
J	11.02 (280)	15 (381)	17 (432)	19.69 (500)	25.59 (650)
K	1.38 (35)	1.38 (35)	1.38 (35)	1.38 (35)	1.38 (35)
L	21.65 (550)	21.65 (550)	22.83 (580)	24.21 (615)	27.36 (695)

Steam Performance Tables

SRH1-12 @60 Hz

		Entering Air Temperature									
PSIG	°F	Performance	-10	0	10	20	30	40	50	60	70
10	239	Output (10 ³ btu/hr)	77	74	70	66	63	59	56	53	49
		Cond. (lbs/hr)	81	77	73	69	66	62	59	55	52
		FAT (°F)	45.6	54.2	62.6	71.0	79.3	87.5	95.7	103.9	111.9
20	259	Output (10 ³ btu/hr)	84	80	76	72	69	65	62	58	55
		Cond. (lbs/hr)	89	85	81	77	73	69	66	62	59
		FAT (°F)	50.2	58.8	67.3	75.8	84.1	92.2	100.4	108.6	116.8
40	287	Output (10 ³ btu/hr)	92	88	85	81	77	74	70	67	63
		Cond. (lbs/hr)	100	96	92	88	84	80	76	72	69
		FAT (°F)	56.3	65.0	73.6	82.1	90.6	99.0	107.3	115.5	123.7
60	307	Output (10 ³ btu/hr)	98	95	91	87	83	80	76	73	69
		Cond. (lbs/hr)	109	104	100	96	92	88	84	80	77
		FAT (°F)	61.0	69.7	78.4	87.0	95.5	103.9	112.3	120.6	128.9
80	324	Output (10 ³ btu/hr)	104	100	96	92	89	85	82	78	75
		Cond. (lbs/hr)	116	112	108	103	99	95	91	87	83
		FAT (°F)	64.9	73.7	82.5	91.1	99.7	108.2	116.6	125.0	133.2
100	338	Output (10 ³ btu/hr)	108	105	101	97	93	89	86	82	79
		Cond. (lbs/hr)	123	118	114	110	105	101	97	93	89
		FAT (°F)	68.1	76.9	85.7	94.4	103.0	111.6	120.0	128.4	136.7

If using 50 Hz power supply, derate output values by 6%. Above figures are based on calculations at sea level.

SRH1-16 @60 Hz

		Entering Air Temperature									
PSIG	°F	Performance	-10	0	10	20	30	40	50	60	70
10	239	Output (10 ³ btu/hr)	123	117	111	105	100	94	89	84	78
		Cond. (lbs/hr)	129	122	116	110	104	99	93	88	82
		FAT (°F)	48.5	56.9	65.3	73.5	81.7	89.8	98.0	106.0	113.9
20	259	Output (10 ³ btu/hr)	132	126	121	115	109	104	98	93	87
		Cond. (lbs/hr)	141	134	128	122	116	110	104	99	93
		FAT (°F)	53.1	61.6	70.0	78.3	86.6	94.8	103.0	111.0	119.0
40	287	Output (10 ³ btu/hr)	146	140	134	128	123	117	111	106	101
		Cond. (lbs/hr)	159	152	146	139	133	127	121	115	109
		FAT (°F)	59.8	68.3	76.9	85.3	93.6	101.9	110.1	118.3	126.4
60	307	Output (10 ³ btu/hr)	157	151	144	138	133	127	121	116	110
		Cond. (lbs/hr)	173	166	159	153	146	140	134	128	121
		FAT (°F)	64.6	73.3	81.9	90.4	98.8	107.1	115.4	123.6	131.7
80	324	Output (10 ³ btu/hr)	166	159	153	147	141	135	130	124	118
		Cond. (lbs/hr)	185	178	171	165	158	151	145	139	132
		FAT (°F)	68.9	77.6	86.2	94.8	103.2	111.6	119.9	128.2	136.3
100	338	Output (10 ³ btu/hr)	173	166	160	154	148	142	136	130	125
		Cond. (lbs/hr)	195	188	181	174	168	161	154	148	141
		FAT (°F)	72.2	81.0	89.6	98.2	106.7	115.1	123.5	131.8	140.0

If using 50 Hz power supply, derate output values by 6%. Above figures are based on calculations at sea level.

Steam Performance Tables

SRH1-20 @60 Hz

			Entering Air Temperature								
PSIG	°F	Performance	-10	0	10	20	30	40	50	60	70
10	239	Output (10 ³ btu/hr)	207	197	187	178	168	159	150	141	132
		Cond. (lbs/hr)	217	207	196	186	177	167	157	148	139
		FAT (°F)	44.3	52.9	61.2	69.7	78.1	86.4	94.6	102.8	110.9
20	259	Output (10 ³ btu/hr)	227	217	207	197	187	178	168	159	150
		Cond. (lbs/hr)	241	230	220	209	199	189	179	169	159
		FAT (°F)	49.4	58.0	66.5	75.0	83.4	91.7	100	108.1	116.2
40	287	Output (10 ³ btu/hr)	251	240	230	220	210	201	191	182	172
		Cond. (lbs/hr)	272	261	250	239	228	218	207	197	187
		FAT (°F)	55.7	64.4	73.0	81.5	90.0	98.4	106.7	115.0	123.2
60	307	Output (10 ³ btu/hr)	269	258	248	237	227	218	208	198	189
		Cond. (lbs/hr)	296	285	273	262	251	240	229	219	208
		FAT (°F)	60.3	69.1	77.7	86.4	94.9	103.3	111.7	120.0	128.3
80	324	Output (10 ³ btu/hr)	284	273	262	252	242	232	222	212	203
		Cond. (lbs/hr)	317	305	294	282	271	260	249	238	227
		FAT (°F)	64.3	73.1	81.8	90.4	99.0	107.5	115.9	124.3	132.6
100	338	Output (10 ³ btu/hr)	296	285	274	264	254	243	234	224	214
		Cond. (lbs/hr)	335	323	311	299	287	276	265	254	243
		FAT (°F)	67.4	76.3	85.0	93.7	102.3	110.8	119.3	127.7	136.0

If using 50 Hz power supply, derate output values by 6%. Above figures are based on calculations at sea level.

SRH1-24 @60 Hz

			Entering Air Temperature								
PSIG	°F	Performance	-10	0	10	20	30	40	50	60	70
10	239	Output (10 ³ btu/hr)	426	403	383	362	342	323	304	286	267
		Cond. (lbs/hr)	446	422	401	379	359	338	319	299	280
		FAT (°F)	77.9	85.1	92.5	99.8	107.0	114.2	121.2	128.1	135.0
20	259	Output (10 ³ btu/hr)	471	448	427	406	385	364	344	325	305
		Cond. (lbs/hr)	500	476	453	431	409	387	366	345	325
		FAT (°F)	87.2	94.7	102.1	109.4	116.6	123.7	130.6	137.5	144.3
40	287	Output (10 ³ btu/hr)	521	498	476	454	433	412	392	372	352
		Cond. (lbs/hr)	565	540	516	493	470	447	425	403	382
		FAT (°F)	97.6	105.2	112.7	120.1	127.4	134.7	141.7	148.7	155.6
60	307	Output (10 ³ btu/hr)	557	535	512	490	469	448	427	407	387
		Cond. (lbs/hr)	615	590	565	541	517	494	471	448	426
		FAT (°F)	105.3	113.0	120.6	128.1	135.5	142.8	149.9	157.0	163.9
80	324	Output (10 ³ btu/hr)	589	566	543	521	499	477	456	436	415
		Cond. (lbs/hr)	659	633	608	583	558	534	510	487	465
		FAT (°F)	111.9	119.7	127.3	134.9	142.3	149.6	156.9	164.0	171.0
100	338	Output (10 ³ btu/hr)	614	591	568	545	523	501	480	459	439
		Cond. (lbs/hr)	696	669	643	618	593	568	544	520	497
		FAT (°F)	117.1	124.9	132.7	140.3	147.8	155.1	162.4	169.6	176.7

If using 50 Hz power supply, derate output values by 6%. Above figures are based on calculations at sea level.

Steam Performance Tables

SRH1-30 @60 Hz

		Entering Air Temperature									
PSIG	°F	Performance	-10	0	10	20	30	40	50	60	70
10	239	Output (10 ³ btu/hr)	658	625	593	561	530	499	470	441	412
		Cond. (lbs/hr)	690	655	621	588	555	523	492	462	432
		FAT (°F)	84.0	91.2	98.4	105.4	112.4	119.2	126.1	132.7	139.3
20	259	Output (10 ³ btu/hr)	711	678	644	612	580	549	520	490	461
		Cond. (lbs/hr)	755	719	684	650	617	584	552	520	490
		FAT (°F)	91.6	98.9	106.1	113.2	120.3	127.1	134.1	140.8	147.5
40	287	Output (10 ³ btu/hr)	788	753	720	686	654	622	591	561	531
		Cond. (lbs/hr)	854	817	780	744	709	675	641	608	576
		FAT (°F)	102.4	109.9	117.2	124.5	131.7	138.7	145.6	152.5	159.3
60	307	Output (10 ³ btu/hr)	844	809	775	741	708	676	644	613	583
		Cond. (lbs/hr)	931	892	854	817	781	745	710	676	643
		FAT (°F)	110.5	118.0	125.5	132.8	140.1	147.1	154.2	161.1	168.0
80	324	Output (10 ³ btu/hr)	892	857	821	787	754	721	688	657	627
		Cond. (lbs/hr)	998	958	919	880	843	806	770	735	701
		FAT (°F)	117.4	125.0	132.5	139.9	147.1	154.3	161.4	168.4	175.3
100	338	Output (10 ³ btu/hr)	930	894	859	824	790	757	725	693	661
		Cond. (lbs/hr)	1054	1013	973	933	895	857	821	785	749
		FAT (°F)	122.9	130.6	138.1	145.5	152.9	160.1	167.2	174.2	181.2

If using 50 Hz power supply, derate output values by 6%. Above figures are based on calculations at sea level.

How to Order

When ordering please follow the “**Model Code Sequence Required for Ordering**” format on page 3 to specify base model, motor voltage, phase, frequency and motor enclosure type. If ordering explosion-proof motors also specify motor hazardous location area rating required.

Example Model Code: SRH1-16-C-1-230160-E (suitable for Class I, Div.1, Group D, T3B)

Nomenclature

10³ – 1000

BTU – British Thermal Unit

Cond. – Condensate Flow Rate

FPM – Feet Per Minute

FAT – Final Air Temperature

PSIG – Pounds Per Square Inch Gauge Pressure

CFM – Cubic Feet Per Minute

SRH Specifications by Model Size

Model		SRH1-12	SRH1-16	SRH1-20	SRH1-24	SRH1-30
Fan diameter	in. (mm)	12 (304.8)	16 (406.4)	20 (508.0)	24 (609.6)	30 (762.0)
Air delivery*	cfm (m ³ /hr)	1090 (1852)	1650 (2803)	3000 (5097)	3800 (6456)	5500 (9344)
Approx. air velocity*	fpm (m/s)	1305 (6.6)	1111 (5.6)	1309 (6.6)	1138 (5.8)	1066 (5.4)
Air throw* @ 15 psi steam	ft (m)	45 (13.7)	65 (19.8)	70 (21.3)	80 (24.4)	85 (25.9)
Motor power	hp (watts)	¼ (186)	¼ (186)	½ (373)	½ (373)	1 (746)
Rec. min. mounting height	ft (m)	7.5 (2.3)	7.5 (2.3)	7.5 (2.3)	7.5 (2.3)	7.5 (2.3)
Net weight	lbs (kg)	78 (35.4)	98 (44.4)	132 (59.9)	200 (90.7)	257 (116.6)
Approx. shipping weight	lbs (kg)	138 (62.6)	158 (71.7)	207 (93.9)	275 (124.7)	347 (157.4)

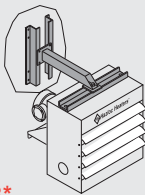
* At 70°F (21°C), 60 Hz and sea level.

SRH General Specifications

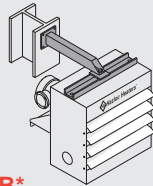
Approval	CRN: 0H6664.2 - steam or fluids (not for use with lethal fluids as defined by ASME, Section VIII, Div. 1, A03, UW-2).
Maximum pressure rating	100 psig (689 kPa).
Maximum design temperature	550 °F (288°C).
Cabinet material	14-gauge (0.075 in.) (1.9 mm) steel. Yellow epoxy/polyester powder coated with five-stage pretreatment, including iron phosphate.
Louver blades	Anodized extruded aluminum.
Fan	Spark-proof three-blade aluminum (except SRH1-30 which is two blade).
Fan guard	Split design with close wire spacing. A 3/8 in. (9.5 mm) diameter probe will not enter.
Motor type	Thermally protected CSA or UL Listed 1725 RPM permanently lubricated ball bearing type with 56 frame. See page 3 for ordering requirements.
Mounting holes	5/8 in. - 11 UNC – 4 holes at top of heater (2 holes, SRH1-12).
Fluid connections	2 in. NPT female inlet and outlet.
Header material	Minimum 12 gauge (0.105 in.) (2.7 mm) carbon steel conforming to ASME requirements.
Finned tubes	5/8 in. (15.9 mm) outside diameter [16-gauge, 0.065 in. (1.6 mm) wall thickness] carbon steel tubes with 1-1/2 in. (38.1 mm) outside diameter copper-free, L-foot, tension-wound aluminum fins @ 10 fins per in.



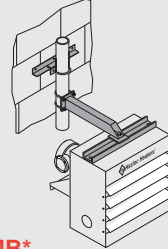
Accessories - Mounting Brackets



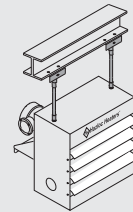
WMB*
Wall Mounting Bracket
 For use in buildings that have substantial walls. The Z sections provide additional support where necessary.



BMB*
Basic Mounting Bracket
 For applications where the support arm can be bolted or welded directly to structural steel or concrete.



PMB*
Pipe Mounting Bracket
 For buildings with insufficient strength to use other types of mounting brackets. Requires 3 in. pipe (3.5 in. O.D., min. Sch. 40, not supplied).



HMB
Hanging Mounting Bracket
 Ideal and economical if adequate overhead structure exists. Requires 1/2 in. pipe, cut and threaded (min. Sch. 40 not supplied).

Note: When ordering mounting brackets, please specify the type of bracket preferred and the basic model code of the heater to be mounted. Example, **PMB-SRH1-16**.
 Mounting kits are made of steel with a black enamel paint finish.
 Structural support of heater and bracket during transit is required.

* Not suitable for model SRH1-30

Thermostats

ET5STS (SPST)

Line-Voltage Thermostat
 22 Amps Resistive Load, 277 VAC Max
 3/4 HP@125 VAC; 1-1/2 HP@ 250/277 VAC
 Ship wt - 0.6 lbs (0.28 kg)



TBX1 (SPDT)

Explosion-proof Thermostat -
 Class I, Groups C&D, Class II, Groups E, F & G
 Temperature range: 40°F to 80°F (5°C to 27°C),
 3/4" - NPT conduit opening on top and bottom.
 22 Amps Resistive Load, 277 VAC Max; 3/4 HP@125 VAC; 1-1/2 HP@ 250/277 VAC
 Overall dimensions - 6.4 in (16.2 cm) W x 5.6 in (14.3 cm) H x 4.4 in (11.1 cm) D
 Ship wt - 5.3 lbs (2.4 kg)



Additional Products Available



HUH

The HUH series of heat-exchanger unit heaters is designed for steam, hot water, glycol or other fluid circulating heating systems. Suitable for pressures and temperatures up to 400 psi and 550 °F respectively. Meets ASME requirements with a CRN.



HHP

The HHP high performance series of heat-exchanger unit heaters is designed for steam, hot water, glycol or other fluid circulating heating systems. Suitable for pressures and temperatures up to 450 psi and 550 °F respectively. Meets ASME requirements with a CRN.



XEU1

The XEU1 series of explosion-proof electric air heaters are designed to meet U.S. and Canadian certification standards. The three sizes of XEU1 heaters are available in 27 model choices of voltage and heat output combinations to meet your specific requirements.

Hazloc Heaters™ *“Safe heat when you need it!”*

Hazloc Heaters™ is committed to a high standard of quality and on-time delivery performance. Upon acceptance of your order you can be assured your heater will ship when promised.

That is our commitment to you!

Limited 18-Month Warranty

Hazloc Heaters™ warrants all **SRH** series of explosion-proof electric heaters against defects in materials and workmanship under normal conditions of use for a period of eighteen (18) months from date of purchase based on the following terms:

1. The heater must not be modified in any way.
2. The heater must be stored, installed and used only in accordance with the owner's manual and attached data plate information.
3. Replacement parts will be provided free of charge as necessary to restore any unit to normal operating condition, provided that the defective parts be returned to us freight prepaid and that the replacement parts be accepted freight collect.
4. The complete heater may be returned to our manufacturing plant for repair or replacement (at our discretion), freight charges prepaid.
5. Contamination by dirt, dust, etc. or corrosion will not be considered as defects.
6. This warranty shall be limited to the actual equipment involved and, under no circumstances, shall include or extend to installation or removal costs, or to consequential damages or losses.



Hazloc Heaters™

Safe heat when you need it!

#1, 666 Goddard Ave. NE
Calgary, Alberta T2K 5X3 Canada
Tel.: +1-403-730-2488
Fax: +1-403-730-2482
Customer Toll Free (U.S. & Canada):
+1-866-701-Heat (4328)
www.HazlocHeaters.com

Available from: