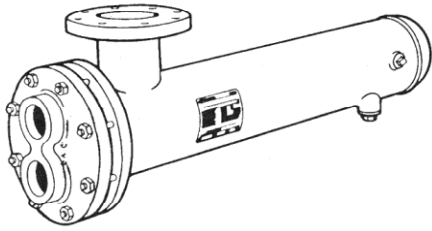


JOB	B & G REPRESENTATIVE	
UNIT TAG NO.	ORDER NO.	DATE
ENGINEER	SUBMITTED BY	DATE
CONTRACTOR	APPROVED BY	DATE



## 10" Series Type "SU" Heat Exchangers "U" Tube Design

### DESCRIPTION

B&G "SU" Heat Exchangers are of the shell and tube type. The tube bundle is of "U" bend construction with tube ends expanded into a stationary tube sheet. This construction permits ample expansion or contraction for wide temperature variations. A fluid entering the tubes is heated by steam condensing in the single pass shell. Tube spacers properly support and space each tube for maximum efficiency in steam condensing and drainage.

Standard "SU" Heat Exchangers are constructed according to ASME requirements for pressures and temperature. A Manu-

facturers' Data Report for Pressure Vessels, Form No. U-1, as required by the provisions of the ASME Code Rules, is furnished with each unit upon request. This form is signed by an authorized inspector, holding a National Board Commission, and who is employed by an authorized inspection agency, certifying that construction conforms to the latest ASME Code for pressure vessels. The ASME "U" symbol is stamped on each vessel. In addition, each unit is registered with the National Board of Boiler and Pressure Vessel Inspectors.

### RECOMMENDED "SU" HEAT EXCHANGER

MODEL NO. \_\_\_\_\_

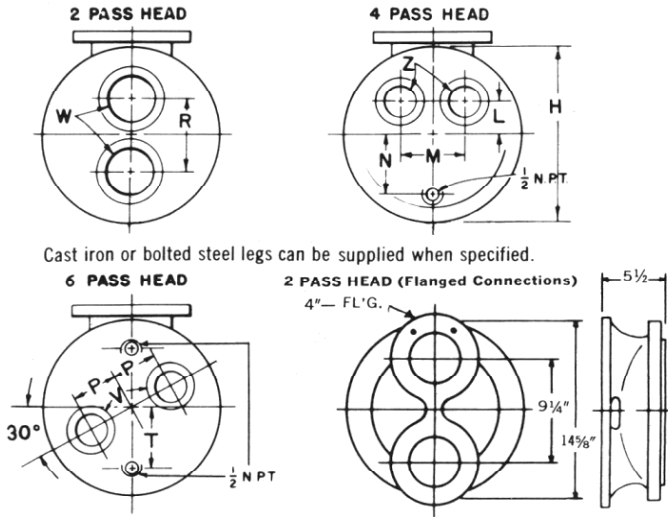
HEATING SURFACE (SQ. FT.) \_\_\_\_\_

	OPERATING DATA	
	TUBE SIDE	SHELL SIDE
1. Steam Pressure .....	_____	_____
2. Fluid Circulated .....	_____	_____
3. Total Flow (Expressed in GPM, GPH, or lbs./hr.) .....	_____ / _____	_____ / _____
4. Temperature In/Out .....	_____	_____
5. Heat Load BTU/hr. ....	_____	_____
6. Pressure Drop (Maximum) .....	_____	_____
7. Fouling Factor or Percentage of Additional Surface .....	_____	_____
<b>Note:</b> Following applies only for fluids other than water.		
8. Specific Gravity .....	_____	_____
9. Specific Heat .....	_____	_____
10. Latent Heat .....	_____	_____
11. Viscosity** .....	_____	_____
12. Thermal Conductivity .....	_____	_____

**APPROVALS**

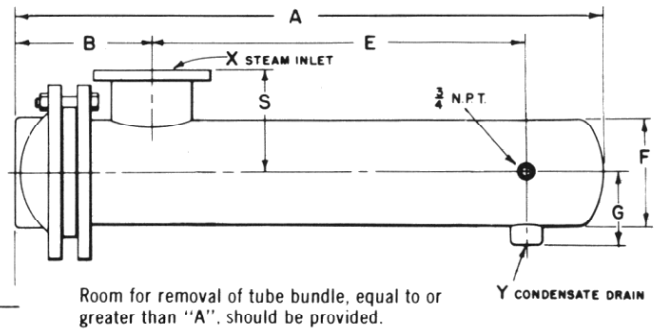
\*\* Expressed in Proper Units and Temperature such as centipoises @ °F.

# 10" Series TYPE "SU" HEAT EXCHANGERS ("U" Tube Design)



Cast iron or bolted steel legs can be supplied when specified.

Shellside flange connections for field piping are 150# RF ANSI Flanges.



Optional cast iron flange connections for field piping drilled and faced per 150# ANSI standards.

Complete sales number consists of example: SU-106-6  
 "SU" type U tube  
 Shell diameter in inches  
 Tube length in feet  
 Number of tube passes

## DIMENSIONS

UNIT NUMBER	HEAD DIMENSIONS IN INCHES											DIMENSIONS IN INCHES										HEATING SURFACE SQ. FT.			Approx. Shpg. Wt. (lbs.)
	2 Pass			4 Pass				6 Pass				2, 4 & 6 Pass										2 Pass	4 Pass	6 Pass	
	W	R	L	M	N	Z	P	T	V	A	B	E	F	G	H	S	X	Y							
SU102-2	SU102-4	SU102-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	29	10	11 3/4	10 3/4	6 1/2	14 3/4	6 3/4	3 NPT	1 NPT	27	25	21	184	
SU103-2	SU103-4	SU103-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	41	10	23 3/4	10 3/4	6 1/2	14 3/4	9 1/4	4 FLG	1 NPT	42	39	33	230	
SU104-2	SU104-4	SU104-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	53	10	35 3/4	10 3/4	6 1/2	14 3/4	9 1/4	4 FLG	1 1/4 NPT	56	53	45	276	
SU105-2	SU105-4	SU105-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	65	10	47 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	1 1/4 NPT	71	68	56	322	
SU106-2	SU106-4	SU106-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	77	10	59 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	1 1/2 NPT	86	82	68	368	
SU107-2	SU107-4	SU107-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	89	10	71 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	1 1/2 NPT	101	96	80	414	
SU108-2	SU108-4	SU108-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	101	10	83 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	2 NPT	116	110	92	460	
SU109-2	SU109-4	SU109-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	113	10	95 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	2 NPT	131	124	104	506	
SU1010-2	SU1010-4	SU1010-6	4 NPT	5 1/2	2 3/4	4 3/4	4 1/8	3 NPT	3 13/16	4 1/8	2 1/2 NPT	125	10	107 3/4	10 3/4	6 1/2	14 3/4	9 1/4	6 FLG	2 NPT	146	138	116	552	

Dimensions are subject to change. If exact dimensions are needed for layout, write for certified prints.

## DESIGN PRESSURES—ASME CONSTRUCTION CAST IRON & BRASS UNITS

DESIGN PRESSURES*				DESIGN TEMPERATURES*	
TUBE SIDE		SHELL SIDE		TUBE & SHELL SIDE	
DESIGN	TEST	DESIGN	TEST	CAST IRON	BRASS
<b>4 &amp; 6 Pass</b>					
150 psi	300 psi	150 psi	300 psi	375 F	300 F
<b>2 Pass</b>					
125 psi	250 psi	150 psi	300 psi	375 F	300 F
<b>2 Pass Head (Flanged Connections) Cast Iron only</b>					
150 psi	300 psi	150 psi	300 psi	375 F	—

\*For design pressures and temperatures higher than shown or materials of construction not shown, consult B & G Representative.

## MATERIALS\*

PART	STANDARD CAST IRON UNIT	BRASS UNIT
	2, 4 & 6 Pass	2 & 4 Pass
Head	Cast Iron	Cast Brass
Shell	Steel	Steel
Tube Sheet	Steel	Rolled Naval Brass
Tubing	Copper 3/4" O.D.	Copper 3/4" O.D.
Tube Supports	Steel	Steel
Nuts & Bolts	Steel	Steel

## TYPICAL INSTALLATION OF "SU" HEAT EXCHANGER

Steam hammer can cause serious damage to the tubes of any Heat Exchanger. A careful consideration of the following points before an installation is made can prevent costly repairs which may be caused by steam hammer.

- A vacuum breaker and/or vent, should be used in accordance with the type of steam system installed.
- The proper trap for the steam system installed should be used.
- The trap and the condensate return line to the trap should be properly sized for the total capacity of the converter.
- The trap should be sized for the pressure at the trap, not the inlet pressure to the steam controller.

**CAUTION:** A properly sized relief valve must be installed on the heated water side to protect heat exchangers from possible damage due to volumetric expansion.

