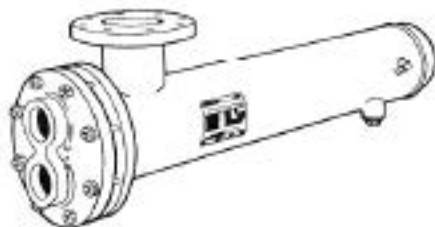


JOB	B & G REPRESENTATIVE	
UNIT TAG NO.	ORDER NO.	DATE
ENGINEER	SUBMITTED BY	DATE
CONTRACTOR	APPROVED BY	DATE



## 14" 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.

MODEL NO. \_\_\_\_\_  
HEATING SURFACE (SQ. FT.) \_\_\_\_\_

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 .....
- Note:** Following applies only for fluids other than water.
8. Specific Gravity .....
  9. Specific Heat .....
  10. Latent Heat .....
  11. Viscosity\*\* .....
  12. Thermal Conductivity .....

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

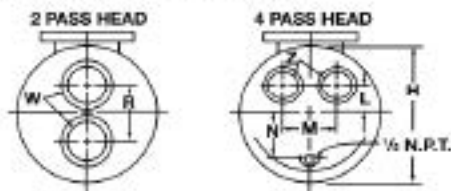
OPERATING DATA	
TUBE SIDE	SHELL SIDE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

### APPROVALS

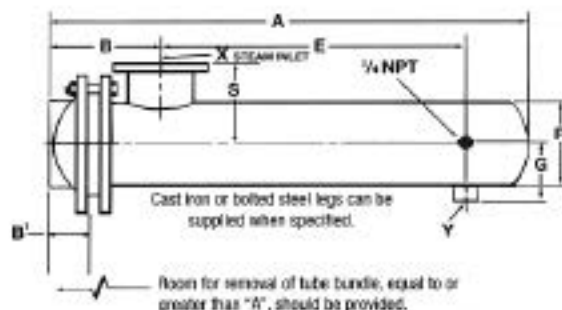


# 14" SERIES TYPE "SU" HEAT EXCHANGERS ("U" TUBE DESIGN)

Standard Cast Iron Heads



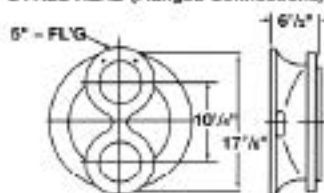
Shellside flange connectors for field piping are 150# RF ANSI flanges.



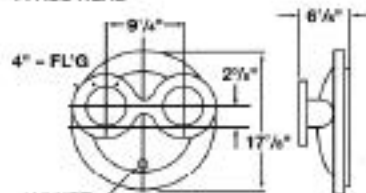
## OPTIONAL CAST IRON

150 psi Design Pressure Heads (Flanged Connections)

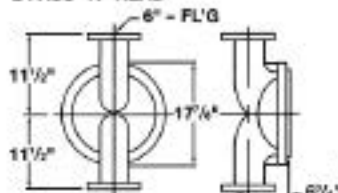
2 PASS HEAD (Flanged Connections)



4 PASS HEAD



2 PASS "K" HEAD



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

"SU" type U-tube  
Shell diameter in inches  
Tube length in feet  
Number of tube passes

Complete sales number consists of example: SU-146-2

## DIMENSIONS

UNIT NUMBER	HEAD DIMENSIONS IN INCHES												DIMENSIONS IN INCHES									HEATING SURFACE SQ. FT.			APPRX. SHPG. WT. (LBS.)
	2 PASS			4 PASS				6 PASS					2, 4 & 6 PASS**									2 PASS	4 PASS	6 PASS	
	B'	W	R	B'	L	M	N	Z	B'	P	T	V	A	B	E	F	G	H	S	X	Y	2 PASS	4 PASS	6 PASS	
SU143-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	44 1/4	15 1/2	21 3/4	14	8 1/2	17 1/2	11 1/2	6 FLG	1 1/2 NPT	86	83	72	449
SU144-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	56 1/4	15 1/2	33 1/4	14	8 1/2	17 1/2	11 1/2	6 FLG	2 NPT	116	111	97	534
SU145-*	5 1/2	8 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	68 1/4	15 1/2	45 1/4	14	8 1/2	17 1/2	11 1/2	6 FLG	2 NPT	146	139	122	619
SU146-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	80 1/4	15 1/2	57 1/4	14	8 1/2	17 1/2	11 1/2	8 FLG	2 NPT	175	167	147	704
SU147-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	92 1/4	15 1/2	69 1/4	14	8 1/2	17 1/2	11 1/2	8 FLG	2 1/2 NPT	204	196	171	789
SU148-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	104 1/4	15 1/2	81 1/4	14	8 1/2	17 1/2	11 1/2	8 FLG	2 1/2 NPT	234	224	196	874
SU149-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	116 1/4	15 1/2	93 1/4	14	8 1/2	17 1/2	11 1/2	10 FLG	2 1/2 NPT	263	252	221	959
SU1410-*	5 1/2	6 NPT	8	4 1/2	3 1/2	5 1/2	6 1/2	4 NPT	-	-	-	-	128 1/4	15 1/2	105 1/4	14	8 1/2	17 1/2	11 1/2	10 FLG	3 NPT	292	280	246	1044

Dimensions are subject to change. If exact dimensions are needed for layout, write for certified prints. \*Number of tube-side passes (2, 4, or 6).

\*\*All 6 pass are built to order. Consult factory for dimensions.

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

DESIGN PRESSURES*				DESIGN TEMPERATURES* TUBE & SHELL SIDE	
TUBE SIDE		SHELL SIDE		CAST IRON	BRASS
DESIGN	TEST	DESIGN	TEST		
125 psi	250 psi	150 psi	300 psi	375F	300F
<b>2 &amp; 4 PASS HEAD (FLANGED CONNECTIONS) CAST IRON ONLY</b>					
150 psi	300 psi	150 psi	300 psi	375F	-

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

## MATERIALS

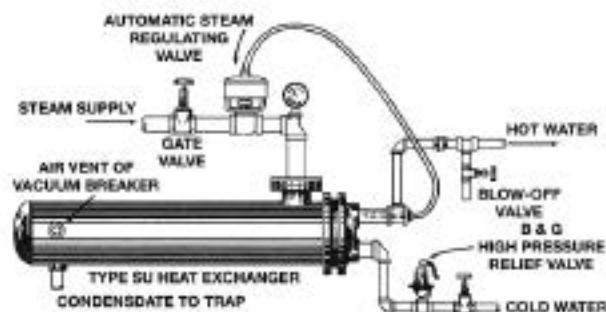
PART	STANDARD CAST IRON UNIT	BRASS UNIT
	2, 4 & 6 Pass	2 & 4 Pass
Head	Cast Iron	Cast Brass
Shell	Steel	Steel
Tube Sheet	Steel	Rolled Naval Brass
Tubing	Copper	Copper
Tube Supports	3/4" O.D.	3/4" O.D.
Nuts & Bolts	Steel	Steel

## 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.



For further information, contact Bell & Gossett Heat Transfer Products, 175 Standard Parkway, Cheektowaga, NY 14227, Phone: (716) 862-4171 - Facsimile: (716) 862-4176 -

