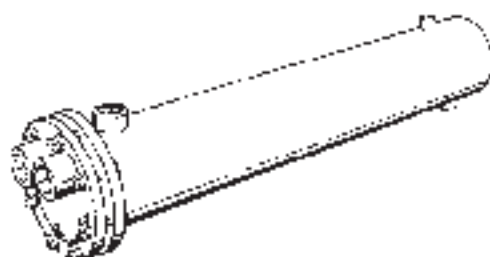


JOB		B&G REPRESENTATIVE	
UNIT TAG NO.	DESCRIPTION	DATE	
ENGINEER	SUBMITTED BY	DATE	
CONTRACTOR	APPROVED BY	DATE	



DIAMONDBACK Series Double-Wall Heat Exchangers Types "DSU", "DWU", & "DTC" "U" Tube Design

DESCRIPTION

B&G DIAMONDBACK Series heat exchangers are of the shell and tube type. The tube bundle is of double-wall "U" bend construction with an air gap between each tube vented to atmosphere. Each inner and outer tube end is roller expanded into stationary tube sheets. This construction permits detection of a total leak to the exterior of the heat exchanger in the event of a failure in either the inner or outer tube wall.

In a Type "DWU" heat exchanger, a fluid entering the tubes is heated or cooled by a fluid circulating through a baffled shell. The unit is designed primarily for pumped circulation through the shell.

In a Type "DSU" heat exchanger, a fluid entering the tubes is heated by steam condensing in a shell. Tube spacers properly support and space each tube for maximum efficiency in steam condensing and drainage.

In a Type "DTC" tank heater, a fluid in the tank is heated by a fluid or steam circulated through the tubes. The unit is designed primarily for natural convection in the tank. Tank circulation or agitation will enhance heat transfer performance.

OPERATING DATA

MODEL NUMBER		
HEATING SURFACE (SQ. FT.)		
	TUBE SIDE	SHELL/TANK 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)		
8. 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 Expressed in Proper Units and Temperature such as centipoises @ °F.		
12. Thermal Conductivity		

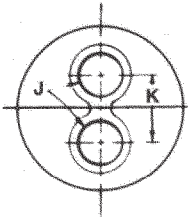
APPROVALS

* Applies only when steam is used as a heating medium.

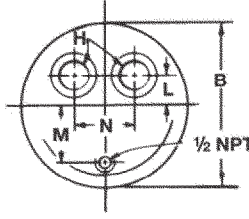
TYPE "DSU" HEAT EXCHANGERS (Steam to Liquid Heat Transfer — Double-Wall "U" tube design)

STANDARD CAST IRON HEADS

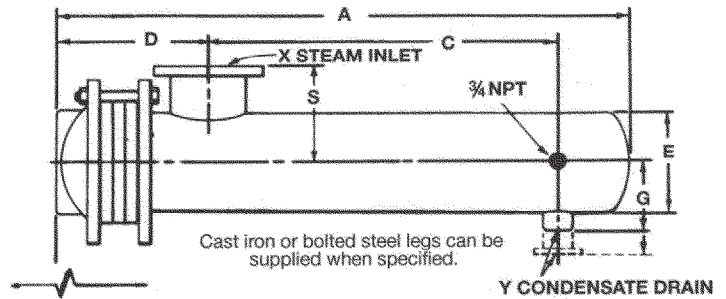
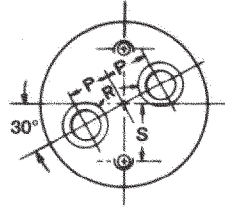
2 PASS HEAD



4 PASS HEAD



6 PASS HEAD



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

Room for removal of tube bundle, equal to or greater than "A", should be provided.

Complete sales number consists of example: DSU-86-6

"DSU" type "U" tube
Shell Diameter in inches
Tube length in feet
Number of tube passes

DIMENSIONS 4" THRU 12" DIAMETER

UNIT NUMBER			HEAD DIMENSIONS IN INCHES									DIMENSIONS IN INCHES										HEATING SURFACE SQ. FT.			APPROX. SHPG. WT.
			2 PASS			4 PASS			6 PASS			2, 4 & 6 PASS													
2 PASS	4 PASS	6 PASS	J	K	L	N	M	H	P	S	R	A	B	C	D	E	G	T	X	Y	2 PASS	4 PASS	6 PASS	(lbs.)	
DSU42-2	DSU42-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	29⅞	7¼	16¼	7½	4½	3⅞	3⅞	2 NPT	1 NPT	4.5	4.5	—	65	
DSU43-2	DSU43-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	41⅞	7¼	28¼	7½	4½	3⅞	3⅞	2 NPT	1 NPT	6.8	6.8	—	82	
DSU44-2	DSU44-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	53⅞	7¼	40¼	7½	4½	3⅞	3⅞	3 NPT	1 NPT	9.2	9.2	—	98	
DSU45-2	DSU45-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	65⅞	7¼	52¼	7½	4½	3⅞	3⅞	3 NPT	1 NPT	11.5	11.5	—	115	
DSU46-2	DSU46-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	77⅞	7¼	64¼	7½	4½	3⅞	3⅞	3 NPT	1 NPT	13.9	13.9	—	131	
DSU47-2	DSU47-4	—	1½ NPT	2½	1	2¼	1¾	1¼ NPT	—	—	—	89⅞	7¼	76¼	7½	4½	3⅞	3⅞	3 NPT	1 NPT	16.3	16.3	—	148	
DSU62-2	DSU62-4	DSU62-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	29	10½	15½	8¼	6¼	4½	4½	1½ NPT	1 NPT	8.0	8.0	6.0	91	
DSU63-2	DSU63-4	DSU63-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	41	10½	27½	8¼	6¼	4½	4½	2 NPT	1 NPT	12.7	12.7	9.6	123	
DSU64-2	DSU64-4	DSU64-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	53	10½	39½	8¼	6¼	4½	5⅞	2½ NPT	1 NPT	17.4	17.4	13.1	156	
DSU65-2	DSU65-4	DSU65-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	65	10½	51½	8¼	6¼	4½	5⅞	2½ NPT	1 NPT	22.1	22.1	16.7	188	
DSU66-2	DSU66-4	DSU66-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	77	10½	63½	8¼	6¼	4½	5⅞	3 NPT	1 NPT	26.8	26.8	20.2	221	
DSU67-2	DSU67-4	DSU67-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	89	10½	75½	8¼	6¼	4½	5⅞	3 NPT	1 NPT	31.5	31.5	23.8	253	
DSU68-2	DSU68-4	DSU68-6	2 NPT	3¼	1⅞	3⅞	2⅞	1½ NPT	2⅞	2⅞	1¼ NPT	101	10½	87½	8¼	6¼	4½	5⅞	3 NPT	1 NPT	36.2	36.2	27.3	286	
DSU82-2	DSU82-4	DSU82-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	30	12½	13	10⅞	8¼	5½	5⅞	2 NPT	1 NPT	15	15	12	152	
DSU83-2	DSU83-4	DSU83-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	42	12½	25	10⅞	8¼	5½	6¼	2½ NPT	1 NPT	23	23	19	201	
DSU84-2	DSU84-4	DSU84-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	54	12½	37	10⅞	8¼	5½	6¼	3 NPT	1 NPT	32	32	26	251	
DSU85-2	DSU85-4	DSU85-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	66	12½	49	10⅞	8¼	5½	8⅞	4 FLG	1 NPT	41	41	33	301	
DSU86-2	DSU86-4	DSU86-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	78	12½	61	10⅞	8¼	5½	8⅞	4 FLG	1½ NPT	49	49	41	350	
DSU87-2	DSU87-4	DSU87-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	90	12½	73	10⅞	8¼	5½	8⅞	4 FLG	1½ NPT	58	58	48	400	
DSU88-2	DSU88-4	DSU88-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	102	12½	85	10⅞	8¼	5½	8⅞	6 FLG	1½ NPT	67	67	55	450	
DSU89-2	DSU89-4	DSU89-6	3 NPT	5	2	4	3½	2 NPT	3	3¼	2 NPT	114	12½	97	10⅞	8¼	5½	8⅞	6 FLG	1½ NPT	75	75	62	499	
DSU102-2	DSU102-4	DSU102-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	30¾	14¾	11¼	11¼	10¾	6⅞	7⅞	3 NPT	1 NPT	27	25	21	254	
DSU103-2	DSU103-4	DSU103-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	42¾	14¾	23¾	11½	10¾	6⅞	9¾	4 FLG	1 NPT	42	39	33	324	
DSU104-2	DSU104-4	DSU104-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	54¾	14¾	35¾	11½	10¾	6⅞	9¾	4 FLG	1½ NPT	56	53	45	392	
DSU105-2	DSU105-4	DSU105-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	66¾	14¾	47¾	11½	10¾	6⅞	9¾	6 FLG	1½ NPT	71	67	56	462	
DSU106-2	DSU106-4	DSU106-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	78¾	14¾	59¾	11½	10¾	6⅞	9¾	6 FLG	1½ NPT	86	82	68	531	
DSU107-2	DSU107-4	DSU107-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	90¾	14¾	71¾	11½	10¾	6⅞	9¾	6 FLG	1½ NPT	101	96	80	601	
DSU108-2	DSU108-4	DSU108-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	102¾	14¾	83¾	11½	10¾	6⅞	9¾	6 FLG	2 NPT	116	110	92	670	
DSU109-2	DSU109-4	DSU109-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	114¾	14¾	95¾	11½	10¾	6⅞	9¾	6 FLG	2 NPT	131	124	104	740	
DSU110-2	DSU110-4	DSU110-6	4 NPT	5½	2½	4¾	4¾	3 NPT	3⅞	4¾	2½ NPT	126¾	14¾	107¾	11½	10¾	6⅞	9¾	6 FLG	2 NPT	146	138	116	810	
DSU123-2	DSU123-4	DSU123-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	42¼	16½	21½	13¼	12¼	7⅞	10⅞	4 FLG	1½ NPT	61	58	50	433	
DSU124-2	DSU124-4	DSU124-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	54¼	16½	33½	13¼	12¼	7⅞	10⅞	6 FLG	1½ NPT	83	78	68	536	
DSU125-2	DSU125-4	DSU125-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	66¼	16½	45½	13¼	12¼	7⅞	10⅞	6 FLG	1½ NPT	104	98	86	639	
DSU126-2	DSU126-4	DSU126-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	78¼	16½	57½	13¼	12¼	7⅞	10⅞	6 FLG	2 NPT	126	119	103	742	
DSU127-2	DSU127-4	DSU127-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	90¼	16½	69½	13¼	12¼	7⅞	10⅞	8 FLG	2 NPT	147	139	121	845	
DSU128-2	DSU128-4	DSU128-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	102¼	16½	81½	13¼	12¼	7⅞	10⅞	8 FLG	2 NPT	169	160	139	948	
DSU129-2	DSU129-4	DSU129-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	114¼	16½	93½	13¼	12¼	8¼	10⅞	8 FLG	2½ NPT	191	180	157	1052	
DSU1210-2	DSU1210-4	DSU1210-6	4 NPT	7¼	2½	5½	5½	4 NPT	4½	5⅞	3 NPT	126¼	16½	105½	13¼	12¼	8¼	10⅞	8 FLG	2½ NPT	212	200	174	1154	

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

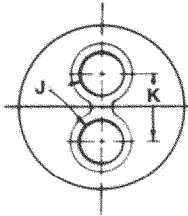
1) All 6 Pass are built to order

2) For 14" through 30" diameter, consult factory for dimensions.

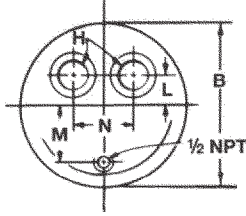
TYPE "DWU" HEAT EXCHANGERS (Liquid to Liquid Heat Transfer — Double-Wall "U" tube design)

STANDARD CAST IRON HEADS

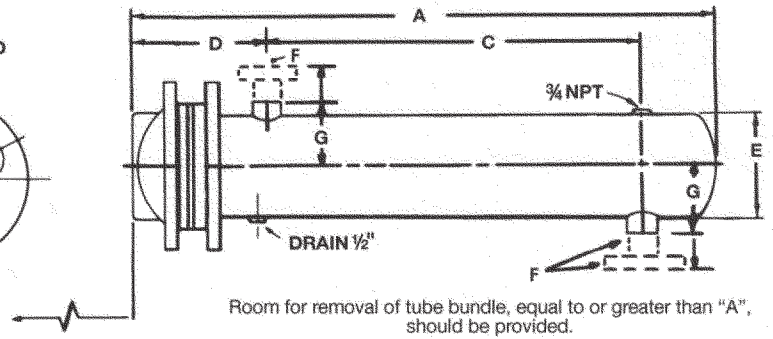
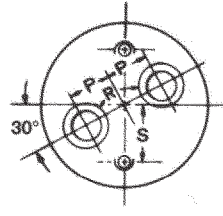
2 PASS HEAD



4 PASS HEAD



6 PASS HEAD



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

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

"DWU" type "U" tube
Shell Diameter in inches
Tube bundle length in feet
Number of tube passes
Baffle spacing in inches

Complete sales number consists of example: DWU-86-4 4

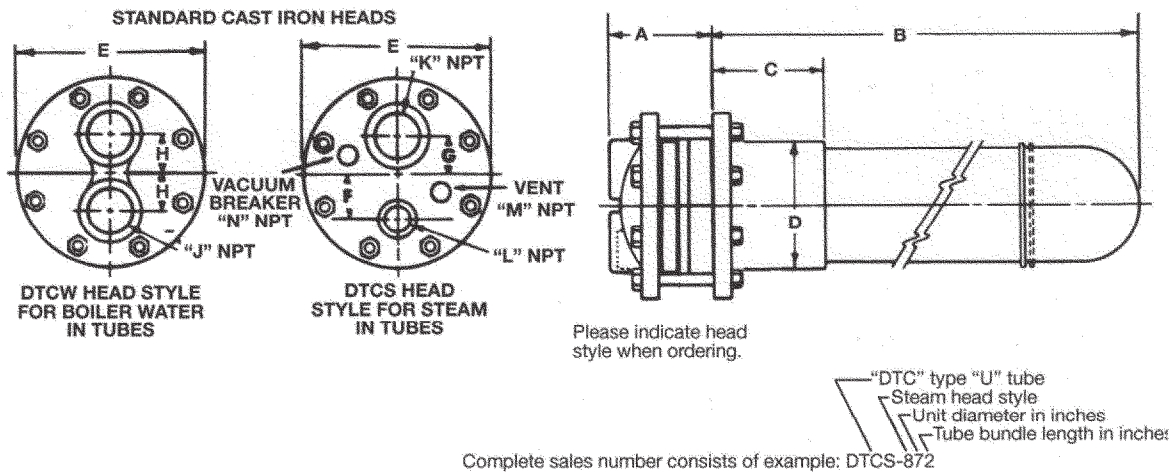
DIMENSIONS 4" THRU 12" DIAMETER

UNIT NUMBER			DIMENSIONS IN INCHES															HEATING SURFACE SQ. FT.			APPROX. SHPG. WT.	
			2 PASS		4 PASS				6 PASS			2, 4 & 6 PASS										
2 PASS	4 PASS	6 PASS	J	K	H	L	M	N	P	R	S	A	B	C	D	E	F	G	2 PASS	4 PASS	6 PASS	(lbs.)
DWU43-24	DWU43-44	—	1½ NPT	2½	1¼ NPT	1	1¼	2¼	—	—	—	41¼	7¼	29	7¼	4½	2½ NPT	3¼	6.8	6.8	—	90
DWU44-24	DWU44-44	—	1½ NPT	2½	1¼ NPT	1	1¼	2¼	—	—	—	53¼	7¼	41	7¼	4½	2½ NPT	3¼	9.2	9.2	—	106
DWU45-24	DWU45-44	—	1½ NPT	2½	1¼ NPT	1	1¼	2¼	—	—	—	65¼	7¼	53	7¼	4½	2½ NPT	3¼	11.5	11.5	—	123
DWU46-24	DWU46-44	—	1½ NPT	2½	1¼ NPT	1	1¼	2¼	—	—	—	77¼	7¼	65	7¼	4½	2½ NPT	3¼	13.9	13.9	—	139
DWU47-24	DWU47-44	—	1½ NPT	2½	1¼ NPT	1	1¼	2¼	—	—	—	89¼	7¼	77	7¼	4½	2½ NPT	3¼	16.3	16.3	—	156
DWU63-23	DWU63-43	DWU63-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	41	10½	27½	7¼	6½	2½ NPT	5⅞ ₁₆	12.7	12.7	9.6	155
DWU64-23	DWU64-43	DWU64-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	53	10½	39½	7¼	6½	2½ NPT	5⅞ ₁₆	17.4	17.4	13.1	188
DWU65-23	DWU65-43	DWU65-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	65	10½	51½	7¼	6½	2½ NPT	5⅞ ₁₆	22.1	22.1	16.7	220
DWU66-23	DWU66-43	DWU66-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	77	10½	63½	7¼	6½	2½ NPT	5⅞ ₁₆	26.8	26.8	20.2	253
DWU67-23	DWU67-43	DWU67-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	89	10½	75½	7¼	6½	2½ NPT	5⅞ ₁₆	31.5	31.5	23.8	285
DWU68-23	DWU68-43	DWU68-63	2 NPT	3¼	1½ NPT	1⅞ ₃₂	2⅞ ₁₆	3⅞ ₁₆	2⅞ ₃₂	1¼ NPT	2⅞ ₁₆	101	10½	87½	7¼	6½	2½ NPT	5⅞ ₁₆	36.2	36.2	27.3	318
DWU84-24	DWU84-44	DWU84-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	54	12½	37	9½	8½	4" FLG	8⅞ ₁₆	32	32	26	289
DWU85-24	DWU85-44	DWU85-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	66	12½	49	9½	8½	4" FLG	8⅞ ₁₆	41	41	33	339
DWU86-24	DWU86-44	DWU86-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	78	12½	61	9½	8½	4" FLG	8⅞ ₁₆	49	49	41	388
DWU87-24	DWU87-44	DWU87-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	90	12½	73	9½	8½	4" FLG	8⅞ ₁₆	58	58	48	438
DWU88-24	DWU88-44	DWU88-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	102	12½	85	9½	8½	4" FLG	8⅞ ₁₆	67	67	55	489
DWU89-24	DWU89-44	DWU89-64	3 NPT	5	2 NPT	2	3½	4	3	2 NPT	3¼	114	12½	97	9½	8½	4" FLG	8⅞ ₁₆	75	75	62	537
DWU104-25	DWU104-45	DWU104-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	54½	14½	36½	10½	10½	4" FLG	9½	56	53	45	447
DWU105-25	DWU105-45	DWU105-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	66½	14½	48½	10½	10½	4" FLG	9½	71	68	56	524
DWU106-25	DWU106-45	DWU106-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	78½	14½	60½	10½	10½	4" FLG	9½	86	82	68	600
DWU107-25	DWU107-45	DWU107-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	90½	14½	72½	10½	10½	4" FLG	9½	101	96	80	677
DWU108-25	DWU108-45	DWU108-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	102½	14½	84½	10½	10½	4" FLG	9½	116	110	92	754
DWU109-25	DWU109-45	DWU109-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	114½	14½	96½	10½	10½	4" FLG	9½	131	124	104	830
DWU1010-25	DWU1010-45	DWU1010-65	4 NPT	5½	3 NPT	2½	4½	4½	3⅞ ₁₆	2½ NPT	4½	126½	14½	108½	10½	10½	4" FLG	9½	146	138	116	908
DWU124-26	DWU124-46	DWU124-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	57¼	16½	37¼	11½	12½	5" FLG	10½	83	78	68	629
DWU125-26	DWU125-46	DWU125-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	69¼	16½	49¼	11½	12½	5" FLG	10½	104	98	86	732
DWU126-26	DWU126-46	DWU126-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	81¼	16½	61¼	11½	12½	5" FLG	10½	126	119	103	835
DWU127-26	DWU127-46	DWU127-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	93¼	16½	73¼	11½	12½	5" FLG	10½	148	139	121	939
DWU128-26	DWU128-46	DWU128-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	105¼	16½	85¼	11½	12½	5" FLG	10½	169	160	139	1041
DWU129-26	DWU129-46	DWU129-66	4 NPT	7¼	4 NPT	2½	5½	5½	4½	3 NPT	5⅞ ₁₆	117¼	16½	97¼	11½	12½	5" FLG	10½	191	180	157	1145

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

- 1) All 6 Pass are built to order
- 2) For 14" through 30" diameter, consult factory for dimensions.

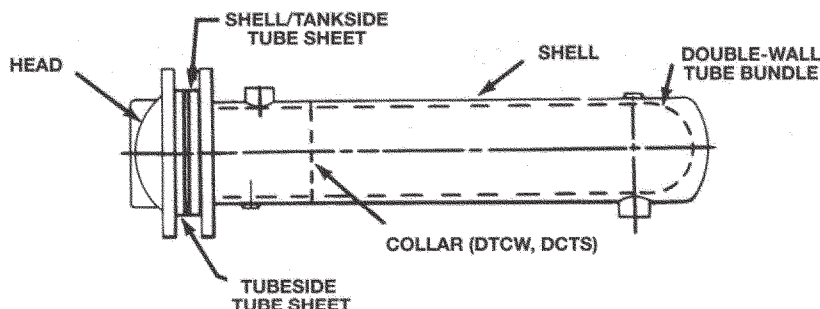
TYPE "DTC" HEAT EXCHANGERS (Steam or Liquid to Liquid Heat Transfer — Double-Wall "U" tube design)



HEATER NUMBER	HEATING SURFACE SQ. FT.	A		B	C	D	E	F	G	H	J	K	L	M	N	APPROX. SHPG. WT. LBS.
		DTCW	DTCS													
DTCW-DTCS-424	4.5	3	3	23 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	41
DTCW-DTCS-436	6.8	3	3	35 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	47
DTCW-DTCS-448	9.2	3	3	47 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	52
DTCW-DTCS-460	11.5	3	3	59 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	58
DTCW-DTCS-472	13.9	3	3	71 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	63
DTCW-DTCS-484	16.3	3	3	83 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	69
DTCW-DTCS-496	18.6	3	3	95 1/4	6 1/8	4 1/2	7 1/4	1 1/16	1 1/8	1 1/8	1 1/2	1 1/4	3/4	1/2	1/4	74
DTCW-DTCS-624	8.0	3 1/2	3 1/2	21 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	84
DTCW-DTCS-636	12.7	3 1/2	3 1/2	33 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	101
DTCW-DTCS-648	17.4	3 1/2	3 1/2	45 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	119
DTCW-DTCS-660	22.1	3 1/2	3 1/2	57 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	136
DTCW-DTCS-672	26.8	3 1/2	3 1/2	69 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	154
DTCW-DTCS-684	31.5	3 1/2	3 1/2	81 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	171
DTCW-DTCS-696	36.2	3 1/2	3 1/2	93 1/2	6 1/8	6 1/8	10 1/2	2 1/16	1 1/8	1 1/8	2	2	1	1/2	1/2	188
DTCW-DTCS-824	15	4 1/2	4 1/2	22 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	147
DTCW-DTCS-836	23	4 1/2	4 1/2	34 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	180
DTCW-DTCS-848	32	4 1/2	4 1/2	46 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	214
DTCW-DTCS-860	41	4 1/2	4 1/2	58 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	248
DTCW-DTCS-872	49	4 1/2	4 1/2	70 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	281
DTCW-DTCS-884	58	4 1/2	4 1/2	82 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	315
DTCW-DTCS-896	67	4 1/2	4 1/2	94 1/4	8	8 3/8	12 1/2	3 1/4	2 1/4	2 1/2	3	3	1 1/4	1/2	1/2	349
DTCW-DTCS-1024	27	4 1/2	4 1/2	23 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	268
DTCW-DTCS-1036	42	4 1/2	4 1/2	35 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	314
DTCW-DTCS-1048	56	4 1/2	4 1/2	47 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	358
DTCW-DTCS-1060	71	4 1/2	4 1/2	59 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	404
DTCW-DTCS-1072	86	4 1/2	4 1/2	71 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	449
DTCW-DTCS-1084	101	4 1/2	4 1/2	83 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	495
DTCW-DTCS-1096	116	4 1/2	4 1/2	95 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	541
DTCW-DTCS-10108	131	4 1/2	4 1/2	107 3/8	8 1/4	10 1/4	14 1/4	4 1/16	2 3/16	2 3/16	4	4	2	3/4	3/4	586
DTCW-DTCS-1236	61	5 1/2	6 1/8	36 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	436
DTCW-DTCS-1248	83	5 1/2	6 1/8	48 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	518
DTCW-DTCS-1260	104	5 1/2	6 1/8	60 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	600
DTCW-DTCS-1272	126	5 1/2	6 1/8	72 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	682
DTCW-DTCS-1284	149	5 1/2	6 1/8	84 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	764
DTCW-DTCS-1296	169	5 1/2	6 1/8	96 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	846
DTCW-DTCS-12108	191	5 1/2	6 1/8	108 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	929
DTCW-DTCS-12120	212	5 1/2	6 1/8	120 1/4	10 1/4	12 1/4	16 1/4	5 1/16	3 1/16	3 1/16	4	4	2	3/4	3/4	1010

Dimensions are subject to change. If exact dimensions are needed for layout, write for certified prints.
For 14" through 30" diameter, consult factory for dimensions.

COMPONENT NOMENCLATURE



CONSTRUCTION FEATURES AND MATERIALS

DESIGN PRESSURES				MATERIAL SPECIFICATIONS — Cast Iron and Brass Units								
SHELL DIAMETER	DESIGN PRES. TUBES PSI			TEST PRES. TUBES IN PSI	STANDARD UNIT		BRASS UNIT		SHELL COLLAR	TUBES INNER OUTER	TUBE SUPPORTS	NUTS & BOLTS
	2 PASS	4 PASS	6 PASS		HEAD	TUBE SHEETS	HEAD	TUBE SHEETS				
4"	150	150	CONSULT FACTORY	300	CAST IRON BONNET	1 STEEL	6 CAST BRASS BONNET	2 ROLLED NAVAL BRASS	3 STEEL	4 COPPER COPPER 90/10 CU-NI COPPER	5 STEEL BRASS	STEEL
6"	150	150		300								
8"	150	150		300								
10"	125*	150		250 (2P) 300 (4P)								
12"	125*	125*		250 (2&4P) 300 (6P)				STAINLESS STEEL				

* 150 lb. cast iron heads available on special order. See Submittal C-142 Rev. 3 for dimension.

- Both tubeside tubesheet and shell/tankside tubesheet are carbon steel.
- Either the tubeside tubesheet is brass or the shell/tankside tubesheet is stainless steel or 90/10 cupro-nickel. If require, both tubesheets may be materials other than carbon steel. The shellside/tankside tubesheet is not available in brass.
- All units 4" through 12" diameter have a shell/tankside design pressure of 150 PSI.
- Both inner and outer tubes are copper. Maximum design temperature is 375°F.
- Optional tubing includes 90/10 cupro-nickel tubing inner and copper tubing outer. Maximum design temperature is 450°F tubeside and 375°F shell/tankside.
- The "DWU" and "DSU" units have carbon steel baffles and tube supports respectively. The "DTC" tank heaters have brass tube supports.
- Cast 316SS heads are also available if a cast brass head is not desirable.

ASME CODE CONSTRUCTION & REGISTRATION

DIAMONDBACK Series heat exchangers are constructed in accordance to ASME Section VIII, Div. I requirements for pressures and temperatures noted in the table above. A Manufacturer's Data Report for Pressure Vessels, Form No. U-1, as required by the provisions of the ASME Code Rules is furnished with each Type "DSU" and "DWU" unit upon request. A Manufacturer's Partial Data Report for Pressure Vessels, Form No. U-2, is furnished with each Type "DTC" unit

upon request. These forms are signed by an authorized inspector, holding a National Board Commission, 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 Type "DSU" and "DWU" unit is registered with the National Board of Boiler and Pressure Vessel Inspectors.

TYPICAL SPECIFICATIONS

Furnish and install where shown on plans and with the manufacturers' recommendations a DIAMOND-BACK Series double-wall heat exchanger.

Heat exchanger selections shall be optimized by the manufacturer to provide minimum heat transfer surface area required to meet specified capacity and pressure drop conditions.

1. CAPACITY:

- a. To heat/cool _____ GPM of _____ from _____ °F to _____ °F at a maximum pressure drop of _____ ft./psi.
- b. With _____ GPM of _____ from _____ °F to _____ °F at a maximum pressure drop of _____ ft./psi or _____ psig of saturated steam.
- c. Minimum required heating surface _____ sq. ft.

2. TYPE:

Shell and Tube, Double Wall Heat Exchanger

3. MATERIALS:

- a. Shell/collar - Steel
- b. Tubes - Double Wall 3/4" OD copper/copper, or 90/10 cuoro-nickel/copper
- c. Heads - Cast Iron, Cast Brass or Steel
- d. Tubesheets - Steel, Brass, Stainless Steel, or 90/10 cuoro-nickel
- e. Tube supports - Steel or Brass

4. DOUBLE WALL DESIGN:

Vented to atmosphere double wall design to eliminate possibility of cross contamination between hot-side and coldside fluids, by virtue of tube wall failure, by producing telltale leak to exterior of heat exchanger where it can be visually detected by casual observer.

Construction shall be tube within tube with multiple, cross-crossed leak paths to preclude blockage of any given path resulting in loss of telltale leak to atmosphere. Minimum system pressure required to produce telltale leak shall be 2 psig.

5. CONSTRUCTION:

A manufacturer's data report for pressure vessels, form No. U-1, or a manufacturer's partial data report for pressure vessels, form No. U-2, as required by provisions of the ASME Code rules is to be furnished to the user or designated agent on request. This form must be signed by a qualified inspector, holding a National Board Commission, certifying that construction conforms to latest ASME Code for pressure vessels for: _____ psi working pressure at _____ °F tubeside and _____ psi working pressure at _____ °F shell/tankside. The ASME "U" symbol should also be stamped on the heat exchanger.

For heat exchangers with a U-1 manufacturer's data report, the manufacturer must register the unit with the National Board of Boiler and Pressure Vessel Inspectors.

6. MANUFACTURER:

Heat exchangers shall be TT Bell & Gossett Model No. _____.