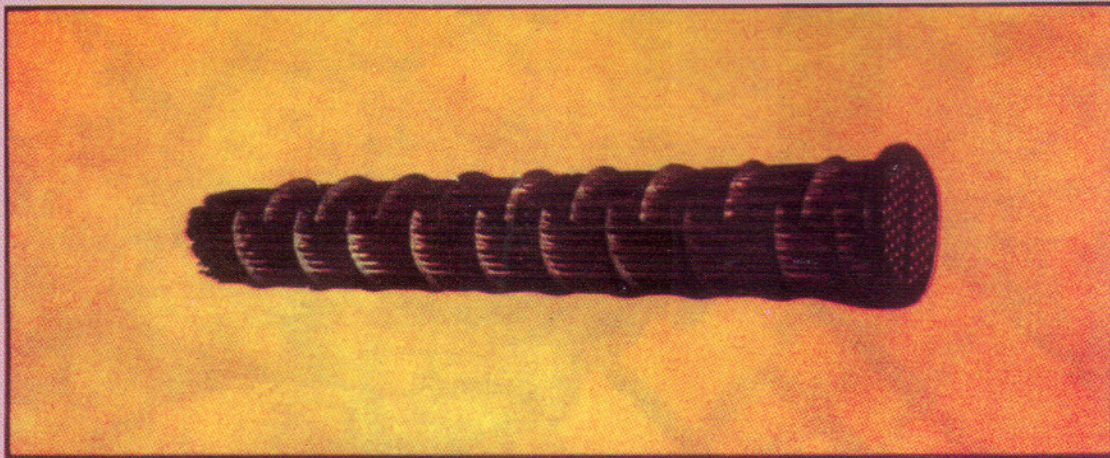


Tehran Mobaddel

WUT

Catalog



TEHRAN MOBADDEL

Type "WUT" Heat Exchangers

GENERAL INFORMATION

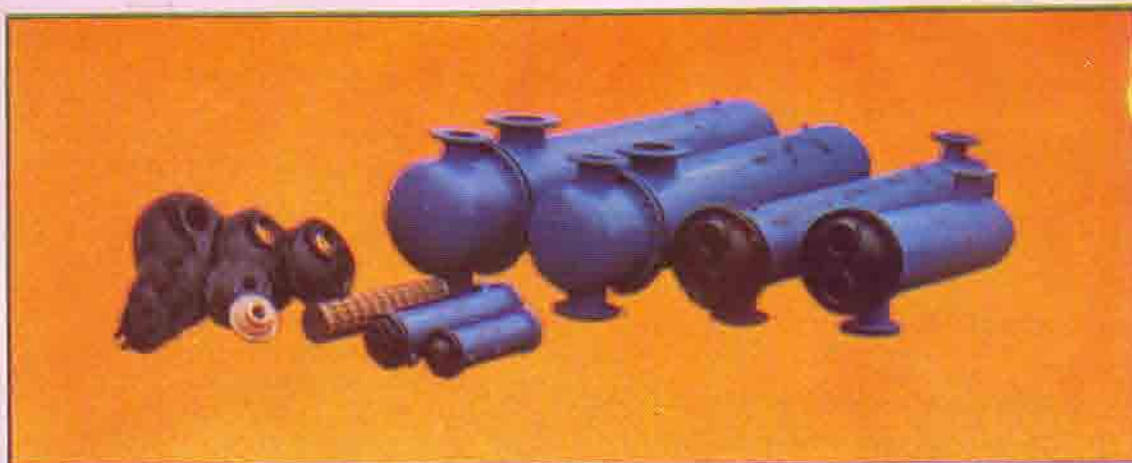
The "WUT" Heat Exchanger is an instantaneous type, designed to heat liquids. Water to water being the most common application, is covered in the following selection procedures.

This catalog lists ratings for most commonly required system temperature rises for a wide range of heating water temperatures. *All ratings are based on the heating water in the shell and the water to be heated in the tubes.* (See Page 6 for reverse condition.)

"WUT" Heat Exchangers can be used for many other heating and cooling applications. The selection methods for these applications become extensive and beyond the scope of the manual. For application other than water to water, contact T. M.

Type "WUT" Heat Exchangers are suitable for use with any type of boiler or system when installed in accordance with the manufacturer's recommendations. Boiler rating should be checked to assure sufficient capacity to handle the load imposed by the "WUT".

"WUT" Heat Exchangers in 2 or 4-Pass construction can be *selected* from this Bulletin, in lengths to 10 feet and shell diameters to 30 inches. Consult the factory for 6-Pass* construction, lengths in excess of 10 feet, and/or materials of construction other than listed herein.



CONSTRUCTION FEATURES AND MATERIALS

DESIGN PRESSURES				MATERIAL SPECIFICATIONS—Cast Iron and Brass Units								
Shell Diameter	TUBESIDE (PSI)			TEST PRES. TUBES IN PSI	STANDARD UNIT		BRASS UNIT		** SHELL	TUBES	BAFFLES	NUTS & BOLTS
	2 PASS	4 PASS	6 PASS		HEAD	Tube Sheet	HEAD	*** Tube Sheet				
4"	150	150	CONSULT FACTORY	300	CAST IRON BONNET	STEEL	CAST BRASS BONNET	ROLLED NAVAL BRASS	STEEL	¾" O.D. COPPER	STEEL	STEEL
6"	150	150		300								
8"	150	150		300								
10"	125*	150		250 (2P) 300 (4P)								
12"	125*	125*		250 (2&4P) 300 (6P)								
14"	125*	125*		250								
16"	125*	125*		250								
18"	125*	125*		250								
20"	125*	125*		250								
22"	150	150		300	Fabricated Steel Bonnet		NA					
24"	150	150		300								
26"	150	150		300								
28"	150	150		300								
30"	150	150		300								

* 150 lb. cast iron heads available on special order.

** All units 4" thru 30" diameter have a shell side design pres. of 150 psi and a test pres. of 300 psi.

*** Temperature rating limited to 300°F. If higher rating required consult factory.

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Selection Procedure for HTWU and WUT Units with Heated Water in Shell	7
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Table A — Clean Tube Temperature Factors	12 thru 23
Capacity Tables	24 thru 49
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WUT = W = Water	
U = U tube	
T = Tehran Mobaddel	
T.M = Tehran Mobaddel	

MISCELLANEOUS SELECTION HINTS

1. Water velocity in ft./sec. produced by flow through the tubes may be read at the bottom of each GPM column (pages 24 thru 49). A change in overall length of an "WUT" does not change water velocity through the tubes.
2. Fouling Factors as set forth by TEMA (Tubular Exchanger Mfrs. Association) may be added by conversion to an equivalent percentage increase. (See Chart 1 at bottom of this page.)
3. Ratings are omitted when they produce a water velocity through the tube of more than 7.5 ft./sec. Higher velocities are not shown for the following reasons:
 - a. Water flow at velocities of 7.5 ft./sec. and above can become erosive. Rapid wear of the tubing is the result.
 - b. Any small accumulation of scale in a unit that has been rated at high velocity causes a very sharp drop-off in heating capacity.
 - c. The high pressure drop resulting from very high velocities can make pump selection difficult and costly.

FOULING ALLOWANCE

1. Water from different localities varies in mineral content. In the process of being heated, the minerals are pre-

cipitated in the form of lime, scale, etc. They then collect on the tube walls and the ability of the unit to transfer heat is reduced.

2. To offset a loss in heater capacity from fouling, the size of the heater should be increased so that after scale has collected, the unit will still operate at its rated capacity. This is accomplished by adding a fouling factor to the clean tube factors shown in Table A. (Pages 12 thru 23).

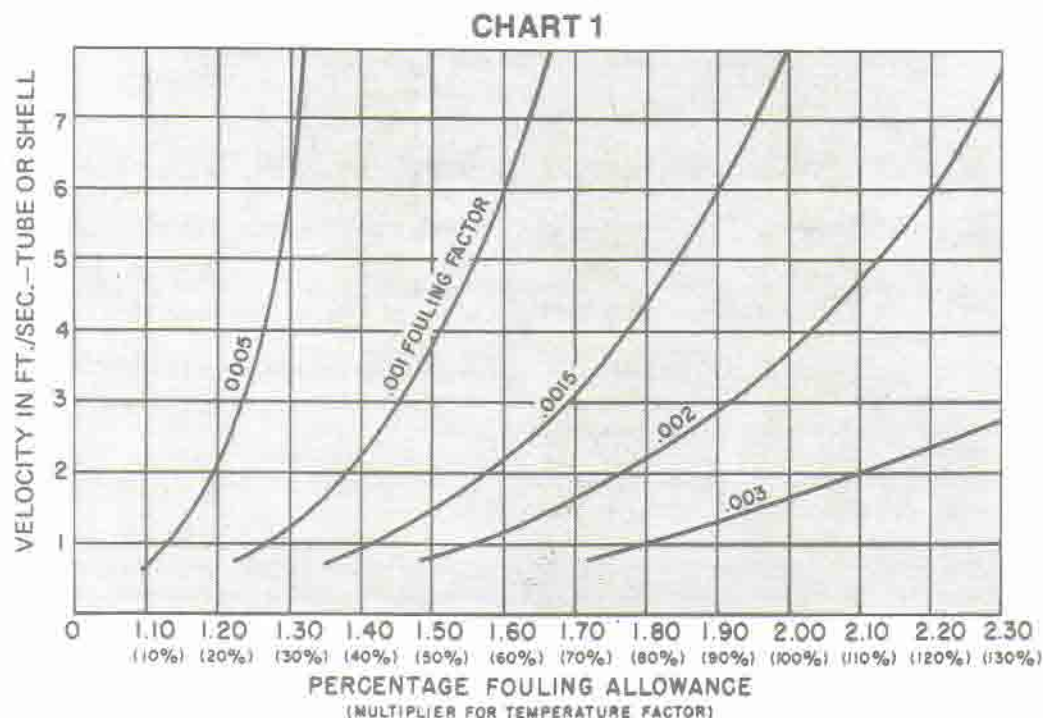
TYPICAL FOULING FACTORS

Temp. of Heating Medium	Up to 240°F.		240°-400°F.**	
Temp. of Water	125°F. or less		Over 125°F.	
TYPE OF WATER	Water Vel. ft./sec.		Water Vel. ft./sec.	
	Less 3 ft.	Over 3 ft.	Less 3 ft.	Over 3 ft.
Sea Water	.0005	.0005	.001	.001
Distilled	.0005	.0005	.0005	.0005
Treated Boiler Feedwater	.001	.0005	.001	.001
Engine Jacket	.001	.001	.001	.001
City or Well (Great Lakes)	.001	.001	.002	.002

**Ratings in columns 3 and 4 are based on a temperature of the heating medium of 240°-400°. If the heating medium temperature is over 400° and the cooling medium is known to scale, these ratings should be modified accordingly.

FOULING FACTORS CONVERSION TO PERCENTAGE OF FOULING

To include a Fouling Factor in an "WUT" selection, use Chart 1 (below) to find the equivalent percentage of fouling allowance to correct any clean tube temperature factor. Chart 1 is applicable whether fouling exists on either the tube or shell side or both.



TUBE AND SHELL SIDE CORRECTION FACTORS

Aver. Temp. °F.	Water Pressure Drop. Corr.
0°	—
40°	1.2
60°	1.12
80°	1.06
100°	1.0
120°	.95
140°	.91
160°	.87
180°	.83
200°	.80
220°	.77
240°	.75
260°	.73
280°	.71
300°	.70
350°	.69
400°	.68

PRESSURE DROP CORRECTION

Capacity tables pages 24 thru 49 show values for pressure drop when water in the tubes is at 100°F. average, and in the shell at 100°F. average. To correct these values for other average temperatures, multiply by appropriate Correction Factor.

TEMPERATURE FACTORS

Temperature Factors in Table A, pages 12 thru 23 are dimensionless numbers and express a heat transfer and heating surface ratio that a "WUT" Heat Exchanger must produce at a specified flow rate. See "WUT" rating table on pages 24 thru 49. Temperature Factors are based on heat transfer from water in the shell to water inside the tubes of a multi-pass WUT Heat Exchanger. Values are based on transfer thru clean copper tubes; thus the addition of a fouling allowance as shown on page 5 may be added.

"A" & "B" SELECTION METHOD

The "A" & "B" Method of "WUT" selections now enables the user to vary the Baffle Spacing and select the optimum or †stock unit for any given flow. The temperature factors corresponding to the "A" unit selections are based on a greater heat transfer coefficient i.e., greater shell velocity, than the "B" units. Therefore "A" units will be smaller, however, their corresponding shell side pressure drops will be higher.

"A" SELECTIONS give optimum units (always try an "A" selection first)

"B" SELECTIONS give larger units with less shell side pressure drop

STOCK UNITS,† depending on shell flow, can be either "A" or "B" units

† See page 50 for complete listing of stock units

SELECTION PROCEDURE

The WUT Heat Exchanger is designed for efficient heat transfer between two circulating liquids. Water to water heat transfer, being the most common application, is covered in the following Selection Procedures. Ratings are based on heating water inside clean copper tubes with circulating hot water outside the tubes or in the shell. Before any selection can be made, all the following conditions of operation must be known for each application.

Water Temperatures Tubes in _____ °F. Out _____ °F.
Shell in _____ °F. Out _____ °F.

Water Flow Tubes _____ GPM
Shell _____ GPM

If one or more of these conditions are not given, use the following equation and table:

"Q" BTU/hr. = GPM X Temperature change (°F.) X Factor

Average Water Temperature °F.	Factor
100°F. (approx.)	500
150°F.	491
200°F.	483
250°F.	472
300°F.	460
350°F.	446
400°F.	431

Shell Dia.	Tube Flow	Shell Flow	Max. Shell Flow** With Stock Units
4"	2-30	15-64	62
6"	5-100	15-80	80
8"	15-180	20-180	110
10"	25-325	28-276	158
12"	25-450	45-386	245
14"	50-600	42-415	NOT STOCKED
16"	50-800	66-526	NOT STOCKED
18"	100-1000	75-750	NOT STOCKED
20"	100-1400	85-900	NOT STOCKED
22"	150-1700	115-1070	NOT STOCKED
24"	150-2000	130-1315	NOT STOCKED
26"	200-2300	170-1600	NOT STOCKED
28"	250-2800	183-1790	NOT STOCKED
30"	250-3200	200-1930	NOT STOCKED

Consult the factory for WUT selections outside these minimum and maximum flow rates.

**Std. stock units 4" thru 12" have fixed baffle spacing and shell connections. When shell flows are in excess of these ratings the baffle spacing and connections must be adjusted and the units must be built to order.

EXAMPLE #1:

PROBLEM: Heat 200 GPM water in the tubes 170 to 185°F with heating water at 230°F, 30° drop, .0005 fouling allowance tube side.

SOLUTION: STEP 1 - Establish all temperatures and flow rates. From the equation "Q" BTU/hr = GPM X Temperature Change X Factor, $Q = 200 \times 15 \times 485 = 1,455,000$ BTU/hr and GPM heating water required = $1,455,000 \div (479^\circ \times 30) = 100$ GPM shell side.

STEP 2 - From "WUT Flow Range Table" (above) try the 10" diameter series as an initial selection.

STEP 3 - From "Table A" page 17, for 230°F heating water, at the intersection point of 170 to 185°F heated water and 30° drop, obtain a clean tube temperature factor of 13.86

STEP 4 - From the 10" dia. "WUT Capacity Table" page 28, select 3" baffle spacing and an "A" classification for 100 GPM shell flow. From the 200 GPM tube Flow "A" column; the first unit with a temperature factor equal to or greater than 13.86 is a WUT-105-23 with a factor of 16.8

STEP 5 - To correct for fouling, note tube velocity at bottom of GPM column page 29 for trial unit, i.e., 5.1 ft./sec. at 200 GPM. From chart 1, page 5 the multiplier for .0005 fouling is 1.29 (29% added capacity). Verify the adequacy of the trial unit by multiplying the factor from step 3 by the fouling correction. $13.86 \times 1.29 = 17.85$ since this exceeds 16.8, select next largest unit, WUT-106-23, with a factor of 20.4 tube side pressure drop is 2.0 ft., shown in red below unit factor.

STEP 6 - From 10" velocity chart, page 29, obtain shell velocity at 100 GPM of 3.80 ft./sec. at 3" baffle spacing. From 10" Pressure Drop Chart, page 28, obtain shell side pressure drop of $13.0 \times 1.0 = 13.0$ ft.

STEP 7 - If pressure drop obtained in step 6 is excessive, or a stock unit is required repeat from step 4 using "B" unit with standard 5" baffle spacing. Selection would give a stock WUT-107-25 with a shell side pressure drop of 6.0 ft., tube side pressure drop of 2.0 ft.

STEP 8 - From table on page 5 obtain pressure drop correction factors shell $\Delta P_c = 6 \times 0.78 = 4.7$ ft.; Tube $\Delta P_c = 2 \times 0.85 = 1.7$ ft.

I. SELECTION PROCEDURE FOR HTWUT AND WUT* UNITS WITH HEATED WATER IN SHELL

1. Heated water in shell.
2. Find CTF from Table A, pages 20 thru 23 in WUT catalog.
3. Calculate Temperature Drop ÷ Temperature Rise (TD/TR).
4. Use appropriate capacity table — pages 24 thru 49 in WUT catalog and note tube and shellside velocity.
5. Find Multiplier F from Chart A relative to unit velocities.
6. Calculate Adjusted Clean Tube Factor — ACTF = $CTF \times (TD/TR) \times F \times (\text{Fouling \% if required})$.
7. Select appropriate unit.
8. Check Mechanical Design Limits — Section II.

*This procedure may be used for WUT units with a TD/TR greater than one but tends to produce conservative designs. If job is competitive, consult factory for proper selection.

Note: For high temperature water units with heated water in tubes, consult factory for the proper selection.

CHART A — MULTIPLIER, F

Tube Velocity Ft./ Sec.	SHELL VELOCITY Ft./Sec.			
	1	2	3	4
1	1.10	1.12	1.14	1.16
2	1.08	1.09	1.10	1.11
3	1.04	1.05	1.05	1.06
4	1.05	1.06	1.08	1.09
5	1.05	1.06	1.08	1.09
6	1.05	1.06	1.07	1.08
7	1.05	1.05	1.06	1.07

II. MECHANICAL DESIGN LIMITATIONS

1. Baffle spacing must *not* be greater than 80% of shell diameter.
2. Baffle spacing and tube bundle length should not result in fewer than five baffles. The following equation can be used to calculate the number of baffles in a unit.
3. If unit results in less than five baffles, add required length or consult factory.

$$\text{Number of Baffles} = \frac{\text{Nom. Bundle Length (Ft.)} - X}{\text{Baffle Space in Feet}}$$

Shell Dia	X
Up to 18"	2
20"—24"	2.5
26"—30"	3

TYPICAL SPECIFICATION

Furnish and install approximately where shown on plans and with manufacturer's recommendations, "WUT" Liquid to Liquid Instantaneous Water Heater(s), according to the following specifications:

1. TYPE:

Shell and Tube, U-Bend removable tube bundle.

2. MATERIALS:

a. Shell—Steel

d. Tube Sheets—Steel

b. Tubes— $\frac{3}{4}$ " O.D. Copper

e. Baffles, Tie-Rods, Spacers—Steel

c. Heads—Cast Iron or Steel

3. CAPACITY:

a. The heater shall have ample capacity to (heat) (cool) _____ GPM when circulated through the (tubes) (shell) from _____ °F to _____ °F when supplied with _____ GPM at _____ °F.

b. Maximum tube velocity _____ ft. per second

c. Maximum water pressure drop _____ feet

d. Minimum scale factor _____

e. Minimum shell diameter _____ inches

f. Maximum length _____ feet

g. Minimum tube surface _____ sq. ft.

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.

RATINGS...USED AS INSTANTANEOUS WATER HEATER

1. Capacities are in gallons per hour (GPH).
2. Ratings include a fouling factor of .001, equivalent to city or well water (Great Lakes region).
3. Ratings are also based on boiler water being circulated at indicated flow rates. The Booster pump specified will produce this flow rate if the WUT is mounted next to the boiler and pressure drop through boiler and piping does not exceed 3 to 4 feet.
4. Pressure drop in feet is shown in red (omitted below 1 ft.).

Heater Number	Boiler Pump Size	GPH of Water Heated Inside Copper Tubes From—						
		40°–140°			40°–180°		140°–180°	
		With Boiler Water At—						
		180°	200°	210°	200°	210°	200°	210°
WUT 43–44	1½" Booster @ 33 GPM	54	96	114	30	40	96	138
WUT 44–44		99	156	186	45	60	150	222
WUT 45–44		144	216	252	60	87	204	306
WUT 46–44		192	276	324	84	120	258	384
WUT 47–44		234	336	396	111	153	312	474
			1.0	2.0				3.0
WUT 63–43	2" Booster @ 55 GPM	132	228	270	60	90	252	360
WUT 64–43		234	360	432	96	141	366	528
WUT 65–43		336	492	582	144	204	474	696
WUT 66–43		432	624	732	198	270	588	864
WUT 67–43		528	744	876	246	333	690	1008
WUT 68–43		618	864	1020	291	390	798	1140
			1.0	2.8			2.3	3.4
WUT 84–44	3" LD Booster @ 80 GPM	480	744	888	192	252	720	1140
WUT 85–44		690	1020	1212	300	402	960	1550
WUT 86–44		864	1272	1464	390	528	1200	1860
WUT 87–44		1044	1500	1740	480	624	1440	2220
WUT 88–44		1212	1728	2016	564	708	1680	2640
WUT 89–44		1380	1956	2256	648	750	1920	3000
			1.8	2.9	3.4		3.1	5.5
WUT 104–45	PD-35 Booster @ 110 GPM	816	1284	1548	324	462	1200	1980
WUT 105–45		1164	1754	2074	480	678	1560	2580
WUT 106–45		1458	2100	2490	636	888	1920	3120
WUT 107–45		1740	2460	2880	768	1092	2280	3600
WUT 108–45		2040	2850	3300	918	1296	2760	4020
WUT 109–45		2310	3180	3690	1056	1464	3300	4380
			1.4	1.9	2.8		2.1	3.5
WUT 124–46	PD-37 Booster @ 125 GPM	1110	1770	2160	456	630	1440	2580
WUT 125–46		1620	2430	2850	648	936	2040	3300
WUT 126–46		2070	3000	3510	840	1200	2640	4020
WUT 127–46		2430	3510	4080	1020	1464	3240	4740
WUT 128–46		2790	3960	4620	1200	1716	3720	5400
WUT 129–46		3090	4380	5100	1380	1944	4140	6000
			1.9	2.6			1.9	3.3

RATINGS...USED AS A RADIATION HEATER

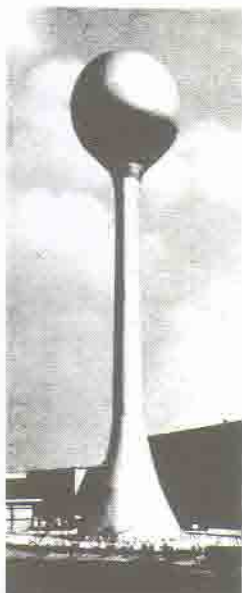
1. Capacities are in gallons per minute (GPM).
2. Ratings include a small fouling factor of .0005.
3. Ratings are also based on boiler water being circulated at the indicated flow rates. The Booster pump specified will produce the indicated flow if the "WUT" is mounted next to the boiler and the pressure drop through boiler and piping does not exceed 3 to 4 ft.
4. Pressure drop in feet shown in red (omitted below 1 ft.).
5. Ratings in bold type are for 4 pass units — ratings in light face type are for 2 pass units.

Heater Number†	Boiler Pump Size	WATER HEATED IN COPPER TUBES—Capacities in Gallons Per Minute (GPM)																					
		180°- 200°	170°- 190°	160°-180°		140°-160°			130°-150°			120°-140°		110°-130°									
		With Boiler Water at—																180°					
		210°	210°	200°	210°	180°	200°	210°	180°	200°	210°	Water	50% Anti- Freeze	200°	210°	180°	200°	210°					
WUT43-() 4	1½" Booster @ 33 GPM	2.3	4.7	4.5	6.7	4	8.8	12	6.2	12	12.5*	8.5	7	12	12.5*	12.5	13	15					
WUT44-() 4		3.5	6.9	6.7	9.5	6	12	13	9	13	16	12.5	11	15	19	13	18	22					
WUT45-() 4		4.7	8.9	8.6	12	8	13	17	12	17	21	13	12.5*	20	24	16	23	25*					
WUT46-() 4		5.8	11	10	13	10	16	21	12.5*	21	25	16	14	25	25*	20	25*	—					
WUT47-() 4		6.9	12.5	12	15	12	19	25	—	25	—	19	17	—	—	24	—	—					
WUT63-() 3	2" Booster @ 55 GPM	5	10	9	15	10	20	27	14	26	31*	20	16	31	31*	27	31*	35					
WUT64-() 3		7.7	14	13	21	13	27	31*	20	31	36	27	24	37	42	31	41	48					
WUT65-() 3		10	18	17	27	17	31*	37	26	37	45	31*	31*	45	52	35	52	54					
WUT66-() 3		12.7	22	21	31*	21	36	45	31	45	54	35	31	52	62	42	62	62					
WUT67-() 3		15	27	25	32	25	42	52	32	52	62	40	36	60	—	50	—	—					
WUT68-() 3	3" LD Booster @ 80 GPM	2.1	5.0	4.5	6.7	4.5	1.6	2.2	2.2	3.1	—	1.5	1.2	3.0	—	2.1	—	—					
WUT84-() 4		16	32	30	47	30	60	62*	44	62	76	57	50	74	89	58	87	104					
WUT85-() 4		21	41	38	55	39	62*	82	54	80	98	62	52	96	115	75	115	125*					
WUT86-() 4		26	48	47	62	45	76	98	60	96	118	73	62	116	125*	92	125*	—					
WUT87-() 4		30	54	55	68	50	89	112	64	112	125*	86	77	125*	—	107	—	—					
WUT88-() 4	PD-35 Booster @ 110 GPM	35	62	62	77	56	101	122	73	125	—	97	88	—	—	122	—	—					
WUT89-() 4		39	—	—	87	62	110	125*	82	—	—	104	97	—	—	125*	—	—					
WUT104-() 5		28	55	52	79	50	100	128	74	112	137	98	95	132	160	112	156	185					
WUT105-() 5		38	68	67	95	63	112	148	92	140	172	112*	112	168	201	132	198	225					
WUT106-() 5		46	80	79	110	76	130	168	108	165	205	126	115	200	230	156	240	240*					
WUT107-() 5	PD-37 Booster @ 125 GPM	52	90	90	116	86	150	188	112*	187	230	146	131	220	240*	179	—	—					
WUT108-() 5		57	97	96	128	96	166	208	121	208	240*	162	150	240	—	218	—	—					
WUT109-() 5		61	107	105	140	106	181	220	132	225	—	175	163	—	—	230	—	—					
WUT124-() 6		38	77	75	110	69	155	162*	102	162*	192	135	126	179	219	132	213	257					
WUT125-() 6		50	89	86	133	85	162*	194	125	190	234	162	135	225	269	168	262	315					
WUT126-() 6	125 GPM	60	104	103	150	99	176	223	142	219	270	168	162	265	310	200	305	345					
WUT127-() 6		68	117	116	162	111	199	248	158	244	300	192	174	297	345	231	345	—					
WUT128-() 6		74	128	125	165	121	217	272	162*	266	330	210	192	320	—	258	—	—					
WUT129-() 6		79	136	133	178	130	229	300	169	288	345*	230	204	345	—	279	—	—					
			2.1	5.7	5.7	1.2	5.4	1.8	3.0	2.8	4.0	—	1.6	1.4	4.0	—	2.6	—	—				

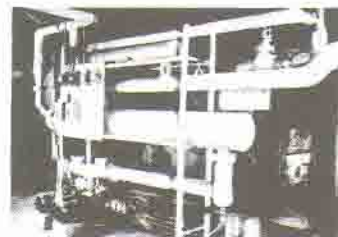
†When ordering or specifying from table above, fill in 2 or 4 pass in space between parentheses.

*The ratings on units indicated by an asterisk are the ratings obtained without exceeding 7.5 ft./sec. velocity. Ratings are omitted when velocity would be excessive. Consult factory for recommendations for higher velocities through unit.

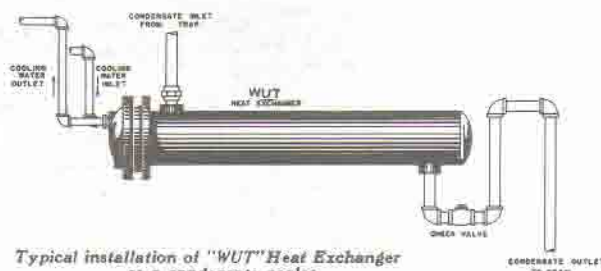
TYPE "WUT"... MISCELLANEOUS APPLICATIONS



Storage tower water heated with a "WUT"



"WUT" an efficient swimming pool heater.



Typical installation of "WUT" Heat Exchanger as a condensate cooler

SWIMMING POOL AND STORAGE TOWER HEATING

Where swimming pool or storage tower water is to be heated by the same hot water boiler used for space heating, a "WUT" Heat Exchanger offers a practical, economical solution! Even when the boiler is to be used solely for heating swimming pool water, a "WUT" should be installed to protect the more expensive and harder-to-clean boiler against liming.

When using a "WUT" Heat Exchanger as a storage tower heater, the local office of the Fire Underwriters' Board should be consulted for specific approval of the installation.

CONDENSATE COOLING

When used to transfer heat from hot condensate, the "WUT" utilizes heat which would otherwise be wasted. Water thus heated can be used for space heating, washrooms or process work. In some communities, local ordinances state that water above a certain temperature, 100° or 125°F, cannot be discharged into the sewers. A "WUT" can be used to reduce the condensate temperature.

RATINGS

Condensate cooling. Capacities are in lbs. per hour of condensate cooled in shell. Ratings include a fouling factor of .001 for city or well water (Great Lakes region). Pressure drop in feet is shown in red (omitted below 1 ft.). Pressure drop of Condensate through baffled shells at ratings shown does not exceed 1 lb.

Swimming pools and storage towers (forced circulation only). Ratings are in gallons per hour (GPH) in tubes and include .001 fouling factor. Ratings are based on boiler water being circulated at the indicated flow rates. The Booster pump specified will produce this flow rate if the WUT is mounted next to the boiler and pressure drop through the boiler and piping does not exceed 3 to 4 feet. For gravity circulation of pool or tower water, consult factory for selection.

FOR CONDENSATE COOLING

Heater No.	Cooling Water—40° to 90°F				Cooling Water—70° to 120°F			
	Condens. 200°-100°F		Condens. 225°-125°F		Condens. 200°-120°F		Condens. 225°-125°F	
	Lb./Hr. Conds.	GPM of Cooling Water	Lb./Hr. Conds.	GPM of Cooling Water	Lb./Hr. Conds.	GPM of Cooling Water	Lb./Hr. Conds.	GPM of Cooling Water
WUT 43-44	585	2.4	820	3.3	613	2	550	2.2
WUT 44-44	780	3.2	1,090	4.4	820	2.6	740	3.0
WUT 45-44	976	4.0	1,370	5.5	1,020	3.3	920	3.7
WUT 46-44	1,170	4.7	1,640	6.6	1,230	4	1,100	4.4
WUT 47-44	1,370	5.5	1,920	7.7	1,440	4.6	1,290	5.2
WUT 53-43	1,440	5.8	2,010	8.1	1,500	4.8	1,360	5.5
WUT 54-43	1,920	7.7	2,700	10.8	2,020	6.5	1,820	7.3
WUT 55-43	2,420	9.7	3,380	13.5	2,540	8.1	2,280	9.1
WUT 56-43	2,900	11.6	4,060	16.3	3,040	9.7	2,740	11.0
WUT 57-43	3,390	13.6	4,750	19.0	3,560	11.4	3,200	12.8
WUT 58-43	3,880	15.5	5,440	21.7	4,060	13	3,670	14.7
WUT 63-23	3,800	15	5,320	21	4,000	13	3,600	14
WUT 64-23	4,780	19	6,700	26	5,000	16	4,500	18
WUT 65-23	5,760	23	8,070	32	6,000	19	5,400	21
WUT 66-23	6,740	27	9,420	37	7,000	22	6,350	25
WUT 67-23	7,730	31	10,800	43	8,000	25	7,300	29
WUT 68-23	8,700	35	12,200	49	9,000	29	8,200	33
WUT 69-23	9,700	39	13,600	54	10,000	33	9,200	37
WUT 74-24	10,300	42	14,400	57	10,800	35	9,800	40
WUT 75-24	13,000	52	18,200	73	13,600	44	12,300	50
WUT 76-24	15,700	63	22,000	88	16,500	53	14,800	60
WUT 77-24	18,400	74	25,800	103	19,300	62	17,400	70
WUT 78-24	21,200	85	29,600	118	22,100	71	20,000	80
WUT 79-24	23,800	96	33,400	133	25,000	80	22,500	90
WUT 84-44	3,800	15	5,320	21	4,000	13	3,600	14
WUT 85-44	4,780	19	6,700	26	5,000	16	4,500	18
WUT 86-44	5,760	23	8,070	32	6,000	19	5,400	21
WUT 87-44	6,740	27	9,420	37	7,000	22	6,350	25
WUT 88-44	7,730	31	10,800	43	8,000	25	7,300	29
WUT 89-44	8,700	35	12,200	49	9,000	29	8,200	33
WUT 94-45	7,200	29	10,100	40	7,600	24	6,800	27
WUT 95-45	9,060	36	12,700	50	9,500	30	8,600	34
WUT 96-45	10,900	44	15,300	61	11,500	37	10,300	41
WUT 107-45	12,800	52	18,000	72	13,400	43	12,100	49
WUT 108-45	14,600	59	20,600	82	15,400	49	13,800	55
WUT 109-45	16,500	66	23,200	92	17,300	55	15,600	63
WUT 124-46	10,300	42	14,400	57	10,800	35	9,800	40
WUT 125-46	13,000	52	18,200	73	13,600	44	12,300	50
WUT 126-46	15,700	63	22,000	88	16,500	53	14,800	60
WUT 127-46	18,400	74	25,800	103	19,300	62	17,400	70
WUT 128-46	21,200	85	29,600	118	22,100	71	20,000	80
WUT 129-46	23,800	96	33,400	133	25,000	80	22,500	90

Note: All units above are factory stocked.

FOR SWIMMING POOLS* AND STORAGE TOWERS

180° Pumped Boiler Water		
Heater No.	Boiler Pump Size	GPH in Tubes 40° to 80° F
WUT 63-23	2" Booster @ 55 GPM	720
WUT 64-23		1,140
WUT 65-23		1,500
WUT 66-23		1,860
WUT 67-23		2,280
WUT 68-23	3" LD Booster @ 80 GPM	2,640
WUT 74-24		2,280
WUT 75-24		3,120
WUT 76-24		3,960
WUT 77-24		4,680
WUT 78-24	PD-35 Booster @ 125 GPM	5,450
WUT 79-24		6,120
WUT 84-44		4,380
WUT 85-44		5,750
WUT 86-44		7,150
WUT 87-44	125 GPM	8,400
WUT 88-44		9,600
WUT 89-44		10,600
WUT 94-45		11,400
WUT 95-45		12,600

*Swimming pool water may be corrosive to Copper. 90/10 Cupro-Nickel is available on special order.

TYPE "WUT" HEAT EXCHANGERS

CAUTION: When working pressures and/or temperatures exceed standard "WUT" limits (150/125 psig & 375 F), consult factory, or use "HTWUT" units.

TABLE A

CLEAN TUBE TEMPERATURE FACTORS

		120° HEATING WATER										130° HEATING WATER									
Heated Water		TEMPERATURE DROP										TEMPERATURE DROP									
In	Out	5°	10°	15°	20°	25°	30°	35°	40°	45°		5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
40	45	3.2	3.3	3.5	3.6	3.8	4.0	4.3	4.6	4.9		2.7	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.9	4.2
	50	6.6	6.9	7.2	7.5	7.9	8.4	8.9	9.5	10.2		5.6	5.8	6.1	6.3	6.6	6.9	7.3	7.7	8.2	8.7
	55	10.2	10.6	11.1	11.7	12.3	13.1	14.0	15.0	16.2		8.7	9.0	9.4	9.8	10.3	10.8	11.4	12.0	12.8	13.7
	60	14.1	14.7	15.4	16.3	17.2	18.3	19.6	21.1	23.0		11.9	12.4	12.9	13.5	14.2	14.9	15.8	16.7	17.9	19.2
	70	22.7	23.9	25.2	26.7	28.5	30.6	33.2	36.4	40.6		19.0	19.8	20.8	21.8	23.0	24.3	25.9	27.8	30.0	32.8
	80	33.2	35.2	37.4	40.1	43.3	47.3	52.4	59.5			27.3	28.6	30.1	31.8	33.8	36.1	38.9	42.2	46.6	52.4
45	50	3.4	3.5	3.7	3.9	4.1	4.3	4.6	5.0	5.4		2.9	3.0	3.1	3.2	3.4	3.6	3.8	4.0	4.2	4.5
	55	7.0	7.3	7.6	8.1	8.5	9.1	9.7	10.4	11.4		5.9	6.1	6.4	6.7	7.0	7.4	7.8	8.3	8.9	9.5
	60	11.0	11.3	11.9	12.6	13.4	14.2	15.3	16.6	18.2		9.1	9.5	9.9	10.4	10.9	11.5	12.2	13.0	13.9	15.1
	70	19.5	20.5	21.7	23.0	24.6	26.6	28.9	31.9	35.9		16.2	17.0	17.8	18.7	19.8	21.0	22.4	24.0	26.1	28.7
	80	30.0	31.8	33.9	36.4	39.4	43.3	48.2	55.3			24.6	25.8	27.2	28.7	30.6	32.7	35.3	38.5	42.7	48.6
	90	40.2	43.2	46.8	51.4	57.4	66.0					31.8	33.6	35.8	38.3	41.3	45.1	49.9	56.7		
50	55	3.6	3.8	3.9	4.2	4.4	4.7	5.1	5.5	6.0		3.0	3.1	3.3	3.5	3.6	3.8	4.0	4.3	4.6	5.0
	60	7.4	7.8	8.2	8.7	9.2	9.9	10.7	11.6	12.8		6.2	6.5	6.8	7.2	7.5	8.0	8.4	9.0	9.7	10.5
	70	16.1	17.0	18.0	19.2	20.5	22.2	24.3	27.0	30.7		13.3	14.0	14.7	15.4	16.3	17.4	18.6	20.0	21.9	24.2
	80	26.6	28.3	30.2	32.5	35.3	38.9	43.7	50.7			21.7	22.8	24.0	25.5	27.1	29.1	31.6	34.6	38.6	44.4
	90	40.2	43.2	46.8	51.4	57.4	66.0					31.8	33.6	35.8	38.3	41.3	45.1	49.9	56.7		
	100	59.8	65.7	73.6	85.0							44.9	48.0	51.7	56.4	62.4	70.6				
55	60	3.8	4.0	4.3	4.5	4.8	5.2	5.6	6.1	6.9		3.2	3.4	3.5	3.7	3.9	4.1	4.4	4.7	5.1	5.6
	65	8.0	8.4	8.9	9.5	10.1	10.9	11.9	13.2	14.9		6.6	6.9	7.3	7.7	8.1	8.6	9.2	9.9	10.8	11.9
	70	12.5	13.2	14.0	15.0	16.1	17.5	19.2	21.6	24.9		10.3	10.8	11.4	12.0	12.7	13.5	14.5	15.8	17.3	19.3
	80	23.0	24.5	26.2	28.3	30.9	34.2	38.8	45.7	58.9		18.6	19.6	20.7	22.0	23.5	25.3	27.5	30.3	34.1	40.9
	90	36.5	39.4	42.8	47.2	53.0	61.5					28.7	30.4	32.4	34.8	37.6	41.2	46.0	52.7		
	100	56.1	61.8	69.6	80.9							41.8	44.8	48.4	52.9	58.7	66.9				
60	65	4.1	4.4	4.6	4.9	5.3	5.8	6.3	7.1	8.1		3.4	3.6	3.8	4.0	4.2	4.5	4.8	5.2	5.7	6.3
	70	8.7	9.2	9.8	10.4	11.3	12.3	13.6	15.5	18.2		7.1	7.4	7.8	8.3	8.8	9.4	10.1	11.0	12.2	13.8
	80	19.1	20.4	21.9	23.8	26.1	29.1	33.3	40.1			15.4	16.2	17.2	18.3	19.6	21.2	23.1	25.7	29.2	34.8
	90	32.7	35.3	38.5	42.6	48.2	56.7					25.4	27.0	28.9	31.1	33.7	37.1	41.7	48.3		
	100	52.1	57.7	65.2	76.5							38.5	41.3	44.8	49.1	54.8	63.0				
	110	84.1	103.0									53.8	59.3	66.7	77.5						
65	70	4.5	4.8	5.1	5.5	6.0	6.6	7.3	8.4	10.2		3.7	3.9	4.1	4.3	4.6	4.9	5.3	5.8	6.5	7.5
	75	9.5	10.1	10.8	11.7	12.8	14.2	16.1	19.0	24.7		7.6	8.0	8.5	9.0	9.7	10.4	11.4	12.6	14.2	18.7
	80	15.0	16.0	17.3	18.8	20.8	23.4	27.2	33.7			11.9	12.6	13.4	14.3	15.4	16.7	18.3	20.5	23.7	29.1
	90	28.6	30.8	33.8	37.7	43.0	51.4					22.0	23.4	25.1	27.0	29.5	32.7	37.0	43.6		
	100	47.9	53.2	60.5	71.8							35.0	37.7	41.0	45.1	50.7	58.8				
	110	84.1	103.0									53.8	59.3	66.7	77.5						
70	75	5.0	5.3	5.7	6.2	6.8	7.6	8.8	10.7	15.4		4.0	4.2	4.4	4.7	5.1	5.5	6.0	6.7	7.7	9.4
	80	10.5	11.2	12.2	13.3	14.8	16.9	20.0	26.1			8.3	8.8	9.3	10.0	10.8	11.8	13.0	14.7	17.4	22.4
	85	16.7	18.0	19.7	21.8	24.6	28.7	35.8				13.0	13.8	14.8	15.9	17.3	19.0	21.3	24.7	30.5	
	90	23.9	26.0	28.7	32.2	37.2	45.4					18.3	19.5	21.0	22.7	24.9	27.8	31.8	38.3		
	100	43.3	48.4	55.4	66.6							31.3	33.8	36.8	40.8	46.2	54.2				
	110	79.4	97.8									50.0	55.3	62.5	73.3						
75	80	5.5	5.9	6.5	7.1	8.0	9.3	11.3	16.5			4.3	4.6	4.9	5.2	5.7	6.2	7.0	8.0	9.8	13.9
	85	11.8	12.7	14.0	15.6	17.8	21.2	27.9				9.0	9.6	10.3	11.2	12.2	13.5	15.4	18.2	23.6	
	90	19.0	20.7	23.0	26.0	30.5	38.5					14.3	15.3	16.5	18.0	19.8	22.3	26.0	32.2		
	100	38.3	43.0	49.8	60.8							27.3	29.6	32.4	36.1	41.2	49.1				
	110	74.3	92.5									45.9	51.0	58.1	68.8						
	120																				
80	85	6.2	6.8	7.5	8.4	9.8	12.1	17.7				4.7	5.1	5.4	5.9	6.5	7.3	8.4	10.2	14.8	
	90	13.4	14.8	16.5	18.9	22.7	30.2					10.0	10.8	11.6	12.7	14.2	16.1	19.1	25.0		
	95	22.0	24.5	27.8	32.9	41.9						16.0	17.3	18.8	20.8	23.5	27.4	34.3			
	100	32.7	37.0	43.4	54.2							23.0	25.0	27.5	30.8	35.6	43.4				
	110	68.7	86.7									41.6	46.4	53.2	63.8						
	120																				
90	95	8.6	9.7	11.4	14.2	21.4						6.0	6.5	7.2	8.1	9.4	11.6	17.0			
	100	19.2	22.3	27.1	37.0							12.9	14.2	15.8	18.1	21.7	28.9				
	105	33.4	40.2									21.2	23.5	26.7	31.5	40.2					
	110	55.0	72.6									31.4	35.6	41.6	52.0						
	120																				
	130																				
100	105	14.2	18.1	28.7								8.2	9.3	10.9	13.6	20.6					
	110	35.8	52.0									18.5	21.4	26.0	35.6						
	115											32.2	38.6	51.0							
	120											13.7	17.4	27.5							
	125											34.4	50.1								
	130																				

FOR LOW TEMPERATURE RANGE

Heated Water		140° HEATING WATER										150° HEATING WATER									
		TEMPERATURE DROP										TEMPERATURE DROP									
In	Out	5°	10°	15°	20°	25°	30°	40°	50°	60°		5°	10°	15°	20°	25°	30°	40°	50°	60°	70°
40	45	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.5	3.9		2.1	2.2	2.2	2.3	2.4	2.5	2.7	2.9	3.2	3.6
	50	4.9	5.1	5.2	5.4	5.7	5.9	6.4	7.2	8.1		4.3	4.4	4.6	4.8	4.9	5.1	5.6	6.0	6.7	7.5
	55	7.5	7.8	8.1	8.4	8.7	9.1	10.0	11.1	12.6		6.6	6.8	7.0	7.3	7.6	7.8	8.5	9.3	10.4	11.8
	60	10.3	10.6	11.0	11.5	12.0	12.5	13.8	15.4	17.7		9.0	9.3	9.6	10.0	10.3	10.7	11.7	12.8	14.3	16.4
	70	16.3	10.9	17.6	18.3	19.2	20.1	22.4	25.4	29.9		14.2	14.6	15.2	15.8	16.4	17.1	18.7	20.8	23.5	27.5
	80	23.1	24.1	25.1	26.3	27.7	29.2	32.9	38.3	47.0		19.9	20.7	21.5	22.3	23.3	24.4	26.9	30.3	35.1	42.7
45	50	2.5	2.6	2.7	2.8	2.9	3.0	3.3	3.7	4.2		2.2	2.3	2.3	2.4	2.5	2.6	2.8	3.1	3.4	3.9
	55	5.1	5.3	5.5	5.7	6.0	6.2	6.9	7.7	8.8		4.5	4.6	4.8	5.0	5.2	5.4	5.8	6.4	7.1	8.1
	60	7.9	8.2	8.5	8.8	9.2	9.6	10.6	12.0	13.8		6.9	7.1	7.4	7.6	7.9	8.2	9.0	9.9	11.1	12.8
	70	13.9	14.4	15.0	15.7	16.4	17.2	19.2	22.0	26.1		12.0	12.5	12.9	13.4	14.0	14.6	16.0	17.8	20.3	24.0
	80	20.7	21.6	22.6	23.6	24.9	26.3	29.8	34.9	43.4		17.8	18.5	19.2	20.0	20.9	21.9	24.2	27.4	31.9	39.4
50	55	2.6	2.7	2.8	2.9	3.1	3.2	3.5	4.0	4.6		2.3	2.4	2.4	2.5	2.6	2.7	3.0	3.3	3.7	4.2
	60	5.4	5.6	5.8	6.0	6.3	6.6	7.3	8.3	9.7		4.7	4.8	5.0	5.2	5.4	5.6	6.2	6.8	7.7	8.9
	70	11.4	11.8	12.3	12.9	13.5	14.2	15.9	18.3	22.0		9.8	10.2	10.6	11.0	11.4	12.0	13.2	14.7	16.9	20.1
	80	18.2	19.0	19.8	20.8	22.0	23.2	26.5	31.2	39.6		15.6	16.2	16.8	17.6	18.4	19.2	21.4	24.3	28.5	35.8
	90	26.2	27.4	28.8	30.5	32.3	34.5	40.3	50.0			22.2	23.1	24.1	25.2	26.5	27.9	31.5	36.6	44.9	
	100	36.0	37.9	40.2	42.8	45.9	49.8	61.1				29.9	31.2	32.8	34.5	36.5	38.8	44.7	54.2		
55	60	2.8	2.9	3.0	3.1	3.2	3.4	3.8	4.3	5.1		2.4	2.5	2.6	2.7	2.8	2.9	3.2	3.5	4.0	4.7
	65	5.6	5.9	6.1	6.4	6.7	7.1	7.9	9.1	10.8		4.9	5.1	5.3	5.5	5.7	6.0	6.5	7.3	8.4	9.9
	70	8.7	9.1	9.5	9.9	10.4	11.0	12.4	14.3	17.4		7.5	7.8	8.1	8.4	8.8	9.2	10.2	11.4	13.2	16.0
	80	15.5	16.2	17.0	17.9	18.9	20.0	22.9	27.3	35.4		13.3	13.8	14.4	15.1	15.7	16.5	18.4	21.0	24.9	32.0
	90	23.5	24.7	26.0	27.5	29.2	31.3	36.8	46.3			19.8	20.7	21.6	22.7	23.8	25.2	28.5	33.3	41.5	
	100	33.3	35.1	37.3	39.8	42.8	46.5	57.8				27.6	28.8	30.3	31.9	33.8	36.0	41.8	51.1		
60	65	2.9	3.0	3.1	3.3	3.5	3.6	4.1	4.7	5.8		2.5	2.6	2.7	2.8	2.9	3.1	3.4	3.8	4.4	5.3
	70	6.0	6.2	6.5	6.8	7.2	7.6	8.6	10.0	12.4		5.1	5.3	5.6	5.8	6.0	6.3	7.0	7.9	9.2	11.3
	80	12.8	13.4	14.0	14.8	15.6	16.6	19.1	23.1	30.9		10.9	11.3	11.8	12.3	12.9	13.6	15.2	17.5	21.0	27.8
	90	20.8	21.8	23.0	24.4	26.0	27.8	33.0	42.4			17.4	18.2	19.0	20.0	21.0	22.2	25.3	29.8	37.8	
	100	30.5	32.2	34.3	36.7	39.5	43.1	54.2				25.1	26.3	27.7	29.2	31.0	33.1	38.6	47.9		
	110	43.1	46.0	49.6	54.1	59.8	67.6					34.6	36.4	38.6	41.1	44.1	47.8	58.6			
65	70	3.1	3.2	3.4	3.5	3.7	3.9	4.5	5.3	6.7		2.6	2.7	2.8	3.0	3.1	3.3	3.6	4.1	4.8	6.1
	80	9.9	10.3	10.9	11.5	12.1	12.9	15.0	18.4	25.7		8.4	8.7	9.1	9.5	10.0	10.5	11.8	13.7	16.7	23.0
	90	17.8	18.8	19.8	21.0	22.5	24.2	29.0	38.0			14.9	15.6	16.3	17.2	18.1	19.2	21.9	26.1	33.9	
	100	27.5	29.2	31.1	33.3	36.1	39.5	50.4				22.6	23.7	25.0	26.4	28.0	30.0	35.3	44.4		
	110	40.1	43.0	46.4	50.7	56.3	64.2					32.0	33.8	35.8	38.2	41.1	44.7	55.4			
	120	58.3	63.8	71.2	81.7							44.2	47.1	50.7	55.0	60.6	68.2				
70	75	3.3	3.4	3.6	3.8	4.0	4.3	5.0	6.0	8.3		2.8	2.9	3.0	3.2	3.3	3.5	3.9	4.5	5.5	7.5
	80	6.8	7.1	7.5	7.9	8.4	9.0	10.5	13.1	19.6		5.7	6.0	6.2	6.6	6.9	7.3	8.2	9.6	11.9	17.5
	90	14.7	15.6	16.5	17.5	18.8	20.3	24.6	33.3			12.3	12.8	13.5	14.2	15.0	15.9	18.3	22.1	29.5	
	100	24.4	25.9	27.7	29.8	32.3	35.6	46.3				20.0	21.0	22.1	23.4	25.0	26.7	31.7	40.6		
	110	37.0	39.7	43.0	47.1	52.6	60.4					29.3	31.0	33.0	35.2	38.0	41.4	52.0			
	120	55.1	60.5	67.8	78.2							41.5	44.3	47.8	52.0	57.5	65.0				
75	80	3.5	3.7	3.9	4.1	4.4	4.7	5.6	7.1	12.1		3.0	3.1	3.2	3.4	3.6	3.8	4.3	5.1	6.4	10.7
	85	7.3	7.7	8.1	8.7	9.3	10.0	12.0	16.0			6.1	6.4	6.7	7.0	7.4	7.9	9.1	10.8	14.3	
	90	11.5	12.1	12.8	13.7	14.7	16.0	19.6	27.8			9.5	9.9	10.4	11.0	11.7	12.4	14.4	17.6	24.6	
	100	21.1	22.5	24.0	25.9	28.3	31.3	41.7				17.2	18.1	19.1	20.2	21.6	23.2	27.8	36.5		
	110	33.6	36.2	39.3	43.3	48.6	56.4					26.5	28.1	29.9	32.0	34.7	37.9	48.4			
	120	51.7	57.0	64.1	74.5							38.6	41.4	44.7	48.8	54.2	61.7				
80	90	7.9	8.4	8.9	9.6	10.3	11.3	14.1	21.4			6.5	6.9	7.2	7.6	8.1	8.6	10.1	12.6	18.8	
	100	17.6	18.8	20.1	21.8	23.9	26.6	36.7				14.2	15.0	15.8	16.8	18.0	19.5	23.6	31.9		
	110	30.1	32.5	35.4	39.2	44.3	52.0					23.5	25.0	26.6	28.6	31.1	34.2	44.4			
	120	48.1	53.2	60.1	70.5							35.6	38.2	41.4	45.4	50.6	58.1				
90	100	9.6	10.3	11.2	12.2	13.6	15.4	24.0				7.6	8.1	8.6	9.2	9.9	10.8	13.6	20.6		
	110	22.1	24.0	26.4	29.6	34.2	41.7					17.0	18.1	19.4	21.0	23.0	25.6	35.2			
	120	40.0	44.7	51.2	61.4							29.0	31.3	34.1	37.8	42.7	50.1				
100	110	12.4	13.6	15.2	17.5	20.9	27.8					9.3	10.0	10.8	11.8	13.1	14.9	23.0			
	120	30.3	34.3	40.1	50.1							21.3	23.2	25.5	28.6	33.0	40.2				
	130	63.7	80.4									38.7	43.1	49.4	59.2						
110	120	17.8	20.6	25.1	34.3							12.0	13.2	14.7	16.8	20.2	26.8				
	130	51.1	67.4									29.3	33.1	38.7	48.4						
	130	33.2	48.4									17.2	19.9	24.2	33.1						

TYPE "WUT" HEAT EXCHANGERS

CAUTION: When working pressures and/or temperatures exceed standard "WUT" limits (150/125 psig & 375°F), consult factory, or use "HTWUT" units.

TABLE A

CLEAN TUBE TEMPERATURE FACTORS

		160° HEATING WATER										170° HEATING WATER									
Heated Water		TEMPERATURE DROP										TEMPERATURE DROP									
In	Out	5°	10°	15°	20°	30°	40°	50°	60°	70°	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	
40	45	1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.8	3.0	1.7	1.8	1.8	1.8	2.0	2.1	2.2	2.4	2.6	2.9	
	50	3.8	4.0	4.1	4.2	4.5	4.8	5.2	5.7	6.2	3.5	3.6	3.6	3.8	3.9	4.2	4.6	4.9	5.3	5.9	
	55	5.9	6.0	6.2	6.4	6.9	7.4	8.0	8.7	9.7	5.3	5.4	5.6	5.7	6.1	6.5	7.0	7.5	8.2	9.1	
	60	8.0	8.2	8.5	8.8	9.4	10.1	11.0	12.0	13.4	7.2	7.4	7.6	7.8	8.3	8.8	9.5	10.3	11.3	12.6	
	70	12.5	12.9	13.3	13.8	14.8	16.0	17.5	19.4	21.8	11.1	11.5	11.8	12.2	13.0	13.9	15.0	16.4	18.1	20.4	
	80	17.5	18.0	18.7	19.3	20.9	22.7	25.0	28.1	32.4	15.5	16.0	16.4	17.0	18.2	19.6	21.3	23.4	26.2	30.1	
45	50	2.0	2.0	2.1	2.1	2.3	2.5	2.7	2.9	3.2	1.8	1.8	1.8	1.9	2.0	2.2	2.3	2.5	2.7	3.0	
	55	4.0	4.1	4.2	4.4	4.7	5.0	5.5	6.0	6.7	3.6	3.7	3.8	3.9	4.1	4.4	4.7	5.1	5.6	6.3	
	60	6.1	6.3	6.5	6.7	7.2	7.7	8.4	9.3	10.4	5.4	5.6	5.8	5.9	6.3	6.8	7.3	7.9	8.7	9.7	
	70	10.6	10.9	11.3	11.7	12.6	13.6	14.9	16.6	18.8	9.4	9.7	10.0	10.3	11.0	11.8	12.8	14.0	15.5	17.6	
	80	15.6	16.1	16.6	17.3	18.7	20.4	22.5	25.3	29.4	13.8	14.2	14.6	15.1	16.2	17.5	19.1	21.0	23.6	27.3	
	90	20.2	20.7	21.2	21.9	23.4	25.2	27.5	30.4	34.4	18.1	18.5	18.9	19.4	20.6	22.1	23.9	26.1	28.8	32.4	
50	55	2.0	2.1	2.2	2.2	2.4	2.6	2.8	3.1	3.4	1.8	1.9	1.9	2.0	2.1	2.2	2.4	2.6	2.9	3.2	
	60	4.1	4.3	4.4	4.6	4.9	5.3	5.8	6.4	7.2	3.7	3.8	3.9	4.0	4.3	4.6	5.0	5.4	6.0	6.7	
	70	8.6	8.9	9.2	9.5	10.3	11.2	12.3	13.7	15.6	7.7	7.9	8.1	8.4	9.0	9.7	10.5	11.5	12.8	14.6	
	80	13.6	14.1	14.6	15.1	16.4	17.9	19.8	22.4	26.2	12.0	12.4	12.8	13.2	14.2	15.3	16.7	18.5	20.9	24.3	
	90	19.2	19.8	20.6	21.4	23.4	25.8	29.0	33.5	40.8	16.8	17.4	17.9	18.6	20.0	21.8	24.0	26.9	31.0	37.4	
	100	25.5	26.5	27.6	28.8	31.7	35.5	40.7	48.9		22.2	23.0	23.8	24.8	26.8	29.4	32.8	37.5	44.6		
110	33.0	34.4	36.0	37.8	42.2	48.2	57.5			28.3	29.4	30.6	31.9	34.9	38.8	44.1	52.0				
55	60	2.1	2.2	2.2	2.3	2.5	2.7	3.0	3.3	3.7	1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.8	3.1	3.5	
	65	4.3	4.4	4.6	4.8	5.1	5.6	6.1	6.8	7.8	3.8	3.9	4.1	4.2	4.5	4.8	5.2	5.7	6.4	7.2	
	70	6.6	6.8	7.1	7.3	7.9	8.6	9.5	10.6	12.2	5.9	6.0	6.2	6.4	6.9	7.4	8.1	8.9	9.9	11.4	
	80	11.6	12.0	12.4	12.9	14.0	15.3	17.0	19.4	22.9	10.2	10.5	10.9	11.2	12.1	13.1	14.3	15.9	18.0	21.2	
	90	17.1	17.7	18.4	19.2	21.0	23.2	26.2	30.5	37.6	15.0	15.5	16.0	16.6	17.9	19.6	21.6	24.3	28.1	34.5	
	100	23.4	24.4	25.4	26.6	29.3	32.9	38.0	46.0		20.3	21.1	21.8	22.7	24.7	27.2	30.4	34.9	41.9		
60	65	2.2	2.3	2.3	2.4	2.6	2.9	3.2	3.5	4.0	2.0	2.0	2.1	2.1	2.3	2.5	2.7	3.0	3.3	3.8	
	70	4.5	4.6	4.8	5.0	5.4	5.9	6.5	7.3	8.5	4.0	4.1	4.2	4.4	4.7	5.1	5.5	6.1	6.8	7.9	
	80	9.4	9.8	10.1	10.5	11.5	12.6	14.1	16.1	19.2	8.3	8.6	8.9	9.2	9.9	10.7	11.8	13.1	15.0	17.8	
	90	15.0	15.6	16.2	16.9	18.5	20.5	23.3	27.3	34.3	13.1	13.5	14.0	14.5	15.7	17.2	19.0	21.5	25.1	31.3	
	100	21.3	22.2	23.2	24.2	26.8	30.2	35.1	43.0		18.4	19.1	19.8	20.6	22.5	24.8	27.9	32.2	39.1		
	110	28.8	30.1	31.5	33.2	37.3	43.0	52.0			24.6	25.6	26.6	27.8	30.6	34.2	39.2	47.0			
120	37.9	39.9	42.1	44.7	51.4	62.0				31.8	33.2	34.7	36.5	40.7	46.4	55.3					
70	80	4.9	5.1	5.3	5.6	6.1	6.7	7.6	8.8	10.8	4.3	4.5	4.6	4.8	5.2	5.7	6.2	7.0	8.2	10.0	
	90	10.5	10.9	11.4	11.9	13.1	14.6	16.8	20.1	26.6	9.1	9.4	9.8	10.2	11.0	12.1	13.5	15.5	18.4	24.2	
	100	16.8	17.5	18.3	19.2	21.4	24.3	28.6	36.3		14.4	15.0	15.6	16.2	17.8	19.7	22.4	26.2	32.9		
	110	24.2	25.4	26.7	28.1	31.8	37.1	46.0			20.6	21.4	22.2	23.4	25.8	29.1	33.7	41.3			
	120	33.3	35.1	37.2	39.6	46.0	56.4				27.8	29.0	30.4	32.0	35.9	41.4	50.1				
	130	45.1	48.1	51.6	55.8	68.6					36.6	38.5	40.6	43.1	49.6	59.8					
80	140	62.2	67.7	74.8	84.6						48.1	51.1	54.6	58.9	71.3						
	90	5.5	5.8	6.0	6.3	7.0	7.9	9.2	11.4	16.8	4.8	5.0	5.1	5.4	5.8	6.5	7.3	8.5	10.4	15.2	
	100	11.8	12.4	13.0	13.6	15.3	17.6	21.2	28.3		10.1	10.5	11.0	11.4	12.6	14.1	16.1	19.3	25.5		
	110	19.2	20.2	21.3	22.6	25.7	30.5	39.0			16.2	16.9	17.7	18.5	20.6	23.4	27.6	34.9			
	120	28.3	29.9	31.8	34.0	39.9	50.1				23.4	24.5	25.8	27.1	30.7	35.8	44.3				
	130	40.1	42.8	46.1	50.2	62.7					32.2	33.9	35.9	38.2	44.4	54.4					
90	140	57.1	62.3	69.2	79.0						43.6	46.5	49.8	54.0	66.2						
	100	6.3	6.6	6.9	7.3	8.3	9.7	12.1	18.1		5.3	5.6	5.8	6.1	6.7	7.6	8.9	11.0	16.1		
	110	13.7	14.4	15.3	16.2	18.8	22.7	30.7			11.4	12.0	12.5	13.2	14.8	17.0	20.4	27.3			
	120	22.7	24.1	25.7	27.6	33.0	42.8				18.6	19.5	20.6	21.8	24.8	29.4	37.6				
	130	34.4	36.9	40.0	43.8	56.1					27.4	28.9	30.7	32.8	38.6	48.4					
	140	51.4	56.4	63.1	72.8						38.8	41.4	44.6	48.5	60.6						
100	150	83.1	99.2								55.3	60.4	67.0	76.4							
	110	7.4	7.8	8.3	8.9	10.4	13.1	19.8			6.1	6.4	6.7	7.1	8.0	9.4	11.7	17.4			
	120	16.4	17.5	18.7	20.3	24.7	34.0				13.2	14.0	14.8	15.7	18.1	21.9	29.6				
	130	28.1	30.3	33.0	36.5	48.4					22.0	23.3	24.9	26.7	31.9	41.3					
	140	44.9	49.6	56.1	67.7						33.3	35.8	38.7	42.4	54.2						
	150	76.5	92.4								50.0	54.6	61.1	70.4							
110	120	9.0	9.6	10.4	11.4	14.4	22.2				7.2	7.6	8.0	8.6	10.1	12.6	19.1				
	130	20.6	22.4	24.6	27.6	38.8					15.9	16.9	18.1	19.6	23.9	32.8					
	140	37.4	41.7	47.8	57.3						27.2	29.3	31.9	35.3	46.8						
	150	68.8	84.6								43.5	48.1	54.3	63.3							
	160																				
	170																				
120	130	11.6	12.8	14.2	16.3	25.9					8.7	9.3	10.1	11.0	13.9	21.5					
	140	28.4	32.1	37.5	46.8						20.0	21.7	23.9	26.8	37.6						
	150	59.6	75.2								36.3	40.5	46.3	55.5							
	160																				
	170																				
	180																				

FOR LOW TEMPERATURE RANGE

Heated Water:		180° HEATING WATER												190° HEATING WATER											
		TEMPERATURE DROP												TEMPERATURE DROP											
In	Out	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°
40	60	6.5	6.6	6.8	7.0	7.4	7.9	8.4	9.0	9.8	10.7	11.8	13.4	5.88	6.02	6.17	6.32	6.66	7.04	7.47	7.97	8.55	9.25	10.11	11.20
	80	13.9	14.3	14.7	15.1	16.1	17.2	18.5	20.1	22.0	24.6	28.1	33.6	12.54	12.86	13.20	13.55	14.34	15.23	16.26	17.48	18.95	20.77	23.12	
	100	22.7	23.4	24.2	25.0	26.8	28.9	31.5	34.9	39.3	45.8			20.35	20.91	21.51	22.15	23.58	25.25	27.22	29.64	32.68	36.72	42.56	
	120	34.0	35.2	36.5	37.9	41.2	45.4	50.9	58.7					29.95	30.89	31.90	33.08	35.48	38.49	42.24	47.14	53.99			
	140	49.8	52.0	54.5	57.3	64.4	74.7							42.71	44.33	46.10	48.06	52.72	58.81	67.36					
	160	77.7	83.4	90.6	100.0									62.33	65.60	69.37	73.86	85.97							
50	70	6.9	7.1	7.3	7.5	8.0	8.5	9.1	9.9	10.8	12.0	13.7	16.1	6.23	6.39	6.55	6.73	7.11	7.55	8.05	8.64	9.35	10.22	11.34	12.86
	90	14.9	15.4	15.8	16.3	17.5	18.8	20.5	22.5	25.1	28.8	34.6		13.39	13.76	14.14	14.56	15.47	16.52	17.77	19.27	21.14	23.57	26.94	
	110	24.8	25.6	26.5	27.5	29.7	32.5	36.0	40.7	47.6				21.97	22.63	23.34	24.10	25.82	27.87	30.38	33.56	37.81	44.01		
	130	37.8	39.4	41.0	42.9	47.4	53.4	62.1						32.86	34.01	35.26	36.63	39.82	43.81	49.08	56.58				
	150	57.8	61.0	64.8	69.2	81.6								48.21	50.35	52.75	55.48	62.30	72.16						
	170	105.3	121.1											75.36	80.85	87.75	96.86								
60	80	7.4	7.6	7.8	8.1	8.6	9.3	10.1	11.0	12.3	14.0	16.5	21.4	6.65	6.83	7.02	7.22	7.66	8.17	8.78	9.50	10.40	11.54	13.10	15.46
	100	16.2	16.7	17.3	17.9	19.3	21.0	23.1	25.9	29.7	35.9			14.42	14.87	15.30	15.78	16.87	18.16	19.71	21.65	24.17	27.69		
	120	27.4	28.4	29.5	30.8	33.7	37.4	42.5	50.1					23.97	24.77	25.63	26.56	28.71	31.34	34.70	39.22	45.90			
	140	43.1	45.1	47.4	50.0	56.8	66.8							36.64	38.10	39.71	41.51	45.84	51.61	59.99					
	160	70.7	76.2	83.1	92.4									56.06	59.16	62.77	67.06	78.99							
	200													102.14	117.46										
80	100	8.8	9.1	9.4	9.8	10.6	11.7	13.0	14.9	17.7	23.3			7.76	8.00	8.26	8.55	9.19	9.96	10.92	12.15	13.85	16.42	21.38	
	120	19.9	20.7	21.6	22.6	25.0	28.1	32.5	39.8					17.27	17.88	18.55	19.28	20.98	23.12	25.92	29.89	36.30			
	140	35.5	37.3	39.3	41.7	48.0	57.8							29.85	31.12	32.54	34.14	38.03	43.38	51.58					
	160	62.8	68.0	74.8	84.0									49.10	51.99	55.40	59.50	71.21							
	180													94.65	109.74										
	200																								
100	120	11.1	11.6	12.1	12.8	14.3	16.4	19.7	26.3					9.48	9.85	10.26	10.70	11.77	13.14	15.05	17.99	23.75			
	140	26.5	28.0	29.8	31.8	37.3	46.8							22.00	23.02	24.18	25.49	28.77	33.50	41.41					
	160	53.6	58.5	65.0	74.1									41.09	43.73	46.87	50.72	62.19							
	180													86.16	101.04										
	200																								
110	115	2.8	3.0	3.1	3.3	3.7	4.3	5.2	7.1					2.43	2.52	2.63	2.75	3.03	3.39	3.91	4.72	6.41			
	120	5.9	6.2	6.5	6.9	7.8	9.1	11.3	16.8					5.01	5.22	5.44	5.70	6.31	7.12	8.28	10.22	15.03			
	125	9.2	9.7	10.2	10.8	12.3	14.6	18.8						7.77	8.11	8.47	8.89	9.89	11.25	13.27	16.88				
	130	12.8	13.5	14.3	15.2	17.5	21.2	28.6						10.75	11.23	11.76	12.36	13.84	15.90	19.10	25.47				
	150	32.4	34.7	37.5	41.1	52.6								25.77	27.22	28.89	30.87	36.20	45.36						
	170	78.2	93.3											52.13	56.88	63.12	71.96								
120	125	3.3	3.5	3.7	3.9	4.6	5.6	7.7						2.76	2.89	3.03	3.19	3.58	4.14	5.02	6.87				
	130	6.9	7.3	7.8	8.3	9.8	12.2	18.5						5.73	6.00	6.31	6.66	7.54	8.80	10.92	16.27				
	135	10.9	11.6	12.4	13.3	15.8	20.5							9.95	9.40	9.90	10.48	11.96	14.18	18.18					
	140	15.4	16.4	17.6	19.0	23.2	31.8							12.47	13.13	13.88	14.75	17.01	20.55	27.74					
	160	42.3	46.7	52.7	61.7									31.44	33.71	36.46	39.92	51.03							
	180													76.08	90.76										
130	135	4.0	4.3	4.6	5.0	6.1	8.5							3.22	3.35	3.59	3.82	4.43	5.40	7.47					
	140	8.5	9.1	9.8	10.7	13.5	20.8							6.73	7.12	7.56	8.08	9.48	11.85	17.92					
	145	13.5	14.6	15.9	17.5	23.0								10.62	11.26	12.01	12.90	15.38	19.91						
	150	19.4	21.1	23.2	26.0	36.5								14.97	15.93	17.08	18.47	22.50	30.87						
	170	64.9	79.8											41.13	45.42	51.26	60.01								
	190																								
140	145	5.1	5.5	6.1	6.8	9.7								3.88	4.14	4.45	4.82	5.92	8.29						
	150	10.9	12.0	13.4	15.3	24.3								8.22	8.81	9.51	10.39	13.10	20.22						
	155	18.0	19.9	22.6	26.7									13.16	14.17	15.42	17.02	22.33							
	160	26.7	30.2	35.3	44.1									18.89	20.50	22.54	25.23	35.43							
	180													63.18	77.62										
	200																								
150	155	7.0	7.9	9.3	11.6									4.93	5.38	5.91	6.64	9.45							
	160	15.8	18.2	22.1	30.2									10.65	11.68	13.03	14.90	23.65							
	165	27.5	32.9	43.4										17.49	19.41	22.02	25.94								
	170	45.3	59.6											26.03	29.41	34.35	42.86								
	190																								
	210																								
160	165													6.83	7.73	9.03	11.24								
	170													13.36	17.73	21.52	29.41								
	175													26.74	32.06	42.30									
	180													44.09	58.05										
	200																								
	220																								
170	175													11.38	14.47	22.88									
	180													28.75	41.76										
	185													67.78											
	190																								
	210																								
	230																								
180	185													41.24											
	190																								
	195																								
	200																								
	220																								
	240																								
190	195																								
	200																								
	205																								
	210										</														

TYPE "WUT" HEAT EXCHANGERS

CAUTION: When working pressures and/or temperatures exceed standard "WUT" limits (150/125 psig & 375°F), consult factory, or use "HTWUT" units.

TABLE A

CLEAN TUBE TEMPERATURE FACTORS

		200° HEATING WATER												210° HEATING WATER											
Heated Water		TEMPERATURE DROP												TEMPERATURE DROP											
In	Out	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°
40	60	5.38	5.50	5.63	5.76	6.04	6.36	6.72	7.12	7.59	8.14	8.79	9.60	4.95	5.06	5.17	5.28	5.52	5.79	6.09	6.43	6.81	7.25	7.77	8.38
	80	11.42	11.68	11.97	12.27	12.92	13.65	14.49	15.46	16.60	17.96	19.66	21.84	10.45	10.68	10.93	11.18	11.73	12.34	13.03	13.82	14.73	15.80	17.08	18.67
	100	18.37	18.84	19.34	19.86	21.02	22.35	23.90	25.74	27.97	30.77	34.48	39.78	16.71	17.11	17.53	17.97	18.83	20.01	21.26	22.70	24.41	26.49	29.09	32.51
	120	26.73	27.49	28.30	29.16	31.11	33.39	36.14	39.56	43.97	50.09			24.09	24.71	25.38	26.08	27.64	29.44	31.56	34.09	37.22	41.25	46.77	
	140	37.38	38.62	39.96	41.41	44.77	48.92	54.27	61.62					33.21	34.18	35.23	36.36	38.92	41.96	45.71	50.48	56.95			
	160	52.44	54.64	57.10	59.88	66.73	76.41							45.37	46.98	48.75	50.70	55.28	61.18	69.26					
50	180	79.13	84.62	91.44	100.39									64.12	67.30	70.96	75.26	86.80							
	70	5.68	5.81	5.95	6.10	6.42	6.78	7.19	7.66	8.21	8.88	9.69	10.73	5.20	5.32	5.44	5.56	5.83	6.13	6.47	6.86	7.30	7.82	8.45	9.21
	90	12.12	12.42	12.74	13.08	13.83	14.68	15.67	16.83	18.23	19.96	22.21	25.31	11.04	11.30	11.57	11.86	12.48	13.18	13.98	14.90	15.99	17.30	18.91	21.00
	110	19.68	20.22	20.80	21.41	22.78	24.37	26.26	28.57	31.48	35.35	40.94		17.79	18.24	18.72	19.22	20.33	21.80	23.09	24.84	26.98	29.67	33.22	38.30
	130	29.00	29.90	30.88	31.93	34.32	37.20	40.81	45.50	52.09				25.91	26.64	27.42	28.25	30.11	32.31	34.95	38.23	42.48	48.35	57.52	
	150	41.40	42.96	44.66	46.55	51.04	56.91	65.14						36.27	37.46	38.75	40.15	43.38	47.38	52.54	59.63				
60	170	60.48	63.63	67.28	71.58	83.32								50.92	53.05	55.43	58.11	64.73	74.08						
	190	105.83	120.90											76.91	82.22	88.84	97.51								
	80	6.02	6.17	6.33	6.50	6.86	7.28	7.76	8.32	9.00	9.83	10.89	12.34	5.49	5.62	5.75	5.89	6.20	6.54	6.93	7.38	7.91	8.55	9.32	10.32
	100	12.96	13.30	13.67	14.07	14.94	15.95	17.14	18.58	20.37	22.69	25.92	30.98	11.74	12.03	12.33	12.66	13.37	14.19	15.13	16.25	17.59	19.25	21.40	24.37
	120	21.27	21.91	22.59	23.32	24.97	26.94	29.35	32.40	36.48	42.43			19.08	19.60	20.15	20.74	22.05	23.58	25.40	27.61	30.41	34.13	39.50	
	140	31.86	32.96	34.17	35.48	38.55	42.39	47.46	54.68					28.14	29.01	29.94	30.95	32.25	33.94	36.04	39.50	44.03	50.37	60.51	
80	160	46.78	48.84	51.16	53.79	60.38	69.82							40.21	41.71	43.35	45.18	49.31	55.18	63.13					
	180	73.18	78.50	85.17	94.00									58.78	61.83	65.36	69.53	80.89							
	200													102.94	117.58										
	100	6.92	7.12	7.33	7.56	8.06	8.66	9.37	10.26	11.39	12.95	15.30	19.79	6.23	6.40	6.57	6.76	7.16	7.64	8.19	8.85	9.67	10.73	12.16	14.33
	120	15.21	15.69	16.21	16.77	18.06	19.61	21.56	24.11	27.68	33.39			13.55	13.94	14.36	14.81	15.81	17.00	18.43	20.22	22.55	25.80	30.95	
	140	25.73	26.68	27.72	28.87	31.56	35.02	39.73	46.78					22.57	23.30	24.10	24.97	26.96	29.41	32.52	36.72	42.92			
100	160	40.53	42.43	44.58	47.04	53.30	62.65							34.55	35.91	37.42	39.10	43.13	48.51	56.33					
	180	66.67	71.80	78.30	87.04									52.96	55.86	59.24	63.26	74.45							
	200													96.63	111.08										
	120	8.26	8.55	8.86	9.19	9.97	10.94	12.19	13.91	16.55	21.67			7.30	7.53	7.77	8.04	8.63	9.35	10.23	11.38	12.95	15.34	19.94	
	140	18.74	19.49	20.31	21.23	23.43	26.34	30.49	37.30					16.28	16.85	17.48	18.16	19.74	21.73	24.34	28.04	34.02	47.71		
	160	33.44	35.13	37.07	39.30	45.13	54.30							28.19	29.38	30.71	32.20	35.85	40.86	48.53					
110	180	59.33	64.24	70.55	79.21									46.45	49.17	52.37	56.22	67.24							
	200													89.68	103.94										
	130	2.11	2.18	2.27	2.35	2.56	2.81	3.14	3.61	4.34	5.85			1.86	1.92	1.98	2.05	2.21	2.39	2.63	2.93	3.36	4.02	5.38	
	150	4.34	4.49	4.66	4.85	5.29	5.84	6.58	7.62	9.36	13.62			3.81	3.94	4.07	4.21	4.54	4.94	5.45	6.12	7.07	8.64	12.45	
	170	6.70	6.95	7.22	7.52	8.23	9.13	10.36	12.17	15.37				5.87	6.06	6.27	6.50	7.03	7.67	8.50	9.61	11.25	14.13		
	190	9.21	9.56	9.96	10.39	11.41	12.74	14.58	17.42	22.99				8.03	8.31	8.61	8.93	9.68	10.62	11.82	13.49	16.04	20.99		
120	210	21.38	22.37	23.49	24.76	27.93	32.51	40.17						18.23	18.95	19.75	20.64	22.77	25.59	29.61	36.20				
	230	39.97	42.53	45.57	49.31	60.43								32.55	34.19	36.07	38.24	43.89	52.78						
	250	83.87	98.34											57.79	62.57	68.70	77.11								
	140	2.36	2.45	2.55	2.67	2.94	3.29	3.79	4.57	6.21				2.05	2.12	2.20	2.29	2.48	2.73	3.05	3.50	4.20	5.67		
	160	4.87	5.07	5.29	5.53	6.12	6.90	8.03	9.90	14.56				4.22	4.37	4.53	4.72	5.14	5.67	6.38	7.40	9.07	13.19		
	180	7.55	7.87	8.23	8.63	9.60	10.91	12.87	16.37					6.51	6.75	7.02	7.31	7.99	8.87	10.05	11.80	14.91			
130	200	10.45	10.91	11.43	12.01	13.44	15.43	18.53	24.69					8.96	9.30	9.68	10.10	11.09	12.38	14.16	16.91	22.30			
	220	25.07	26.47	28.09	30.01	35.18	44.06							20.81	21.77	22.85	24.09	27.17	31.61	39.04					
	240	50.74	55.36	61.42	70.01									38.93	41.42	44.38	48.00	58.81							
	150	2.68	2.81	2.94	3.10	3.48	4.01	4.87	6.66					2.29	2.38	2.48	2.59	2.85	3.20	3.68	4.44	6.02			
	170	5.57	5.84	6.13	6.47	7.32	8.55	10.60	15.78					4.74	4.93	5.14	5.38	5.95	6.71	7.80	9.62	14.13			
	190	8.71	9.14	9.63	10.19	11.62	13.77	17.65	26.94					7.35	7.66	8.01	8.39	9.33	10.61	12.50	15.89				
140	210	12.13	12.77	13.49	14.33	16.53	19.98							10.17	10.62	11.12	11.68	13.07	15.00	18.00	23.99				
	230	30.61	32.80	35.48	38.84	49.63								24.42	25.78	27.36	29.21	34.24	42.86						
	250	74.11	88.39											49.46	53.95	59.85	68.20								
	160	3.13	3.30	3.49	3.72	4.31																			

FOR LOW TEMPERATURE RANGE

		220° HEATING WATER												230° HEATING WATER											
Heated Water:		TEMPERATURE DROP												TEMPERATURE DROP											
In	Out	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°	5°	10°	15°	20°	30°	40°	50°	60°	70°	80°	90°	100°
40	60	4.58	4.67	4.76	4.86	5.07	5.30	5.56	5.84	6.16	6.52	6.94	7.43	4.25	4.35	4.45	4.55	4.65	4.85	5.10	5.34	5.61	5.92	6.26	6.65
	80	9.62	9.82	10.03	10.25	10.72	11.24	11.82	12.47	13.21	14.07	15.08	16.28	8.90	9.07	9.25	9.45	9.65	10.30	10.79	11.34	11.96	12.66	13.47	14.42
	100	15.30	15.64	16.00	16.37	17.18	18.08	19.10	20.27	21.63	23.23	25.16	27.55	13.00	13.36	13.75	14.18	14.65	15.65	16.45	17.33	18.30	19.38	20.65	22.15
	120	21.89	22.41	22.96	23.55	24.83	26.29	27.97	29.93	32.28	35.17	38.67	43.88	18.00	18.47	18.94	19.45	20.00	21.35	22.57	23.97	25.65	27.63	30.01	32.97
	140	29.83	30.62	31.47	32.38	34.39	36.74	39.53	42.94	47.26	53.03			24.00	24.57	25.14	25.74	26.39	28.05	29.63	31.40	33.48	36.05	39.27	43.15
	160	39.99	41.24	42.59	44.05	47.39	51.48	56.66	63.61					30.00	30.74	31.48	32.26	33.09	35.15	37.05	39.24	41.82	45.05	48.99	53.69
50	70	4.79	4.89	4.99	5.10	5.33	5.59	5.88	6.20	6.56	6.98	7.47	8.06	4.43	4.53	4.63	4.73	4.90	5.17	5.37	5.64	5.94	6.29	6.68	7.15
	90	10.12	10.34	10.57	10.82	11.34	11.93	12.59	13.34	14.21	15.23	16.46	17.97	8.95	9.15	9.35	9.55	10.00	10.67	11.43	12.29	13.26	14.35	15.55	16.90
	110	16.20	16.58	16.98	17.40	18.32	19.36	20.56	21.94	23.58	25.57	28.06	31.34	14.85	15.17	15.51	15.87	16.34	17.41	18.68	20.16	21.87	23.82	26.03	28.60
	130	23.37	23.97	24.61	25.29	26.79	28.52	30.55	32.99	36.00	39.87	45.17	51.30	21.24	21.76	22.30	22.85	23.95	25.45	27.16	29.11	31.32	33.89	36.83	40.17
	150	32.25	33.19	34.20	35.29	37.75	40.69	44.29	48.90	55.13				28.95	29.76	30.58	31.45	32.38	34.05	35.99	38.24	40.84	43.84	47.25	51.09
	170	44.09	45.65	47.36	49.24	53.67	59.37	67.18						38.90	40.11	41.41	42.85	44.35	46.95	50.00	53.51	57.50	62.00	67.05	72.70
60	80	5.04	5.15	5.26	5.38	5.64	5.93	6.25	6.62	7.05	7.54	8.14	8.87	4.68	4.78	4.88	4.98	5.15	5.41	5.68	5.98	6.34	6.74	7.21	7.77
	100	10.70	10.95	11.21	11.48	12.08	12.75	13.52	14.40	15.44	16.70	18.25	20.25	9.92	10.17	10.45	10.75	11.05	11.55	12.15	12.85	13.64	14.52	15.50	16.60
	120	17.26	17.69	18.15	18.64	19.70	20.93	22.35	24.04	26.09	28.67	32.09	36.57	15.13	15.49	15.86	16.25	16.65	17.75	18.95	20.35	22.04	24.04	26.47	30.23
	140	25.16	25.86	26.61	27.41	29.21	31.33	33.87	37.03	41.12	46.78			21.24	21.76	22.30	22.85	23.95	25.45	27.16	29.11	31.32	33.89	36.83	40.17
	160	35.25	36.40	37.65	39.00	42.12	45.98	50.96	57.81	68.37				28.95	29.76	30.58	31.45	32.38	34.05	35.99	38.24	40.84	43.84	47.25	51.09
	180	49.53	51.59	53.89	56.49	62.90	71.96							38.90	40.11	41.41	42.85	44.35	46.95	50.00	53.51	57.50	62.00	67.05	72.70
80	100	5.66	5.79	5.94	6.09	6.43	6.81	7.25	7.77	8.39	9.16	10.14	11.47	5.17	5.29	5.41	5.54	5.82	6.14	6.50	6.91	7.40	7.98	8.70	9.62
	120	12.20	12.52	12.86	13.22	14.03	14.96	16.07	17.40	19.05	21.20	24.18	28.06	11.07	11.34	11.62	11.90	12.30	13.04	13.93	15.04	16.48	18.26	20.41	23.00
	140	20.06	20.65	21.28	21.92	23.50	25.32	27.56	30.40	34.19	39.72			18.00	18.47	18.94	19.45	20.00	21.35	22.57	23.97	25.65	27.63	30.01	32.97
	160	30.09	31.12	32.24	33.47	36.33	39.92	44.66	51.40					26.92	27.43	27.94	28.45	29.00	30.65	32.48	34.59	37.08	39.97	43.37	47.30
	180	44.26	46.19	48.36	50.83	57.01	65.94							38.90	40.11	41.41	42.85	44.35	46.95	50.00	53.51	57.50	62.00	67.05	72.70
	200	69.34	74.35	80.64	88.97									55.77	58.65	61.87	65.30	68.94	72.79						
100	120	6.53	6.71	6.91	7.12	7.59	8.14	8.80	9.62	10.68	12.12	14.31	18.48	5.95	6.04	6.20	6.37	6.75	7.13	7.57	8.10	8.72	9.46	10.34	11.41
	140	14.36	14.81	15.30	15.82	17.02	18.47	20.29	22.66	26.00	31.33			12.82	13.18	13.57	13.96	14.43	15.63	17.07	18.84	21.05	23.70	26.86	30.65
	160	24.34	25.23	26.20	27.28	29.80	33.04	37.45	44.06					21.24	21.76	22.30	22.85	23.95	25.45	27.16	29.11	31.32	33.89	36.83	40.17
	180	38.40	40.19	42.21	44.52	50.40	59.20							32.78	34.06	35.48	37.06	38.85	40.93	43.41	46.40				
	200	63.26	68.10	74.25	82.50									50.31	53.05	56.15	59.64	63.54	67.89						
110	115	1.66	1.71	1.76	1.81	1.94	2.08	2.25	2.47	2.75	3.14	3.74	4.98	1.50	1.53	1.58	1.62	1.73	1.83	1.97	2.13	2.33	2.58	2.96	3.51
	120	3.39	3.49	3.60	3.71	3.97	4.27	4.64	5.11	5.72	6.60	8.03	11.48	3.05	3.13	3.22	3.31	3.43	3.55	3.79	4.04	4.32	4.63	5.00	5.51
	125	5.20	5.36	5.53	5.71	6.11	6.60	7.20	7.95	8.97	10.47	13.08		4.87	4.97	5.09	5.21	5.46	5.73	6.04	6.39	6.78	7.21	7.69	8.31
	130	7.10	7.32	7.56	7.81	8.39	9.08	9.94	11.04	12.56	14.37	19.32		6.95	7.17	7.42	7.68	8.07	8.50	8.97	9.48	10.03	10.63	11.28	12.08
	150	15.85	16.40	17.00	17.66	19.20	21.12	23.66	27.24	33.03				13.95	14.43	14.96	15.48	16.36	17.47	18.82	20.43	22.30	24.45	26.90	29.70
	170	27.46	28.62	29.91	31.35	34.89	39.75	47.19						23.75	24.93	26.21	27.57	29.09	30.87	32.94	35.41	38.30	41.64	45.45	49.76
120	130	1.81	1.87	1.93	1.99	2.14	2.33	2.55	2.85	3.26	3.90	5.22		1.62	1.66	1.71	1.75	1.89	2.02	2.18	2.38	2.61	2.88	3.23	3.64
	140	3.71	3.83	3.96	4.10	4.42	4.80	5.29	5.94	6.86	8.39	12.07		3.30	3.40	3.50	3.61	3.85	4.10	4.37	4.66	4.97	5.31	5.69	6.14
	135	5.71	5.90	6.10	6.32	6.83	7.46	8.26	9.33	10.92	13.70			5.07	5.22	5.39	5.56	5.95	6.34	6.76	7.21	7.69	8.21	8.77	9.38
	140	7.82	8.08	8.37	8.69	9.42	10.32	11.49	13.10	15.57	20.37			6.95	7.17	7.42	7.68	8.07	8.50	8.97	9.48	10.03	10.63	11.28	12.08
	160	17.75	18.46	19.23	20.10	22.16	24.89	28.79	35.19					15.45	15.95	16.51	17.11	17.78	18.70	19.85	21.25	22.90	24.82	27.03	29.56
	180	31.73	33.32	35.15	37.25	42.74	51.39							25.74	27.01	28.49	30.17	32.06	34.26	36.79	39.66	42.90	46.44	50.30	54.51
130	135	2.00	2.07	2.14	2.22	2.42	2.65	2.97	3.40	4.08	5.50			1.76	1.82	1.88	1.94	2.09	2.23	2.40	2.59	2.81	3.07	3.37	3.73
	140	4.11	4.25	4.41	4.59	5.00	5.52	6.20	7.19	8.81	12.81			3.41	3.53	3.65	3.78	4.03	4.29	4.57	4.86	5.17	5.51	5.89	6.34
	145	6.34	6.58																						

TYPE "WUT" HEAT EXCHANGERS

TABLE A

CAUTION: When working pressures and/or temperatures exceed standard "WUT" limits (150/125 psig & 375°F), consult factory, or use "HTWUT" units.

CLEAN TUBE TEMPERATURE FACTORS

		240° HEATING WATER												250° HEATING WATER											
Heating Water		TEMPERATURE DROP												TEMPERATURE DROP											
In	Out	6"	10"	15"	20"	25"	30"	35"	40"	45"	50"	55"	60"	6"	10"	15"	20"	25"	30"	35"	40"	45"	50"	55"	60"
40	60	3.96	4.03	4.10	4.18	4.34	4.51	4.70	4.91	5.14	5.40	5.69	6.02	3.70	3.76	3.83	3.90	4.04	4.19	4.36	4.54	4.74	4.96	5.21	5.48
	80	8.27	8.42	8.58	8.74	9.10	9.48	9.91	10.38	10.90	11.49	12.15	12.92	7.71	7.84	7.98	8.13	8.44	8.78	9.14	9.55	9.99	10.49	11.05	11.68
	100	13.03	13.29	13.55	13.83	14.42	15.07	15.80	16.61	17.52	18.56	19.77	21.18	12.11	12.33	12.56	12.80	13.32	13.89	14.51	15.19	15.96	16.83	17.81	18.95
	120	18.42	18.81	19.21	19.63	20.54	21.55	22.68	23.97	25.45	27.17	29.22	31.72	17.04	17.37	17.72	18.08	18.86	19.72	20.68	21.75	22.97	24.36	25.98	27.91
	140	24.89	25.25	25.84	26.46	27.82	29.35	31.09	33.12	35.51	38.41	42.03	46.78	22.69	23.17	23.67	24.20	25.34	26.62	28.05	29.69	31.59	33.83	36.52	39.87
	160	32.28	33.10	33.97	34.89	36.94	39.30	42.09	45.46	49.64	55.11			29.40	30.09	30.81	31.57	33.25	35.15	37.35	39.92	43.02	46.84	51.78	
50	70	4.12	4.27	4.41	4.56	4.72	4.93	5.16	5.42	5.71	6.04	6.42		3.84	3.91	3.98	4.05	4.21	4.37	4.55	4.75	4.98	5.22	5.50	5.81
	90	8.64	8.80	8.98	9.16	9.55	9.97	10.44	10.97	11.56	12.24	13.01	13.92	8.03	8.18	8.33	8.49	8.82	9.19	9.60	10.05	10.55	11.11	11.75	12.49
	110	13.68	13.96	14.25	14.56	15.22	15.96	16.78	17.70	18.76	19.98	21.43	23.17	12.67	12.91	13.17	13.43	14.00	14.63	15.32	16.10	16.98	17.98	19.13	20.50
	130	19.46	19.89	20.34	20.81	21.85	23.00	24.32	25.83	27.60	29.71	32.29	35.58	17.92	18.29	18.68	19.08	19.96	20.93	22.02	23.26	24.69	26.34	28.32	30.73
	150	26.30	26.94	27.61	28.33	29.91	31.71	33.81	36.30	39.32	43.12			24.04	24.58	25.14	25.74	27.05	28.53	30.21	32.17	34.48	37.28	40.77	45.36
	170	34.79	35.75	36.79	37.89	40.37	43.31	46.88	51.36	57.27				31.45	32.24	33.08	33.97	35.95	38.24	40.94	44.19	48.24	53.52		
60	80	4.30	4.39	4.47	4.56	4.75	4.96	5.20	5.46	5.75	6.08	6.46	6.90	4.00	4.07	4.15	4.23	4.40	4.58	4.78	5.00	5.25	5.53	5.84	6.20
	100	9.06	9.24	9.43	9.63	10.07	10.54	11.08	11.67	12.36	13.14	14.07	15.17	8.39	8.55	8.72	8.90	9.27	9.68	10.13	10.64	11.21	11.85	12.60	13.47
	120	14.43	14.74	15.07	15.41	16.16	16.99	17.94	19.02	20.27	21.74	23.53	25.77	13.31	13.58	13.86	14.16	14.79	15.50	16.29	17.18	18.20	19.37	20.76	22.43
	140	20.67	21.16	21.67	22.22	23.41	24.76	26.31	28.14	30.32	33.00	36.43	41.09	18.94	19.36	19.79	20.25	21.25	22.36	23.63	25.09	26.80	28.83	31.32	34.50
	160	28.22	28.96	29.75	30.60	32.47	34.66	37.26	40.44	44.47	49.85			25.62	26.24	26.89	27.58	29.11	30.85	32.88	35.29	38.21	41.88	46.75	
	180	37.89	39.06	40.32	41.69	44.82	48.64	53.50	60.01					33.91	34.85	35.84	36.92	39.32	42.17	45.63	49.96	55.70			
80	100	4.75	4.85	4.96	5.07	5.31	5.57	5.87	6.21	6.60	7.06	7.61	8.28	4.39	4.47	4.57	4.66	4.87	5.09	5.35	5.63	5.95	6.32	6.76	7.27
	120	10.11	10.34	10.58	10.83	11.39	12.01	12.72	13.54	14.50	15.66	17.10	18.95	9.29	9.49	9.69	9.91	10.38	10.90	11.49	12.16	12.93	13.84	14.93	16.27
	140	16.33	16.73	17.16	17.61	18.60	19.74	21.07	22.64	24.55	26.95	30.13	34.69	14.91	15.25	15.61	15.98	16.81	17.74	18.81	20.05	21.52	23.30	25.53	28.47
	160	23.84	24.49	25.19	25.95	27.63	29.60	31.98	34.93	38.76	44.06			21.55	22.10	22.67	23.28	24.63	26.19	28.03	30.22	32.94	36.43	41.22	
	180	33.45	34.53	35.69	36.97	39.90	43.52	48.20	54.63					29.80	30.66	31.57	32.56	34.79	37.46	40.73	44.91	50.57			
	200	47.06	49.00	51.17	53.62	59.66	68.20							40.83	42.26	43.81	45.53	49.58	54.78	61.92					
100	120	5.35	5.48	5.62	5.76	6.07	6.43	6.84	7.32	7.90	8.61	9.52	10.76	4.90	5.01	5.12	5.24	5.50	5.80	6.13	6.52	6.97	7.52	8.18	9.04
	140	11.56	11.86	12.18	12.52	13.27	14.14	15.17	16.41	17.96	19.96	22.75	27.13	10.50	10.75	11.02	11.30	11.92	12.62	13.44	14.40	15.56	17.00	18.86	21.44
	160	19.03	19.58	20.18	20.82	22.25	23.97	26.06	28.72	32.28	37.47			17.12	17.57	18.06	18.57	19.71	21.05	22.63	24.57	27.01	30.25	34.95	
	180	28.59	29.56	30.62	31.77	34.46	37.84	42.30	48.65					25.33	26.09	26.91	27.80	29.82	32.27	35.32	39.30	44.89			
	200	42.10	43.93	45.98	48.31	54.14	62.58							36.28	37.61	39.07	40.69	44.53	49.55	56.61					
	110	125	1.36	1.39	1.43	1.46	1.54	1.64	1.74	1.87	2.02	2.21	2.45	2.78	1.24	1.27	1.30	1.33	1.40	1.47	1.56	1.66	1.78	1.92	2.10
140		2.76	2.83	2.90	2.98	3.15	3.34	3.56	3.83	4.15	4.55	5.08	5.83	2.52	2.58	2.64	2.70	2.84	3.00	3.18	3.39	3.64	3.94	4.32	4.81
155		4.22	4.33	4.44	4.56	4.82	5.12	5.48	5.90	6.41	7.07	7.94	9.21	3.85	3.94	4.03	4.13	4.35	4.60	4.88	5.21	5.61	6.09	6.70	7.51
170		5.74	5.88	6.04	6.20	6.57	7.00	7.49	8.09	8.83	9.77	11.06	13.02	5.22	5.34	5.47	5.61	5.91	6.26	6.66	7.12	7.68	8.37	9.25	10.45
185		7.20	7.36	7.53	7.70	8.18	8.74	9.40	10.26	11.26	12.44	13.84	15.50	6.74	6.88	7.03	7.19	7.54	7.94	8.44	9.04	9.74	10.54	11.44	12.54
200		9.20	9.40	9.60	9.80	10.40	11.10	11.90	12.80	13.80	15.00	16.40	18.10	8.40	8.60	8.80	9.00	9.40	9.90	10.50	11.20	12.00	12.90	13.90	15.10
120	135	1.46	1.50	1.54	1.58	1.67	1.78	1.91	2.07	2.26	2.52	2.86	3.40	1.32	1.36	1.39	1.42	1.50	1.59	1.70	1.82	1.96	2.14	2.38	2.70
	150	2.97	3.05	3.13	3.22	3.42	3.65	3.93	4.26	4.68	5.23	6.01	7.28	2.69	2.76	2.83	2.90	3.07	3.25	3.47	3.73	4.04	4.43	4.94	5.66
	165	4.55	4.67	4.80	4.94	5.26	5.62	6.06	6.59	7.27	8.18	9.51	11.83	4.12	4.22	4.33	4.44	4.70	4.99	5.33	5.74	6.24	6.87	7.72	8.95
	180	6.19	6.37	6.55	6.75	7.19	7.70	8.32	9.09	10.08	11.43	13.49	17.41	5.59	5.74	5.89	6.05	6.40	6.82	7.30	7.88	8.59	9.51	10.76	12.65
	200	8.65	8.90	9.15	9.40	10.00	10.60	11.30	12.10	13.00	14.00	15.20	16.60	7.20	7.40	7.60	7.80	8.20	8.70	9.30	10.00	10.80	11.80	13.00	14.50
	220	10.80	11.10	11.40	11.70	12.40	13.10	13.90	14.80	15.80	17.00	18.40	20.00	9.40	9.60	9.80	10.00	10.40	10.90	11.50	12.20	13.00	13.90	15.10	16.60
130	145	1.72	1.77	1.83	1.89	2.03	2.21	2.42	2.69	3.08	3.68	4.43	5.41	1.54	1.58	1.63	1.68	1.79	1.92	2.08	2.27	2.53	2.88	3.44	4.57
	160	3.53	3.64	3.76	3.89	4.19	4.56	5.02	5.63	6.49	7.92	11.41		3.14	3.23	3.33	3.44	3.67	3.95	4.28	4.				

FOR MEDIUM TEMPERATURE RANGE

		250° HEATING WATER					280° HEATING WATER				
Ratchet Valve		TEMPERATURE DROP					TEMPERATURE DROP				
In	Out	50°	60°	80°	90°	100°	70°	80°	90°	100°	110°
40	60	3.65	3.91	4.21	4.58	5.02	3.22	3.43	3.67	3.95	4.29
	80	7.58	8.15	8.83	9.64	10.65	6.66	7.12	7.64	8.26	9.00
	100	11.91	12.85	13.98	15.37	17.13	10.40	11.14	12.01	13.04	14.30
	120	16.74	18.16	19.88	22.05	24.90	14.52	15.61	16.90	18.47	20.43
	140	22.27	24.32	26.88	30.21	34.82	19.14	20.67	22.53	24.83	27.80
	160	28.80	31.77	35.60	40.86	48.98	24.44	26.57	29.21	32.60	37.19
	180	36.89	41.30	47.36	56.60		30.71	33.72	37.56	42.74	50.43
50	70	3.78	4.06	4.40	4.80	5.30	3.32	3.55	3.81	4.12	4.48
	90	7.90	8.52	9.26	10.16	11.21	6.81	7.38	7.96	8.64	9.47
	110	12.45	13.49	14.75	16.32	18.36	10.82	11.62	12.57	13.71	15.14
	130	17.59	19.17	21.13	23.64	27.06	15.18	16.39	17.79	19.56	21.82
	150	23.56	25.89	28.87	32.85	38.69	20.08	21.79	23.89	26.53	30.06
	170	30.76	34.22	38.84	45.53		25.81	28.33	31.28	35.30	41.04
	190	39.94	45.33	53.18			32.73	36.22	40.83	47.36	
60	80	3.94	4.24	4.61	5.06	5.62	3.44	3.68	3.97	4.30	4.71
	100	8.25	8.93	9.75	10.77	12.10	7.19	7.71	8.33	9.08	10.01
	120	13.07	14.22	15.84	17.45	19.87	11.28	12.16	13.11	14.50	16.13
	140	18.58	20.36	22.61	25.59	29.82	15.89	17.21	18.82	20.84	23.49
	160	25.08	27.77	31.30	36.24	44.96	21.16	23.09	25.48	28.59	32.90
	180	33.12	37.25	43.02	52.07		27.41	30.19	33.79	38.73	46.26
	200	43.78	50.65	61.59			35.14	39.30	45.01	53.72	
80	100	4.31	4.68	5.14	5.71	6.48	3.73	4.00	4.36	4.77	5.29
	120	9.12	9.96	11.01	12.38	14.26	7.83	8.46	9.23	10.18	11.41
	140	14.61	16.08	17.97	20.51	24.27	12.42	13.59	14.82	16.51	18.78
	160	21.09	23.47	26.63	31.18	38.77	17.68	19.35	21.46	24.25	28.22
	180	29.08	32.90	38.33	47.18		23.90	26.43	29.75	34.39	41.76
	200	39.67	46.23	56.96			31.59	35.49	40.94	49.49	
100	120	4.80	5.27	5.87	6.66	7.80	4.10	4.44	4.87	5.41	6.12
	140	10.28	11.38	12.81	14.80	17.88	8.68	9.47	10.45	11.71	13.50
	160	16.74	18.74	21.46	25.51	32.78	13.92	15.31	17.06	19.47	23.00
	180	24.69	28.13	33.16	41.76		20.11	22.56	25.34	29.63	36.80
	200	35.22	41.41	51.92			27.77	31.08	36.52	44.89	
110	115	1.22	1.34	1.49	1.70	2.00	1.04	1.13	1.23	1.37	1.56
	120	2.47	2.72	3.04	3.48	4.11	2.10	2.28	2.51	2.80	3.18
	125	3.77	4.16	4.66	5.34	6.37	3.19	3.48	3.83	4.28	4.89
	130	5.11	5.65	6.35	7.31	8.78	4.32	4.71	5.19	5.82	6.68
	150	11.02	12.31	14.03	16.55	20.86	9.20	10.16	11.24	12.77	14.98
	170	18.13	20.53	23.95	29.48		14.86	16.47	18.58	21.94	26.27
	190	27.15	31.50	38.34			21.69	24.26	28.05	33.75	
120	125	1.30	1.44	1.62	1.87	2.26	1.09	1.19	1.32	1.48	1.70
	130	2.64	2.93	3.31	3.84	4.68	2.22	2.43	2.68	3.02	3.50
	135	4.03	4.48	5.08	5.93	7.30	3.38	3.70	4.10	4.63	5.39
	140	5.47	6.10	6.94	8.15	10.17	4.59	5.02	5.58	6.32	7.39
	160	11.91	13.44	15.58	18.92	25.68	9.81	10.84	12.19	14.07	16.97
	180	19.83	22.81	27.30	35.57		15.38	17.87	20.44	24.27	31.15
130	135	1.39	1.55	1.77	2.09	2.63	1.16	1.27	1.42	1.61	1.89
	140	2.83	3.17	3.63	4.31	5.51	2.36	2.59	2.89	3.30	3.90
	145	4.24	4.87	5.60	6.69	8.71	3.58	3.96	4.43	5.08	6.04
	150	5.90	6.65	7.68	9.26	12.32	4.97	5.38	6.04	6.95	8.34
	170	12.99	14.86	17.61	22.38		10.59	11.74	13.37	15.75	19.82
	190	21.98	25.79	32.09			17.33	19.61	22.85	28.08	
140	145	1.50	1.70	1.96	2.39	3.22	1.24	1.37	1.54	1.78	2.14
	150	3.07	3.47	4.05	4.96	6.30	2.52	2.79	3.15	3.65	4.45
	155	4.71	5.35	6.27	7.77	11.21	3.85	4.27	4.94	5.64	6.94
	160	6.43	7.33	8.64	10.85	16.50	5.23	5.82	6.81	7.95	9.66
	180	14.33	16.68	20.41	28.13		11.38	12.83	14.86	18.03	24.44
	200	24.75	29.91	39.79			18.38	21.80	26.07	33.93	
150	155	1.64	1.87	2.22	2.81	4.46	1.33	1.48	1.69	1.99	2.50
	160	3.36	3.85	4.60	5.92	10.26	2.71	3.03	3.46	4.11	5.24
	165	5.16	5.96	7.16	9.39		4.14	4.65	5.34	6.38	8.29
	170	7.07	8.20	9.95	13.36		5.64	6.35	7.33	8.83	11.72
	190	16.03	19.12	24.60			12.43	14.20	16.81	21.35	
	210	28.52	36.07				21.05	24.68	30.68		
160	165	1.81	2.10	2.57	3.50		1.44	1.62	1.87	2.27	3.07
	170	3.71	4.34	5.36	7.54		2.94	3.32	3.86	4.73	6.57
	175	5.73	6.75	8.42	12.33		4.50	5.11	5.98	7.40	10.68
	180	7.89	9.34	11.83	18.35		6.15	7.01	8.25	10.35	15.72
	200	18.28	22.59	31.86			13.32	15.96	19.51	26.87	
	220	33.96	46.75				23.73	29.65	38.07		
170	175	2.02	2.40	3.07	4.96		1.57	1.79	2.12	2.68	4.25
	180	4.17	5.00	6.50	11.55		3.21	3.69	4.39	5.65	9.78
	185	6.47	7.83	10.38			4.94	5.70	6.84	8.97	
	190	8.94	10.93	14.88			6.77	7.84	9.51	12.76	
	210	21.39	27.99				15.17	18.37	23.54		
	230	42.75					27.36	34.58			
180	185	2.30	2.83	3.91			1.73	2.01	2.45	3.34	
	190	4.77	5.93	8.48			3.56	4.16	5.12	7.20	
	195	7.45	9.39	14.02			5.50	6.46	8.06	11.79	
	200	10.38	13.29	21.18			7.56	8.95	11.32	17.54	
	220	26.02	38.07				17.54	21.66	30.51		
	240	60.91					32.57	44.85			
190	195	2.68	3.46		5.72		1.94	2.30	2.94	4.74	
	200	5.60	7.37		13.56		4.00	4.79	6.22	11.05	
	205	8.83	11.89				6.21	7.58	9.94		
	210	12.43	17.25				8.58	10.48	14.25		
	230	33.79					20.54	26.86			
	250						41.08				
200	205	3.22	4.54				2.21	2.71	3.74		
	210	6.83	9.97				4.58	5.69	8.12		
	215	10.91	16.77				7.15	9.00	13.44		
	220	15.63	26.02				9.86	12.75	20.30		
	240	50.99					25.90	36.56			
210	215	4.08	6.99				2.57	3.32	5.48		
	220	8.81	17.08				5.38	7.08	13.01		
	225	14.45					8.48	11.41			
	230	21.44					11.94	16.56			
	250						32.50				
220	225	5.65					3.10	4.36			
	230	12.69					6.56	9.57			
	235	22.10					10.49	16.11			
	240	36.56					15.04	25.00			
230	235	9.60					6.72				
	240	25.13					16.42				
240	245						5.44				
	250						12.21				

TYPE "WUT" HEAT EXCHANGERS

CAUTION: When working pressures and/or temperatures exceed standard "WUT" limits (150/125 psig & 375°F), consult factory, or use "HTWUT" units.

TABLE A

CLEAN TUBE TEMPERATURE FACTORS

		300° HEATING WATER					320° HEATING WATER					
Heated Water		TEMPERATURE DROP					TEMPERATURE DROP					
In	Out	25°	40°	50°	60°	100°	20°	40°	60°	80°	100°	120°
40	60	2.87	3.04	3.24	3.46	3.72	2.58	2.72	2.88	3.06	3.27	3.52
	80	5.92	6.29	6.71	7.19	7.76	5.31	5.61	5.95	6.34	6.79	7.32
	100	9.20	9.79	10.48	11.27	12.22	8.22	8.70	9.25	9.89	10.62	11.50
	120	12.77	13.63	14.63	15.82	17.25	11.36	12.05	12.85	13.78	14.87	16.19
	140	16.71	17.90	19.31	21.00	23.08	14.78	15.73	16.83	18.12	19.67	21.58
	160	21.14	22.76	24.69	27.07	30.10	18.56	19.83	21.31	23.08	25.24	27.98
50	70	2.95	3.14	3.35	3.59	3.87	2.65	2.80	2.97	3.16	3.39	3.65
	90	6.11	6.50	6.95	7.48	8.10	5.46	5.78	6.15	6.56	7.05	7.63
	110	9.53	10.16	10.90	11.77	12.82	8.48	8.99	9.58	10.27	11.07	12.04
	130	13.26	14.20	15.29	16.60	18.21	11.75	12.49	13.36	14.37	15.57	17.05
	150	17.42	18.73	20.28	22.18	24.57	15.33	16.36	17.56	18.99	20.72	22.89
	170	22.15	23.95	26.12	28.85	32.42	19.34	20.72	22.36	24.33	26.80	30.00
60	80	3.05	3.24	3.47	3.73	4.04	2.73	2.89	3.07	3.27	3.52	3.80
	100	6.33	6.75	7.23	7.81	8.49	5.63	5.98	6.37	6.82	7.35	7.98
	120	9.89	10.58	11.38	12.34	13.52	8.77	9.32	9.96	10.70	11.58	12.66
	140	13.82	14.84	16.04	17.51	19.34	12.18	12.99	13.93	15.03	16.38	18.05
	160	18.23	19.67	21.41	23.57	26.35	15.96	17.08	18.40	19.98	21.94	24.45
	180	23.31	25.32	27.80	30.98	35.30	20.21	21.73	23.55	25.79	28.64	32.48
80	100	29.33	32.16	35.78	40.67	47.93	25.10	27.17	29.71	32.91	37.20	43.43
	120	3.27	3.50	3.76	4.07	4.45	2.91	3.09	3.30	3.54	3.83	4.18
	140	6.83	7.32	7.90	8.60	9.47	6.03	6.43	6.88	7.42	8.06	8.86
	160	10.75	11.57	12.56	13.75	15.29	9.44	10.09	10.84	11.75	12.85	14.24
	180	15.15	16.40	17.91	19.81	22.30	13.21	14.17	15.30	16.68	18.40	20.65
	200	20.21	22.02	24.28	27.21	31.27	17.45	18.81	20.45	22.48	25.10	28.71
100	120	26.20	28.83	32.23	36.90	44.02	22.32	24.23	26.57	29.58	33.67	39.79
	140	3.55	3.82	4.14	4.53	5.02	3.13	3.34	3.58	3.88	4.23	4.68
	160	7.47	8.06	8.78	9.68	10.83	6.53	6.99	7.54	8.20	9.01	10.06
	180	11.86	12.88	14.12	15.71	17.85	10.29	11.06	11.99	13.12	14.57	16.49
	200	16.90	18.48	20.47	23.11	26.86	14.51	15.69	17.12	18.91	21.27	24.60
	220	22.87	25.26	28.40	32.81	39.79	19.37	21.09	23.23	26.01	29.86	35.85
110	125	0.90	0.97	1.05	1.15	1.27	0.79	0.84	0.91	0.98	1.07	1.19
	140	1.82	1.96	2.12	2.33	2.59	1.59	1.70	1.83	1.99	2.17	2.41
	155	2.76	2.97	3.23	3.55	3.96	2.42	2.58	2.78	3.02	3.31	3.68
	170	3.72	4.02	4.37	4.81	5.38	3.26	3.49	3.76	4.08	4.48	5.00
	185	7.85	8.52	9.33	10.36	11.73	6.82	7.33	7.94	8.68	9.61	10.86
	200	12.54	13.68	15.12	16.99	19.62	10.79	11.65	12.69	13.99	15.68	18.03
120	125	0.94	1.02	1.11	1.22	1.37	0.82	0.88	0.95	1.03	1.14	1.27
	140	1.90	2.06	2.25	2.48	2.79	1.66	1.78	1.92	2.10	2.31	2.59
	155	2.89	3.13	3.42	3.79	4.27	2.52	2.71	2.92	3.19	3.52	3.96
	170	3.91	4.24	4.64	5.15	5.82	3.40	3.65	3.95	4.32	4.78	5.39
	185	8.29	9.04	9.97	11.18	12.85	7.15	7.72	8.40	9.24	10.33	11.83
	200	13.32	14.63	16.31	18.57	21.91	11.37	12.33	13.51	15.02	17.04	20.00
130	145	0.99	1.07	1.18	1.31	1.48	0.86	0.92	1.00	1.09	1.21	1.37
	160	2.01	2.18	2.39	2.66	3.03	1.74	1.87	2.03	2.22	2.47	2.80
	175	3.05	3.32	3.65	4.07	4.65	2.64	2.84	3.09	3.39	3.77	4.29
	190	4.13	4.50	4.95	5.55	6.36	3.56	3.84	4.18	4.59	5.13	5.86
	205	8.80	9.65	10.73	12.18	14.27	7.53	8.16	8.93	9.90	11.20	13.07
	220	14.24	15.76	17.76	20.57	25.06	12.03	13.12	14.48	16.26	18.75	22.67
140	145	1.05	1.14	1.26	1.41	1.62	0.90	0.97	1.06	1.17	1.30	1.50
	160	2.12	2.32	2.56	2.88	3.33	1.83	1.97	2.15	2.37	2.66	3.06
	175	3.23	3.54	3.92	4.42	5.13	2.77	3.00	3.28	3.62	4.08	4.72
	190	4.38	4.80	5.33	6.03	7.04	3.75	4.06	4.44	4.92	5.55	6.46
	205	9.39	10.38	11.66	13.43	16.19	7.96	8.67	9.55	10.70	12.28	14.71
	220	15.32	17.12	19.56	23.20	29.75	12.79	14.04	15.63	17.79	20.97	26.57
150	155	1.11	1.22	1.35	1.54	1.80	0.95	1.03	1.13	1.25	1.41	1.65
	170	2.26	2.48	2.76	3.15	3.72	1.92	2.09	2.29	2.55	2.89	3.40
	185	3.44	3.79	4.24	4.85	5.76	2.93	3.18	3.50	3.90	4.44	5.26
	200	4.67	5.15	5.78	6.64	7.95	3.96	4.31	4.77	5.31	6.08	7.25
	215	10.09	11.24	12.79	15.05	18.93	8.45	9.26	10.25	11.66	13.66	17.04
	230	16.62	18.80	21.88	26.87	34.68	13.68	15.13	17.04	19.72	24.00	
160	165	1.18	1.31	1.47	1.70	2.05	1.00	1.09	1.20	1.35	1.55	1.86
	180	2.41	2.67	3.01	3.49	4.24	2.04	2.22	2.45	2.76	3.18	3.85
	195	3.69	4.09	4.63	5.39	6.62	3.10	3.39	3.75	4.23	4.91	6.00
	210	5.01	5.57	6.33	7.41	9.23	4.20	4.60	5.11	5.78	6.74	8.34
	225	10.92	12.30	14.23	17.25	23.36	9.03	9.96	11.18	12.88	15.50	20.73
	240	18.22	20.92	24.99	32.49	44.73	14.73	16.45	18.78	22.26	28.52	
170	175	1.27	1.42	1.61	1.90	2.39	1.07	1.17	1.30	1.47	1.73	2.16
	190	2.60	2.90	3.31	3.93	5.01	2.17	2.38	2.65	3.02	3.56	4.51
	205	3.98	4.45	5.11	6.10	7.92	3.31	3.64	4.06	4.64	5.52	7.10
	220	5.42	6.09	7.02	8.45	11.20	4.49	4.95	5.54	6.36	7.62	10.01
	235	11.93	13.63	16.12	20.45	27.90	9.70	10.81	12.28	14.44	18.14	
	250	20.23	23.70	29.44	38.45	51.00	16.00	18.08	21.03	25.80		
180	185	1.38	1.55	1.80	2.18	2.93	1.14	1.26	1.41	1.63	1.96	2.62
	200	2.82	3.18	3.70	4.55	6.28	2.32	2.57	2.89	3.34	4.07	5.58
	215	4.32	4.90	5.73	7.09	10.21	3.54	3.93	4.44	5.17	6.35	9.03
	230	5.91	6.72	7.91	9.91	15.04	4.82	5.36	6.07	7.11	8.84	13.21
	245	13.19	15.33	18.72	25.75	35.01	10.51	11.83	13.68	16.56	22.41	
	260	22.82	27.53	36.56	50.01	68.55	17.55	20.13	24.03	31.23		
190	195	1.51	1.72	2.03	2.57	4.06	1.22	1.36	1.55	1.82	2.29	3.57
	210	3.09	3.54	4.21	5.41	9.37	2.50	2.79	3.18	3.77	4.80	8.15
	225	4.75	5.47	6.56	8.59	14.23	3.83	4.28	4.91	5.86	7.60	
	240	6.51	7.53	9.12	12.23	19.95	5.21	5.85	6.74	8.11	10.75	
	255	14.78	17.60	22.60	31.23	44.02	11.49	13.11	15.50	19.65		
	270	26.34	33.26	44.02	60.01	82.01	19.50	22.83	28.33			
200	205	1.66	1.93	2.35	3.21	5.06	1.33	1.49	1.73	2.09	2.82	
	220	3.42	3.99	4.92	6.90	11.31	2.71	3.06	3.56	4.35	6.03	
	235	5.28	6.21	7.73	11.31	17.83	4.16	4.72	5.51	6.81	9.80	
	250	7.27	8.60	10.87	16.83	25.01	5.69	6.47	7.61	9.53	14.44	
	265	16.88	20.83	29.32	41.01	56.01	12.71	14.76	18.02	24.77		
	280	30.01	38.01	51.01	71.01	98.01	22.01	26.01	33.01	44.01		

FOR HIGH TEMPERATURE RANGE

		340° HEATING WATER								360° HEATING WATER							
Heated Water		TEMPERATURE DROP								TEMPERATURE DROP							
In	Out	20°	40°	60°	80°	100°	120°	140°	20°	40°	60°	80°	100°	120°	140°	160°	
40	80	2.34	2.46	2.59	2.74	2.91	3.10	3.33	2.13	2.23	2.34	2.47	2.61	2.77	2.95	3.17	
	85	4.80	5.05	5.33	5.65	6.01	6.43	6.93	4.36	4.59	4.81	5.08	5.38	5.72	6.11	6.57	
	90	7.40	7.81	8.26	8.77	9.36	10.05	10.86	6.21	7.05	7.43	7.85	8.34	8.89	9.53	10.32	
	100	10.19	10.77	11.42	12.16	13.02	14.03	15.25	8.23	9.70	10.24	10.84	11.54	12.34	13.28	14.42	
	120	13.20	13.98	14.85	15.88	17.08	18.51	20.25	11.00	12.54	13.27	14.09	15.04	16.15	17.48	19.10	
	140	16.50	17.52	18.69	20.05	21.68	23.66	26.18	14.03	15.94	16.59	17.52	18.59	20.04	22.27	24.57	
160	20.15	21.47	23.00	24.82	27.03	29.79	33.41	17.94	20.76	22.07	23.59	25.37	27.51	31.20			
50	70	2.39	2.52	2.66	2.82	3.00	3.21	3.45	2.18	2.28	2.40	2.54	2.68	2.85	3.05	3.28	
	80	4.92	5.19	5.49	5.83	6.22	6.67	7.23	4.47	4.69	4.94	5.22	5.54	5.91	6.33	6.83	
	90	7.61	8.04	8.52	9.07	9.71	10.46	11.35	6.89	7.75	8.34	8.95	9.61	10.34	11.14	12.04	
	100	10.51	11.12	11.81	12.61	13.55	14.66	15.95	9.49	10.89	11.51	12.25	13.05	13.95	14.95	16.12	
	120	13.65	14.48	15.43	16.54	17.85	19.45	21.44	12.27	14.05	14.81	15.64	16.54	17.65	18.93	20.50	
	140	17.10	18.20	19.48	20.98	22.79	25.04	27.84	15.28	17.45	18.27	19.28	20.44	21.84	23.50	25.50	
160	20.97	22.41	24.10	26.13	28.63	31.84	36.21	18.63	21.78	23.17	24.67	26.37	28.31	30.52	33.15		
60	30	2.46	2.59	2.74	2.91	3.10	3.33	3.59	2.23	2.34	2.47	2.61	2.77	2.95	3.16	3.43	
	40	5.06	5.34	5.66	6.03	6.45	6.94	7.53	4.50	4.82	5.08	5.38	5.72	6.11	6.57	7.12	
	50	7.85	8.30	8.82	9.41	10.10	10.92	11.90	6.38	7.46	7.85	8.34	8.89	9.53	10.32	11.28	
	60	10.85	11.51	12.26	13.13	14.15	15.39	16.95	8.75	10.24	10.84	11.54	12.34	13.28	14.42	15.84	
	80	14.14	15.04	16.07	17.29	18.74	20.53	22.83	11.66	13.59	14.21	15.04	16.15	17.48	19.10	21.04	
	100	17.78	18.98	20.37	22.04	24.08	26.66	30.11	15.03	17.45	18.27	19.28	20.44	21.84	23.50	25.50	
120	21.89	23.47	25.35	27.64	30.52	34.33	39.29	18.26	21.30	22.51	23.81	25.30	26.98	28.84	31.91		
80	100	2.60	2.75	2.92	3.12	3.34	3.61	3.93	2.26	2.40	2.56	2.73	2.90	3.07	3.24	3.42	
	120	5.39	5.71	6.07	6.49	6.99	7.59	8.32	4.80	5.11	5.41	5.75	6.13	6.51	7.16	7.85	
	140	8.39	8.91	9.51	10.21	11.04	12.05	13.33	6.52	7.50	7.89	8.39	8.94	9.61	10.42	11.54	
	160	11.67	12.43	13.31	14.36	15.62	17.20	19.25	9.41	10.89	11.51	12.25	13.05	13.95	14.95	16.12	
	180	15.30	16.36	17.60	19.10	20.95	23.33	26.57	12.58	14.83	15.41	16.25	17.35	18.63	20.20	22.04	
	200	19.39	20.83	22.56	24.68	27.38	31.02	36.38	16.09	18.92	19.55	20.51	21.64	22.98	24.64	26.76	
100	120	2.78	2.95	3.15	3.38	3.65	3.98	4.35	2.50	2.64	2.80	2.96	3.13	3.34	3.57	4.13	
	140	5.78	6.15	6.58	7.08	7.69	8.44	9.40	5.17	5.47	5.80	6.21	6.68	7.24	7.94	8.85	
	160	9.05	9.66	10.38	11.23	12.27	13.58	15.34	7.85	8.55	9.11	9.77	10.50	11.32	12.33	13.54	
	180	12.67	13.58	14.66	15.96	17.59	19.72	22.71	11.03	12.53	13.27	14.09	15.04	16.15	17.48	19.10	
	200	16.75	18.04	19.60	21.53	24.02	27.45	32.69	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	220	21.25	23.03	25.16	27.74	31.02	35.25	41.63	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
120	110	2.70	2.87	3.07	3.30	3.57	3.90	4.27	2.53	2.67	2.83	2.99	3.16	3.37	3.60	4.17	
	120	5.60	6.02	6.44	6.96	7.59	8.34	9.25	5.28	5.59	5.94	6.35	6.83	7.37	8.07	8.97	
	130	8.59	9.13	9.77	10.51	11.37	12.38	13.65	7.97	8.69	9.25	9.91	10.64	11.47	12.39	13.42	
	140	12.21	13.24	14.41	15.74	17.34	19.53	22.51	11.21	12.71	13.45	14.29	15.24	16.35	17.68	19.30	
	160	16.29	17.62	19.20	21.13	23.62	26.95	31.39	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	180	20.79	22.83	25.16	27.94	31.42	35.95	42.63	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
140	120	2.73	2.89	3.09	3.32	3.59	3.92	4.29	2.56	2.70	2.86	3.02	3.19	3.40	3.63	4.20	
	130	5.73	6.15	6.58	7.08	7.69	8.44	9.40	5.17	5.47	5.80	6.21	6.68	7.24	7.94	8.85	
	140	8.73	9.25	9.87	10.61	11.47	12.48	13.75	7.97	8.69	9.25	9.91	10.64	11.47	12.39	13.42	
	150	12.43	13.56	14.83	16.26	17.96	20.35	23.51	11.41	12.91	13.65	14.49	15.44	16.55	17.88	19.50	
	160	16.51	18.04	19.72	21.65	24.24	27.67	32.31	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	180	21.01	23.23	25.76	29.34	33.82	38.75	45.83	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
160	130	2.76	2.91	3.11	3.34	3.61	3.94	4.31	2.59	2.73	2.89	3.05	3.22	3.43	3.66	4.23	
	140	5.76	6.18	6.61	7.11	7.72	8.47	9.43	5.20	5.51	5.84	6.25	6.73	7.29	7.99	8.90	
	150	8.76	9.29	9.91	10.65	11.51	12.52	13.79	7.97	8.69	9.25	9.91	10.64	11.47	12.39	13.42	
	160	12.46	13.59	14.86	16.29	17.99	20.38	23.54	11.41	12.91	13.65	14.49	15.44	16.55	17.88	19.50	
	170	16.54	18.07	19.75	21.68	24.27	27.70	32.34	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	180	21.04	23.26	25.79	29.37	33.85	38.78	45.86	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
180	140	2.82	3.01	3.22	3.45	3.72	4.05	4.42	2.60	2.74	2.90	3.06	3.23	3.44	3.67	4.24	
	150	5.82	6.28	6.72	7.26	7.91	8.68	9.60	5.28	5.59	5.94	6.35	6.83	7.37	8.07	8.97	
	160	8.83	9.40	10.03	10.77	11.64	12.65	13.92	7.97	8.69	9.25	9.91	10.64	11.47	12.39	13.42	
	170	12.49	13.72	15.10	16.64	18.46	20.95	24.31	11.41	12.91	13.65	14.49	15.44	16.55	17.88	19.50	
	180	16.57	18.20	19.98	21.91	24.60	28.13	32.97	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	200	21.07	23.43	26.16	29.94	34.16	39.39	46.67	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
200	150	2.87	3.07	3.29	3.53	3.80	4.13	4.50	2.63	2.77	2.93	3.09	3.26	3.47	3.70	4.27	
	160	5.87	6.36	6.82	7.38	8.05	8.84	9.77	5.39	5.71	6.06	6.47	6.95	7.49	8.19	9.09	
	170	8.89	9.49	10.15	10.91	11.80	12.81	14.08	8.17	8.89	9.45	10.01	10.74	11.57	12.49	13.52	
	180	12.49	13.92	15.40	17.04	18.98	21.75	25.51	11.41	12.91	13.65	14.49	15.44	16.55	17.88	19.50	
	190	16.57	18.40	20.48	22.61	25.20	28.73	33.77	14.71	17.02	17.85	18.89	20.04	21.38	22.98	24.84	
	210	21.07	23.53	26.36	29.74	33.82	38.75	45.83	18.71	21.64	22.51	23.64	24.98	26.64	28.50	30.60	
220	160	2.92	3.13	3.36	3.61	3.89	4.22	4.59	2.68	2.82	2.98	3.14	3.31	3.52	3.75	4.32	
	170	5.90	6.36	6.82	7.38	8.05	8.84	9.77	5.48	5							

TYPE "WUT" HEAT EXCHANGERS

CAUTION: When working pressures and/or temperatures exceed standard WUT limits (150/125 psig & 375°F), consult factory, or use "HTWUT" units.

TABLE A

CLEAN TUBE TEMPERATURE FACTORS

		380° HEATING WATER										400° HEATING WATER									
Heated Water		TEMPERATURE DROP										TEMPERATURE DROP									
In	Out	20°	40°	60°	80°	100°	120°	140°	160°	180°		20°	40°	60°	80°	100°	120°	140°	160°	180°	200°
40	60	1.95	2.04	2.14	2.24	2.36	2.49	2.64	2.82	3.01		1.80	1.87	1.96	2.05	2.15	2.26	2.39	2.53	2.69	2.88
	80	3.99	4.17	4.38	4.60	4.85	5.13	5.45	5.82	6.25		3.67	3.83	4.00	4.19	4.40	4.64	4.91	5.21	5.56	5.96
	100	6.13	6.42	6.74	7.09	7.49	7.95	8.46	9.06	9.78		5.63	5.88	6.15	6.45	6.79	7.16	7.59	8.08	8.64	9.31
	120	8.39	8.80	9.25	9.76	10.33	10.98	11.73	12.61	13.67		7.69	8.04	8.42	8.85	9.32	9.86	10.47	11.18	12.01	13.00
	140	10.81	11.35	11.95	12.63	13.40	14.29	15.32	16.56	18.07		9.87	10.33	10.84	11.41	12.05	12.78	13.61	14.58	15.73	17.14
	160	13.39	14.09	14.87	15.76	16.77	17.95	19.35	21.04	23.16		12.20	12.79	13.45	14.18	15.01	15.96	17.06	18.37	19.94	21.91
50	180	16.20	17.08	18.08	19.21	20.53	22.08	23.95	26.27	29.28		14.71	15.44	16.27	17.20	18.26	19.49	20.93	22.67	24.82	27.59
	70	1.99	2.08	2.19	2.30	2.42	2.56	2.72	2.90	3.12		1.83	1.91	2.00	2.09	2.20	2.32	2.45	2.60	2.77	2.97
	90	4.08	4.27	4.48	4.72	4.98	5.28	5.62	6.02	6.49		3.75	3.91	4.09	4.29	4.51	4.76	5.05	5.37	5.74	6.18
	110	6.28	6.58	6.92	7.29	7.72	8.20	8.75	9.41	10.19		5.75	6.01	6.30	6.62	6.97	7.37	7.82	8.35	8.96	9.69
	130	8.61	9.04	9.52	10.05	10.66	11.36	12.17	13.14	14.32		7.87	8.24	8.64	9.09	9.59	10.17	10.82	11.59	12.49	13.59
	150	11.10	11.68	12.32	13.04	13.87	14.83	15.96	17.33	19.03		10.12	10.61	11.15	11.75	12.43	13.21	14.11	15.17	16.44	18.03
60	170	13.79	14.53	15.37	16.32	17.42	18.71	20.25	22.16	24.60		12.53	13.15	13.85	14.63	15.52	16.55	17.75	19.19	20.96	23.22
	190	16.72	17.66	18.73	19.97	21.41	23.12	25.22	27.89	31.47		15.13	15.92	16.80	17.80	18.95	20.29	21.88	23.82	26.28	29.55
	80	2.04	2.13	2.24	2.36	2.49	2.64	2.81	3.00	3.24		1.87	1.95	2.04	2.14	2.25	2.38	2.52	2.68	2.87	3.08
	100	4.18	4.38	4.60	4.85	5.13	5.45	5.82	6.25	6.76		3.83	4.00	4.19	4.40	4.64	4.90	5.20	5.55	5.95	6.43
	120	6.44	6.76	7.11	7.51	7.96	8.48	9.08	9.79	10.66		5.89	6.16	6.46	6.80	7.17	7.59	8.08	8.65	9.31	10.12
	140	8.85	9.30	9.80	10.38	11.03	11.78	12.67	13.74	15.06		8.07	8.45	8.88	9.35	9.89	10.51	11.21	12.04	13.04	14.27
80	160	11.43	12.04	12.72	13.50	14.39	15.44	16.69	18.22	20.17		10.39	10.90	11.48	12.12	12.85	13.68	14.66	15.83	17.25	19.06
	180	14.23	15.02	15.92	16.94	18.14	19.56	21.29	23.46	26.32		12.89	13.55	14.29	15.13	16.09	17.21	18.53	20.13	22.14	24.78
	200	17.30	18.31	19.47	20.81	22.40	24.32	26.71	29.83	34.20		15.60	16.44	17.39	18.46	19.71	21.19	22.96	25.16	28.02	31.99
	100	2.14	2.24	2.36	2.49	2.64	2.81	3.01	3.24	3.52		1.96	2.05	2.15	2.26	2.38	2.52	2.68	2.87	3.08	3.35
	120	4.40	4.62	4.87	5.15	5.47	5.84	6.27	6.79	7.42		4.01	4.20	4.41	4.65	4.91	5.21	5.56	5.96	6.45	7.04
	140	6.80	7.16	7.56	8.01	8.53	9.14	9.86	10.73	11.83		6.19	6.49	6.83	7.21	7.63	8.12	8.69	9.36	10.18	11.20
100	160	9.38	9.89	10.47	11.13	11.89	12.79	13.88	15.22	16.96		8.51	8.94	9.42	9.96	10.58	11.30	12.14	13.15	14.40	16.01
	180	12.17	12.87	13.66	14.57	15.63	16.91	18.47	20.47	23.16		11.01	11.58	12.23	12.97	13.82	14.81	16.00	17.45	19.30	21.78
	200	15.24	16.15	17.20	18.43	19.88	21.66	23.90	26.87	31.16		13.71	14.47	15.32	16.30	17.43	18.78	20.43	22.49	25.21	29.11
	120	2.26	2.38	2.51	2.66	2.83	3.03	3.26	3.55	3.90		2.06	2.16	2.27	2.39	2.53	2.69	2.88	3.10	3.36	3.70
	140	4.66	4.91	5.19	5.52	5.89	6.33	6.85	7.49	8.32		4.23	4.44	4.68	4.95	5.25	5.60	6.01	6.49	7.10	7.86
	160	7.24	7.64	8.10	8.63	9.24	9.97	10.86	11.98	13.46		6.55	6.89	7.27	7.70	8.19	8.77	9.45	10.28	11.32	12.69
110	180	10.02	10.61	11.28	12.06	12.98	14.09	15.46	17.25	19.73		9.04	9.53	10.08	10.70	11.43	12.28	13.31	14.59	16.24	18.52
	200	13.08	13.89	14.82	15.91	17.22	18.83	20.90	23.70	27.90		11.74	12.40	13.15	14.02	15.04	16.25	17.74	19.64	22.20	26.02
	100	0.57	0.60	0.63	0.67	0.71	0.76	0.82	0.90	0.99		0.52	0.54	0.57	0.60	0.64	0.68	0.73	0.78	0.85	0.94
	120	1.15	1.21	1.27	1.35	1.44	1.54	1.67	1.82	2.01		1.04	1.09	1.15	1.21	1.29	1.37	1.47	1.58	1.72	1.90
	140	1.73	1.82	1.93	2.05	2.18	2.34	2.53	2.76	3.06		1.57	1.65	1.74	1.84	1.95	2.07	2.22	2.40	2.62	2.89
	160	2.33	2.45	2.59	2.75	2.94	3.15	3.41	3.73	4.14		2.11	2.22	2.34	2.47	2.62	2.79	3.00	3.24	3.54	3.92
120	180	4.81	5.08	5.38	5.73	6.13	6.62	7.20	7.93	8.89		4.36	4.58	4.83	5.12	5.44	5.82	6.27	6.82	7.50	8.39
	200	7.48	7.92	8.42	8.99	9.66	10.48	11.48	12.78	14.56		6.76	7.12	7.52	7.99	8.52	9.15	9.91	10.84	12.04	13.69
	100	0.59	0.62	0.65	0.69	0.74	0.80	0.86	0.94	1.05		0.53	0.56	0.59	0.62	0.66	0.70	0.76	0.82	0.89	0.99
	120	1.18	1.25	1.32	1.40	1.50	1.61	1.75	1.92	2.13		1.07	1.13	1.19	1.25	1.33	1.42	1.53	1.66	1.81	2.02
	140	1.79	1.88	1.99	2.12	2.27	2.44	2.65	2.92	3.26		1.62	1.70	1.79	1.90	2.02	2.16	2.32	2.51	2.76	3.08
	160	2.40	2.53	2.68	2.86	3.06	3.30	3.59	3.95	4.42		2.18	2.29	2.41	2.55	2.72	2.90	3.13	3.40	3.73	4.17
130	180	4.97	5.26	5.59	5.97	6.41	6.94	7.60	8.45	9.59		4.49	4.73	5.00	5.31	5.66	6.07	6.57	7.18	7.97	9.03
	200	7.76	8.23	8.77	9.39	10.14	11.05	12.20	13.73	15.93		6.98	7.36	7.80	8.30	8.89	9.59	10.43	11.50	12.91	14.93
	100	0.60	0.64	0.68	0.72	0.77	0.83	0.91	1.00	1.12		0.55	0.58	0.61	0.64	0.68	0.73	0.79	0.86	0.95	1.06
	120	1.22	1.29	1.37	1.46	1.56	1.69	1.84	2.03	2.29		1.10	1.16	1.23	1.30	1.38	1.48	1.60	1.74	1.92	2.16
	140	1.85	1.95	2.07	2.21	2.37	2.56	2.80	3.10	3.50		1.67	1.76	1.85	1.97	2.10	2.25	2.43	2.65	2.93	3.30
	160	2.48	2.62	2.79	2.98	3.20	3.46	3.79	4.20	4.77		2.24	2.36	2.49	2.65	2.82	3.03	3.28	3.58	3.96	4.49
140	180	5.15	5.46	5.82	6.23	6.72	7.32	8.07	9.06	10.47		4.64	4.89	5.18	5.51	5.90	6.36	6.91	7.61	8.53	9.83
	200	8.06	8.57	9.16	9.85	10.69	11.72	13.06	14.90	17.74		7.22	7.64	8.11	8.66	9.30	10.08	11.03	12.27	13.97	16.56
	100	0.63	0.66	0.70	0.75	0.81	0.88	0.96	1.07	1.21		0.56	0.59	0.63	0.67	0.71	0.76	0.83	0.91	1.01	1.14
	120	1.26	1.34	1.42	1.52	1.63	1.77	1.95	2.17	2.48		1.14	1.20	1.27	1.35	1.44	1.55	1.68	1.84	2.05	2.33
	140	1.91																			

FOR HIGH TEMPERATURE RANGE

		420° HEATING WATER										
Heated Water		TEMPERATURE DROP										
In	Out	20°	40°	60°	80°	100°	120°	140°	160°	180°	200°	220°
40	60	1.66	1.73	1.80	1.88	1.97	2.06	2.17	2.29	2.42	2.57	2.75
	80	3.39	3.53	3.68	3.84	4.02	4.22	4.45	4.70	4.98	5.31	5.70
	100	5.19	5.41	5.64	5.90	6.19	6.50	6.86	7.26	7.71	8.20	8.80
	120	7.08	7.38	7.71	8.07	8.48	8.93	9.43	10.01	10.65	11.46	12.36
	140	9.07	9.47	9.90	10.38	10.92	11.52	12.21	12.99	13.90	14.99	16.31
	160	11.18	11.68	12.24	12.86	13.55	14.33	15.23	16.26	17.48	18.96	20.76
50	180	13.44	14.06	14.76	15.54	16.41	17.41	18.56	19.91	21.53	23.32	26.05
	70	1.69	1.76	1.84	1.92	2.01	2.11	2.22	2.35	2.49	2.65	2.84
	90	3.46	3.60	3.76	3.93	4.12	4.33	4.58	4.83	5.13	5.49	5.90
	110	5.30	5.52	5.77	6.04	6.34	6.67	7.05	7.48	7.97	8.55	9.24
	130	7.23	7.55	7.89	8.28	8.70	9.18	9.72	10.34	11.05	11.90	12.94
	150	9.28	9.70	10.15	10.66	11.23	11.87	12.60	13.45	14.44	15.64	17.12
60	170	11.46	11.99	12.58	13.23	13.97	14.80	15.77	16.89	18.24	19.89	21.99
	190	13.79	14.46	15.19	16.02	16.96	18.03	19.29	20.77	22.58	24.85	27.87
	80	1.73	1.80	1.88	1.96	2.06	2.16	2.28	2.41	2.56	2.74	2.94
	100	3.53	3.68	3.84	4.02	4.22	4.44	4.69	4.97	5.30	5.68	6.13
	120	5.41	5.65	5.91	6.19	6.51	6.86	7.26	7.72	8.25	8.88	9.64
	140	7.40	7.73	8.09	8.50	8.95	9.45	10.03	10.70	11.48	12.40	13.57
70	160	9.51	9.95	10.43	10.97	11.57	12.26	13.04	13.96	15.05	16.39	18.07
	180	11.76	12.32	12.94	13.64	14.43	15.33	16.37	17.61	19.10	20.97	23.41
	200	14.18	14.89	15.67	16.56	17.56	18.73	20.10	21.73	23.73	26.43	30.06
	100	1.80	1.88	1.96	2.06	2.16	2.28	2.41	2.56	2.74	2.94	3.18
	120	3.68	3.85	4.03	4.23	4.45	4.70	4.98	5.31	5.68	6.14	6.70
	140	5.67	5.93	6.21	6.53	6.89	7.29	7.75	8.28	8.91	9.68	10.64
80	160	7.78	8.14	8.55	9.00	9.51	10.09	10.76	11.54	12.49	13.66	15.16
	180	10.02	10.51	11.05	11.66	12.36	13.15	14.08	15.19	16.54	18.26	20.55
	200	12.44	13.07	13.78	14.57	15.49	16.55	17.81	19.33	21.24	23.75	27.33
	120	1.88	1.97	2.06	2.17	2.29	2.42	2.57	2.74	2.95	3.20	3.51
	140	3.87	4.05	4.25	4.47	4.72	5.01	5.33	5.72	6.18	6.74	7.46
	160	5.97	6.26	6.58	6.94	7.34	7.80	8.34	8.98	9.74	10.73	12.01
90	180	8.22	8.63	9.08	9.60	10.18	10.85	11.66	12.62	13.81	15.35	17.46
	200	10.63	11.18	11.80	12.50	13.31	14.26	15.39	16.77	18.53	20.89	24.39
	110	0.47	0.50	0.52	0.55	0.58	0.61	0.65	0.69	0.74	0.81	0.89
	120	0.95	1.00	1.05	1.10	1.16	1.23	1.31	1.40	1.51	1.64	1.80
	130	1.44	1.51	1.58	1.66	1.75	1.86	1.98	2.10	2.28	2.49	2.74
	140	1.93	2.02	2.12	2.23	2.36	2.50	2.66	2.85	3.08	3.36	3.71
100	150	2.42	2.52	2.63	2.76	2.90	3.07	3.26	3.50	3.79	4.14	4.59
	160	2.91	3.03	3.15	3.29	3.45	3.64	3.84	4.10	4.42	4.81	5.31
	170	3.40	3.54	3.68	3.84	4.02	4.22	4.44	4.72	5.07	5.49	6.03
	180	3.89	4.05	4.21	4.39	4.59	4.80	5.03	5.31	5.68	6.14	6.70
	190	4.38	4.56	4.74	4.94	5.16	5.40	5.66	6.03	6.49	7.07	7.76
	200	4.87	5.07	5.28	5.50	5.74	6.00	6.28	6.68	7.19	7.84	8.63
110	210	5.37	5.59	5.82	6.06	6.32	6.60	6.91	7.26	7.66	8.21	8.96
	120	0.49	0.51	0.53	0.56	0.59	0.63	0.67	0.72	0.78	0.85	0.94
	130	0.98	1.02	1.08	1.13	1.20	1.27	1.36	1.45	1.57	1.72	1.91
	140	1.48	1.55	1.63	1.71	1.81	1.92	2.05	2.21	2.38	2.60	2.91
	150	1.98	2.08	2.18	2.30	2.43	2.59	2.76	2.97	3.23	3.54	3.96
	160	2.49	2.59	2.70	2.83	2.98	3.15	3.37	3.64	3.97	4.36	4.83
120	170	2.99	3.11	3.23	3.37	3.53	3.71	3.93	4.20	4.54	4.95	5.47
	180	3.50	3.63	3.76	3.91	4.08	4.27	4.49	4.76	5.09	5.51	6.05
	190	4.00	4.14	4.29	4.45	4.63	4.83	5.06	5.34	5.70	6.16	6.74
	200	4.50	4.65	4.81	4.98	5.17	5.38	5.62	5.91	6.29	6.79	7.41
	210	5.00	5.16	5.33	5.51	5.71	5.93	6.18	6.48	6.88	7.41	8.08
	220	5.50	5.67	5.85	6.04	6.25	6.48	6.74	7.05	7.46	7.99	8.71
130	230	6.00	6.18	6.37	6.57	6.79	7.03	7.30	7.62	8.05	8.62	9.35
	135	0.50	0.52	0.55	0.58	0.61	0.65	0.70	0.75	0.82	0.90	1.00
	140	1.01	1.05	1.11	1.17	1.24	1.32	1.41	1.52	1.65	1.82	2.04
	145	1.52	1.59	1.68	1.77	1.87	1.99	2.14	2.30	2.51	2.77	3.12
	150	2.04	2.14	2.25	2.38	2.52	2.68	2.88	3.11	3.39	3.75	4.24
	160	2.55	2.66	2.78	2.93	3.09	3.29	3.53	3.81	4.15	4.59	5.18
140	170	3.06	3.18	3.31	3.46	3.63	3.83	4.07	4.36	4.71	5.17	5.77
	180	3.57	3.70	3.84	3.99	4.17	4.38	4.63	4.92	5.28	5.76	6.38
	190	4.08	4.22	4.37	4.53	4.71	4.92	5.17	5.48	5.86	6.36	7.00
	200	4.59	4.74	4.90	5.07	5.26	5.48	5.74	6.06	6.46	6.99	7.67
	210	5.10	5.26	5.43	5.61	5.81	6.03	6.29	6.61	7.03	7.59	8.38
	220	5.61	5.78	5.96	6.15	6.36	6.59	6.85	7.18	7.62	8.21	9.03
150	230	6.12	6.30	6.49	6.69	6.91	7.15	7.42	7.74	8.18	8.76	9.61
	145	0.51	0.54	0.57	0.60	0.64	0.68	0.73	0.79	0.86	0.95	1.06
	150	1.03	1.09	1.14	1.21	1.28	1.37	1.47	1.58	1.74	1.95	2.20
	155	1.56	1.64	1.73	1.83	1.94	2.07	2.23	2.40	2.63	2.95	3.37
	160	2.10	2.21	2.33	2.46	2.62	2.80	3.01	3.26	3.58	4.01	4.58
	170	2.63	2.75	2.88	3.03	3.20	3.39	3.62	3.91	4.26	4.71	5.31
160	180	3.16	3.29	3.43	3.58	3.75	3.95	4.18	4.45	4.81	5.28	5.91
	190	3.69	3.83	3.98	4.14	4.32	4.53	4.77	5.05	5.42	5.91	6.57
	200	4.22	4.37	4.53	4.70	4.89	5.11	5.36	5.65	6.04	6.55	7.24
	210	4.75	4.91	5.08	5.26	5.46	5.69	5.95	6.25	6.66	7.19	7.92
	220	5.28	5.45	5.63	5.82	6.03	6.26	6.52	6.83	7.26	7.82	8.59
	230	5.81	5.99	6.18	6.38	6.59	6.82	7.08	7.39	7.84	8.43	9.24
170	240	6.34	6.53	6.73	6.94	7.16	7.40	7.67	8.00	8.47	9.08	9.93
	155	0.53	0.56	0.59	0.62	0.66	0.71	0.76	0.83	0.91	1.00	1.12
	160	1.07	1.12	1.18	1.25	1.33	1.43	1.54	1.67	1.84	2.07	2.40
	165	1.61	1.70	1.79	1.90	2.02	2.16	2.33	2.54	2.80	3.17	3.68
	170	2.17	2.28	2.41	2.55	2.72	2.90	3.15	3.44	3.81	4.31	5.05
	180	2.72	2.84	2.98	3.13	3.31	3.51	3.75	4.04	4.41	4.91	5.66
180	190	3.27	3.40	3.54	3.69	3.87	4.08	4.32	4.61	5.00	5.51	6.27
	200	3.82	3.96	4.11	4.27	4.45	4.66	4.91	5.20	5.60	6.13	6.90
	210	4.37	4.52	4.68	4.85	5.04	5.25	5.50	5.80	6.21	6.76	7.55
	220	4.92	5.08	5.25	5.43	5.63	5.85	6.10	6.41	6.84	7.41	8.22
	230	5.47	5.64	5.82	6.01	6.21	6.43	6.68	7.00	7.45	8.04	8.88
	240	6.02	6.20	6.39	6.59	6.80	7.03	7.29	7.62	8.09	8.70	9.57
190	250	6.57	6.76	6.96	7.17	7.39	7.63	7.90	8.23	8.69	9.31	10.20
	165	0.55	0.57	0.61	0.64	0.68	0.74	0.80	0.87	0.95	1.05	1.20
	170	1.10	1.16	1.23	1.30	1.39	1.49	1.61	1.77	1.97	2.23	2.58
	175	1.66	1.75	1.86	1.97	2.10	2.25	2.43	2.65	2.92	3.32	3.85
	180	2.24	2.36	2.50	2.65	2.84	3.05	3.30	3.60	4.00	4.53	5.20
	190	2.82	2.95	3.10	3.25	3.45	3.67	3.92	4.21	4.61	5.15	5.94
200	200	3.39	3.53	3.68	3.84	4.02	4.22	4.45	4.70	4.98	5.31	5.70
	205	3.89	4.05	4.21	4.39	4.59	4.80	5.03	5.31	5.68	6.14	6.70
	210	4.38	4.56	4.74	4.94	5.16	5.40	5.66	6.03	6.49	7.07	7.76
	215	4.87	5.07	5.28	5.50	5.74	6.00	6.28	6.68	7.19	7.84	8.63
	220	5.37	5.59	5.82	6.06	6.32	6.60	6.91	7.26	7.66	8.21	8.96

4" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		2"	2 1/2"	3"	4" STD
	SHELL FLOW		A	24-32	33-40	41-48
	GPM		B	12-23	24-29	30-35

"WUT" Number	TUBE FLOW IN GPM																	
	2		4		6		8		10		15		20		25		30	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT42411	25.8	23.1	19.1	16.4	15.6	13.0	13.3	10.8	11.8	9.3	8.9	7.0						
WUT43411	42.0	37.9	31.3	26.9	25.5	21.3	21.8	17.8	19.0	15.3	14.7	11.4						
WUT44411	58.4	52.7	43.5	37.5	35.6	29.6	30.2	24.7	26.5	21.3	20.4	15.9						
WUT45411	73.8	66.6	54.9	47.3	44.8	37.4	38.2	31.2	33.4	26.9	26.7	20.1						
WUT46411	90.2	81.4	67.2	57.8	54.6	45.8	46.7	38.1	40.9	32.8	31.5	24.5						
WUT47411	108.6	96.2	79.4	68.3	64.7	54.1	55.2	45.1	48.3	38.8	37.2	29.0						
Avg. Vel. 4" - 4" Pass	35 ft./sec.		1.8		2.7		3.5		4.4		6.6							
WUT42211			12.8	11.6	10.9	9.6	9.5	8.2	8.8	7.2	6.9	5.7	5.8	4.7	5.0	4.0	4.5	3.5
WUT43211			21.0	19.0	17.8	15.7	15.8	13.5	14.0	11.9	11.3	9.3	9.5	7.6	8.3	6.5	7.3	5.7
WUT44211			29.2	26.4	24.8	21.8	21.8	18.7	19.5	16.5	15.7	12.9	13.2	10.8	11.5	9.1	10.2	7.9
WUT45211			36.9	33.3	31.3	27.5	27.5	23.7	24.5	20.9	19.8	16.3	16.7	13.4	14.5	11.5	12.9	10.0
WUT46211			45.1	40.7	38.2	33.6	33.5	28.9	30.1	25.5	24.2	19.9	20.4	16.4	17.8	14.0	15.7	12.3
WUT47211			53.3	48.1	45.2	39.7	39.7	34.2	35.6	30.1	28.5	23.5	24.2	19.4	21.0	16.6	18.6	14.5
Avg. Vel. 4" - 2" Pass			9 ft./sec.		1.3		1.8		2.2		3.3		4.4		5.5		6.6	

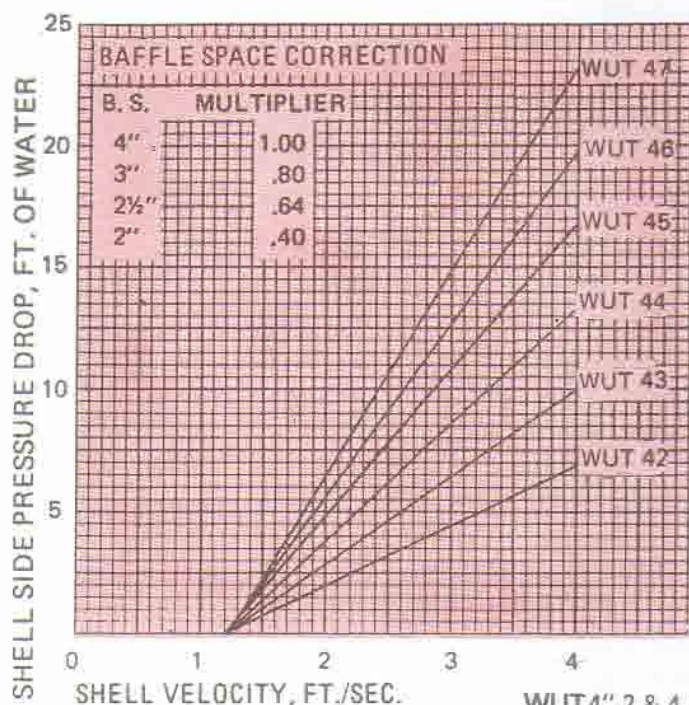
6" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		2"	2 1/2"	3" STD	4"
	SHELL FLOW		A	30-39	40-50	45-60
	GPM		B	15-29	30-39	22-44

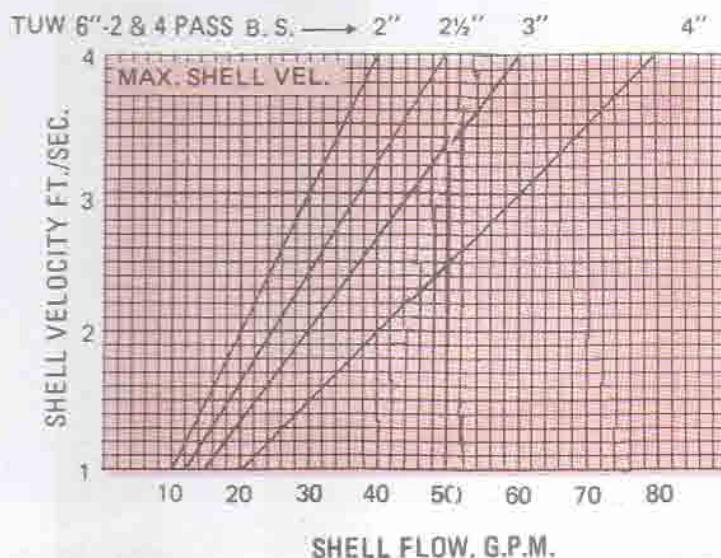
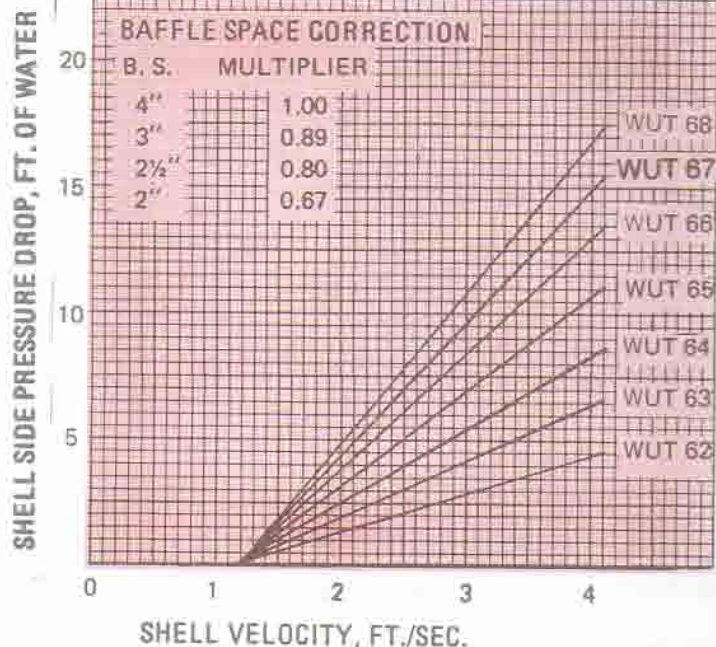
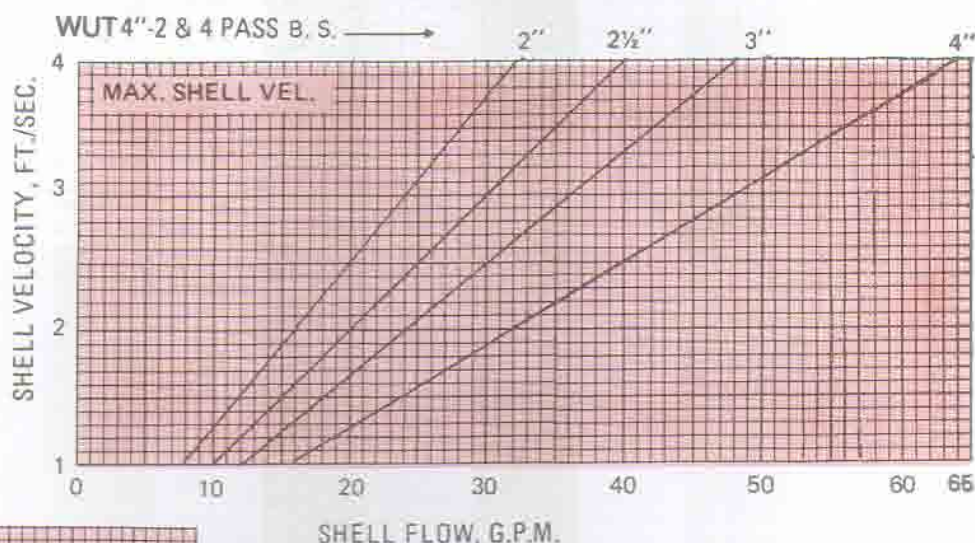
"WUT" Number	TUBE FLOW IN GPM																											
	5		10		15		20		25		30		35		40		50		60		70		80		90		100	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT62-411	29.3	26.7	22.1	19.3	18.2	15.5	15.7	13.0	13.8	11.2	12.4	9.9	11.2	8.9	10.3	8.1	8.9	6.9										
WUT63-411	46.4	42.4	35.1	30.6	29.0	24.5	24.9	20.6	21.9	17.9	19.7	15.8	17.9	14.2	16.4	12.9	14.1	10.9										
WUT64-411	63.6	58.0	48.1	42.0	39.7	33.6	34.1	28.2	30.0	24.5	26.9	21.6	24.5	19.4	22.4	17.6	19.3	14.9										
WUT65-411	80.8	73.7	61.1	53.3	50.4	42.7	43.3	35.9	36.2	31.1	34.2	27.5	31.1	24.7	28.5	22.4	24.5	18.9										
WUT66-411	98.0	89.4	74.1	64.7	61.1	51.8	52.5	43.5	46.3	37.7	41.5	33.3	37.7	29.9	34.5	27.1	29.7	23.0										
WUT67-411	115.2	105.	87.1	76.0	71.9	60.8	61.7	51.1	54.4	44.3	48.8	39.2	44.3	35.1	40.6	31.9	34.9	27.0										
WUT68-411	132.0	120.7	100	87.4	82.6	69.9	71.0	58.8	62.5	50.9	56.0	45.0	50.9	40.4	46.7	36.7	40.1	31.0										
			1.0	1.0	1.3	1.3	2.1	2.1	3.2	3.2	4.4	4.4	5.7	5.7	7.3	7.3	10.8	10.8										
Avg. Vel. 6" - 4" Pass	0.8 ft./sec.		1.4		2.2		2.9		3.7		4.4		5.1		5.9		7.3		-		-		-		-		-	
WUT62-211					12.5	11.1	11.1	9.7	10.0	8.8	9.1	7.7	8.4	7.1	7.8	6.5	6.9	5.6	6.2	5.0	5.6	4.5	5.2	4.1	4.8	3.7	4.4	3.4
WUT63-211					19.9	17.7	17.6	15.3	15.8	13.6	14.5	12.3	13.4	11.2	12.4	10.3	11.0	8.9	9.8	7.9	8.9	7.1	8.2	6.4	7.6	5.9	7.0	5.4
WUT64-211					27.2	24.2	24.1	21.0	21.7	18.6	19.8	16.6	18.3	15.3	17.1	14.1	15.0	12.2	13.5	10.8	12.2	9.7	11.2	8.8	10.4	8.1	9.6	7.5
WUT65-211					34.6	30.7	30.6	26.7	27.6	23.7	25.2	21.3	23.3	19.5	21.7	17.9	19.1	15.5	17.1	13.7	15.5	12.3	14.2	11.2	13.2	10.3	12.2	9.5
WUT66-211					41.9	37.3	37.1	32.2	33.4	28.7	30.6	25.9	28.2	23.6	25.3	21.8	23.1	19.8	20.7	16.7	18.8	14.9	17.3	13.6	16.0	12.4	14.8	11.5
WUT67-211					49.3	43.8	43.6	38.0	39.3	33.7	35.9	30.4	33.2	27.8	30.9	25.6	27.2	22.1	24.4	19.6	22.1	17.6	20.3	16.0	18.8	14.6	17.5	13.5
WUT68-211					56.6	50.4	50.1	43.7	45.2	38.8	41.3	35.0	38.1	31.9	35.5	29.4	31.3	25.4	28.0	22.5	25.4	20.2	23.3	18.3	21.8	16.8	20.1	15.5
															1.1	1.1	1.6	1.6	2.9	2.9	2.9	2.9	3.6	3.6	4.5	4.5	5.4	5.4
Avg. Vel. 6" - 2" Pass	-		-		1.1 ft./sec.		1.4		1.8		2.2		2.6		2.9		3.7		4.4		5.1		5.9		6.8		7.3	

*Require Fabricated Steel heads. Consult Factory for Dimensions.

NOTE: Check Mechanical Design Limitations, Page 7.



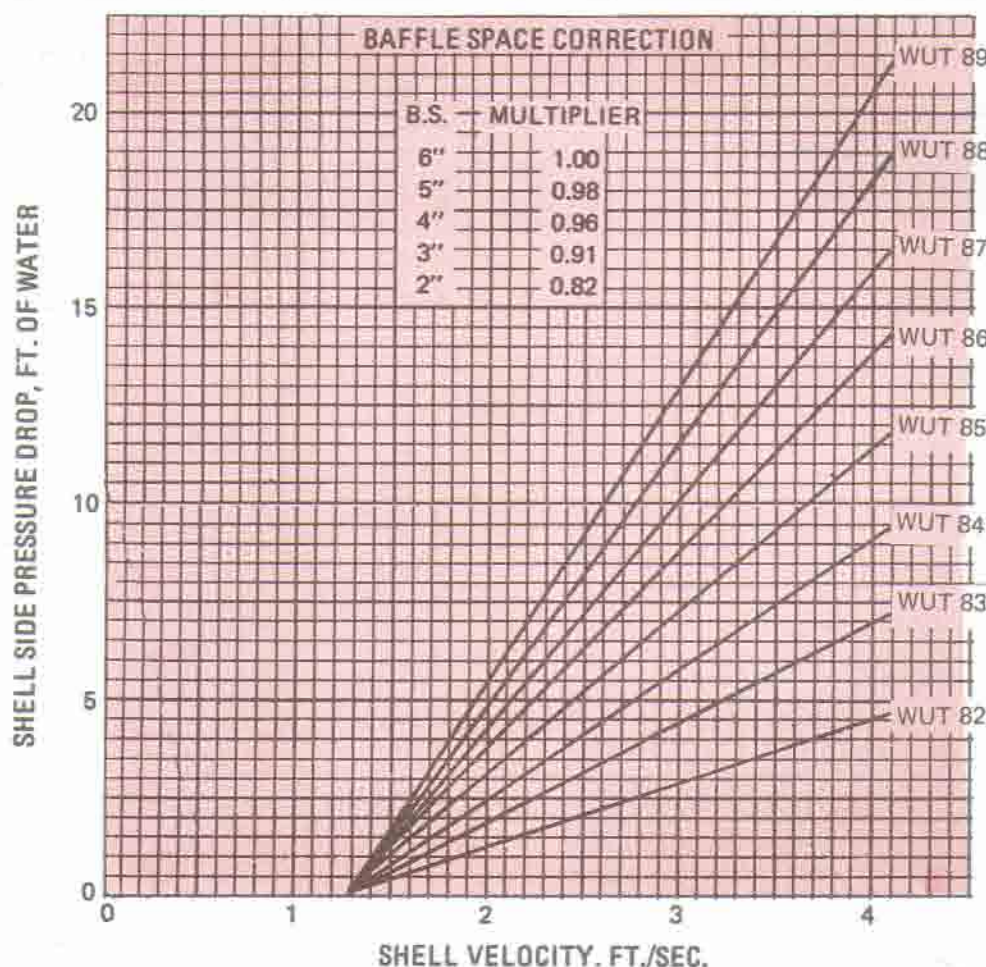
NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.



8" WUTHEAT EXCHANGERS

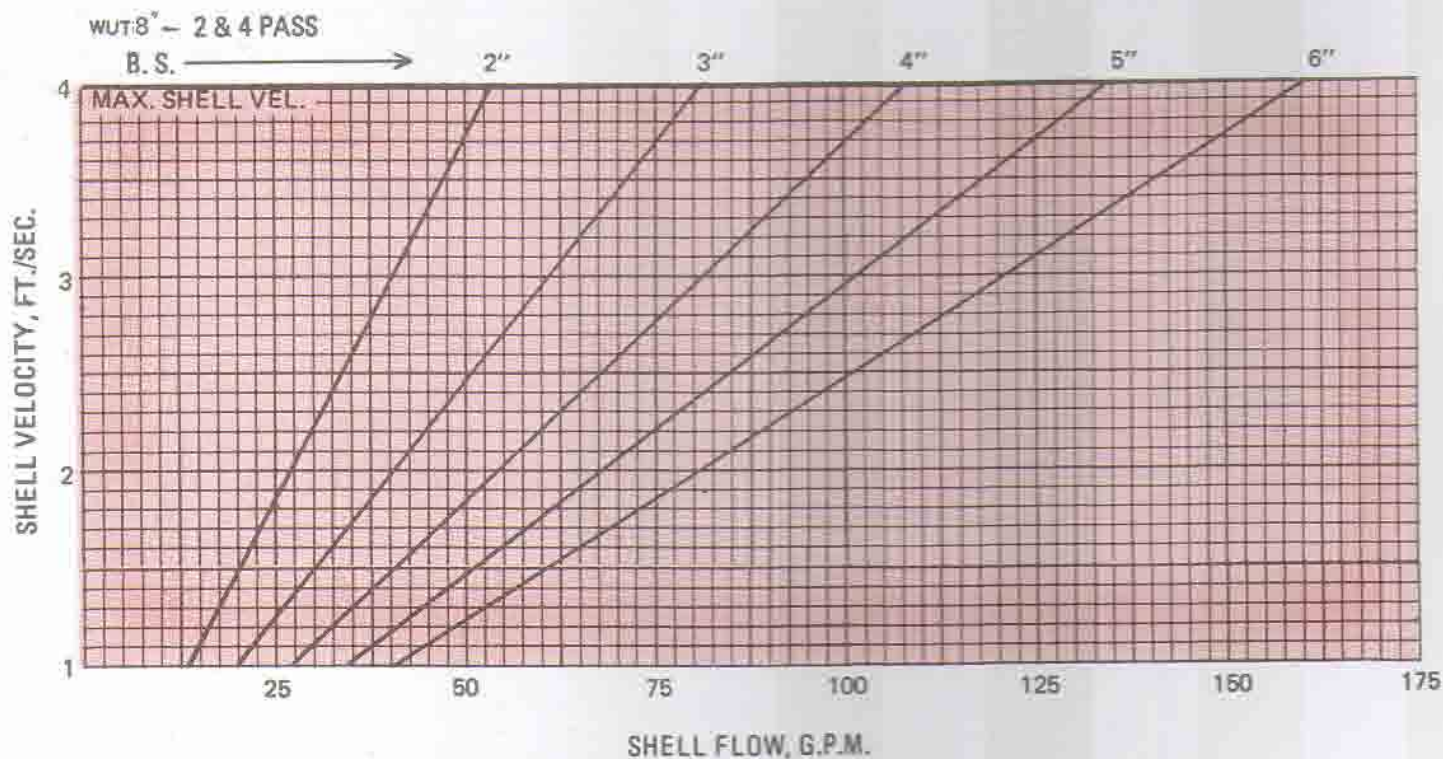
2 & 4 PASS	BAFFLE SPACE		2"	3"	4" (STD.)	5"	6"
	SHELL FLOW IN G.P.M.	A	40-50	51-80	81-110	111-130	131-160
		B	20-39	40-50	40-80	81-110	111-130

4 PASS	G.P.M. HEATED IN TUBES															
	15		20		25		30		35		40		50		60	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT82-4()	24.7	21.8	21.8	18.9	19.6	16.7	17.8	15.0	16.4	13.7	15.3	12.6	13.4	10.9	12.0	9.6
WUT83-4()	37.9	33.5	33.4	28.9	30.0	25.6	27.4	23.0	25.2	21.0	23.4	19.3	20.6	16.6	18.4	14.7
WUT84-4()	52.7	46.6	46.4	40.2	41.7	35.6	38.1	32.0	35.1	29.2	32.6	26.8	28.6	23.2	25.6	20.4
WUT85-4()	67.5	59.7	59.5	51.6	53.5	45.6	48.8	41.0	45.0	37.4	41.8	34.4	36.7	29.7	32.8	26.2
WUT86-4()	80.6	71.3	71.1	61.6	63.9	54.5	58.3	49.1	53.7	44.7	49.9	41.1	43.8	35.5	39.2	31.3
WUT87-4()	95.5	84.4	84.1	72.9	75.7	64.5	69.0	58.1	63.6	52.9	59.1	48.6	51.9	42.0	46.4	37.0
WUT88-4()	110	97.5	97.2	84.3	87.4	74.6	79.7	67.1	73.5	61.1	68.2	56.1	59.9	48.5	53.6	42.8
WUT89-4()	123	109	109	94.3	97.8	83.5	89.2	75.1	82.2	68.4	76.4	62.9	67.1	54.3	60.0	47.9
4-P T.V.	1.2 ft./sec.		1.6		2.0		2.4		2.8		3.2		4.0		4.8	
2 PASS																
WUT82-2()					13.3	11.9	12.3	10.9	11.6	10.1	10.9	9.4	9.8	8.3	8.9	7.5
WUT83-2()					20.4	18.3	18.9	16.7	17.7	15.5	16.7	14.5	15.0	12.8	13.7	11.5
WUT84-2()					28.4	25.4	26.3	23.3	24.6	21.6	23.2	20.1	20.9	17.8	19.0	16.0
WUT85-2()					36.3	32.5	33.7	29.8	31.6	27.6	29.7	25.8	26.7	22.8	24.4	20.5
WUT86-2()					43.4	38.9	40.3	35.7	37.7	33.0	35.5	30.8	32.0	27.3	29.2	24.5
WUT87-2()					51.4	46.0	47.7	42.2	44.7	39.1	42.1	36.5	37.8	32.3	34.5	29.0
WUT88-2()					59.4	53.2	55.1	48.8	51.6	45.2	48.6	42.1	43.7	37.3	39.9	33.5
WUT89-2()					66.5	59.5	61.7	54.6	57.8	50.6	54.4	47.2	48.9	41.7	44.6	37.5
2-P T.V.					1.0 ft./sec.		1.2		1.4		1.6		2.0		2.4	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION
FACTORS ADJUSTING
FOR AVERAGE
WATER TEMPERATURE.

70		80		90		100		120		140		160		180	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
10.9	8.6	10.0	7.8	9.2	7.1										
1.5	1.5	1.9	1.9	2.4	2.4										
16.7	13.1	15.3	11.9	14.1	10.9										
2.3	2.3	2.9	2.9	3.6	3.6										
23.2	18.3	21.2	16.6	19.6	15.2										
3.2	3.2	4.1	4.1	5.0	5.0										
29.7	23.4	27.2	21.2	25.1	19.4										
4.1	4.1	5.2	5.2	6.5	6.5										
35.6	28.0	32.5	25.4	30.0	23.2										
4.9	4.9	6.3	6.3	7.7	7.7										
42.0	33.1	28.5	30.0	35.5	27.5										
5.9	5.9	7.4	7.4	9.1	9.1										
48.6	38.3	44.4	34.7	41.0	31.8										
6.8	6.8	8.6	8.6	10.6	10.6										
54.4	42.9	49.8	38.9	45.9	35.6										
7.6	7.6	9.6	9.6	11.8	11.8										
5.6		6.4		7.2											
8.2	6.8	7.6	6.3	7.1	5.8	6.7	5.4	6.0	4.8	5.4	4.3	5.0	3.9	4.6	3.6
												1.0	1.0	1.2	1.2
12.6	10.5	11.7	9.6	10.9	8.9	10.3	8.3	9.2	7.3	8.3	6.6	7.6	6.0	7.0	5.5
										1.2	1.2	1.5	1.5	1.8	1.8
17.5	14.6	16.3	13.4	15.2	12.4	14.3	11.6	12.8	10.2	11.6	9.1	10.6	8.3	9.8	7.6
								1.2	1.2	1.6	1.6	2.0	2.0	2.5	2.5
22.5	18.7	20.9	17.2	19.5	15.9	18.3	14.8	16.4	13.1	14.9	11.7	13.6	10.6	12.5	9.7
						1.1	1.1	1.6	1.6	2.1	2.1	2.6	2.6	3.2	3.2
28.9	22.3	25.0	20.5	23.3	19.0	21.9	17.7	19.6	15.6	17.8	14.0	16.3	12.7	15.0	11.6
				1.1	1.1	1.4	1.4	1.9	1.9	2.5	2.5	3.1	3.1	3.9	3.9
31.8	26.4	29.5	24.3	27.6	22.5	25.9	21.0	23.2	18.5	21.0	16.6	19.2	15.0	17.8	13.7
		1.1	1.1	1.3	1.3	1.6	1.6	2.2	2.2	2.9	2.9	3.7	3.7	4.6	4.6
36.7	30.5	34.1	28.1	31.9	26.0	30.0	24.2	26.8	21.4	24.3	19.1	22.2	17.4	20.5	15.9
1.0	1.0	1.3	1.3	1.5	1.5	1.9	1.9	2.5	2.5	3.4	3.4	4.3	4.3	5.3	5.3
41.1	34.2	38.2	31.4	35.7	29.1	33.6	27.1	30.0	23.9	27.2	21.4	24.9	19.4	23.0	17.8
1.1	1.1	1.4	1.4	1.7	1.7	2.1	2.1	2.9	2.9	3.8	3.8	4.8	4.8	5.9	5.9
2.8		3.2		3.6		4.0		4.8		5.6		6.4		7.2	



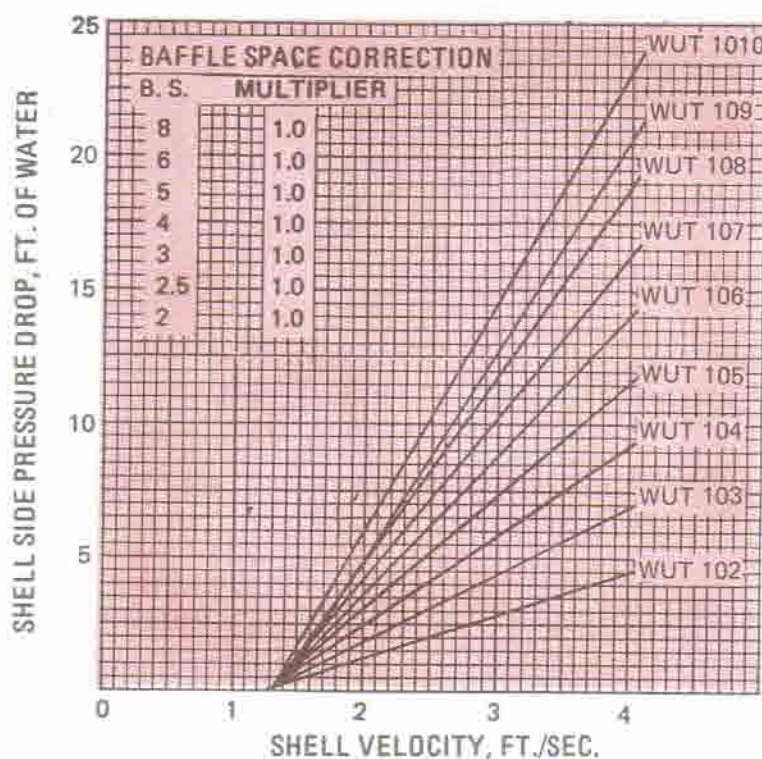
*Require Fabricated Steel heads. Consult Factory for Dimensions.

NOTE: Check Mechanical Design Limitations, Page 7.

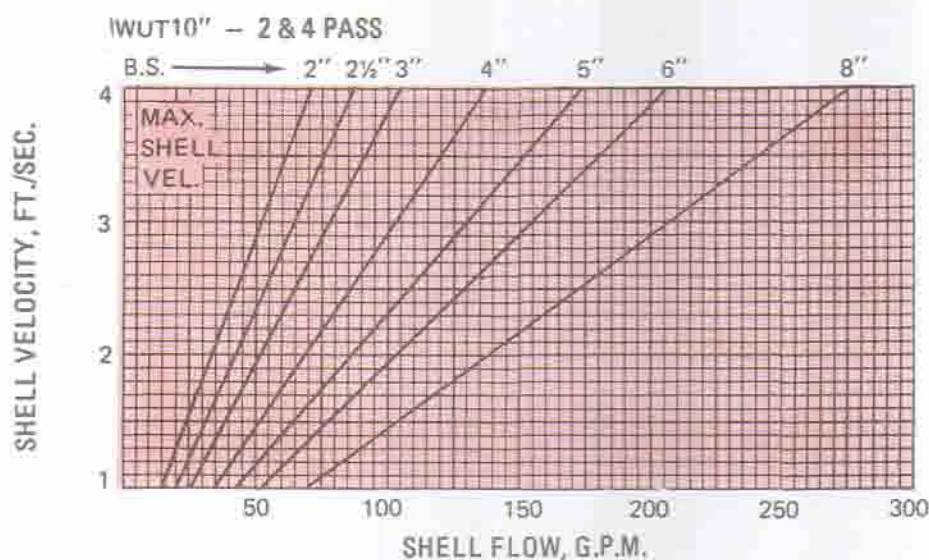
10" WUTHEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		2"	2½"	3"	4"	5" (Std.)	6"	8"
	Shell Flow in G.P.M.	A	52-70	71-87	88-105	106-138	130-173	174-207	208-276
		B	26-51	52-70	71-87	88-105	65-129	139-173	174-207

4 PASS	G. P. M. HEATED IN TUBES																			
	25		30		35		40		50		60		70		80		90		100	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT102-4()	24.9	22.0	23.0	20.1	21.5	18.5	20.2	17.2	18.0	15.1	16.3	13.5	15.0	12.3	13.9	11.2	12.9	10.4	12.1	9.6
WUT103-4()	38.9	34.4	36	31.4	33.5	28.9	31.4	26.9	28.1	23.6	25.5	21.1	23.4	19.1	21.6	17.5	20.1	16.2	18.8	15.0
WUT104-4()	52.9	46.7	48.9	42.6	45.5	39.3	42.7	36.5	38.2	32.1	34.6	28.7	31.8	26.0	29.4	23.8	27.3	22.0	25.6	20.4
WUT105-4()	67.9	60.0	62.7	54.7	58.4	50.4	54.8	46.8	49.0	41.1	44.4	36.8	40.7	33.3	37.7	30.5	35.1	28.2	32.9	26.2
WUT106-4()	81.8	72.3	75.6	66.0	70.5	60.8	66.1	56.5	59.1	49.8	53.8	44.4	49.1	40.2	45.4	36.8	42.3	34.0	39.6	31.8
WUT107-4()	95.8	84.6	88.5	77.2	82.5	71.2	77.4	66.1	69.1	58.1	62.7	52.0	57.5	47.1	53.2	43.1	49.5	39.8	46.4	37.0
WUT108-4()	110	97	101	88.5	94.5	81.5	88.7	75.8	79.2	66.6	71.9	59.5	65.9	53.9	61.0	49.4	56.8	45.8	53.2	42.3
WUT109-4()	124	109	114	99.7	107	91.9	100	85.4	89.3	75.0	81.0	67.1	74.3	60.8	68.7	55.7	64.0	51.4	59.9	47.7
WUT1010-4()	138	122	127	111	119	102.3	111	95.0	99.4	83.5	90.2	74.7	82.7	67.7	76.5	62.0	71.2	57.2	66.7	53.1
4-P T.V.	1.2 ft./sec.		1.5		1.7		2.0		2.5		3.0		3.5		4.0		4.5		5.0	
2 PASS																				
WUT102-2()									13.1	11.6	12.1	10.6	11.3	9.8	10.8	9.1	10.0	8.5	9.5	8.0
WUT103-2()									20.3	18.0	18.8	16.5	17.5	15.2	16.5	14.1	15.5	13.2	14.7	12.4
WUT104-2()									27.1	24.0	25.0	21.9	23.4	20.2	21.9	18.8	20.7	17.6	19.6	16.6
WUT105-2()									34.3	30.4	31.8	27.8	29.6	25.7	27.8	23.9	26.3	22.3	24.9	21.0
WUT106-2()									41.6	36.9	38.5	33.7	35.9	31.1	33.7	28.9	31.8	27.1	30.2	25.5
WUT107-2()									48.8	43.3	45.2	39.6	42.2	36.5	39.6	34.0	37.4	31.8	35.4	29.9
WUT108-2()									56.1	49.7	51.9	45.4	48.4	41.9	45.5	39.0	42.9	36.5	40.7	34.3
WUT109-2()									63.3	56.2	58.6	51.3	54.7	47.4	51.3	44.0	48.5	41.2	46.0	38.8
WUT1010-2()									70.6	62.6	65.3	57.2	60.9	52.8	57.2	49.1	54.0	45.9	51.2	43.2
2-P T.V.									1.2 ft./sec.		1.4		1.6		1.9		2.1		2.3	



120		140		150		160		180		200		225		250		275		325	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
10.7	8.4	9.7	7.5	9.2	7.1														
2.4	2.4	3.2	3.2	4.0	4.0														
16.8	13.2	15.1	11.7	14.4	11.1														
3.4	3.4	4.4	4.4	5.0	5.0														
22.8	17.9	20.5	16.0	18.6	15.1														
4.3	4.3	5.6	5.6	6.1	6.1														
29.2	23.0	26.3	20.5	25.1	19.4														
5.2	5.2	6.8	6.8	7.4	7.4														
35.2	27.7	31.8	24.7	30.3	23.4														
6.1	6.1	8.0	8.0	9.1	9.1														
41.2	32.4	37.2	28.9	35.5	27.4														
7.1	7.1	9.3	9.3	10.1	10.1														
47.3	37.1	42.6	33.1	40.6	31.4														
8.1	8.1	10.5	10.5	11.2	11.2														
53.3	41.9	48.0	37.3	45.8	35.4														
9.0	9.0	11.7	11.7	12.4	12.4														
59.3	46.6	53.5	41.5	51.0	39.4														
10.0	10.0	12.8	12.8	13.5	13.5														
6.0		7.0		7.4															
																		*	*
8.6	7.2	7.9	6.5	7.6	6.2	7.3	6.0	6.8	5.5	6.4	5.1	5.9	4.7	5.5	4.4	5.2	4.1	4.6	3.6
																1.0	1.0	1.2	1.2
13.4	11.1	12.3	10.1	11.8	9.7	11.4	9.3	10.6	8.6	9.9	8.0	9.2	7.3	8.6	6.8	8.1	6.3	7.2	5.6
												1.2	1.2	1.4	1.4	1.6	1.6	1.8	1.8
17.8	14.8	16.4	13.5	15.8	12.9	15.2	12.3	14.1	11.4	13.3	10.6	12.3	9.8	11.5	9.0	10.8	8.4	9.6	7.4
								1.1	1.1	1.2	1.2	1.5	1.5	1.9	1.9	2.1	2.1	2.5	2.5
22.6	18.8	20.8	17.1	20.0	16.3	19.2	15.7	17.9	14.5	16.8	13.4	15.6	12.4	14.6	11.5	13.7	10.7	12.2	9.4
						1.1	1.1	1.3	1.3	1.6	1.6	1.9	1.9	2.4	2.4	2.8	2.8	3.2	3.2
27.4	22.8	25.2	20.7	24.2	19.8	23.3	19.0	21.7	17.5	20.4	16.3	18.9	15.0	17.7	13.9	16.6	12.9	14.8	11.4
		1.0	1.0	1.1	1.1	1.3	1.3	1.6	1.6	2.0	2.0	2.3	2.3	2.8	2.8	3.2	3.2	3.8	3.8
32.2	26.8	29.6	24.3	28.4	23.2	27.4	22.3	25.5	20.6	23.9	19.1	22.2	17.6	20.7	16.3	19.5	15.2	17.4	13.4
		1.2	1.2	1.4	1.4	1.5	1.5	1.8	1.8	2.3	2.3	2.6	2.6	3.3	3.3	3.8	3.8	4.4	4.4
37.0	30.8	34.0	27.9	32.6	26.7	31.4	25.8	29.3	23.6	27.5	22.0	25.5	20.2	23.8	18.7	22.4	17.5	19.9	15.4
	1.0	1.3	1.3	1.5	1.5	1.6	1.6	2.0	2.0	2.5	2.5	2.9	2.9	3.8	3.8	4.4	4.4	5.0	5.0
41.8	34.7	38.3	31.5	36.9	30.1	35.6	28.9	33.1	26.7	31.0	24.8	28.8	22.8	26.9	21.2	25.2	19.7	22.5	17.4
	1.2	1.6	1.6	1.8	1.8	1.9	1.9	2.4	2.4	2.9	2.9	3.4	3.4	4.3	4.3	4.8	4.8	5.6	5.6
46.5	38.7	42.7	35.1	41.1	33.6	39.6	32.2	36.9	29.7	34.6	27.7	32.1	25.4	30.0	23.6	28.1	22.0	25.1	19.4
	1.4	1.9	1.9	2.0	2.0	2.1	2.1	2.6	2.6	3.2	3.2	3.6	3.6	4.7	4.7	5.4	5.4	6.2	6.2
2.8		3.3		3.5		3.7		4.2		4.6		5.2		5.9		6.4		7.5	



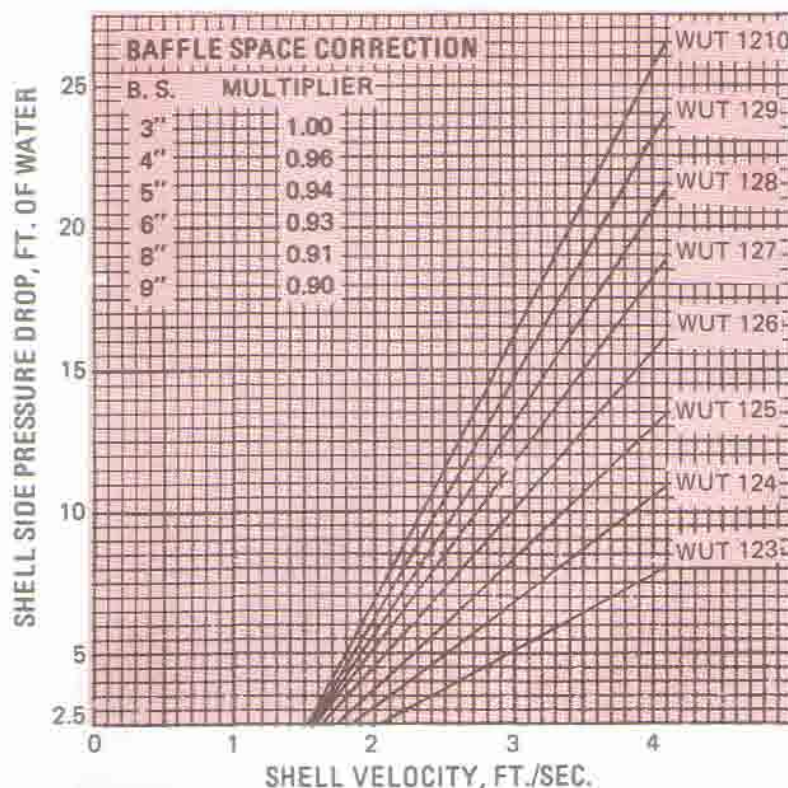
*Require Fabricated Steel heads. Consult Factory for Dimensions.

NOTE: Check Mechanical Design Limitations, Page 7.

12" WUTHEAT EXCHANGERS

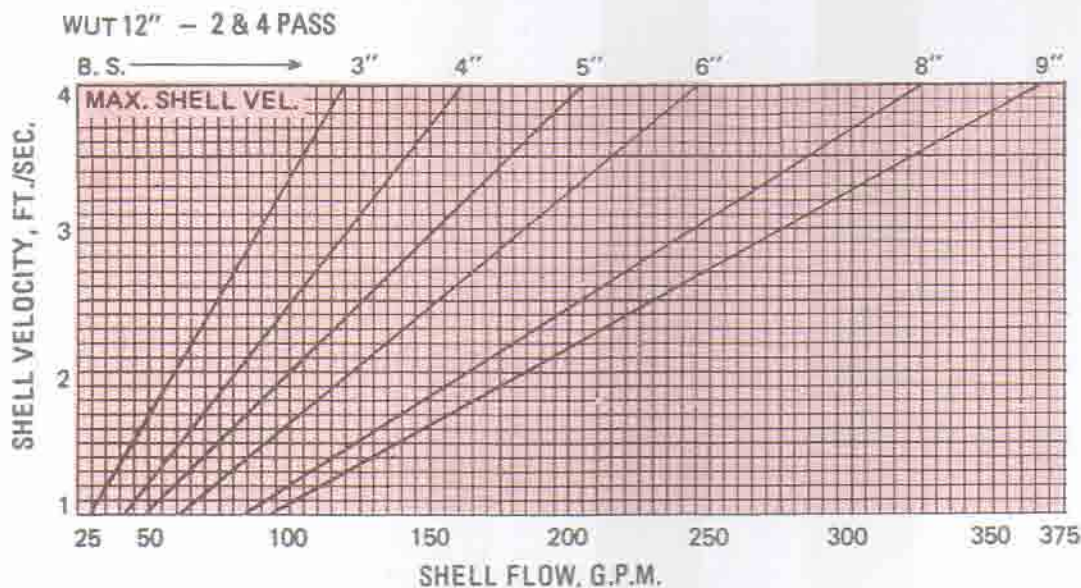
2 & 4 PASS	BAFFLE SPACE		3"	4"	5"	6" (Std.)	8"	9"
	Shell Flow	A	91-121	122-160	161-205	206-245	246-325	326-365
	In G. P. M.	B	45-90	91-121	122-160	110-205	206-245	246-325

4 PASS	G. P. M. HEATED IN TUBES																					
	25		30		40		50		60		70		80		90		100		110		120	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT123-4()	46.4	42.0	43.2	38.7	38.4	33.6	34.7	29.9	31.8	27.1	29.4	24.6	27.4	22.8	26.7	21.2	24.2	19.8	22.9	18.6	21.8	17.6
WUT124-4()	62.4	56.5	58.2	52.0	51.6	45.2	46.6	40.3	42.7	36.4	39.5	33.3	36.8	30.7	34.6	28.5	32.6	26.7	30.8	25.1	29.3	23.6
WUT125-4()	78.4	70.9	73.1	65.3	64.8	56.9	58.6	50.6	53.7	45.7	49.7	41.8	46.3	38.6	43.4	35.9	40.9	33.5	38.7	31.5	36.8	29.7
WUT126-4()	95.2	86.1	88.7	79.3	78.7	69.0	71.2	61.4	65.2	55.5	60.3	50.8	56.2	46.9	52.7	43.5	49.7	40.7	47.0	38.2	44.6	36.1
WUT127-4()	111	101	104	92.7	91.9	80.6	83.1	71.8	76.1	64.9	70.4	59.3	65.7	54.7	61.6	50.9	58.0	47.5	54.9	44.6	52.1	42.1
WUT128-4()	128	116	119	107	106	92.8	95.7	82.6	87.7	74.7	81.1	68.3	75.6	63.0	70.9	58.5	66.8	54.7	63.2	51.4	60.0	48.5
WUT129-4()			134	120	119	104	108	92.9	98.6	84.0	91.2	76.8	85.0	70.9	79.7	65.9	75.1	61.6	71.1	57.8	67.5	54.5
WUT1210-4()					133	117	120	104	110	93.8	102	85.8	95.0	79.1	89.0	73.5	83.9	68.7	79.4	64.6	75.4	60.9
4-P T.V.	1.1 ft./sec.		1.1		1.5		1.8		2.1		2.5		2.8		3.1		3.5		3.8		4.1	
2 PASS																						
WUT123-2()									22.0	19.7	20.7	18.4	19.5	17.2	18.6	16.2	17.7	15.3	16.9	14.6	16.2	13.9
WUT124-2()									29.9	26.8	28.1	25.0	26.6	23.4	25.2	22.1	24.1	20.9	23.0	19.8	22.1	18.9
WUT125-2()									37.6	33.6	35.2	31.3	33.3	29.3	31.8	27.6	30.2	26.2	28.9	24.8	27.7	23.7
WUT126-2()									45.4	40.7	42.7	37.9	40.4	35.5	38.3	33.6	36.5	31.7	35.0	30.1	33.5	28.7
WUT127-2()									53.3	47.9	50.1	44.5	47.4	41.7	45.0	39.3	42.9	37.2	41.1	35.4	39.4	33.7
WUT128-2()									60.9	54.7	57.2	50.9	54.1	47.7	51.4	44.9	49.0	42.5	46.9	40.4	45.0	38.5
WUT129-2()									68.8	61.8	64.7	57.5	61.2	53.9	58.1	50.8	55.4	48.0	53.0	45.6	50.8	43.5
WUT1210-2()									76.8	68.9	72.1	64.1	68.2	60.1	64.8	56.6	61.8	53.6	59.1	50.9	56.7	48.5
2-P T.V.									1.0 ft./sec.		1.2		1.3		1.5		1.7		1.8		1.9	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.

130		140		160		180		200		225		250		300		350		400		450	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
20.7	16.6	19.8	15.8	18.2	14.4	16.8	13.2	15.7	12.2												
2.0	2.0	2.3	2.3	2.9	2.9	3.5	3.5	4.4	4.4												
27.9	22.4	26.6	21.2	24.4	19.3	22.6	17.7	21.1	16.4												
2.5	2.5	3.0	3.0	3.7	3.7	4.6	4.6	5.6	5.6												
35.0	28.1	33.4	26.7	30.7	24.3	28.4	22.3	26.5	20.6												
3.1	3.1	3.7	3.7	4.5	4.5	5.3	5.3	6.8	6.8												
42.5	34.1	40.6	32.4	37.3	29.5	34.5	27.1	32.2	25.0												
3.7	3.7	4.3	4.3	5.4	5.4	6.4	6.4	8.0	8.0												
49.7	39.9	47.4	37.9	43.6	34.4	40.3	31.6	37.6	29.2												
4.3	4.3	4.9	4.9	6.1	6.1	7.2	7.2	9.3	9.3												
57.2	45.9	54.6	43.6	50.1	39.6	46.4	36.4	43.2	33.6												
4.9	4.9	5.4	5.4	7.0	7.0	8.3	8.3	10.5	10.5												
64.3	51.6	61.4	49.0	56.4	44.6	52.2	40.9	48.6	37.8												
5.4	5.4	6.3	6.3	7.7	7.7	9.2	9.2	11.7	11.7												
71.8	57.7	68.6	54.8	63.0	49.8	58.3	45.7	54.3	42.2												
6.0	6.0	7.0	7.0	8.1	8.1	10.2	10.2	12.9	12.9												
4.3		4.8		5.5		6.1		7.0													
																*	*	*	*	*	*
15.6	13.3	15.0	12.7	14.0	11.7	13.2	10.9	12.4	10.2	11.6	9.5	10.9	8.8	9.8	7.8	8.8	7.0	8.1	6.3	7.5	5.8
														1.0	1.0	1.3	1.3	1.6	1.6	2.0	2.0
21.2	18.1	20.5	17.3	19.1	16.0	17.9	14.9	16.9	13.9	15.8	12.9	14.9	12.0	13.3	10.6	12.0	9.5	11.0	8.6	10.2	7.9
														1.0	1.3	1.3	1.7	2.1	2.1	2.8	2.6
26.6	22.8	25.6	21.7	23.9	20.0	22.5	18.6	21.2	17.4	19.8	16.1	18.6	15.0	16.6	13.3	15.1	11.9	13.8	10.8	12.7	9.9
														1.2	1.6	1.6	2.2	2.7	2.7	3.3	3.3
32.2	27.4	31.1	26.3	29.0	24.3	27.2	22.6	25.7	21.1	24.0	19.6	22.5	18.2	20.2	16.1	18.3	14.4	16.7	13.1	15.4	11.9
										1.1	1.1	1.5	1.5	2.0	2.0	2.6	2.6	3.2	3.2	3.9	3.9
37.9	32.2	36.5	30.9	34.1	28.5	32.0	26.5	30.1	24.8	28.2	23.0	26.5	21.4	23.7	18.9	21.5	16.9	19.6	15.3	18.1	14.0
						1.0	1.0	1.4	1.2	1.4	1.4	1.6	1.6	2.3	2.3	3.1	3.1	3.8	3.8	4.7	4.7
43.3	36.8	41.7	35.2	38.9	32.6	36.5	30.3	34.4	28.3	32.2	26.2	30.2	24.5	27.0	21.6	24.5	19.3	22.4	17.5	20.7	16.0
						1.1	1.1	1.3	1.3	1.5	1.5	1.9	1.9	2.6	2.6	3.6	3.6	4.3	4.3	5.3	5.3
48.9	41.6	47.1	39.8	43.9	36.8	41.3	34.2	38.9	32.0	36.4	29.7	34.2	27.6	30.6	24.4	27.7	21.8	25.3	19.8	23.4	18.1
				1.0	1.0	1.2	1.2	1.4	1.4	1.6	1.6	2.2	2.2	3.0	3.0	4.1	4.1	4.9	4.9	6.0	6.0
54.5	46.4	52.5	44.4	49.0	41.0	46.0	38.2	43.4	35.7	40.6	33.1	38.1	30.8	34.1	27.2	30.9	24.3	28.3	22.1	26.1	20.2
				1.2	1.2	1.5	1.5	1.8	1.8	2.1	2.1	2.4	2.4	3.2	3.2	4.4	4.4	5.4	5.4	6.7	6.7
2.1		2.3		2.6		3.0		3.3		3.7		4.2		5.0		5.8		6.7		7.5	



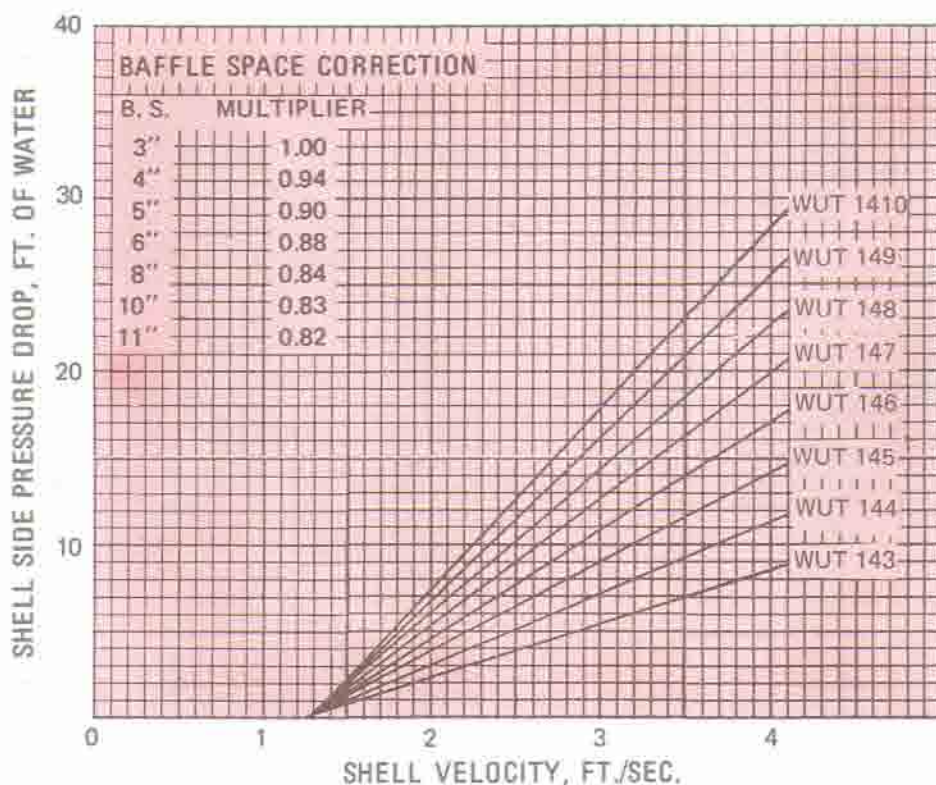
* Require Fabricated Steel heads. Consult Factory for Dimensions.

NOTE: Check Mechanical Design Limitations, Page 7.

14"WUTHEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		3"	4"	5"	6"	8"	10"	11"
	Shell Flow	A	85-113	114-150	151-190	191-225	226-300	301-380	381-415
	In G. P. M.	B	42-84	85-113	114-150	151-190	191-225	226-300	301-380

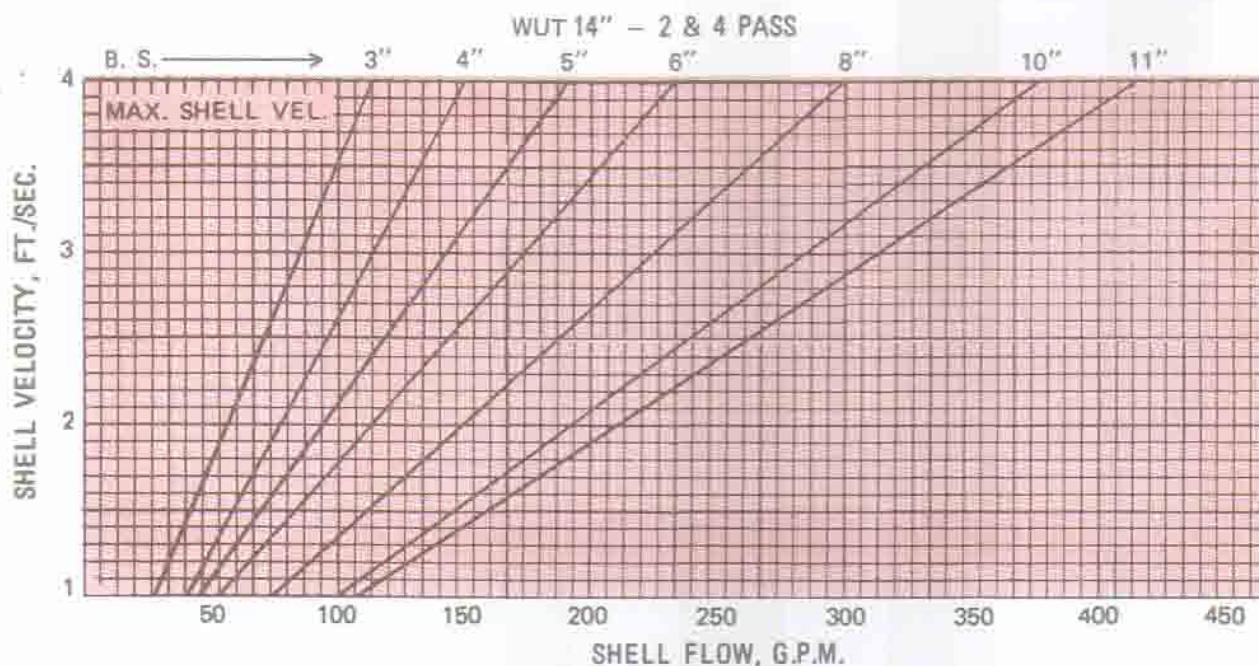
4 PASS	G. P. M. HEATED IN TUBES																								
	50		60		70		80		90		100		110		120		130		140		150		160		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
WUT143-4()	41.4	36.6	38.3	33.4	35.7	30.8	33.6	28.6	31.6	26.7	29.9	25.1	28.4	23.7	27.1	22.5	25.9	21.3	24.9	20.4	23.9	19.4	23.0	18.6	18.6
WUT144-4()	55.4	48.9	51.2	44.6	47.7	41.1	44.7	38.2	42.2	35.7	40.0	33.6	38.0	31.7	36.3	30.0	34.7	28.6	33.3	27.2	31.9	26.0	30.8	24.9	24.9
WUT145-4()	69.4	61.3	64.1	55.9	59.7	51.5	56.0	47.9	52.8	44.7	50.1	42.1	47.6	39.7	45.4	37.8	43.4	35.8	41.6	34.1	40.0	32.6	38.5	31.2	31.2
WUT146-4()	83.3	73.6	77.0	67.2	71.7	61.9	67.3	57.5	63.5	53.8	60.1	50.5	57.2	47.7	54.6	45.2	52.2	43.0	50.0	40.9	48.1	39.1	46.3	37.5	37.5
WUT147-4()	97.8	86.4	90.4	78.8	84.2	72.7	79.0	67.5	74.5	63.1	70.6	59.3	67.1	56.0	64.0	53.0	61.2	50.4	58.7	48.1	56.4	45.9	54.3	44.0	44.0
WUT148-4()	111.8	98.7	103.3	90.1	96.2	83.0	90.3	77.1	85.2	72.1	80.7	67.8	76.7	64.0	73.2	60.6	70.0	57.6	67.1	54.9	64.5	52.5	62.1	50.3	50.3
WUT149-4()	125.7	111.1	116.2	101.3	108.3	93.4	101.6	86.8	95.8	81.1	90.8	76.2	86.3	72.0	82.3	68.2	78.7	64.8	75.5	61.8	72.5	59.1	69.8	56.6	56.6
WUT1410-4()	139.7	123.4	129.1	112.6	120.3	103.8	112.9	96.4	106.4	90.1	100.8	84.7	95.9	80.0	91.6	76.8	87.5	72.0	83.9	68.7	80.6	65.6	77.6	62.8	62.8
4-P.T.V.	1.3 ft./sec.		1.5		1.75		2.0		2.25		2.5		2.75		3.0		3.25		3.5		3.75		4.0		
2 PASS																									
WUT143-2()															21.2	18.8	20.4	17.9	19.6	17.2	18.9	16.5	18.3	15.8	17.7
WUT144-2()															28.3	25.0	27.1	23.9	26.1	22.9	25.2	21.9	24.4	21.1	23.6
WUT145-2()															35.6	31.5	34.2	30.1	32.9	28.8	31.7	27.6	30.7	26.6	29.7
WUT146-2()															42.6	37.8	41.0	36.0	39.4	34.5	38.0	33.1	36.8	31.8	35.6
WUT147-2()															49.7	44.0	47.7	42.0	46.0	40.2	44.4	38.6	42.9	37.1	41.5
WUT148-2()															57.0	50.5	54.8	48.2	52.7	46.1	50.9	44.3	49.2	42.6	47.6
WUT149-2()															64.1	56.8	61.5	54.2	59.3	51.8	57.2	49.7	55.3	47.8	53.5
WUT1410-2()															71.4	63.2	68.6	60.4	66.0	57.8	63.7	55.4	61.6	53.3	59.6
2-P.T.V.															1.25 ft./sec.	1.4	1.5	1.6	1.8	1.8	1.9	2.0			



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION
FACTORS ADJUSTING FOR
AVERAGE WATER
TEMPERATURE.

180		200		225		250		275		300		325		350		400		450		500		550		600	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
21.4	17.2	20.1	16.0	18.6	14.7	17.4	13.6	16.3	12.7	15.3	11.9														
2.0	2.0	2.4	2.4	2.9	2.9	3.4	3.4	4.0	4.0	4.9	4.9														
28.6	23.0	26.8	21.4	24.9	19.6	23.2	18.2	21.8	16.9	20.5	15.9														
2.5	2.5	3.1	3.1	3.7	3.7	4.3	4.3	5.0	5.0	6.3	6.3														
35.9	28.8	33.6	26.8	31.1	24.6	29.1	22.8	27.3	21.2	25.7	19.9														
3.1	3.1	3.8	3.8	4.0	4.0	5.3	5.3	6.3	6.3	7.7	7.7														
43.1	34.6	40.4	32.1	37.4	29.5	34.9	27.4	32.7	25.5	30.8	23.9														
3.7	3.7	4.9	4.9	5.5	5.5	6.3	6.3	7.8	7.8	9.0	9.0														
50.6	40.6	47.4	37.7	43.9	34.7	41.0	32.1	38.4	29.9	36.2	28.0														
4.2	4.2	5.2	5.2	6.0	6.0	7.2	7.2	9.2	9.2	10.4	10.4														
57.8	46.4	54.1	43.1	50.2	39.6	46.8	36.7	43.9	34.2	41.4	32.0														
4.9	4.9	5.9	5.9	6.8	6.8	8.1	8.1	10.1	10.1	11.0	11.0														
65.0	52.2	60.9	48.5	56.5	44.6	52.7	41.3	49.4	38.5	46.5	36.0														
5.3	5.3	6.5	6.5	8.0	8.0	9.2	9.2	11.0	11.0	13.2	13.2														
72.2	58.0	67.7	53.9	62.7	49.5	58.5	45.9	54.9	42.7	51.7	40.0														
6.0	6.0	7.1	7.1	8.6	8.6	10.2	10.2	12.0	12.0	14.5	14.5														
4.5		5.0		5.6		6.2		6.9		7.5															

16.2	13.8	15.4	12.9	14.4	12.1	13.6	11.3	12.9	10.6	12.3	10.1	11.7	9.5	11.2	9.1	10.4	8.3	9.6	7.6	9.0	7.0	8.4	6.6	7.9	6.2
21.6	18.4	20.5	17.3	19.3	16.1	18.2	15.1	17.2	14.2	16.4	13.4	15.7	12.7	15.0	12.1	13.8	11.0	12.8	10.1	12.0	9.4	11.2	8.8	10.6	8.2
27.2	23.1	25.8	21.7	24.2	20.2	22.9	19.0	21.7	17.8	20.7	16.9	19.7	16.0	18.9	15.2	17.4	13.9	16.1	12.8	15.1	11.8	14.1	11.0	13.3	10.3
32.6	27.7	30.9	26.0	29.1	24.3	27.4	22.7	26.0	21.4	24.8	20.2	23.6	19.2	22.6	18.2	20.8	16.6	19.3	15.3	18.0	14.2	16.9	13.2	16.0	12.4
38.0	32.3	36.0	30.4	33.9	28.3	32.0	26.5	30.3	24.9	28.9	23.6	27.5	22.4	26.3	21.3	24.3	19.4	22.5	17.8	21.0	16.5	19.7	15.4	18.6	14.4
43.6	37.0	41.3	34.8	38.8	32.4	36.7	30.4	34.8	28.6	33.1	27.0	31.6	25.6	30.2	24.4	27.8	22.2	25.8	20.5	24.1	19.0	22.6	17.7	21.3	16.8
49.0	41.6	46.4	39.1	43.7	36.5	41.2	34.2	39.1	32.2	37.2	30.4	35.5	28.8	34.0	27.4	31.3	25.0	29.0	23.0	27.1	21.3	25.4	19.9	24.0	18.6
54.6	46.4	51.7	43.6	48.6	40.6	45.9	38.1	43.6	35.8	41.5	33.9	39.6	32.1	37.8	30.5	34.9	27.9	32.4	25.6	30.2	23.7	28.3	22.1	26.7	20.7
2.25		2.5		2.8		3.1		3.4		3.75		4.0		4.4		5.0		5.6		6.2		6.9		7.5	



NOTE: Check Mechanical Design Limitations, Page 7.

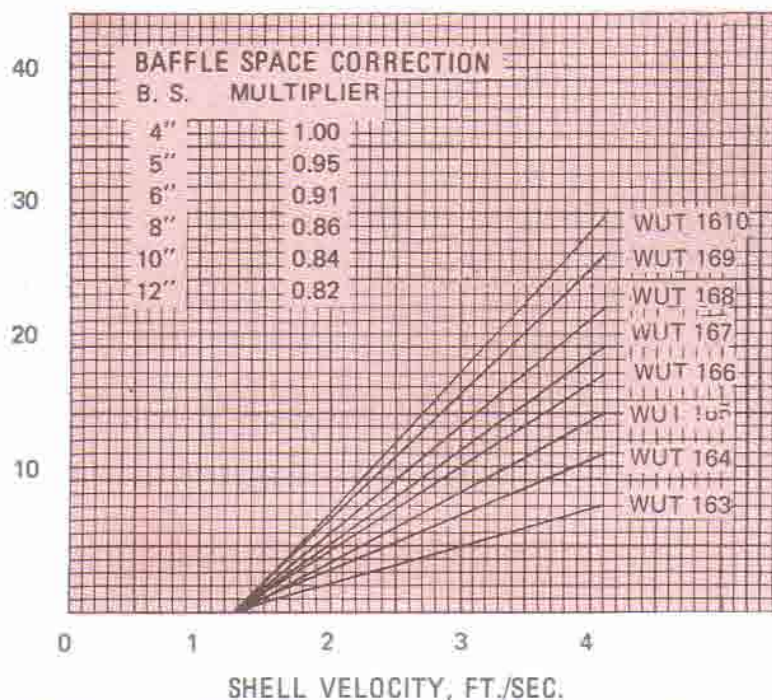
16" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		4"	5"	6"	8"	10"	12"
	Shell Flow	A	135-175	176-220	221-265	266-355	356-440	441-525
	In G.P.M.	B	65-134	135-175	176-220	221-265	266-355	356-440

4 PASS	G. P. M. HEATED IN TUBES																							
	50		70		80		90		100		110		120		130		140		150		160		180	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT163-4()	45.1	40.6	39.3	34.6	37.1	32.3	35.1	30.3	33.4	28.6	31.9	27.1	30.5	25.8	29.3	24.6	28.2	23.6	27.2	22.6	26.2	21.7	24.5	20.1
WUT164-4()	60.9	54.7	53.0	46.6	50.0	43.6	47.4	40.9	45.1	38.6	43.0	36.6	41.2	34.8	39.5	33.2	38.0	31.8	36.6	30.5	35.4	29.2	33.1	27.1
WUT165-4()	76.7	68.9	66.8	58.7	63.0	54.8	59.7	51.5	56.8	48.6	54.2	46.1	51.9	43.8	49.8	41.8	47.9	40.0	46.1	38.3	44.5	36.8	41.7	34.1
WUT166-4()	92.4	83.1	80.5	70.8	75.9	66.1	71.9	62.1	68.4	58.6	65.3	55.6	62.5	52.9	60.0	50.4	57.7	48.2	55.6	46.2	53.7	44.4	50.2	41.2
WUT167-4()	108.2	97.2	94.2	82.9	88.8	77.4	84.2	72.7	80.1	68.6	76.4	65.1	73.2	61.9	70.2	59.0	67.5	56.4	65.1	54.1	62.8	52.0	58.8	48.2
WUT168-4()	123.9	111.4	108.0	94.9	101.8	88.7	96.4	83.3	91.7	78.6	87.6	74.5	83.8	70.9	80.5	67.6	77.4	64.7	74.6	62.0	72.0	59.5	67.4	55.2
WUT169-4()	139.3	125.2	121.3	106.7	114.4	99.6	108.4	93.6	103.1	88.4	98.4	83.8	94.2	79.6	90.4	76.0	86.9	72.7	83.8	69.6	80.9	66.9	75.7	62.0
WUT1610-4()			135.0	118.7	127.3	110.9	120.6	104.2	114.8	98.4	109.5	93.2	104.9	88.7	100.8	84.6	96.8	80.9	93.3	77.5	90.0	74.4	84.3	69.0
4-P.T.V.	1.0 ft./sec.		1.4		1.6		1.8		1.9		2.1		2.3		2.5		2.7		2.8		3.0		3.4	

2 PASS	G. P. M. HEATED IN TUBES																							
	110		120		130		140		150		160		180		200		225		250		275		300	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT163-2()	22.4	20.1	21.6	19.3	20.9	18.5	20.3	17.9	19.7	17.3	19.1	16.7	18.1	15.7	17.3	14.9	16.3	13.9	15.5	13.1	14.7	12.4	14.1	11.7
WUT164-2()	30.0	26.9	29.0	25.8	28.0	24.8	27.2	24.0	26.4	23.1	25.6	22.4	24.3	21.1	23.1	19.9	21.9	18.6	20.7	17.5	19.7	16.6	18.9	15.7
WUT165-2()	37.6	33.7	36.3	32.3	35.1	31.1	34.1	30.0	33.1	29.0	32.1	28.1	30.5	26.4	29.0	24.9	27.4	23.3	26.0	22.0	24.7	20.8	23.6	19.7
WUT166-2()	45.4	40.7	43.8	39.1	42.4	37.6	41.1	36.3	39.9	35.0	38.8	33.9	36.8	31.9	35.0	30.1	33.1	28.2	31.4	26.5	29.9	25.1	28.5	23.8
WUT167-2()	53.0	47.5	51.2	45.6	49.5	43.9	48.0	42.3	46.6	40.9	45.3	39.6	42.9	37.2	40.9	35.1	38.6	32.9	36.6	31.0	34.9	29.3	33.3	27.8
WUT168-2()	60.8	54.5	58.7	52.3	56.8	50.3	55.1	48.6	53.4	46.9	52.0	45.4	49.3	42.7	46.9	40.3	44.3	37.8	42.0	35.5	40.0	33.6	38.2	31.9
WUT169-2()	68.2	61.1	66.9	58.7	63.7	56.5	61.8	54.5	60.0	52.6	56.3	50.9	55.3	47.9	52.6	45.2	49.7	42.3	47.1	39.9	44.9	37.7	42.9	35.7
WUT1610-2()	75.8	67.9	73.2	65.2	70.8	62.8	68.6	60.6	66.6	58.5	64.8	56.6	61.4	53.2	58.5	50.3	55.2	47.1	52.4	44.3	49.9	41.9	47.6	39.7
2-P.T.V	1.0 ft./sec.		1.1		1.2		1.3		1.4		1.5		1.7		1.8		2.0		2.3		2.5		2.7	

SHELL SIDE PRESSURE DROP, FT. OF WATER



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION
FACTORS ADJUSTING FOR
AVERAGE WATER
TEMPERATURE.

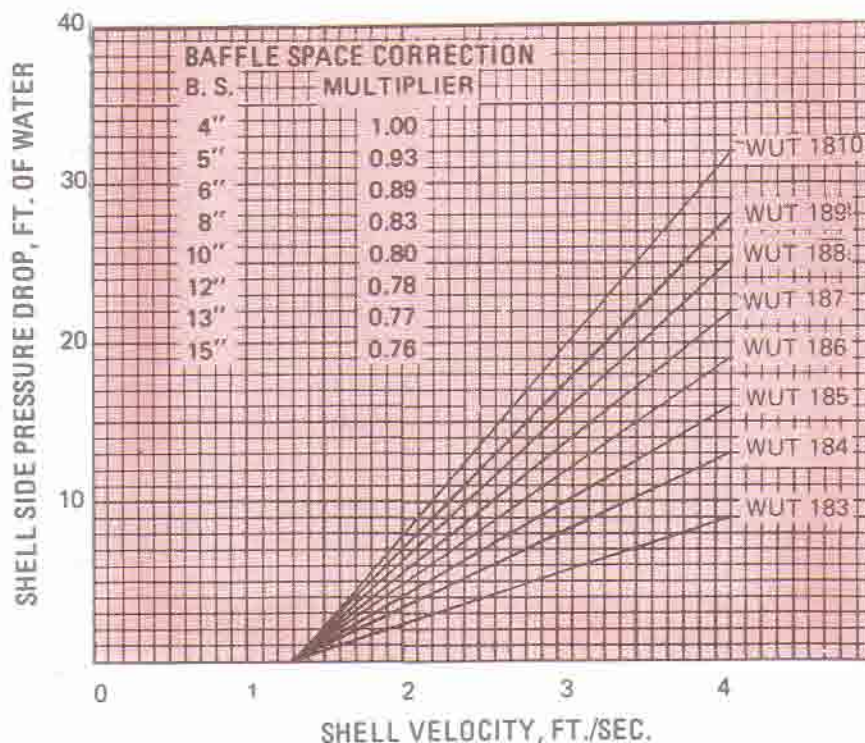
[illegible]

18" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		4"	5"	6"	8"	10"	12"	13"	15"
	Shell Flow	A	140-200	201-250	251-300	301-400	401-500	501-600	601-650	651-750
	in G. P. M.	B	75-139	140-200	201-250	251-300	301-400	401-500	501-600	601-650

4 PASS	G. P. M. HEATED IN TUBES																			
	100		120		140		160		180		200		225		250		275		300	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT183-4()	40.3	35.2	37.1	32.0	34.4	29.3	32.2	27.2	30.3	25.3	28.6	23.7	26.8	22.0	25.2	20.8	23.8	19.3	22.6	18.2
WUT184-4()	53.4	46.7	49.2	42.4	45.7	38.9	42.7	36.0	40.2	33.6	37.9	31.5	35.5	29.2	33.4	27.3	31.6	25.6	30.0	24.1
WUT185-4()	66.3	57.9	61.0	52.6	56.7	48.3	53.0	44.7	49.8	41.7	47.1	39.0	44.1	36.2	41.5	33.8	39.2	31.8	37.2	29.9
WUT186-4()	79.5	69.4	73.1	63.0	67.9	57.9	63.5	53.6	59.7	49.9	56.4	46.8	52.8	43.4	49.7	40.5	47.0	38.0	44.6	36.9
WUT187-4()	92.9	81.1	85.5	73.7	79.4	67.6	74.2	62.6	69.8	58.4	65.9	54.7	61.8	50.8	58.1	47.4	55.0	44.5	52.1	41.9
WUT188-4()	106.1	92.6	97.6	84.1	90.6	77.2	84.7	71.5	79.7	66.6	75.3	62.4	70.5	58.0	66.4	54.1	62.7	50.8	59.5	47.9
WUT189-4()	119.2	104.1	109.7	94.6	101.8	86.8	95.2	80.4	89.6	74.9	84.6	70.2	79.3	65.1	74.6	60.8	70.5	57.1	66.9	53.8
WUT1810-4()	132.4	115.6	121.8	105.0	113.1	96.4	106.7	89.2	99.5	83.2	94.0	77.9	88.0	72.3	82.8	67.5	78.3	63.4	74.3	59.7
4-P.T.V.	1.5 ft./sec.		1.8		2.1		2.4		2.8		3.0		3.3		3.7		4.2		4.5	

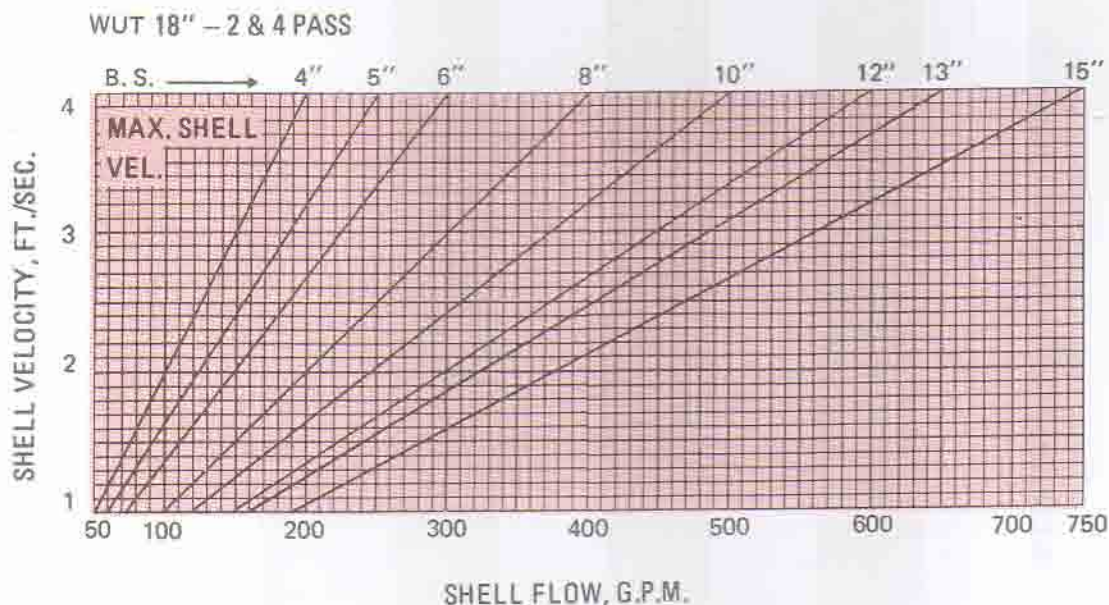
2 PASS	G. P. M. HEATED IN TUBES																			
	200		225		250		275		300		325		350		375		400		450	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT183-2()	20.1	17.6	19.1	16.5	18.2	15.6	17.4	14.8	16.6	14.1	16.0	13.5	15.4	12.9	14.8	12.3	14.3	11.9	13.4	11.0
WUT184-2()	26.7	23.3	25.3	21.9	24.1	20.7	23.0	19.7	22.1	18.7	21.2	17.8	20.4	17.1	19.6	16.4	19.0	15.7	17.8	14.6
WUT185-2()	33.2	29.0	31.4	27.2	29.9	25.7	28.6	24.4	27.4	23.2	26.3	22.1	25.3	21.2	24.4	20.3	23.5	19.5	22.0	18.1
WUT186-2()	39.7	34.7	37.7	32.6	35.9	30.8	34.3	29.2	32.8	27.8	31.5	26.5	30.3	25.4	29.2	24.3	28.2	23.4	26.4	21.7
WUT187-2()	46.5	40.6	44.0	38.1	41.9	36.0	40.0	34.2	38.3	32.5	36.8	31.0	35.4	29.7	34.1	28.5	33.0	27.3	30.9	25.4
WUT188-2()	53.0	46.3	50.3	43.5	47.9	41.1	46.7	39.0	43.8	37.1	42.0	35.4	40.4	33.9	39.0	32.5	37.6	31.2	35.3	29.0
WUT189-2()	59.6	52.1	56.5	48.9	53.8	46.2	51.4	43.8	49.2	41.7	47.2	39.8	45.5	38.1	43.8	36.5	42.3	35.1	39.6	32.6
WUT1810-2()	66.2	57.8	62.8	54.4	59.7	51.3	57.0	48.7	54.6	46.3	52.5	44.2	50.5	42.3	48.7	40.6	47.0	39.0	44.0	36.2
2-P.T.V.	1.5 ft./sec.		1.7		1.9		2.1		2.3		2.5		2.6		2.8		3.0		3.3	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION
FACTORS ADJUSTING FOR
AVERAGE WATER
TEMPERATURE.

325		350		375		400		450		500	
A	B	A	B	A	B	A	B	A	B	A	B
21.5	17.2	20.5	16.3	19.6	15.5	18.8	14.8	17.4	13.6	16.2	12.5
2.3	2.3	2.8	2.8	3.0	3.0	3.3	3.3	4.3	4.3	4.9	4.9
28.5	22.8	27.2	21.6	26.1	20.6	25.0	19.7	23.1	18.0	21.5	16.6
3.1	3.1	3.3	3.3	3.6	3.6	4.2	4.2	5.1	5.1	6.2	6.2
35.4	28.3	33.8	26.9	32.3	25.6	31.0	24.4	28.7	22.4	26.7	20.7
3.7	3.7	4.0	4.0	4.9	4.9	5.2	5.2	6.6	6.6	7.6	7.6
42.5	33.9	40.5	32.2	38.8	30.6	37.2	29.2	34.4	26.8	32.0	24.8
4.4	4.4	4.7	4.7	5.4	5.4	6.1	6.1	7.6	7.6	8.9	8.9
49.6	39.7	47.4	37.6	45.3	35.8	43.4	34.2	40.2	31.3	37.4	28.9
5.0	5.0	5.4	5.4	6.4	6.4	7.0	7.0	8.5	8.5	10.3	10.3
56.7	45.3	54.1	43.0	51.7	40.9	49.6	39.0	45.9	35.8	42.7	33.0
5.8	5.8	6.5	6.5	7.2	7.2	7.9	7.9	9.7	9.7	11.6	11.6
63.7	50.9	60.8	48.3	58.1	46.0	55.8	43.9	51.5	40.2	48.0	37.1
6.1	6.1	7.2	7.2	8.3	8.3	8.9	8.9	10.8	10.8	12.9	12.9
70.7	56.5	67.5	53.6	64.6	51.0	61.9	48.7	57.2	44.6	53.3	41.2
7.0	7.0	8.0	8.0	8.9	8.9	9.8	9.8	12.1	12.1	14.3	14.3
5.0		5.3		5.7		6.0		6.7		7.5	

500		550		600		650		700		750		800		850		900		950		1000	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
12.6	10.3	11.9	9.6	11.3	9.1	10.8	8.6	10.3	8.2	9.8	7.8	9.4	7.4	9.0	7.1	8.7	6.8	8.4	6.5	8.1	6.3
1.1	1.1	1.2	1.2	1.4	1.4	1.5	1.5	1.7	1.7	1.9	1.9	2.3	2.3	2.5	2.5	2.8	2.8	3.1	3.1	3.4	3.4
16.7	13.6	15.8	12.8	15.0	12.1	14.3	11.4	13.6	10.8	13.0	10.3	12.5	9.8	12.0	9.4	11.6	9.0	11.1	8.7	10.7	8.3
1.0	1.0	1.2	1.2	1.4	1.4	1.6	1.6	1.8	1.8	1.9	1.9	2.3	2.3	2.5	2.5	2.8	2.8	3.1	3.1	3.4	3.4
20.8	16.9	19.6	15.9	18.6	15.0	17.7	14.2	16.9	13.4	16.2	12.8	15.5	12.2	14.9	11.7	14.3	11.2	13.8	10.7	13.3	10.3
1.0	1.0	1.2	1.2	1.4	1.4	1.6	1.6	1.8	1.8	1.9	1.9	2.3	2.3	2.5	2.5	2.8	2.8	3.1	3.1	3.4	3.4
24.9	20.3	23.5	19.0	22.3	17.9	21.2	17.0	20.3	16.1	19.4	15.3	18.6	14.6	17.9	14.0	17.2	13.4	16.6	12.9	16.0	12.4
1.2	1.2	1.5	1.5	1.7	1.7	1.8	1.8	2.2	2.2	2.5	2.5	2.8	2.8	3.0	3.0	3.4	3.4	3.7	3.7	4.0	4.0
29.1	23.7	27.5	22.2	26.1	21.0	24.8	19.8	23.7	18.8	22.7	17.9	21.7	17.1	20.9	16.3	20.1	15.7	19.4	15.0	18.7	14.5
1.4	1.4	1.7	1.7	2.0	2.0	2.2	2.2	2.6	2.6	2.9	2.9	3.3	3.3	3.5	3.5	4.0	4.0	4.4	4.4	4.7	4.7
33.2	27.1	31.4	25.4	29.8	23.9	28.3	22.6	27.0	21.5	25.9	20.4	24.8	19.5	23.8	18.7	22.9	17.9	22.1	17.2	21.3	16.5
1.5	1.5	1.8	1.8	2.2	2.2	2.5	2.5	2.9	2.9	3.2	3.2	3.7	3.7	3.9	3.9	4.6	4.6	4.9	4.9	5.4	5.4
37.3	30.4	35.3	28.5	33.5	26.9	31.8	25.4	30.4	24.1	29.1	23.0	27.9	21.9	26.8	21.0	25.8	20.1	24.8	19.3	24.0	18.6
1.7	1.7	2.1	2.1	2.3	2.3	2.8	2.8	3.2	3.2	3.5	3.5	4.2	4.2	4.4	4.4	5.1	5.1	5.5	5.5	6.1	6.1
41.4	33.8	39.2	31.7	37.1	29.9	35.4	28.2	33.7	26.8	32.3	25.5	31.0	24.4	29.7	23.3	28.6	22.3	27.6	21.4	26.6	20.6
1.8	1.8	2.3	2.3	2.7	2.7	3.2	3.2	3.6	3.6	4.0	4.0	4.6	4.6	4.9	4.9	5.7	5.7	6.1	6.1	6.7	6.7
3.7		4.1		4.4		4.8		5.2		5.6		6.0		6.3		6.7		7.1		7.4	



* Require Fabricated Steel heads. Consult Factory for Dimensions.

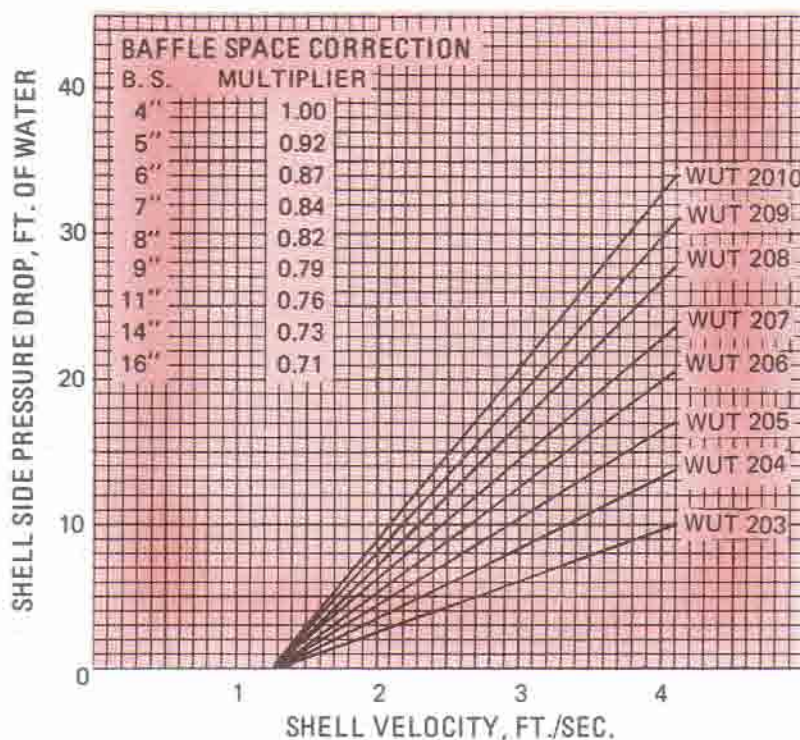
NOTE: Check Mechanical Design Limitations, Page 7.

20"WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE 4"		5"	6"	7"	8"	9"	11"	14"	16"	
	Shell Flow	A	170-220	221-280	281-335	336-390	391-450	451-500	501-620	621-780	781-900
	in G.P.M.	B	85-169	170-220	221-280	281-335	336-390	391-450	451-500	501-620	621-780

4 PASS	G. P. M. HEATED IN TUBES																											
	100		120		140		160		180		200		225		250		275		300		325		350		375			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
WUT203-4(1)	44.3	39.4	41.1	36.1	38.4	33.3	36.1	31.0	34.1	29.1	32.3	27.4	30.4	25.5	28.8	24.0	27.3	22.6	26.0	21.4	24.8	20.3	23.8	19.3	22.8	18.4	21.7	
WUT204-4(1)	59.1	52.6	54.8	48.1	51.1	44.5	48.1	41.4	45.4	38.8	43.1	36.5	40.6	34.1	38.4	31.9	36.4	30.1	34.7	28.5	33.1	27.0	31.7	25.7	30.4	24.6	28.5	
WUT205-4(1)	73.9	65.7	68.4	60.1	63.9	55.6	60.1	51.7	56.8	48.5	53.9	45.6	50.7	42.6	48.0	39.9	45.5	37.6	43.4	35.8	41.4	33.8	39.6	32.2	38.0	30.7	34.6	
WUT206-4(1)	88.7	78.9	82.1	72.2	76.7	66.7	72.1	62.1	68.1	58.2	64.7	54.8	60.9	51.1	57.6	47.9	54.6	45.1	52.0	42.7	49.7	40.5	47.6	38.6	45.6	36.8	40.8	
WUT207-4(1)	103.2	91.8	95.6	84.0	89.3	77.6	83.9	72.3	79.3	67.7	75.3	63.7	70.8	59.5	67.0	55.8	63.6	52.5	60.6	49.7	57.8	47.2	55.4	44.9	53.1	42.9	47.9	
WUT208-4(1)	118.0	105.0	109.3	96.0	102.1	88.7	96.0	82.6	90.7	77.4	85.0	72.9	81.0	68.0	76.6	63.8	72.7	60.1	69.2	56.8	66.1	53.9	63.3	51.3	60.7	49.0	49.0	
WUT209-4(1)	132.8	118.1	123.0	108.1	114.9	99.9	108.0	93.0	102.0	87.1	96.8	82.0	91.1	76.5	86.2	71.7	81.8	67.6	77.9	63.9	74.4	60.7	71.2	57.8	68.4	55.1	55.1	
WUT210-4(1)	147.6	131.3	136.7	120.1	127.6	111.0	120.0	103.3	113.4	96.8	107.6	91.1	101.3	85.0	95.8	79.7	90.9	75.1	86.6	71.1	82.7	67.4	79.2	64.2	76.0	61.3	61.3	
4 P.T.V.	1.1 ft./sec.		1.3		1.5		1.8		2.0		2.2		2.5		2.8		3.1		3.4		3.7		4.0		4.2			

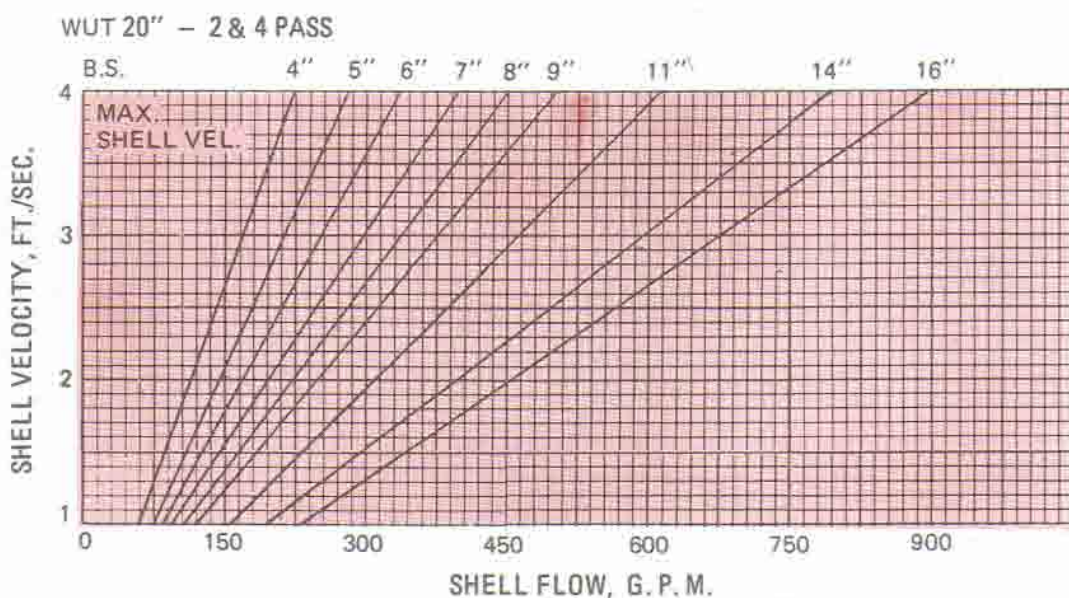
2 PASS	G. P. M. HEATED IN TUBES																									
	200		225		250		275		300		325		350		375		400		450		500		550		600	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT203-2(1)	22.3	19.9	21.3	18.8	20.3	17.9	19.5	17.0	18.8	16.3	18.1	15.6	17.4	15.0	16.9	14.4	16.3	13.9	15.4	12.9	14.6	12.1	13.8	11.5	13.2	10.8
WUT204-2(1)	29.8	26.6	28.4	25.1	27.2	23.9	26.0	22.7	25.0	21.7	24.1	20.8	23.3	20.0	22.5	19.2	21.8	18.5	20.5	17.3	19.4	16.2	18.5	15.3	17.6	14.5
WUT205-2(1)	37.3	33.3	35.5	31.4	34.0	29.8	32.6	28.4	31.3	27.2	30.2	26.0	29.1	25.0	28.2	24.0	27.3	23.2	25.7	21.6	24.3	20.3	23.1	19.1	22.0	18.1
WUT206-2(1)	44.7	39.8	42.6	37.7	40.7	35.7	39.0	34.0	37.5	32.5	36.1	31.2	34.9	29.9	33.7	28.8	32.7	27.7	30.8	25.9	29.1	24.3	27.7	22.9	26.3	21.7
WUT207-2(1)	52.2	46.5	49.7	44.0	47.5	41.7	45.6	39.7	43.8	38.0	42.2	36.4	40.7	34.9	39.4	33.6	38.2	32.4	35.9	30.2	34.0	28.4	32.3	26.7	30.8	25.3
WUT208-2(1)	59.5	53.1	56.7	50.2	54.2	47.6	52.0	45.4	50.0	43.3	48.2	41.5	46.5	39.9	45.0	38.4	43.6	37.0	41.0	34.5	38.8	32.4	36.8	30.5	35.1	28.9
WUT209-2(1)	67.0	59.8	63.9	56.5	61.0	53.6	58.5	51.1	56.3	48.8	54.2	46.7	52.3	44.9	50.6	43.2	49.0	41.6	46.2	38.8	43.7	36.4	41.5	34.4	39.5	32.5
WUT210-2(1)	74.5	66.4	71.0	62.8	67.9	59.6	65.1	56.8	62.6	54.2	60.3	52.0	58.2	49.9	56.3	48.0	54.5	46.3	51.3	43.2	48.6	40.5	46.1	38.2	43.9	36.1
2-P.T.V.	1.1 ft./sec.		1.2		1.4		1.6		1.7		1.8		1.9		2.1		2.2		2.4		2.7		3.0		3.3	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION
FACTORS ADJUSTING FOR
AVERAGE WATER
TEMPERATURE.

400		450		500		550		600		650	
A	B	A	B	A	B	A	B	A	B	A	B
21.9	17.6	20.4	16.2	19.1	15.0	17.9	14.0	16.9	13.2	16.0	12.4
2.0	2.0	2.4	2.4	3.0	3.0	3.4	3.4	3.8	3.8	4.5	4.5
29.3	23.5	27.2	21.6	25.4	20.1	23.9	18.7	22.5	17.5	21.3	16.5
2.5	2.5	3.1	3.1	3.7	3.7	4.3	4.3	5.0	5.0	5.7	5.7
36.6	29.4	34.0	27.0	31.8	25.1	29.8	23.4	28.1	21.9	26.6	20.6
3.0	3.0	3.7	3.7	5.0	5.0	5.3	5.3	6.0	6.0	7.0	7.0
43.9	35.2	40.8	32.5	38.1	30.1	35.8	28.1	33.8	26.3	32.0	24.8
3.6	3.6	4.4	4.4	5.2	5.2	6.2	6.2	7.4	7.4	8.0	8.0
51.1	41.0	47.5	37.8	44.4	35.0	41.7	32.7	39.3	30.6	37.2	28.8
3.7	3.7	5.1	5.1	6.0	6.0	7.1	7.1	7.7	7.7	9.7	9.7
58.4	46.9	54.3	43.2	50.7	40.0	47.6	37.4	44.9	35.0	42.5	33.0
4.5	4.5	5.8	5.8	7.0	7.0	8.2	8.2	9.6	9.6	10.6	10.6
65.7	52.8	61.1	48.6	57.1	45.1	53.6	42.0	50.6	39.4	47.9	37.1
5.0	5.0	6.4	6.4	7.8	7.8	9.0	9.0	10.6	10.6	12.0	12.0
73.0	58.6	67.9	54.0	63.4	50.1	59.6	46.7	56.2	43.8	53.2	41.2
5.7	5.7	7.1	7.1	8.5	8.5	10.0	10.0	11.8	11.8	13.6	13.6
4.5		5.0		5.6		6.1		6.6		7.1	

550		700		750		800		850		900		950		1000		1050		1100		1150		1200		1300		1400	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
12.6	10.3	12.1	9.8	11.6	9.4	11.1	9.0	10.7	8.6	10.3	8.3	10.0	7.9	9.7	7.7	9.4	7.4	9.1	7.1	8.8	6.9	8.6	6.7	8.1	6.3	7.7	6.0
1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
16.8	13.7	16.1	13.1	15.4	12.5	14.9	12.0	14.3	11.5	13.8	11.0	13.3	10.6	12.9	10.2	12.5	9.9	12.1	9.5	11.8	9.2	11.5	8.9	10.8	8.4	10.3	8.0
1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9
21.0	17.2	20.1	16.4	19.3	15.6	18.6	15.0	17.9	14.3	17.3	13.8	16.7	13.3	16.2	12.8	15.7	12.3	15.2	11.9	14.7	11.5	14.3	11.2	13.6	10.5	12.9	10.0
1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2
25.2	20.6	24.1	19.6	23.1	18.7	22.3	17.9	21.4	17.2	20.7	16.5	20.0	15.9	19.4	15.3	18.7	14.8	18.2	14.3	17.7	13.8	17.2	13.4	16.3	12.6	15.4	11.9
2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4
29.4	24.0	28.1	22.9	27.0	21.9	26.0	20.9	25.0	20.1	24.2	19.3	23.3	18.5	22.6	17.9	21.9	17.3	21.2	16.7	20.6	16.1	20.0	15.6	19.0	14.7	18.0	13.9
2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6
33.5	27.4	32.1	26.1	30.8	24.9	29.7	23.9	28.6	22.9	27.6	22.0	26.6	21.2	25.8	20.4	25.0	19.7	24.2	19.0	23.5	18.4	22.9	17.9	21.7	16.8	20.6	15.9
2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8
37.8	30.9	36.2	29.4	34.7	28.1	33.4	26.9	32.2	25.8	31.0	24.8	30.0	23.8	29.0	23.0	28.1	22.2	27.3	21.4	26.5	20.7	25.7	20.1	24.4	18.9	23.2	17.9
2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9
42.0	34.3	40.2	32.7	38.6	31.2	37.1	29.9	35.8	28.6	34.5	27.5	33.3	26.5	32.3	25.5	31.3	24.7	30.3	23.8	29.4	23.1	28.6	22.3	27.1	21.0	25.7	19.9
2.7	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0	4.0
3.6		3.8		4.1		4.4		4.6		4.9		5.2		5.5		5.7		5.9		6.2		6.5		7.0		7.5	



* Require Fabricated Steel heads. Consult Factory for Dimensions.

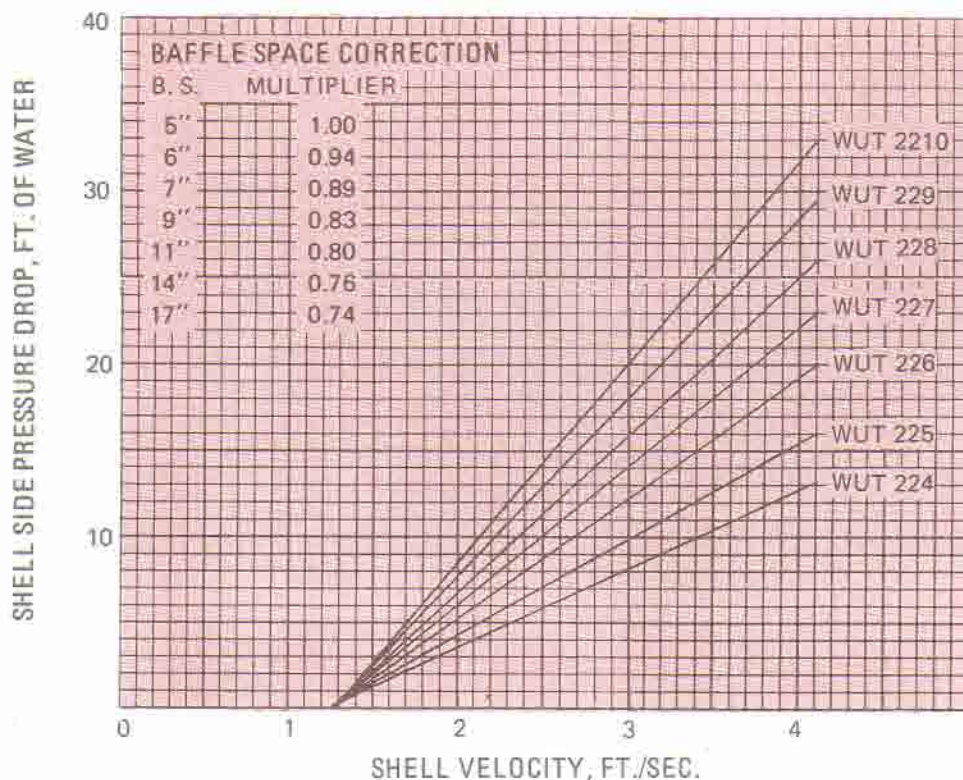
NOTE: Check Mechanical Design Limitations, Page 7.

22" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE	5"	6"	7"	9"	11"	14"	17"
Shell Flow	A	235-315	316-370	371-435	436-500	501-550	551-690	691-1070
In O, P, M	B	115-234	235-315	316-370	371-435	436-550	551-690	691-880

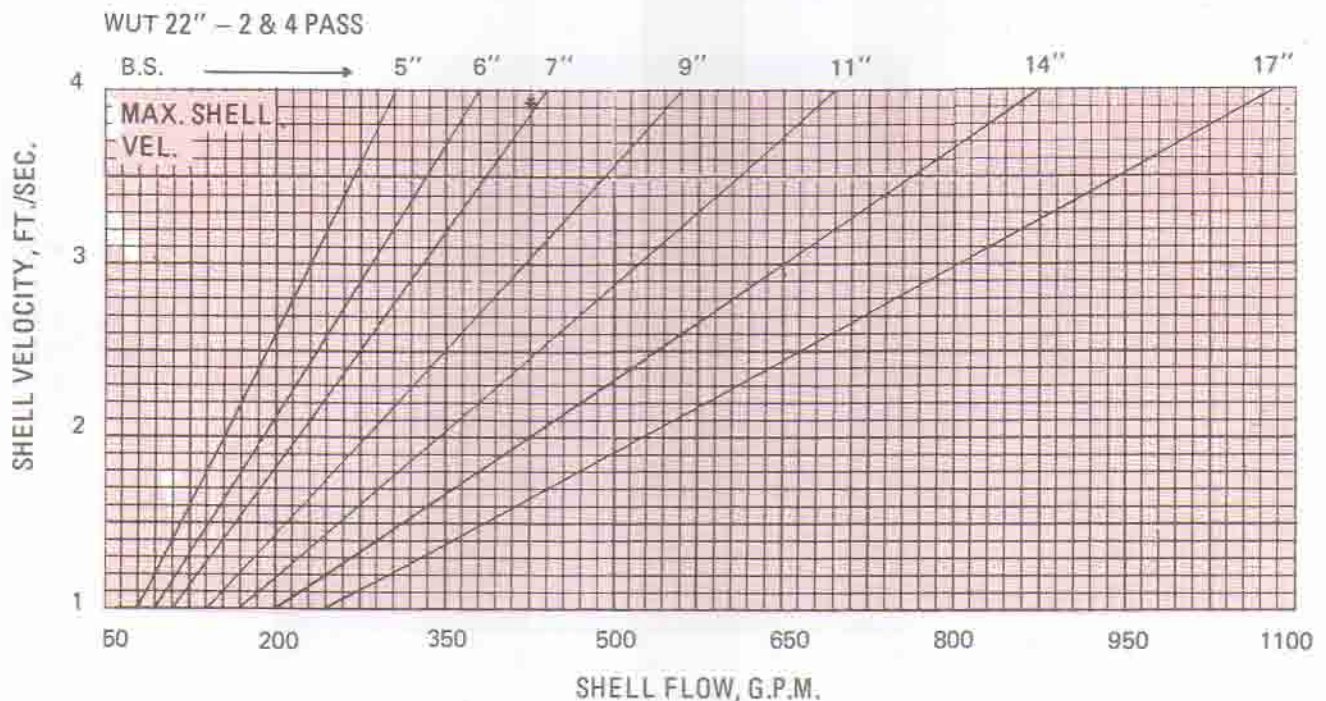
1 PASS	G. P. M. HEATED IN TUBES																			
	150		200		250		300		350		400		450		500		550		600	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT 224-4()	57.5	50.4	50.4	43.3	45.2	38.1	41.0	34.2	37.7	31.0	34.9	28.5	32.6	26.3	30.5	24.5	28.8	22.9	27.2	21.5
WUT 225-4()	70.9	62.2	62.2	53.4	55.7	47.1	50.6	42.2	46.5	38.3	43.1	35.1	40.2	32.5	37.7	30.2	35.5	28.2	33.6	26.5
WUT 226-4()	84.4	74.0	74.0	63.6	66.3	56.0	60.2	50.2	55.3	45.6	51.3	41.8	47.8	38.6	44.8	35.9	42.2	33.6	39.9	31.6
WUT 227-4()	98.0	85.9	85.9	73.8	77.0	65.0	70.0	58.3	64.3	52.9	59.5	48.5	55.5	44.8	52.1	41.7	49.0	39.0	46.4	36.7
WUT 228-4()	111.4	97.7	97.7	83.9	87.5	73.9	79.6	66.3	73.1	60.2	67.7	55.2	63.1	51.0	59.2	47.4	55.8	44.4	52.7	41.7
WUT 229-4()	124.8	109.5	109.5	94.1	98.1	82.9	89.1	74.3	81.9	67.4	75.9	61.8	70.8	57.1	66.3	53.1	62.5	49.7	59.1	46.7
WUT 2210-4()	138.3	121.3	121.3	104.2	108.6	91.8	98.7	82.3	90.7	74.7	84.0	68.5	78.4	63.3	73.5	58.9	69.2	55.1	65.5	51.7
4-P T.V.	1.4 ft./sec.		1.8		2.3		2.7		3.2		3.6		4.1		4.5		5.0		5.5	

2 PASS	G. P. M. HEATED IN TUBES																			
	300		350		400		450		500		550		600		650		700		750	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT 224-2()	29.0	25.5	27.1	23.6	25.5	21.9	24.1	20.5	22.8	19.3	21.8	18.3	20.8	17.3	19.9	16.5	19.1	15.8	18.4	15.1
WUT 225-2()	35.8	31.5	33.5	29.1	31.4	27.1	29.7	25.4	28.2	23.9	26.8	22.6	25.6	21.4	24.6	20.4	23.6	19.4	22.7	18.6
WUT 226-2()	42.6	37.4	39.8	34.6	37.4	32.2	35.4	30.2	33.5	28.4	31.9	26.8	30.5	25.5	29.2	24.2	28.0	23.1	27.0	22.1
WUT 227-2()	49.5	43.5	46.2	40.2	43.5	37.4	41.1	35.0	39.0	33.0	37.1	31.2	35.4	29.6	33.9	28.2	32.6	26.9	31.3	25.7
WUT 228-2()	56.2	49.4	52.5	45.6	49.4	42.5	46.6	39.8	44.2	37.5	42.1	35.4	40.2	33.6	38.5	32.0	37.0	30.5	35.6	29.2
WUT 229-2()	63.1	55.4	58.9	51.2	55.4	47.7	52.3	44.7	49.7	42.0	47.3	39.7	45.2	37.7	43.3	35.9	41.5	34.3	39.9	32.8
WUT 2210-2()	70.0	61.5	65.4	56.8	61.4	52.9	58.1	49.5	55.1	46.6	52.5	44.1	50.1	41.8	48.0	39.8	46.1	38.0	44.3	36.4
2-P T.V.	1.4 ft./sec.		1.6		1.8		2.0		2.2		2.4		2.6		2.9		3.1		3.3	



700		750		800	
A	B	A	B	A	B
24.6	19.2	23.5	18.2	22.4	17.4
4.1	4.1	4.7	4.7	5.3	5.3
30.3	23.7	28.9	22.5	27.7	21.4
5.3	5.3	5.9	5.9	6.7	6.7
36.1	28.2	34.4	26.8	32.9	25.5
6.4	6.4	7.2	7.2	8.0	8.0
41.9	32.7	40.0	31.1	38.2	29.6
7.5	7.5	8.4	8.4	9.4	9.4
47.6	37.2	45.5	35.4	43.5	33.7
8.6	8.6	9.7	9.7	10.8	10.8
53.4	41.7	51.0	39.6	48.7	37.7
9.7	9.7	10.9	10.9	12.2	12.2
59.1	46.2	56.4	43.9	54.0	41.8
10.7	10.7	12.1	12.1	13.6	13.6
6.4		6.8		7.3	

850		900		950		1000		1050		1100		1150		1200		1300		1400		1500		1600		1700	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
17.1	13.9	16.5	13.4	16.0	12.9	15.5	12.4	15.0	12.0	14.6	11.6	14.2	11.3	13.8	10.9	13.1	10.3	12.5	9.8	11.9	9.3	11.4	8.8	10.9	8.4
1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
21.1	17.1	20.4	16.5	19.7	15.9	19.1	15.3	18.6	14.8	18.0	14.4	17.5	13.9	17.1	13.5	16.2	12.7	15.4	12.1	14.7	11.5	14.1	10.9	13.5	10.4
1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
25.1	20.4	24.3	19.6	23.5	18.9	22.8	18.3	22.1	17.7	21.4	17.1	20.8	16.6	20.3	16.1	19.3	15.2	18.3	14.4	17.5	13.6	16.7	13.0	16.1	12.4
1.2	1.2	1.4	1.4	1.5	1.5	1.6	1.6	1.8	1.8	2.0	2.0	2.1	2.1	2.3	2.3	2.6	2.6	3.0	3.0	3.4	3.4	3.8	3.8	4.2	4.2
29.1	23.7	28.2	22.8	27.3	22.0	26.4	21.2	25.6	20.5	24.9	19.8	24.2	19.2	23.6	18.7	22.4	17.6	21.3	16.7	20.3	15.8	19.5	15.1	18.7	14.4
1.5	1.5	1.6	1.6	1.8	1.8	1.9	1.9	2.0	2.0	2.3	2.3	2.5	2.5	2.7	2.7	3.1	3.1	3.5	3.5	4.0	4.0	4.4	4.4	5.0	5.0
33.1	26.9	32.0	25.9	31.0	25.0	30.0	24.1	29.1	23.3	28.3	22.5	27.5	21.8	26.8	21.2	25.4	20.0	24.2	18.9	23.1	18.0	22.1	17.1	21.2	16.4
1.7	1.7	1.8	1.8	2.0	2.0	2.2	2.2	2.4	2.4	2.6	2.6	2.8	2.8	3.1	3.1	3.5	3.5	4.0	4.0	4.6	4.6	5.1	5.1	5.7	5.7
37.2	30.2	35.9	29.1	34.8	28.0	33.7	27.0	32.7	26.1	31.7	25.3	30.9	24.5	30.0	23.8	28.5	22.4	27.1	21.2	25.9	20.2	24.8	19.2	23.8	18.4
1.9	1.9	2.1	2.1	2.3	2.3	2.5	2.5	2.8	2.8	3.0	3.0	3.2	3.2	3.5	3.5	4.0	4.0	4.5	4.5	5.1	5.1	5.8	5.8	6.4	6.4
41.2	33.5	39.8	32.2	38.6	31.1	37.4	30.0	36.3	29.0	35.2	28.1	34.2	27.2	33.3	26.4	31.6	24.9	30.1	23.6	28.7	22.4	27.5	21.3	26.4	20.4
2.1	2.1	2.3	2.3	2.5	2.5	2.8	2.8	3.0	3.0	3.3	3.3	3.6	3.6	3.9	3.9	4.4	4.4	5.1	5.1	5.7	5.7	6.4	6.4	7.2	7.2
3.7		4.0		4.2		4.4		4.6		4.8		5.1		5.3		5.7		6.2		6.6		7.0		7.5	



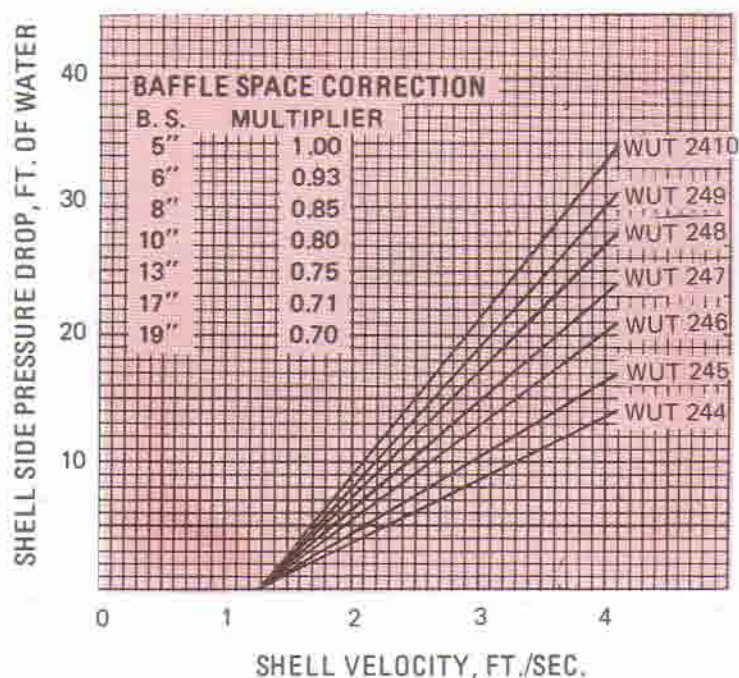
NOTE: Check Mechanical Design Limitations, Page 7.

24" WUTHEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		5"	6"	8"	10"	13"	17"	19"
	Shell Flow	A	259-345	346-415	416-553	554-691	692-899	900-1175	1176-1315
	in G. P. M.	B	130-258	259-345	346-415	416-553	554-691	692-899	900-1175

4 PASS	G. P. M. HEATED IN TUBES																					
	150		200		250		300		350		400		450		500		550		600		650	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT244-4()	60.5	53.8	53.5	46.6	48.2	41.4	44.1	37.3	40.7	34.0	37.9	31.4	35.5	29.1	33.4	27.1	31.5	25.5	29.9	24.0	28.4	22.7
WUT245-4()	75.3	66.9	66.5	58.0	60.0	51.5	54.9	46.4	50.6	42.4	47.1	39.0	44.1	36.2	41.5	33.8	39.2	31.7	37.2	29.8	35.4	28.2
WUT246-4()	89.9	79.9	79.5	69.3	71.7	61.5	65.8	55.4	60.5	50.6	56.3	46.6	52.7	43.2	49.6	40.3	46.8	37.8	44.4	35.6	42.3	33.7
WUT247-4()	104.7	93.1	92.5	80.7	83.4	71.6	76.3	64.5	70.4	58.9	65.5	54.2	61.3	50.3	57.7	47.0	54.5	44.0	51.7	41.5	49.2	39.2
WUT248-4()	119.3	106.1	105.5	91.9	95.1	81.6	86.9	73.6	80.2	67.1	74.7	61.8	69.9	57.3	65.8	53.5	62.1	50.2	58.9	47.3	56.1	44.7
WUT249-4()	134.1	119.2	118.5	103.3	106.9	91.7	97.7	82.7	90.2	75.4	83.9	69.5	78.6	64.4	73.9	60.1	69.8	56.4	66.2	53.1	63.0	50.3
WUT2410-4()	148.7	132.2	131.4	114.6	118.5	101.7	108.3	91.7	100.0	83.7	93.1	77.0	87.1	71.5	82.0	66.7	77.5	62.6	73.5	58.9	69.9	55.7
4-P.T.V.	1.1 ft./sec.		1.7		1.9		2.2		2.6		3.0		3.3		3.7		4.1		4.5		4.8	

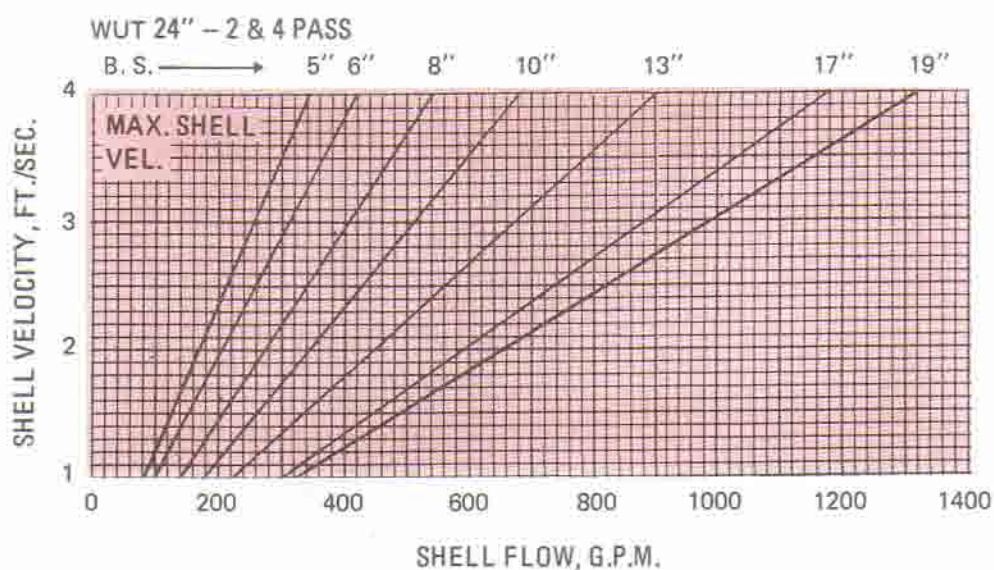
2 PASS	G. P. M. HEATED IN TUBES																					
	400		450		500		550		600		650		700		750		800		850		900	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT244-2()	27.0	23.6	25.6	22.2	24.4	20.9	23.3	19.9	22.3	18.9	21.4	18.0	20.6	17.2	19.8	16.5	19.2	15.9	18.5	15.3	17.9	14.8
WUT245-2()	33.6	29.3	31.8	27.6	30.3	26.0	28.9	24.7	27.7	23.5	26.6	22.4	25.6	21.5	24.7	20.6	23.8	19.8	23.0	19.0	22.3	18.3
WUT246-2()	40.2	35.1	38.1	33.0	36.2	31.1	34.6	29.5	33.1	28.1	31.8	26.8	30.6	25.7	29.5	24.6	28.5	23.6	27.6	22.8	26.7	21.9
WUT247-2()	46.7	40.8	44.2	38.3	42.1	36.2	40.2	34.3	38.5	32.7	37.0	31.2	35.6	29.8	34.3	28.6	33.1	27.5	32.0	26.4	31.0	25.5
WUT248-2()	53.2	46.5	50.5	43.7	48.0	41.3	45.9	39.2	43.9	37.3	42.2	35.6	40.6	34.0	39.1	32.6	37.8	31.3	36.5	30.2	35.4	29.1
WUT249-2()	59.8	52.2	56.7	49.1	54.0	46.4	51.6	44.0	49.4	41.9	47.4	40.0	45.6	38.2	44.0	36.7	42.5	35.2	41.1	33.9	39.8	32.7
WUT2410-2()	66.4	58.0	62.9	54.5	59.9	51.5	57.2	48.8	54.8	46.5	52.6	44.3	50.6	42.4	48.8	40.7	47.1	39.1	45.6	37.6	44.1	36.3
2-P.T.V.	1.5 ft./sec.		1.7		1.8		2.0		2.2		2.4		2.6		2.8		2.9		3.1		3.3	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.

700		750		800		850		900		950		1000	
A	B	A	B	A	B	A	B	A	B	A	B	A	B
27.1	21.5	26.0	20.6	24.9	19.5	23.9	18.7	23.0	17.9	22.2	17.2	21.4	16.5
2.7	2.7	3.1	3.1	3.5	3.5	3.9	3.9	4.3	4.3	4.7	4.7	5.2	5.2
33.8	26.8	32.3	25.5	31.0	24.3	29.7	23.2	28.6	22.3	27.6	21.4	26.6	20.6
3.5	3.5	4.0	4.0	4.4	4.4	4.9	4.9	5.5	5.5	6.0	6.0	6.5	6.5
40.3	32.0	38.6	30.4	37.0	29.0	35.5	27.8	34.2	26.6	32.9	25.5	31.8	24.6
4.3	4.3	4.8	4.8	5.4	5.4	6.0	6.0	6.7	6.7	7.3	7.3	8.0	8.0
46.9	37.2	44.9	35.4	43.0	33.8	41.3	32.3	39.8	31.0	38.3	29.7	37.0	28.6
5.0	5.0	5.7	5.7	6.4	6.4	7.1	7.1	7.8	7.8	8.6	8.6	9.4	9.4
53.5	42.4	51.2	40.4	49.1	38.5	47.1	36.8	45.3	35.3	43.7	33.9	42.2	32.6
5.8	5.8	6.5	6.5	7.3	7.3	8.2	8.2	9.0	9.0	9.9	9.9	10.4	10.4
60.1	47.7	57.5	45.4	55.1	43.3	52.9	41.4	50.9	39.7	49.1	38.1	47.4	36.6
6.5	6.5	7.4	7.4	8.3	8.3	9.2	9.2	10.2	10.2	11.2	11.2	12.2	12.2
66.7	52.9	63.8	50.3	61.1	48.0	58.7	45.9	56.5	44.0	54.4	42.2	52.5	40.6
7.3	7.3	8.2	8.2	9.2	9.2	10.3	10.3	11.4	11.4	12.5	12.5	13.6	13.6
5.2		5.6		5.9		6.3		6.8		7.1		7.4	

950		1000		1100		1200		1300		1400		1500		1600		1700		1800		1900		2000	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
17.4	14.2	16.9	13.8	16.0	12.9	15.2	12.2	14.4	11.5	13.8	10.9	13.2	10.4	12.6	9.9	12.1	9.5	11.7	9.1	11.2	8.7	10.9	8.4
						1.0	1.0	1.1	1.1	1.3	1.3	1.5	1.5	1.7	1.7	1.8	1.8	2.0	2.0	2.3	2.3	2.5	2.5
21.6	17.7	21.0	17.1	19.9	16.1	18.8	15.1	17.9	14.3	17.1	13.6	16.4	12.9	15.7	12.4	15.1	11.8	14.5	11.3	14.0	10.9	13.5	10.5
				1.1	1.1	1.3	1.3	1.5	1.5	1.7	1.7	1.9	1.9	2.1	2.1	2.4	2.4	2.6	2.6	2.9	2.9	3.2	3.2
25.9	21.2	25.1	20.5	23.8	19.2	22.5	18.1	21.4	17.1	20.5	16.3	19.6	15.5	18.8	14.8	18.0	14.1	17.4	13.5	16.7	13.0	16.2	12.5
	1.0	1.1	1.1	1.3	1.3	1.6	1.6	1.8	1.8	2.0	2.0	2.3	2.3	2.6	2.6	2.9	2.9	3.2	3.2	3.5	3.5	3.8	3.8
30.1	24.6	29.2	23.8	27.6	22.3	26.2	21.1	24.9	19.9	23.8	18.9	22.8	18.0	21.8	17.2	21.0	16.4	20.2	15.7	19.4	15.1	18.8	14.5
	1.2	1.3	1.3	1.6	1.6	1.8	1.8	2.1	2.1	2.4	2.4	2.7	2.7	3.0	3.0	3.4	3.4	3.7	3.7	4.1	4.1	4.5	4.5
34.3	28.1	33.3	27.2	31.5	25.5	29.9	24.0	28.4	22.7	27.1	21.6	26.0	20.5	24.9	19.6	23.9	18.7	23.0	18.0	22.2	17.2	21.4	16.6
	1.4	1.5	1.5	1.8	1.8	2.1	2.1	2.4	2.4	2.8	2.8	3.1	3.1	3.5	3.5	3.9	3.9	4.3	4.3	4.7	4.7	5.2	5.2
38.6	31.6	37.4	30.5	35.4	28.6	33.6	27.0	32.0	25.5	30.5	24.2	29.2	23.1	28.0	22.0	26.9	21.0	25.9	20.2	24.9	19.4	24.1	18.6
	1.6	1.7	1.7	2.0	2.0	2.4	2.4	2.7	2.7	3.1	3.1	3.5	3.5	4.0	4.0	4.4	4.4	4.9	4.9	5.4	5.4	5.9	5.9
42.8	35.0	41.5	33.9	39.3	31.8	37.3	30.0	35.5	28.3	33.8	26.9	32.4	25.6	31.0	24.4	29.8	23.4	28.7	22.4	27.7	21.5	26.7	20.7
	1.8	1.9	1.9	2.3	2.3	2.7	2.7	3.1	3.1	3.5	3.5	3.9	3.9	4.4	4.4	4.9	4.9	5.4	5.4	6.0	6.0	6.6	6.6
3.5		3.7		4.0		4.3		4.7		5.1		5.4		5.8		6.2		6.5		6.8		7.3	



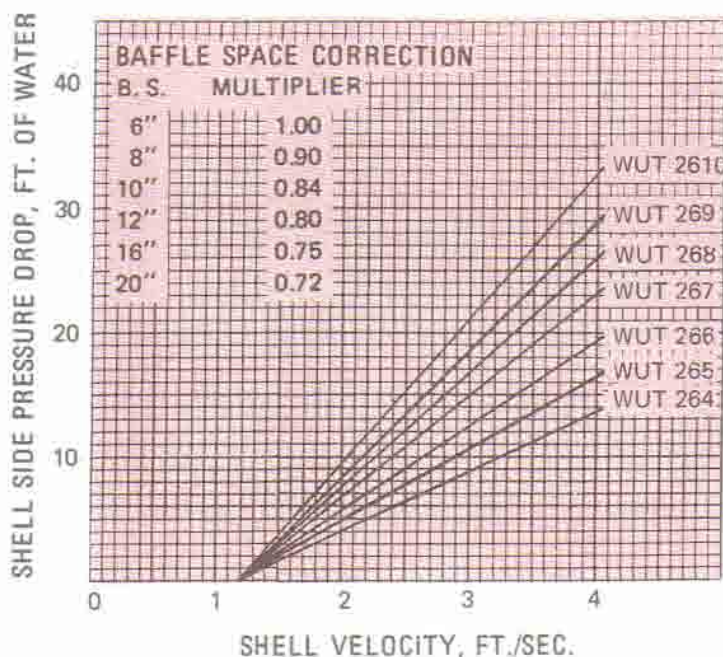
NOTE: Check Mechanical Design Limitations, Page 7.

26 WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		6"	8"	10"	12"	16"	20"
	Shell Flow	A	339-451	452-602	603-753	754-903	904-1205	1206-1500
	In G. P. M.	B	170-338	339-451	452-602	603-753	754-903	904-1205

4 PASS	G. P. M. HEATED IN TUBES																			
	200		250		300		350		400		450		500		550		600		650	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT264-4()	60.5	53.3	54.8	47.5	50.3	43.1	46.6	39.4	43.5	36.4	40.8	33.9	38.5	31.7	36.5	29.8	34.7	28.2	33.1	26.7
WUT265-4()	74.5	65.6	67.5	58.6	61.9	53.0	57.4	48.6	53.6	44.9	50.3	41.8	47.4	39.1	44.9	36.7	42.7	34.7	40.7	32.9
WUT266-4()	88.4	77.9	80.1	69.5	73.5	62.9	68.1	57.6	63.5	53.2	59.7	49.5	56.3	46.3	53.3	43.6	50.7	41.1	48.3	39.0
WUT267-4()	102.2	90.1	92.6	80.4	85.0	72.8	78.8	66.7	73.5	61.6	69.0	57.3	65.1	53.6	61.7	50.4	58.6	47.6	55.9	45.1
WUT268-4()	116.1	102.3	105.2	91.3	96.6	82.7	89.5	75.7	83.5	70.0	78.4	65.1	74.0	60.9	70.1	57.3	66.6	54.1	63.5	51.2
WUT269-4()	130.0	114.6	117.8	102.2	108.1	92.6	100.2	84.8	93.5	78.3	87.8	72.9	82.8	68.2	78.4	64.1	74.5	60.5	71.1	57.3
WUT2610-4()	143.9	126.8	130.3	113.1	119.6	102.4	110.9	93.8	103.5	86.7	97.1	80.6	91.6	75.5	86.8	71.0	82.5	67.0	78.7	63.5
4-P.T.V.	1.3 ft./sec.		1.6		1.9		2.3		2.6		2.9		3.2		3.6		3.9		4.2	

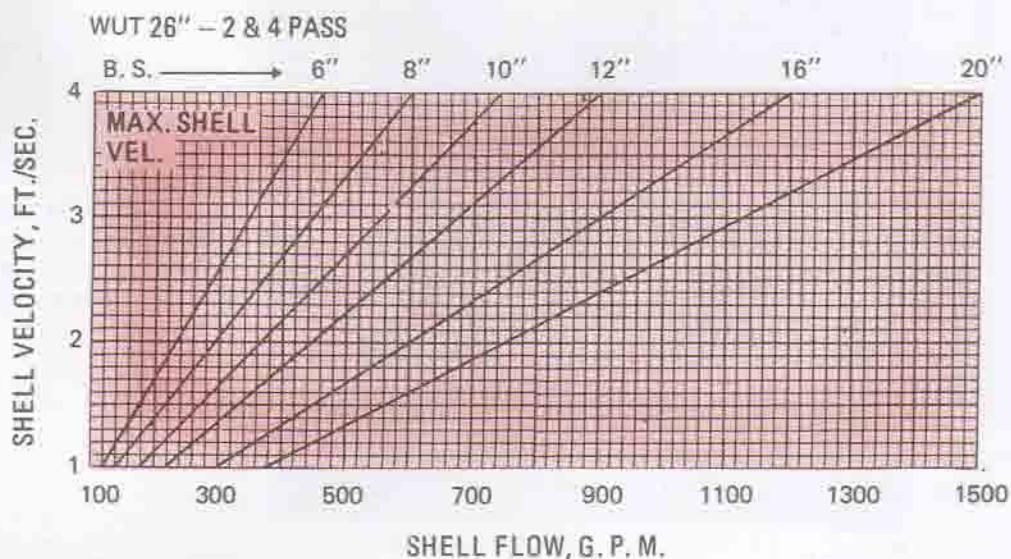
2 PASS	G. P. M. HEATED IN TUBES																			
	400		500		600		700		800		900		1000		1100		1200		1300	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT264-2()	30.6	27.0	27.8	24.1	25.5	21.9	23.6	20.0	22.1	18.5	20.7	17.3	19.6	16.1	18.5	15.2	17.6	14.3	16.8	13.6
WUT265-2()	37.6	33.2	34.1	29.7	31.4	26.9	29.1	24.7	27.1	22.8	25.5	21.2	24.1	19.9	22.8	18.7	21.7	17.6	20.7	16.7
WUT266-2()	44.7	39.4	40.5	35.2	37.2	31.9	34.5	29.3	32.2	27.0	30.3	25.2	28.6	23.6	27.1	22.2	25.7	20.9	24.5	19.8
WUT267-2()	51.6	45.6	46.8	40.7	43.0	36.9	39.9	33.8	37.2	31.3	35.0	29.1	33.0	27.2	31.3	25.6	29.7	24.2	28.4	22.9
WUT268-2()	58.7	51.8	53.2	46.2	48.9	41.9	45.3	38.4	42.3	35.5	39.7	33.1	37.5	30.9	35.5	29.1	33.8	27.5	32.2	26.0
WUT269-2()	65.7	58.0	59.6	51.8	54.7	46.9	50.7	43.0	47.4	39.8	44.5	37.0	42.0	34.6	39.8	32.6	37.8	30.8	36.1	29.2
WUT2610-2()	72.7	64.2	65.9	57.3	60.6	52.0	56.2	47.6	52.4	44.0	49.3	41.0	46.5	38.4	44.0	36.1	41.9	34.1	39.9	32.3
2-P.T.V.	1.3 ft./sec.		1.6		1.9		2.2		2.5		2.8		3.1		3.5		3.8		4.1	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.

700		750		800		850		900		950		1000		1100	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
31.6	25.4	30.3	24.2	29.1	23.1	28.0	22.1	26.9	21.2	26.0	20.4	25.1	19.6	23.5	18.3
2.1	2.1	2.4	2.4	2.7	2.7	3.0	3.0	3.4	3.4	3.7	3.7	4.0	4.0	4.8	4.8
38.9	31.2	37.3	29.8	35.8	28.4	34.4	27.2	33.2	26.1	32.0	25.1	30.9	24.2	29.0	22.5
2.7	2.7	3.1	3.1	3.5	3.5	3.8	3.8	4.3	4.3	4.7	4.7	5.1	5.1	6.1	6.1
46.2	37.1	44.2	35.3	42.5	33.7	40.9	32.3	39.4	31.0	38.0	29.8	36.7	28.7	34.4	26.7
3.8	3.3	3.7	3.7	4.2	4.2	4.7	4.7	5.2	5.2	5.7	5.7	6.2	6.2	7.4	7.4
53.4	42.9	51.2	40.9	49.1	39.0	47.3	37.4	45.5	35.9	43.9	34.5	42.5	33.2	39.8	30.9
3.9	3.9	4.4	4.4	4.9	4.9	5.5	5.5	6.1	6.1	6.7	6.7	7.3	7.3	8.6	8.6
60.7	48.7	58.1	46.4	55.8	44.3	53.7	42.5	51.7	40.7	49.9	39.1	48.2	37.7	45.2	35.1
4.5	4.5	5.0	5.0	5.6	5.6	6.3	6.3	7.0	7.0	7.7	7.7	8.4	8.4	9.9	9.9
67.9	54.5	65.1	51.9	62.5	49.6	60.1	47.5	57.9	45.6	55.9	43.8	54.0	42.2	50.6	39.3
5.0	5.0	5.7	5.7	6.4	6.4	7.1	7.1	7.9	7.9	8.6	8.6	9.5	9.5	11.2	11.2
75.2	60.3	72.0	57.5	69.2	54.9	66.5	52.6	64.1	50.5	61.8	48.5	59.8	46.7	56.0	43.5
5.6	5.6	6.3	6.3	7.1	7.1	7.9	7.9	8.7	8.7	9.6	9.6	10.5	10.5	12.5	12.5
4.5		4.9		5.2		5.5		5.8		6.1		6.4		7.0	

1400		1500		1600		1700		1800		1900		2000		2100		2200		2300	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
16.1	12.9	15.4	12.3	14.8	11.8	14.2	11.3	13.7	10.8	13.2	10.4	12.8	10.0	12.4	9.7	12.0	9.3	11.6	9.0
1.0	1.0	1.2	1.2	1.3	1.3	1.5	1.5	1.6	1.6	1.8	1.8	1.9	1.9	2.1	2.1	2.3	2.3	2.5	2.5
19.8	15.9	18.9	15.2	18.2	14.5	17.5	13.9	16.9	13.3	16.3	12.8	15.7	12.3	15.2	11.9	14.8	11.5	14.3	11.1
1.3	1.3	1.5	1.5	1.7	1.7	1.8	1.8	2.0	2.0	2.2	2.2	2.5	2.5	2.7	2.7	2.9	2.9	3.1	3.1
23.5	18.9	22.5	18.0	21.6	17.2	20.8	16.5	20.0	15.8	19.3	15.2	18.7	14.6	18.1	14.1	17.5	13.6	17.0	13.2
1.6	1.6	1.8	1.8	2.0	2.0	2.2	2.2	2.5	2.5	2.7	2.7	3.0	3.0	3.2	3.2	3.5	3.5	3.8	3.8
27.1	21.8	26.0	20.8	25.0	19.9	24.0	19.0	23.1	18.3	22.3	17.5	21.6	16.9	20.9	16.3	20.2	15.7	19.6	15.2
1.9	1.9	2.1	2.1	2.3	2.3	2.6	2.6	2.9	2.9	3.2	3.2	3.5	3.5	3.8	3.8	4.1	4.1	4.5	4.5
30.8	24.8	29.5	23.6	28.4	22.6	27.3	21.6	26.3	20.7	25.4	19.9	24.5	19.2	23.7	18.5	23.0	17.9	22.3	17.3
2.1	2.1	2.4	2.4	2.7	2.7	3.0	3.0	3.3	3.3	3.7	3.7	4.0	4.0	4.4	4.4	4.7	4.7	5.1	5.1
34.5	27.7	33.1	26.4	31.7	25.3	30.5	24.2	29.4	23.2	28.4	22.3	27.5	21.5	26.6	20.7	25.7	20.0	25.0	19.4
2.4	2.4	2.7	2.7	3.0	3.0	3.4	3.4	3.8	3.8	4.1	4.1	4.5	4.5	4.9	4.9	5.4	5.4	5.8	5.8
38.2	30.7	36.6	29.3	35.1	28.0	33.8	26.8	32.6	25.7	31.4	24.7	30.4	23.8	29.4	22.9	28.5	22.2	27.6	21.4
2.7	2.7	3.0	3.0	3.4	3.4	3.8	3.8	4.2	4.2	4.6	4.6	5.0	5.0	5.5	5.5	6.0	6.0	6.5	6.5
4.4		4.7		5.0		5.4		5.7		6.0		6.3		6.6		6.9		7.2	



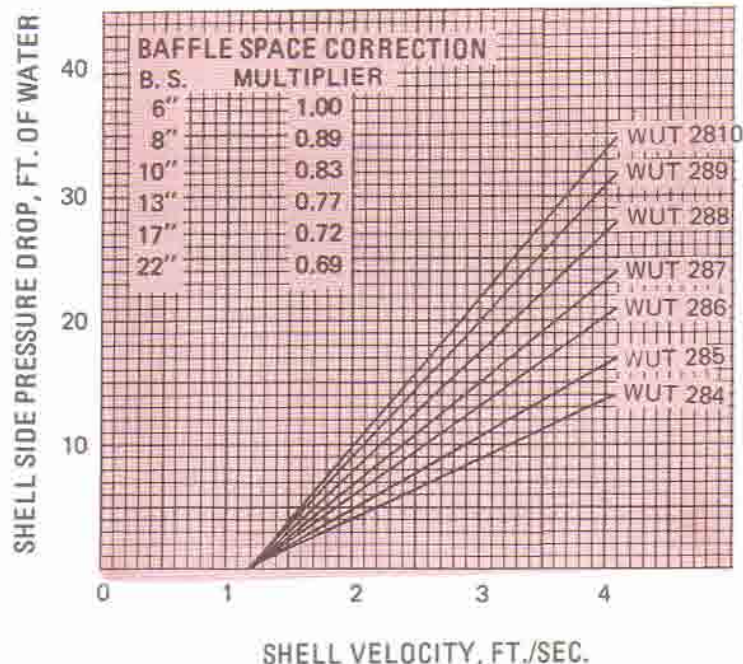
NOTE: Check Mechanical Design Limitations, Page 7.

28"WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		6"	8"	10"	13"	17"	22"
	Shell Flow	A	367-488	489-651	652-814	815-1058	1059-1383	1384-1790
	In G. P. M.	B	183-366	367-488	489-651	652-814	815-1058	1059-1383

4 PASS	G. P. M. HEATED IN TUBES																			
	250		300		350		400		450		500		550		600		650		700	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT284-4()	47.2	41.4	43.5	37.7	40.5	34.7	37.9	32.1	35.7	30.0	33.7	28.1	32.0	26.5	30.5	25.1	29.1	23.8	27.9	22.7
WUT285-4()	60.7	53.3	56.0	48.5	52.0	44.6	48.7	41.3	45.9	38.6	43.4	36.2	41.2	34.1	39.3	32.3	37.5	30.6	35.9	29.2
WUT286-4()	74.2	65.2	68.4	59.3	63.6	54.5	59.6	50.5	56.1	47.1	53.1	44.2	50.4	41.7	48.0	39.4	45.8	37.5	43.9	35.7
WUT287-4()	87.8	77.0	80.9	70.1	75.2	64.4	70.4	59.7	66.3	55.7	62.7	52.3	59.6	49.3	56.7	46.6	54.2	44.3	51.9	42.2
WUT288-4()	101.3	88.9	93.3	80.9	86.8	74.3	81.3	68.9	76.5	64.3	72.4	60.3	68.7	56.9	65.5	53.8	62.5	51.1	59.9	48.6
WUT289-4()	114.9	100.8	105.9	91.7	98.5	84.3	92.2	78.2	86.8	73.0	82.1	68.5	78.0	64.5	74.3	61.1	71.0	58.0	67.9	55.2
WUT2910-4()	128.4	112.7	118.4	102.5	110.1	94.3	103.1	87.4	97.0	81.6	91.8	76.5	87.1	72.1	83.0	68.2	79.3	64.8	75.9	61.7
4-P T.V.	1.4 ft./sec.		1.6		1.9		2.2		2.4		2.7		3.0		3.2		3.5		3.8	

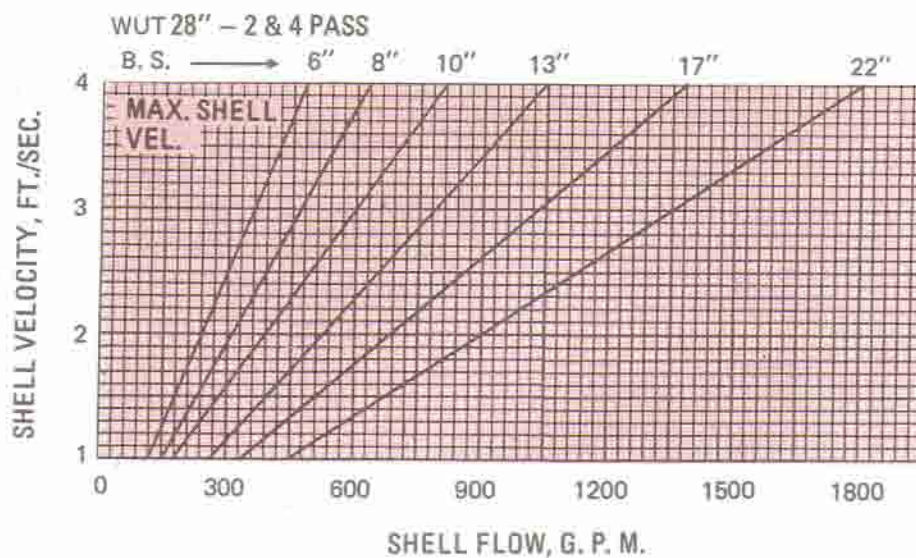
2 PASS	G. P. M. HEATED IN TUBES																			
	500		600		700		800		900		1000		1100		1200		1300		1400	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT284-2()	23.8	20.9	21.9	19.0	20.4	17.5	19.1	16.2	18.0	15.2	17.0	14.2	16.2	13.4	15.4	12.7	14.7	12.4	14.1	11.5
WUT285-2()	30.6	26.9	28.2	24.5	26.3	22.5	24.6	20.9	23.2	19.5	21.9	18.3	20.8	17.3	19.9	16.3	19.0	15.5	18.2	14.8
WUT286-2()	37.4	32.9	34.5	29.9	32.1	27.5	30.1	25.5	28.3	23.8	26.8	22.4	25.4	21.1	24.2	20.0	23.2	19.0	22.2	18.1
WUT287-2()	44.2	38.9	40.8	35.4	38.0	32.6	35.6	30.2	33.5	28.2	31.7	26.5	30.1	24.9	28.7	23.6	27.4	22.4	26.2	21.4
WUT288-2()	51.0	44.8	47.1	40.8	43.8	37.6	41.0	34.8	38.6	32.5	36.5	30.5	34.7	28.8	33.1	27.2	31.6	25.9	30.3	24.6
WUT289-2()	57.9	50.9	53.4	46.3	49.7	42.6	46.5	39.5	43.8	36.9	41.5	34.6	39.4	32.7	37.5	30.9	35.9	29.3	34.4	28.0
WUT2810-2()	64.7	56.9	59.7	51.8	55.5	47.6	52.0	44.2	49.0	41.2	46.3	38.7	44.0	36.5	41.9	34.5	40.1	32.8	38.4	31.2
2-P T.V.	1.3 ft./sec.		1.6		1.8		2.1		2.3		2.6		2.9		3.1		3.4		3.6	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.

750		800		850		900		950		1000		1100		1200		1300		1400	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
26.8	21.6	25.8	20.7	24.8	19.9	23.9	19.1	23.1	18.4	22.4	17.7	21.0	16.5	19.8	15.5	18.8	14.6	17.9	13.8
1.8	1.8	2.0	2.0	2.2	2.2	2.5	2.5	2.7	2.7	3.0	3.0	3.5	3.5	4.1	4.1	4.7	4.7	5.4	5.4
34.5	27.8	33.1	26.6	31.9	25.6	30.8	24.5	29.8	23.8	28.8	22.8	27.1	21.2	25.5	19.9	24.2	18.8	23.0	17.7
2.2	2.2	2.5	2.5	2.8	2.8	3.1	3.1	3.4	3.4	3.7	3.7	4.4	4.4	5.2	5.2	6.0	6.0	6.8	6.8
42.1	34.0	40.5	32.6	39.0	31.2	37.7	30.0	36.4	28.9	35.2	27.8	33.1	26.0	31.2	24.4	29.6	22.9	28.1	21.7
2.7	2.7	3.1	3.1	3.4	3.4	3.8	3.8	4.1	4.1	4.5	4.5	5.4	5.4	6.3	6.3	7.2	7.2	8.2	8.2
49.8	40.2	47.9	38.5	46.1	36.9	44.5	35.5	43.0	34.1	41.6	32.9	39.1	30.7	36.9	28.8	34.9	27.1	33.2	25.6
3.2	3.2	3.6	3.6	4.0	4.0	4.4	4.4	4.9	4.9	5.3	5.3	6.3	6.3	7.4	7.4	8.5	8.5	9.7	9.7
57.5	46.4	55.3	44.4	53.2	42.6	51.4	40.9	49.6	39.4	48.0	38.0	45.1	35.4	42.6	33.2	40.3	31.3	38.3	29.6
3.7	3.7	4.1	4.1	4.6	4.6	5.1	5.1	5.6	5.6	6.1	6.1	7.2	7.2	8.5	8.5	9.7	9.7	11.1	11.1
65.2	52.7	62.7	50.4	60.4	48.3	58.3	46.4	56.3	44.7	54.5	43.1	51.2	40.2	48.3	37.7	46.7	35.5	43.5	33.5
4.1	4.1	4.7	4.7	5.2	5.2	5.7	5.7	6.3	6.3	6.9	6.9	8.2	8.2	9.5	9.5	11.0	11.0	12.5	12.5
72.9	58.9	70.1	56.4	67.5	54.0	65.1	51.9	63.0	50.0	60.9	48.2	57.2	44.9	54.0	42.1	51.1	39.7	48.6	37.5
4.6	4.6	5.2	5.2	5.8	5.8	6.4	6.4	7.0	7.0	7.7	7.7	9.1	9.1	10.6	10.6	12.3	12.3	14.0	14.0
4.0		4.3		4.6		4.9		5.1		5.4		5.9		6.5		7.0		7.5	

1500		1600		1700		1800		1900		2000		2200		2400		2600		2800	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
13.5	11.0	13.0	10.5	12.6	10.1	12.1	9.7	11.7	9.3	11.3	9.0	10.7	8.4	10.1	7.9	9.6	7.4	9.0	7.0
1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.8	1.8	2.0	2.0	2.3	2.3	2.6	2.6
17.4	14.1	16.8	13.5	16.2	13.0	15.6	12.5	15.1	12.0	14.6	11.6	13.7	10.8	12.9	10.1	12.3	9.5	11.6	9.0
1.1	1.1	1.2	1.2	1.4	1.4	1.5	1.5	1.6	1.6	1.8	1.8	2.1	2.1	2.5	2.5	2.9	2.9	3.3	3.3
21.3	17.2	20.5	16.5	19.7	15.8	19.1	15.2	18.4	14.6	17.8	14.1	16.8	13.2	15.8	12.4	15.0	11.6	14.2	11.0
1.3	1.3	1.5	1.5	1.6	1.6	1.8	1.8	2.0	2.0	2.2	2.2	2.6	2.6	3.0	3.0	3.5	3.5	4.0	4.0
25.2	20.4	24.2	19.5	23.4	18.7	22.5	18.0	21.8	17.3	21.1	16.7	19.8	15.6	18.7	14.6	17.7	13.8	16.8	13.0
1.5	1.5	1.7	1.7	1.9	1.9	2.1	2.1	2.3	2.3	2.6	2.6	3.0	3.0	3.5	3.5	4.1	4.1	4.7	4.7
29.1	23.5	28.0	22.5	26.9	21.6	26.0	20.7	25.1	20.0	24.3	19.3	22.8	18.0	21.6	16.8	20.4	15.9	19.4	15.0
1.8	1.8	2.0	2.0	2.2	2.2	2.4	2.4	2.7	2.7	2.9	2.9	3.5	3.5	4.1	4.1	4.7	4.7	5.4	5.4
33.0	26.7	31.7	26.5	30.6	24.5	29.5	23.5	28.5	22.7	27.6	21.8	25.9	20.4	24.5	19.1	23.2	18.0	22.0	17.0
2.0	2.0	2.2	2.2	2.5	2.5	2.8	2.8	3.0	3.0	3.3	3.3	3.9	3.9	4.6	4.6	5.3	5.3	6.0	6.0
36.8	29.8	35.4	28.5	34.1	27.4	33.0	26.3	31.9	25.3	30.8	24.4	29.0	22.8	27.3	21.4	25.9	20.1	24.6	19.0
2.2	2.2	2.5	2.5	2.8	2.8	3.1	3.1	3.4	3.4	3.7	3.7	4.4	4.4	5.1	5.1	5.9	5.9	6.7	6.7
3.9		4.1		4.4		4.7		5.0		5.3		5.8		6.3		6.8		7.4	



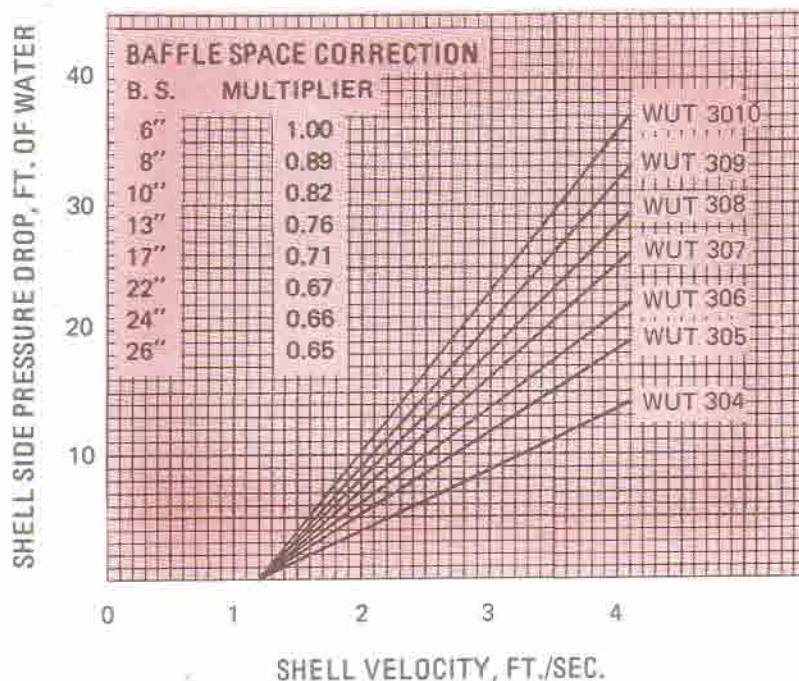
NOTE: Check Mechanical Design Limitations, Page 7.

30" WUT HEAT EXCHANGERS

2 & 4 PASS	BAFFLE SPACE		6"	8"	10"	13"	17"	22"	24"	26"
	Shell Flow	A	390-520	521-700	701-870	871-1140	1141-1480	1481-1930	1931-2100	2101-2280
	In G. P. M.	B	200-389	390-520	521-700	701-870	871-1140	1141-1480	1481-1930	1931-2100

4 PASS	G. P. M. HEATED IN TUBES																							
	250		300		350		400		450		500		550		600		650		700		750			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
WUT304-4()	51.6	45.7	47.7	41.8	44.5	38.5	41.8	35.8	39.5	33.5	37.4	31.5	35.6	29.8	34.0	28.2	32.5	26.8	31.2	25.6	30.0	24.5		
WUT305-4()	66.0	58.4	61.0	53.4	56.9	49.2	53.4	45.8	50.4	42.8	47.8	40.3	45.5	38.0	43.4	36.1	41.5	34.3	39.8	32.7	38.3	31.3		
WUT306-4()	80.2	71.1	74.2	64.9	69.2	59.9	65.0	55.7	61.3	52.1	58.1	49.0	55.3	46.3	52.8	43.9	50.5	41.7	48.4	39.8	46.6	38.0		
WUT307-4()	94.7	83.9	87.6	76.6	81.7	70.7	76.7	65.7	72.4	61.5	68.6	57.8	65.3	54.6	62.3	51.7	59.6	49.2	57.2	46.9	55.0	44.9		
WUT308-4()		96.5		88.1	94.0	81.3	88.2	75.6	83.3	70.7	78.9	66.5	75.1	62.8	71.7	59.5	68.6	56.6	65.8	54.0	63.2	51.6		
WUT309-4()					92.1		85.6	94.3	80.1	89.4	75.3	85.0	71.1	81.2	67.4	77.7	64.1	74.5	61.2	71.6	58.5			
WUT3010-4()							95.5		89.3		84.0	94.9	79.3	90.5	75.2	86.6	71.5	83.1	68.2	79.9	65.2			
4-P.T.V.	1.2 ft./sec.		1.4		1.6		1.9		2.1		2.4		2.6		2.8		3.0		3.3		3.5			

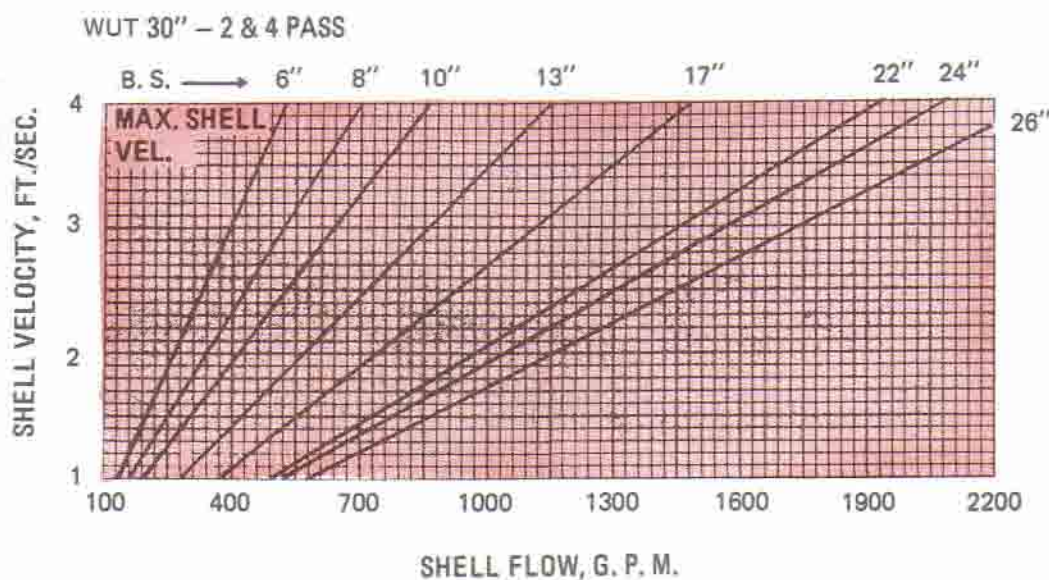
2 PASS	G. P. M. HEATED IN TUBES																					
	500		600		700		800		900		1000		1100		1200		1300		1400		1500	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
WUT304-2()	26.0	23.0	24.0	21.1	22.4	19.4	21.1	18.1	19.9	16.9	18.9	15.9	18.0	15.0	17.1	14.3	16.4	13.6	15.7	12.9	15.1	12.4
WUT305-2()	33.3	29.5	30.8	27.0	28.7	24.9	27.0	23.1	25.5	21.7	24.1	20.4	23.0	19.3	21.9	18.3	21.0	17.4	20.1	16.6	19.4	15.8
WUT306-2()	40.5	35.9	37.5	32.8	35.0	30.3	32.8	28.2	31.0	26.4	29.4	24.8	28.0	23.4	26.7	22.2	25.6	21.1	24.5	20.2	23.6	19.3
WUT307-2()	47.8	42.4	44.2	38.7	41.2	35.7	38.7	33.2	36.6	31.1	34.7	29.3	33.0	27.7	31.5	26.2	30.2	24.9	28.9	23.8	27.8	22.8
WUT308-2()	54.9	48.7	50.8	44.5	47.4	41.1	44.5	38.2	42.0	35.8	39.9	33.6	37.9	31.8	36.2	30.1	34.7	28.7	33.3	27.3	32.0	26.2
WUT309-2()	62.1	55.1	57.5	50.4	53.8	46.5	50.4	43.2	47.6	40.5	45.1	38.1	42.9	36.0	41.0	34.1	39.2	32.4	37.6	31.0	36.2	29.6
WUT3010-2()	69.4	61.5	64.2	56.2	59.9	51.9	56.2	48.3	53.1	45.2	50.4	42.5	47.9	40.2	45.8	38.1	43.8	36.2	42.0	34.6	40.4	33.0
2-P.T.V.	1.1 ft./sec.		1.4		1.6		1.8		2.1		2.3		2.5		2.7		3.0		3.2		3.4	



NOTE:
SEE PAGE 5 FOR PRESSURE
DROP CORRECTION FACTORS
ADJUSTING FOR AVERAGE
WATER TEMPERATURE.

800		850		900		950		1000		1100		1200		1300		1400		1500		1600	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
28.9	23.5	27.8	22.5	26.9	21.7	26.0	20.9	25.2	20.1	23.7	18.8	22.4	17.7	21.3	16.7	20.2	15.8	19.3	15.0	18.5	14.3
1.6	1.6	1.8	1.8	2.0	2.0	2.2	2.2	2.4	2.4	2.8	2.8	3.3	3.3	3.8	3.8	4.3	4.3	4.9	4.9	5.4	5.4
36.9	30.0	35.6	28.8	34.4	27.7	33.3	26.7	32.2	25.7	30.3	24.1	28.7	22.6	27.2	21.3	25.9	20.2	24.7	19.1	23.6	18.2
2.0	2.0	2.2	2.2	2.5	2.5	2.7	2.7	3.0	3.0	3.5	3.5	4.1	4.1	4.8	4.8	5.4	5.4	6.1	6.1	6.9	6.9
44.8	36.4	43.3	35.0	41.8	33.7	40.4	32.4	39.2	31.3	36.9	29.2	34.9	27.5	33.1	25.9	31.5	24.5	30.0	23.3	28.7	22.2
2.4	2.4	2.7	2.7	3.0	3.0	3.3	3.3	3.6	3.6	4.3	4.3	5.0	5.0	5.8	5.8	6.6	6.6	7.5	7.5	8.4	8.4
52.9	43.0	51.0	41.3	49.3	39.7	47.7	38.3	46.2	36.9	43.5	34.5	41.1	32.4	39.0	30.6	37.1	28.9	35.4	27.5	33.9	26.1
2.9	2.9	3.2	3.2	3.5	3.5	3.9	3.9	4.3	4.3	5.1	5.1	5.9	5.9	6.8	6.8	7.7	7.7	8.8	8.8	9.8	9.8
60.9	49.5	58.7	47.5	56.7	45.7	54.9	44.0	53.2	42.5	50.1	39.7	47.3	37.3	44.9	35.2	42.7	33.3	40.7	31.6	39.0	30.1
3.3	3.3	3.7	3.7	4.1	4.1	4.5	4.5	4.9	4.9	5.8	5.8	6.8	6.8	7.8	7.8	8.9	8.9	10.1	10.1	11.3	11.3
69.0	56.0	66.5	53.8	64.3	51.7	62.2	49.9	60.2	48.1	56.7	45.0	53.6	42.2	50.8	39.8	48.4	37.7	46.1	35.8	44.1	34.1
3.7	3.7	4.2	4.2	4.6	4.6	5.1	5.1	5.5	5.5	6.6	6.6	7.6	7.6	8.8	8.8	10.1	10.1	11.4	11.4	12.7	12.7
76.9	62.5	74.2	60.0	71.7	57.7	69.4	55.6	67.2	53.7	63.3	50.2	59.8	47.1	56.7	44.4	54.0	42.0	51.5	39.9	49.2	38.0
4.2	4.2	4.6	4.6	5.1	5.1	5.6	5.6	6.2	6.2	7.3	7.3	8.5	8.5	9.8	9.8	11.2	11.2	12.7	12.7	14.2	14.2
3.7		4.0		4.2		4.4		4.7		5.2		5.6		6.1		6.5		7.0		7.5	

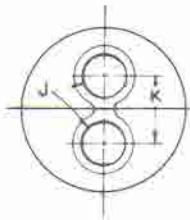
1600		1700		1800		1900		2000		2200		2400		2600		2800		3000		3200	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
14.6	11.9	14.1	11.4	13.6	11.0	13.1	10.6	12.7	10.2	12.0	9.5	11.3	9.0	10.8	8.4	10.2	8.0	9.8	7.6	9.3	7.2
1.3	1.3	1.6	1.6	1.8	1.8	2.1	2.1	2.3	2.3	2.6	2.6	3.0	3.0	3.3	3.3	3.7	3.7	4.2	4.2	4.8	4.8
18.7	15.2	18.0	14.6	17.4	14.0	16.8	13.5	16.3	13.0	15.4	12.2	14.5	11.5	13.8	10.8	13.1	10.2	12.5	9.7	12.0	9.3
1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.5	1.5	1.7	1.7	2.0	2.0	2.3	2.3	2.6	2.6	3.0	3.0	3.4	3.4
22.7	18.5	21.9	17.8	21.2	17.1	20.5	16.5	19.9	15.9	18.7	14.9	17.7	14.0	16.8	13.2	16.0	12.5	15.2	11.8	14.6	11.3
1.2	1.2	1.3	1.3	1.5	1.5	1.6	1.6	1.9	1.9	2.1	2.1	2.4	2.4	2.8	2.8	3.2	3.2	3.6	3.6	4.1	4.1
26.8	21.8	25.9	20.9	25.0	20.1	24.2	19.4	23.4	18.7	22.1	17.5	20.9	16.5	19.8	15.5	18.8	14.7	18.0	14.0	17.2	13.3
1.4	1.4	1.5	1.5	1.7	1.7	1.9	1.9	2.1	2.1	2.4	2.4	2.8	2.8	3.3	3.3	3.7	3.7	4.2	4.2	4.8	4.8
30.8	25.1	29.7	24.1	28.7	23.2	27.8	22.3	26.9	21.5	25.4	20.1	24.0	18.9	22.7	17.8	21.6	16.9	20.7	16.0	19.8	15.3
1.6	1.6	1.8	1.8	2.0	2.0	2.2	2.2	2.5	2.5	2.8	2.8	3.3	3.3	3.8	3.8	4.3	4.3	4.8	4.8	5.5	5.5
34.9	28.4	33.6	27.2	32.5	26.2	31.4	25.3	30.5	24.4	28.7	22.8	27.1	21.4	25.7	20.2	24.5	19.1	23.4	18.2	22.4	17.3
1.8	1.8	2.0	2.0	2.2	2.2	2.4	2.4	2.8	2.8	3.2	3.2	3.7	3.7	4.2	4.2	4.8	4.8	5.5	5.5	6.3	6.3
38.9	31.7	37.5	30.4	36.3	29.3	35.1	28.2	34.0	27.2	32.0	25.4	30.3	23.9	28.7	22.5	27.3	21.3	26.1	20.3	25.0	19.3
2.0	2.0	2.2	2.2	2.5	2.5	2.7	2.7	3.1	3.1	3.5	3.5	4.1	4.1	4.7	4.7	5.4	5.4	6.1	6.1	7.0	7.0
3.7		3.9		4.1		4.4		4.6		5.0		5.5		6.0		6.4		6.9		7.3	



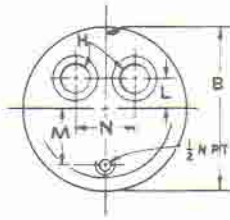
NOTE: Check Mechanical Design Limitations, Page 7.

TYPE "WUT" HEAT EXCHANGERS ("U" Tube Design)

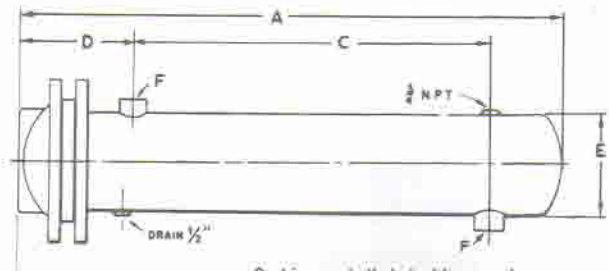
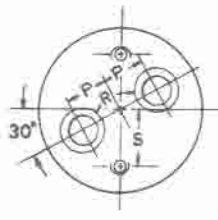
2 PASS HEAD



4 PASS HEAD



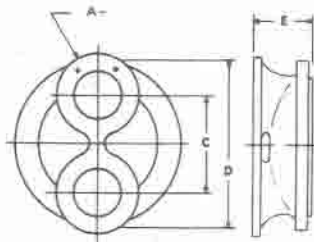
6 PASS HEAD



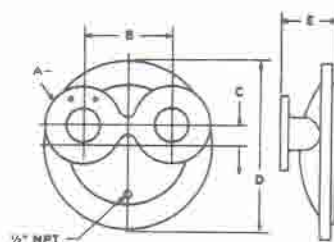
Cast iron or bolted steel legs can be supplied when specified.

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

150 PSI DESIGN PRESSURE CAST IRON HEADS Available only on the following units.



2 PASS HEAD



4 PASS HEAD

Flange connections for field piping drilled and faced per 150# ANSI standards.

DIMENSIONS 4" THRU 20" DIAMETER

2-PASS

SHELL DIA.	A	C	D	E
10"	4	9 1/4	14 1/4	5 1/4
12"	4	9 1/4	16 1/4	5
14"	5	10 1/4	17 1/4	6 1/4
16"	6	11 1/4	19 1/4	6 1/4
18"	6	11 1/4	22	7 1/4
20"	8	13 1/4	24	8

4-PASS

SHELL DIA.	A	B	C	D	E
10"					
12"					
14"	4	8 1/4	2 1/4	17 1/4	6 1/4
16"	4	8 1/4	2 1/4	18 1/4	6 1/4
18"	4	8 1/4	4 1/4	22	7
20"	6	11 1/4	3 1/4	24	7 1/4

'WUT' type 'W' Water 'U' tube 'T' Tehran Mobadell
 Shell diameter in inches
 Tube bundle length in feet
 Number of tube passes
 Baffle spacing in inches

Complete sales number consists of example: WUT 86-44

UNIT NUMBER			DIMENSIONS IN INCHES																WEATHER SURFACE (S.I. FT.)			APPROX. SHIPPING WT. (LBS.)
			J PASS		K PASS		L PASS		M PASS		N PASS		O PASS		P PASS		Q PASS		R PASS		S PASS	
2 PASS	4 PASS	6 PASS	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	1	2	3
WUT 43-24	WUT 43-44		1 1/4 NPT	2 1/4	1 NPT	1	1 1/4	2 1/4	-	-	-	40 1/4	7 1/4	29	6 1/4	4 1/4	2 1/4	1 1/4 NPT	4.1	4.1	-	78
WUT 44-24	WUT 44-44		1 1/4 NPT	2 1/4	1 NPT	1	1 1/4	2 1/4	-	-	-	52 1/4	7 1/4	41	6 1/4	4 1/4	2 1/4	1 1/4 NPT	5.7	5.7	-	92
WUT 45-24	WUT 45-44		1 1/4 NPT	2 1/4	1 NPT	1	1 1/4	2 1/4	-	-	-	64 1/4	7 1/4	53	6 1/4	4 1/4	2 1/4	1 1/4 NPT	7.2	7.2	-	106
WUT 46-24	WUT 46-44		1 1/4 NPT	2 1/4	1 NPT	1	1 1/4	2 1/4	-	-	-	76 1/4	7 1/4	65	6 1/4	4 1/4	2 1/4	1 1/4 NPT	8.8	8.8	-	120
WUT 47-24	WUT 47-44		1 1/4 NPT	2 1/4	1 NPT	1	1 1/4	2 1/4	-	-	-	88 1/4	7 1/4	77	6 1/4	4 1/4	2 1/4	1 1/4 NPT	10.4	10.4	-	134
WUT 63-23	WUT 63-43	WUT 63-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	40 1/4	10 1/4	27 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	12.7	12.7	9.6	125
WUT 64-23	WUT 64-43	WUT 64-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	52 1/4	10 1/4	39 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	17.4	17.4	13.1	150
WUT 65-23	WUT 65-43	WUT 65-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	64 1/4	10 1/4	51 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	22.1	22.1	16.7	175
WUT 66-23	WUT 66-43	WUT 66-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	76 1/4	10 1/4	63 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	26.8	26.8	20.2	200
WUT 67-23	WUT 67-43	WUT 67-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	88 1/4	10 1/4	75 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	31.5	31.5	23.8	225
WUT 68-23	WUT 68-43	WUT 68-63	2 NPT	3 1/4	1 1/2 NPT	1 1/2	2 1/4	3 1/4	2 1/2	1 1/2 NPT	2 1/2	100 1/4	10 1/4	87 1/4	6 1/4	6 1/4	2 1/2	1 1/2 NPT	36.2	36.2	27.3	250
WUT 84-24	WUT 84-44	WUT 84-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	53	12 1/2	37	8 1/4	8 1/4	4" FLG	32	32	26	222	
WUT 85-24	WUT 85-44	WUT 85-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	65	12 1/2	49	8 1/4	8 1/4	4" FLG	41	41	33	258	
WUT 86-24	WUT 86-44	WUT 86-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	77	12 1/2	61	8 1/4	8 1/4	4" FLG	49	49	41	294	
WUT 87-24	WUT 87-44	WUT 87-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	89	12 1/2	73	8 1/4	8 1/4	4" FLG	58	58	48	330	
WUT 88-24	WUT 88-44	WUT 88-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	101	12 1/2	85	8 1/4	8 1/4	4" FLG	67	67	55	366	
WUT 89-24	WUT 89-44	WUT 89-64	3 NPT	5	2 NPT	2	3 1/2	4	3	2 NPT	3 1/4	113	12 1/2	97	8 1/4	8 1/4	4" FLG	75	75	62	402	
WUT 104-25	WUT 104-45	WUT 104-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	53	14 1/4	38 1/4	9	10 1/4	4" FLG	56	56	45	331	
WUT 105-25	WUT 105-45	WUT 105-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	65	14 1/4	48 1/4	9	10 1/4	4" FLG	71	71	56	384	
WUT 106-25	WUT 106-45	WUT 106-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	77	14 1/4	60 1/4	9	10 1/4	4" FLG	86	86	68	437	
WUT 107-25	WUT 107-45	WUT 107-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	89	14 1/4	72 1/4	9	10 1/4	4" FLG	101	101	80	490	
WUT 108-25	WUT 108-45	WUT 108-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	101	14 1/4	84 1/4	9	10 1/4	4" FLG	116	116	92	543	
WUT 109-25	WUT 109-45	WUT 109-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	113	14 1/4	96 1/4	9	10 1/4	4" FLG	131	131	104	596	
WUT 1010-25	WUT 1010-45	WUT 1010-65	4 NPT	5 1/4	3 NPT	2 1/2	4 1/4	4 1/4	3 1/2	2 1/2 NPT	4 1/4	125	14 1/4	108 1/4	9	10 1/4	4" FLG	146	146	116	650	
WUT 124-26	WUT 124-46	WUT 124-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	56 1/4	18 1/4	37 1/4	10 1/4	12 1/4	5" FLG	63	78	68	456	
WUT 125-26	WUT 125-46	WUT 125-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	68 1/4	18 1/4	49 1/4	10 1/4	12 1/4	5" FLG	104	98	85	525	
WUT 126-26	WUT 126-46	WUT 126-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	80 1/4	18 1/4	61 1/4	10 1/4	12 1/4	5" FLG	126	119	103	594	
WUT 127-26	WUT 127-46	WUT 127-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	92 1/4	18 1/4	73 1/4	10 1/4	12 1/4	5" FLG	148	139	121	683	
WUT 128-26	WUT 128-46	WUT 128-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	104 1/4	18 1/4	85 1/4	10 1/4	12 1/4	5" FLG	169	160	139	732	
WUT 129-26	WUT 129-46	WUT 129-66	4 NPT	7 1/4	4 NPT	2 1/2	5 1/4	5 1/4	4 1/2	3 NPT	5 1/4	116 1/4	18 1/4	97 1/4	10 1/4	12 1/4	5" FLG	191	180	156	801	

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

TYPE "WUT" HEAT EXCHANGERS ("U" Tube Design)

WUT type W Water U tube T Tehran Mobaddeh
 Shell diameter in inches
 Tube bundle length in feet
 Number of tube passes
 Baffle spacing in inches

DIMENSIONS (Continued)

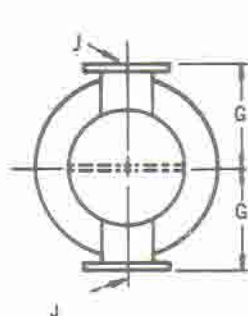
Complete sales number consists of example: WUT86-44

UNIT NUMBER		DIMENSIONS IN INCHES												HEATING SURFACE SQ. FT.		Approx. Shpg. Wt. (Lbs.)
		2 Pass		4 Pass				2, 4 and 8 Pass						2 Pass	4 Pass	
2 Pass	4 Pass	J	K	H	L	M	N	A	B	C	D	E	F			
WUT 144-24	WUT 144-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	57 ¹ / ₈	17 ⁷ / ₈	36 ⁷ / ₈	12	14	4 FLG	116	111	635
WUT 145-24	WUT 145-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	69 ¹ / ₈	17 ⁷ / ₈	48 ⁷ / ₈	12	14	4 FLG	146	139	720
WUT 146-24	WUT 146-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	81 ¹ / ₈	17 ⁷ / ₈	60 ⁷ / ₈	12	14	4 FLG	175	167	805
WUT 147-24	WUT 147-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	93 ¹ / ₈	17 ⁷ / ₈	72 ⁷ / ₈	12	14	4 FLG	204	196	890
WUT 148-24	WUT 148-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	105 ¹ / ₈	17 ⁷ / ₈	84 ⁷ / ₈	12	14	4 FLG	234	224	975
WUT 149-24	WUT 149-44	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	117 ¹ / ₈	17 ⁷ / ₈	96 ⁷ / ₈	12	14	4 FLG	263	252	1060
WUT 144-28	WUT 144-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	57 ¹ / ₈	17 ⁷ / ₈	34 ⁷ / ₈	13	14	6 FLG	116	111	635
WUT 145-28	WUT 145-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	69 ¹ / ₈	17 ⁷ / ₈	46 ⁷ / ₈	13	14	6 FLG	146	139	720
WUT 146-28	WUT 146-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	81 ¹ / ₈	17 ⁷ / ₈	58 ⁷ / ₈	13	14	6 FLG	175	167	805
WUT 147-28	WUT 147-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	93 ¹ / ₈	17 ⁷ / ₈	70 ⁷ / ₈	13	14	6 FLG	204	196	890
WUT 148-28	WUT 148-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	105 ¹ / ₈	17 ⁷ / ₈	82 ⁷ / ₈	13	14	6 FLG	234	224	975
WUT 149-28	WUT 149-48	6 NPT	8	4 NPT	3 ⁵ / ₁₆	6 ⁹ / ₁₆	5 ⁷ / ₈	117 ¹ / ₈	17 ⁷ / ₈	94 ⁷ / ₈	13	14	6 FLG	263	252	1060
WUT 164-25	WUT 164-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	57 ³ / ₄	19 ⁷ / ₈	34	14	16	6 FLG	150	143	787
WUT 165-25	WUT 165-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	69 ³ / ₄	19 ⁷ / ₈	46	14	16	6 FLG	188	180	892
WUT 166-25	WUT 166-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	81 ³ / ₄	19 ⁷ / ₈	58	14	16	6 FLG	227	217	997
WUT 167-25	WUT 167-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	93 ³ / ₄	19 ⁷ / ₈	70	14	16	6 FLG	265	254	1102
WUT 168-25	WUT 168-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	105 ³ / ₄	19 ⁷ / ₈	82	14	16	6 FLG	304	291	1207
WUT 169-25	WUT 169-45	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	117 ³ / ₄	19 ⁷ / ₈	94	14	16	6 FLG	342	327	1312
WUT 164-210	WUT 164-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	57 ³ / ₄	19 ⁷ / ₈	31 ³ / ₄	16	16	8 FLG	150	143	787
WUT 165-210	WUT 165-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	69 ³ / ₄	19 ⁷ / ₈	43 ³ / ₄	16	16	8 FLG	188	180	892
WUT 166-210	WUT 166-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	81 ³ / ₄	19 ⁷ / ₈	55 ³ / ₄	16	16	8 FLG	227	217	997
WUT 167-210	WUT 167-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	93 ³ / ₄	19 ⁷ / ₈	67 ³ / ₄	16	16	8 FLG	265	254	1102
WUT 168-210	WUT 168-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	105 ³ / ₄	19 ⁷ / ₈	79 ³ / ₄	16	16	8 FLG	304	291	1207
WUT 169-210	WUT 169-410	6 NPT	9 ¹ / ₈	4 NPT	4	7 ⁹ / ₁₆	8	117 ³ / ₄	19 ⁷ / ₈	91 ³ / ₄	16	16	8 FLG	342	327	1312
WUT 184-26	WUT 184-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	63 ¹ / ₂	22	39 ¹ / ₂	13 ³ / ₄	18	6 FLG	195	195	1015
WUT 185-26	WUT 185-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	75 ¹ / ₂	22	51 ¹ / ₂	13 ³ / ₄	18	6 FLG	242	242	1139
WUT 186-26	WUT 186-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	87 ¹ / ₂	22	63 ¹ / ₂	13 ³ / ₄	18	6 FLG	290	290	1263
WUT 187-26	WUT 187-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	99 ¹ / ₂	22	75 ¹ / ₂	13 ³ / ₄	18	6 FLG	339	339	1387
WUT 188-26	WUT 188-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	111 ¹ / ₂	22	87 ¹ / ₂	13 ³ / ₄	18	6 FLG	387	387	1511
WUT 189-26	WUT 189-46	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	123 ¹ / ₂	22	99 ¹ / ₂	13 ³ / ₄	18	6 FLG	435	435	1635
WUT 184-212	WUT 184-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	65 ¹ / ₂	22	39 ¹ / ₄	15	18	8 FLG	195	195	1015
WUT 185-212	WUT 185-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	77 ¹ / ₂	22	51 ¹ / ₄	15	18	8 FLG	242	242	1139
WUT 186-212	WUT 186-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	89 ¹ / ₂	22	63 ¹ / ₄	15	18	8 FLG	290	290	1263
WUT 187-212	WUT 187-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	101 ¹ / ₂	22	75 ¹ / ₄	15	18	8 FLG	339	339	1387
WUT 188-212	WUT 188-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	113 ¹ / ₂	22	87 ¹ / ₄	15	18	8 FLG	387	387	1511
WUT 189-212	WUT 189-412	6 NPT	11	4 NPT	4 ⁵ / ₈	8 ³ / ₈	9 ¹ / ₄	125 ¹ / ₂	22	99 ¹ / ₄	15	18	8 FLG	435	435	1635
WUT 204-28	WUT 204-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	65 ¹ / ₈	24	39 ¹ / ₂	15	20	6 FLG	259	251	1402
WUT 205-28	WUT 205-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	77 ¹ / ₈	24	51 ¹ / ₂	15	20	6 FLG	324	314	1560
WUT 206-28	WUT 206-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	89 ¹ / ₈	24	63 ¹ / ₂	15	20	6 FLG	388	377	1716
WUT 207-28	WUT 207-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	101 ¹ / ₈	24	75 ¹ / ₂	15	20	6 FLG	453	439	1873
WUT 208-28	WUT 208-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	113 ¹ / ₈	24	87 ¹ / ₂	15	20	6 FLG	517	502	2030
WUT 209-28	WUT 209-48	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	125 ¹ / ₈	24	99 ¹ / ₂	15	20	6 FLG	582	565	2187
WUT 204-210	WUT 204-410	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	69 ¹ / ₈	24	41 ¹ / ₄	16 ¹ / ₄	20	8 FLG	259	251	1402
WUT 205-213	WUT 205-413	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	81 ¹ / ₈	24	51	17 ¹ / ₂	20	10 FLG	324	314	1560
WUT 216-216	WUT 206-416	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	93 ¹ / ₈	24	63	17 ¹ / ₂	20	10 FLG	388	377	1716
WUT 217-216	WUT 207-416	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	105 ¹ / ₈	24	75	17 ¹ / ₂	20	10 FLG	453	439	1873
WUT 208-216	WUT 208-416	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	117 ¹ / ₈	24	87	17 ¹ / ₂	20	10 FLG	517	502	2030
WUT 209-216	WUT 209-416	8 NPT	10 ⁵ / ₈	6 NPT	4 ³ / ₈	9 ¹ / ₂	8 ³ / ₄	129 ¹ / ₈	24	99	17 ¹ / ₂	20	10 FLG	582	565	2187

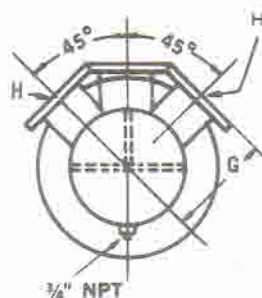
Dimensions are subject to change. If exact dimensions are needed for layout, write for prints.

TYPE "V.U.T" HEAT EXCHANGERS ("U" Tube Design)

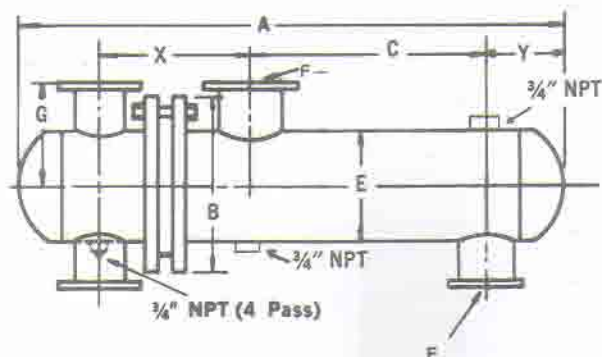
DIMENSIONS (Continued) 22" THRU 30" DIAMETER



2 PASS HEAD



4 PASS HEAD



Flange connections for field piping drilled and faced per 150# ANSI standards.

UNIT NUMBER		DIMENSIONS IN INCHES												HEATING SURFACE SQ.FT.		Approx. Shpg. Wt. (lbs.)
		2 Pass			4 Pass			2 and 4 Pass								
2 Pass	4 Pass	A	X	^d FLG	A	X	^H FLG	C	E	G	B	^F FLG	Y	2 Pass	4 Pass	
WUT 224-2	WUT 224-4	91 ¹ / ₈	21 ³ / ₈	10	86 ⁵ / ₈	20 ⁷ / ₈	6	38 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	333	325	1867
WUT 225-2	WUT 225-4	103 ¹ / ₈	21 ³ / ₈	10	98 ⁵ / ₈	20 ⁷ / ₈	6	50 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	411	401	1852
WUT 226-2	WUT 226-4	115 ¹ / ₈	21 ³ / ₈	10	110 ⁵ / ₈	20 ⁷ / ₈	6	62 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	489	477	2037
WUT 227-2	WUT 227-4	127 ¹ / ₈	21 ³ / ₈	10	122 ⁵ / ₈	20 ⁷ / ₈	6	74 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	568	554	2222
WUT 228-2	WUT 228-4	139 ¹ / ₈	21 ³ / ₈	10	134 ⁵ / ₈	20 ⁷ / ₈	6	86 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	645	630	2407
WUT 229-2	WUT 229-4	151 ¹ / ₈	21 ³ / ₈	10	146 ⁵ / ₈	20 ⁷ / ₈	6	98 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	724	706	2592
WUT 2210-2	WUT 2210-4	163 ¹ / ₈	21 ³ / ₈	10	158 ⁵ / ₈	20 ⁷ / ₈	6	110 ¹ / ₂	22	17	26 ¹ / ₈	12	15 ¹ / ₈	803	782	2777
WUT 244-2	WUT 244-4	90 ³ / ₄	23 ³ / ₈	10	86 ⁵ / ₈	22 ¹ / ₄	8	38 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	394	385	2023
WUT 245-2	WUT 245-4	102 ³ / ₄	23 ³ / ₈	10	100 ⁵ / ₈	22 ¹ / ₄	8	50 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	490	479	2240
WUT 246-2	WUT 246-4	114 ³ / ₄	23 ³ / ₈	10	112 ⁵ / ₈	22 ¹ / ₄	8	62 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	586	572	2458
WUT 247-2	WUT 247-4	126 ³ / ₄	23 ³ / ₈	10	124 ⁵ / ₈	22 ¹ / ₄	8	74 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	681	666	2676
WUT 248-2	WUT 248-4	138 ³ / ₄	23 ³ / ₈	10	136 ⁵ / ₈	22 ¹ / ₄	8	86 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	777	759	2894
WUT 249-2	WUT 249-4	150 ³ / ₄	23 ³ / ₈	10	148 ⁵ / ₈	22 ¹ / ₄	8	98 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	873	853	3112
WUT 2410-2	WUT 2410-4	162 ³ / ₄	23 ³ / ₈	10	160 ⁵ / ₈	22 ¹ / ₄	8	110 ¹ / ₂	24	18	28 ¹ / ₈	12	14 ³ / ₄	969	946	3330
WUT 264-2	WUT 264-4	98	27	12	93 ³ / ₈	24 ³ / ₈	8	38 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	488	475	2441
WUT 265-2	WUT 265-4	110	27	12	105 ³ / ₈	24 ³ / ₈	8	50 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	600	585	2685
WUT 266-2	WUT 266-4	122	27	12	117 ³ / ₈	24 ³ / ₈	8	62 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	712	694	2931
WUT 267-2	WUT 267-4	134	27	12	129 ³ / ₈	24 ³ / ₈	8	74 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	823	803	3176
WUT 268-2	WUT 268-4	146	27	12	141 ³ / ₈	24 ³ / ₈	8	86 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	935	912	3421
WUT 269-2	WUT 269-4	158	27	12	153 ³ / ₈	24 ³ / ₈	8	98 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	1047	1021	3666
WUT 2610-2	WUT 2610-4	170	27	12	165 ³ / ₈	24 ³ / ₈	8	110 ¹ / ₈	26	21	30 ⁵ / ₈	14	16 ³ / ₄	1159	1130	3911
WUT 284-2	WUT 284-4	90 ¹ / ₈	29	12	87 ⁵ / ₈	27 ¹ / ₂	10	26 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	456	447	2755
WUT 285-2	WUT 285-4	102 ¹ / ₈	29	12	99 ⁵ / ₈	27 ¹ / ₂	10	38 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	587	575	3038
WUT 286-2	WUT 286-4	116 ¹ / ₈	29	12	111 ⁵ / ₈	27 ¹ / ₂	10	50 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	717	703	3321
WUT 287-2	WUT 287-4	126 ¹ / ₈	29	12	123 ⁵ / ₈	27 ¹ / ₂	10	62 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	848	831	3604
WUT 288-2	WUT 288-4	138 ¹ / ₈	29	12	135 ⁵ / ₈	27 ¹ / ₂	10	74 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	978	959	3887
WUT 289-2	WUT 289-4	150 ¹ / ₈	29	12	147 ⁵ / ₈	27 ¹ / ₂	10	86 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	1110	1088	4170
WUT 2810-2	WUT 2810-4	162 ¹ / ₈	29	12	159 ⁵ / ₈	27 ¹ / ₂	10	93 ¹ / ₄	28	22	32 ⁵ / ₈	16	18 ¹ / ₄	1240	1216	4453
WUT 304-2	WUT 304-4	90 ¹ / ₄	30	14	86 ¹ / ₈	27 ¹ / ₂	10	25 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	539	529	3181
WUT 305-2	WUT 305-4	102 ¹ / ₄	30	14	98 ¹ / ₈	27 ¹ / ₂	10	37 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	690	676	3500
WUT 306-2	WUT 306-4	114 ¹ / ₄	30	14	110 ¹ / ₈	27 ¹ / ₂	10	49 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	840	822	3819
WUT 307-2	WUT 307-4	126 ¹ / ₄	30	14	122 ¹ / ₈	27 ¹ / ₂	10	61 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	991	970	4138
WUT 308-2	WUT 308-4	138 ¹ / ₄	30	14	134 ¹ / ₈	27 ¹ / ₂	10	75 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	1139	1116	4457
WUT 309-2	WUT 309-4	150 ¹ / ₄	30	14	146 ¹ / ₈	27 ¹ / ₂	10	85 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	1289	1264	4776
WUT 3010-2	WUT 3010-4	162 ¹ / ₄	30	14	158 ¹ / ₈	27 ¹ / ₂	10	97 ⁷ / ₈	30	23	34 ⁵ / ₈	16	17 ³ / ₄	1439	1410	5095

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

PROPERTIES OF SATURATED WATER

Temperature t °F	Density ρ lb _m /ft ³	Dynamic Viscosity lb _m /hr ft	Kinematic Viscosity ν ft ² /hr	Specific Heat c_p B/lb _m F	Thermal Conductivity k B/hr ft F	Thermal Diffusivity α ft ² /hr	Prandtl Number N_{Pr}
32	62.4	4.33	0.0694	1.005	0.320	0.00510	13.61
40	4	3.73	598	1.005	26	520	11.50
50	4	3.16	506	1.00	32	532	9.51
60	62.4	2.71	0.0434	1.00	0.337	0.00540	8.04
70	3	36	379	1.00	43	551	6.88
80	2	08	334	1.00	49	561	5.95
90	1	1.85	298	1.00	54	570	5.23
100	0	66	268	1.00	59	579	4.63
110	61.9	1.49	0.0241	1.00	0.363	0.00586	4.11
120	7	36	220	1.00	67	595	3.70
130	6	24	201	1.00	72	604	3.33
140	4	14	186	1.00	76	612	3.04
150	2	05	172	1.00	80	621	2.77
160	61.0	0.970	0.0159	1.00	0.383	0.00628	2.53
170	60.8	0.900	148	1.005	86	632	2.34
180	6	0.840	139	1.005	88	637	2.18
190	4	0.786	130	1.005	90	642	2.02
200	1	0.738	123	1.01	92	646	1.90
210	59.9	0.693	0.0116	1.015	0.393	0.00646	1.80
220	7	54	110	1.015	4	650	1.69
230	4	18	104	1.01	5	658	1.58
240	1	0.585	0990	1.01	6	663	1.49
250	58.8	55	0944	1.015	6	663	1.42
260	58.6	0.528	0.00901	1.02	0.396	0.00663	1.36
270	3	04	864	1.02	6	666	1.30
280	0	0.482	831	1.025	6	666	1.25
290	57.7	63	802	1.025	6	670	1.20
300	4	48	780	1.03	6	670	1.16

WATER SOLUTIONS

	Sp. Gr.	Sp. Ht.	k	VISCOSITY				
				-12.2°C 10°F	4.44°C 40°F	26.7°C 80°F	48.9°C 120°F	71.1°C 160°F
70% Acetic Acid	1.07	.7	.14	—	3.9	2.4	1.5	1.0
26% Ammonia	.905	1.0	.26	—	1.8	1.2	—	—
Brine—25% CaCl	1.23	.7	.28	8.0	4.5	2.1	—	—
Brine—25% NaCl	1.19	.8	.24	4.8	3.3	2.1	—	—
95% Ethyl alcohol	.81	.6	.11	3.0	2.0	1.3	.8	.53
40% Ethyl alcohol	.94	.95	.22	9.6	5.2	2.5	1.23	.65
31.5% Hydrochloric acid	1.15	.6	—	—	2.5	1.85	1.42	1.1
50% Glycerine	1.13	.8	.23	—	11.0	5.4	2.8	1.5
90% Methyl alcohol	.82	.65	.13	1.3	1.0	.73	.53	.43
40% Methyl alcohol	.94	.92	.23	5.5	3.4	1.8	1.0	.57
95% Nitric acid	1.503	—	—	1.9	1.5	1.1	.83	.65
60% Nitric acid	1.375	—	—	4.7	3.4	2.2	1.5	1.05
50% Sodium hydroxide	1.53	.78	—	—	—	60	19	8
30% Sodium hydroxide	1.33	.84	—	—	—	9.6	4.5	2.5
60% Sucrose (cane sugar)	1.29	—	—	—	—	41	14	7
40% Sucrose	1.18	—	—	—	12	5	2.5	1.6
20% Sucrose	1.08	—	—	—	3.2	1.6	.98	.68
98% Sulfuric acid	1.84	.35	.15	—	46	23	11.5	6.4
60% Sulfuric acid	1.50	.58	.24	—	9.5	6.0	3.9	2.7
Water	1.00	1.00	.34	—	1.55	0.861	0.56	0.40

Sp. Gr.—Specific gravity (approx.) at room temperature
Sp. Ht.—Specific heat (approx.) at room temperature

k—Thermal conductivity in BTU/hr/sq. ft./°F/ft. (room temp.)
Viscosity—Expressed in centipoises

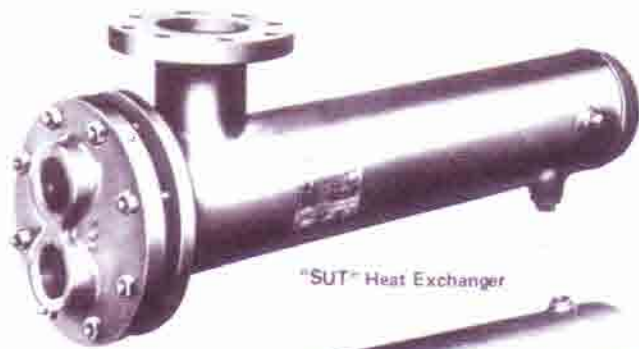
HEAD AND PRESSURE EQUIVALENTS

FEET HEAD OF WATER AND EQUIVALENT PRESSURES								PRESSURES AND EQUIVALENT FEET HEAD OF WATER							
Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.	Feet Head	Lbs. per Sq. In.
1	.43	30	12.99	140	60.63	300	129.93	1	2.31	20	46.18	120	277.07	225	519.51
2	.87	40	17.32	150	64.96	325	140.75	2	4.62	25	57.72	125	288.62	250	577.24
3	1.30	50	21.65	160	69.29	350	151.58	3	6.93	30	69.27	130	300.16	275	643.03
4	1.73	60	25.99	170	73.63	400	173.24	4	9.24	40	92.36	140	323.25	300	692.69
5	2.17	70	30.32	180	77.96	500	216.55	5	11.54	50	115.45	150	346.34	325	750.41
6	2.60	80	34.65	190	82.29	600	259.85	6	13.85	60	138.54	160	369.43	350	808.13
7	3.03	90	38.98	200	86.62	700	303.16	7	16.16	70	161.63	170	392.52	375	865.89
8	3.46	100	43.31	225	97.45	800	346.47	8	18.47	80	184.72	180	415.61	400	922.58
9	3.90	110	47.64	250	108.27	900	389.78	9	20.78	90	207.81	190	438.90	500	1154.48
10	4.33	120	51.97	275	119.10	1000	433.09	10	23.09	100	230.90	200	461.78	1000	2309.00
20	8.66	130	56.30					15	34.63	110	253.98				

CONVERSION FACTORS

TO CONVERT FROM	TO Pressure	MULTIPLY BY	TO CONVERT FROM	TO Temperature	MULTIPLY BY
Atmospheres	ft. of water	33.9	Centigrade degrees	Fahrenheit degrees	1.8 and add 32°
Atmospheres	mm. of mercury	760.0	Fahrenheit degrees	Centigrade degrees	Subtract 32° and multiply by 0.5555
Atmospheres	pounds/sq. in.	14.696	Measure		
Feet of water (40°F)	pounds/sq. in.	0.4335	Centimeters	inches	0.3937
Inches of mercury (32°F)	feet of water (40°F)	1.133	Feet	meters	0.3048
Inches of mercury (32°F)	pounds/sq. in.	0.49116	Inches	centimeters	2.54
Inches of water (40°F)	pounds/sq. in.	0.03614	Kilometers	miles	0.6214
mm. of mercury (32°F)	pounds/sq. in.	0.01934	Meters	feet	3.2808
Pounds/sq. in.	feet of water (40°F)	2.3066	Microns	millimeters	0.001
Pounds/sq. in.	inches of mercury (32°F)	2.036	Sq. meters	sq. feet	10.764
Volume			Weight		
Barrels (oil)	gallons	42.0	Cubic ft. of water (60°F)	pounds	62.37
Barrels (breweries)	gallons	31.0	Gallons	pounds of water (60°F)	8.34
Cubic cm	cubic inches	0.061023	Grains	pounds	1/7000
Cubic ft	cubic inches	1728.0	Grains/gal	parts per million	17.12
Cubic ft	cubic meters	0.02832	Grams	grains	15.43
Cubic ft	gallons	7.481	Kilograms	pounds	2.2046
Cubic meters	gallons	264.17	Pounds	grams	453.59
Gallons	cubic ft	0.1337	Pounds	kilograms	0.4536
Gallons	cubic inches	231.0	Tons (long)	tons (short)	1.12
Gallons	gallons (British)	0.83268	Volumetric Rate		
Gallons	liters	3.7853	Cubic ft./sec	gallons/min	448.83
Liters	gallons	0.2642	Gallons/min	cu. ft./sec	0.00223
Liters	quarts	1.0567	Power		
Heat			Horsepower	ft. lbs./sec	550.0
Boiler horsepower (BHP)	BTU/hr	33479.0	Horsepower	K. W.	0.745
BTU	calories (gram)	252.0	Viscosity		
BTU	calories (kg.)	0.252	Centipoises	lbs./sec./ft	0.000672
Calories (gram)/gram/°C	BTU pound/°F	1.0	Poises	centipoises	0.01
Calories (gram) per gram	BTU/pound	1.8	Velocity		
Horsepower	BTU/hr	2545.0	Ft./sec	meters/sec	0.3048
K. W. hours	BTU	3413.0	Meters/sec	ft./sec	3.2808

T.M offers a Complete Heat Exchanger Line



"SUT" Heat Exchanger



"WUT" Heat Exchanger



"TCWT", "TCST" and "TCYT" Tank Heaters

HEATING COMPONENTS



"RCFT" Straight Tube Condenser



"REFAT" Evaporator

REFRIGERATION COMPONENTS



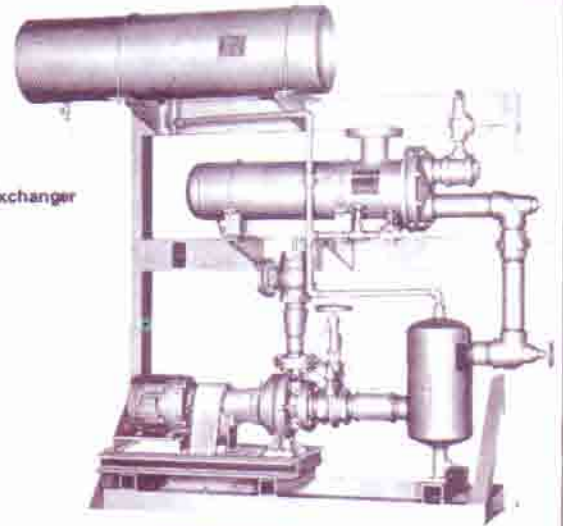
"OFT" (Straight Tube) Heat Exchanger



"OCT" (Straight Tube) Heat Exchanger



"TST" Tank Suction Heater



"HTPT" Heat Transfer Package



"GCT" Gas Cooler

INDUSTRIAL PRODUCTS