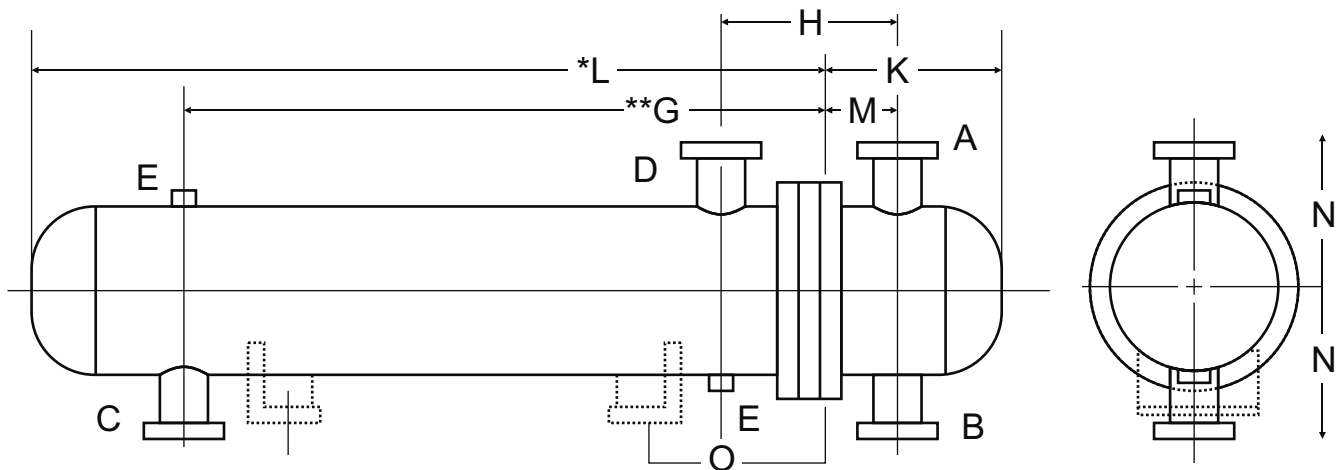


## Standardized U-Tube Exchangers

### Two Pass

CMS Two Pass Standardized U-Tube Exchangers have been manufactured to the specifications displayed.. Units can be provided in accordance with ASME Sect. VIII, Sect. V, Sect. IX of the Boiler and Pressure Vessel Code, TEMA, API, HEI, and 3A standards. In addition, our designs can incorporate all your specifications to insure compliance with your plant standards.

Shell O.D.	Dimensions (inches)						Nozzles & Fittings (inches)				
	G	H	K	L	M	N	A	B	C	D	E
6 5/8	2	11 7/8	10 3/8	4 1/4	5	8 5/16	2	2	2	2	3/4
8 5/8	2	12 7/8	11 1/2	4 3/4	5	9 5/8	3	3	3	3	3/4
10 3/4	3	12 7/8	12 1/2	5 3/4	5	10 3/8	3	3	3	3	3/4
12 3/4	4	15	14 1/2	6 3/8	6	11 3/8	4	4	4	4	3/4
14	5	18	18 5/8	6 3/4	8	12	6	6	6	6	3/4
16	5	18 1/8	19 1/4	7 3/8	8	13	6	6	6	6	3/4
18	5	19 1/4	21 5/8	9	9	14	6	6	6	6	3/4
20	5.5	21 3/8	22 1/8	9 5/8	9	15	6	6	8	8	3/4
22	5.5	23 1/2	26 5/8	10 1/4	11	16	8	8	8	8	3/4
24	5.5	23 1/2	27 1/8	10 3/4	11	17	8	8	8	8	3/4
26	5.5	24 1/2	27 5/8	11 1/4	11	18	8	8	8	8	1
28	5.5	24 5/8	28 1/8	11 7/8	11	19	8	8	8	8	1
30	7	28 3/4	32 3/4	12 1/2	13	20	10	10	10	10	1
32	7	29 7/8	34 1/4	13 1/8	14	21	10	10	10	10	1
34	9	32	34 3/4	13 3/4	14	22	10	10	12	12	1
36	9	34 1/8	39 3/8	14 3/8	16	23	12	12	12	12	1
38	10	35 1/8	39 7/8	14 7/8	16	24	12	12	14	14	1
40	10	36 1/8	42 3/8	15 1/2	17	25	14	14	14	14	1
42	10	36 3/8	43	16 1/8	17	26	14	14	14	14	1



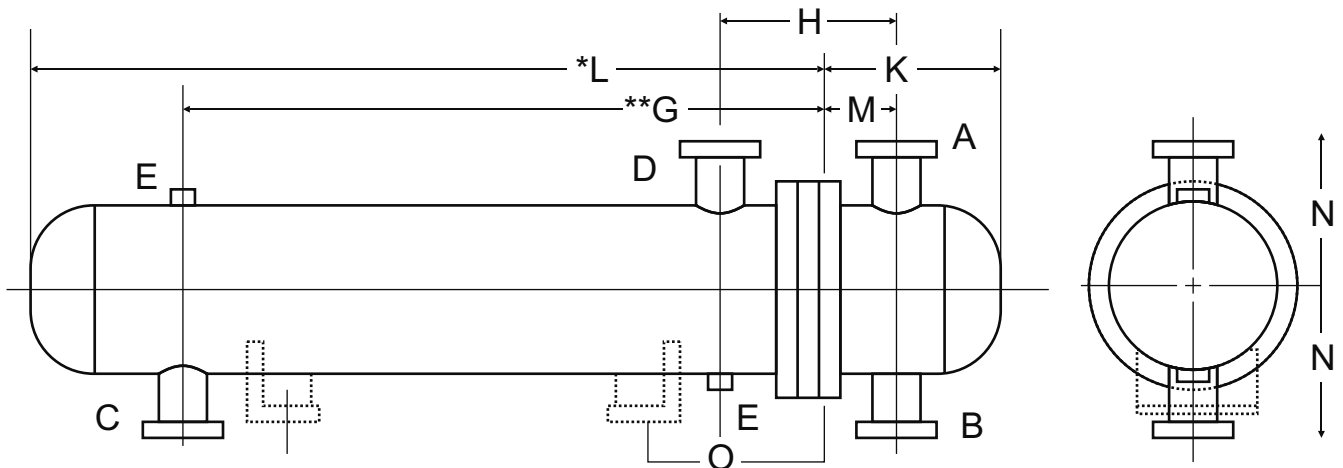
## Standardized U-Tube Exchangers

### Two Pass Tube Side, 3/4" O.D. tubes 5/16" change in Pitch

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Shell O.D.	No. U Tubes	Square Feet Surface for Nominal Bundle Length											
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"
6 5/8	11	17	21	25	30	34	38	43	47	51	60	68	77
8 5/8	20	29	37	45	53	61	69	76	84	92	108	123	139
10 3/4	36	52	66	80	94	109	123	137	151	166	194	223	251
12 3/4	54	78	99	120	141	163	184	205	226	247	290	332	374
14	69	98	125	152	179	206	233	260	288	315	369	423	477
16	93	128	164	200	236	272	308	344	380	416	488	560	632
18	125	167	215	264	314	363	412	461	510	559	657	755	853
20	157	203	264	326	397	459	521	582	644	705	829	952	1075
22	193	247	323	399	475	551	627	703	779	855	1007	1152	1311
24	234	294	386	478	570	662	754	846	938	1030	1214	1398	1582

Shell O.D.	No. U Tubes	Square Feet Surface for Nominal Bundle Length									
		5'-6"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"	11'-6"	13'-6"	15'-6"	16'-6"
26	282	586	696	806	917	1028	1139	1249	1471	1692	1913
28	331	659	781	903	1025	1147	1269	1381	1625	1868	2112
30	386	755	906	1057	1208	1359	1510	1661	1963	2265	2567
32	443	848	1022	1196	1370	1544	1718	1892	2240	2588	2936
34	503	956	1154	1352	1550	1748	1946	2144	2540	2936	3332
36	572	1062	1287	1512	1737	1962	2187	2412	2862	3312	3762
38	643	1168	1420	1672	1924	2176	2428	2680	3184	3688	4192
40	717	1293	1574	1885	2136	2417	2698	2979	3541	4103	4665
42	792	1418	1729	2040	2351	2662	2973	3284	3906	4528	5150



## CMS Heat Transfer Inc.

At CMS Industries we'll put our years of heat transfer "know-how" to work for you. In addition to sizing a shell & tube heat exchanger for your specific heat transfer needs, our engineers incorporate measures to insure ease of maintenance and longer equipment life - this equates to both smaller initial capital and maintenance costs over the years.

### Code conformance and certification

Our products are engineered to meet rigid standards, and quality is always the first priority. Units can be provided in accordance with ASME Sect. VIII, Sect. V and Sect. IX of the Boiler and Pressure Vessel Code, TEMA, API, HEI, and 3A standards. In addition, our designs can incorporate all of your specifications to insure compliance with your plant standards.

### Engineering support

It is our engineering department's primary goal to provide the best technical support required to solve your heat transfer problems. With the aid of state-of-the-art integrated software our engineers can rate and size the appropriate equipment for your application.

### Mechanical design

Our products can be fabricated in a variety of materials including cupro-nickel, carbon and stainless steels and nickel alloys. Correct material selection will insure long life of the exchanger even in the most corrosive services. In addition, our engineers will incorporate the appropriate configuration in the design of your unit to insure ease of maintenance and the ability to withstand the most vigorous thermal and mechanical demands.

### Process design

At CMS we have the expertise to solve all of your process heat transfer needs. With the use of state-of-the-art software, we can size and rate a shell and tube heat exchanger to your exact specifications. Single and two-phase-flows, liquid-to-liquid, single and multiple condensable in the presence of or absence of non-condensables, no process is too complex. Our engineers will provide the technical support to insure a proper design. It's like having a process engineer on staff.

### Service beyond the expected



### Experienced in all phases of heat exchange technologies

#### Shell and Tube Heat Exchangers

- Oil Coolers
- Fuel Oil Pre-Heaters
- Aftercoolers
- Steam Converters
- Condensers
- Kettles
- Thermo-Syphon Reboilers
- Falling Film Evaporators



#### For "Those Problems That Won't Go Away"

- Custom Design
- Process Design Support
- Design of All TEMA Configurations



#### For "Old Reliable"

- Replacement Bundles
- XLE Units
- Generator Coolers
- OEM Replacement Units
- Retubing & Reconditioning

