

SINCE 1908  
**wessels**  
company

SUBMITTAL

## TES-SERIES

### THERMAL ENERGY STORAGE TANK

Models: TES-1175 thru TES-52000

Submittal Sheet No. J-1010B

Date: 5/25

Job Name \_\_\_\_\_  
Location \_\_\_\_\_  
\_\_\_\_\_  
Engineer \_\_\_\_\_  
Contractor \_\_\_\_\_  
Sales Rep. \_\_\_\_\_

Submitted By \_\_\_\_\_ Date \_\_\_\_\_  
Approved By \_\_\_\_\_ Date \_\_\_\_\_  
Order No. \_\_\_\_\_ Date \_\_\_\_\_  
Notes \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Description:

Wessels TES Thermal Energy Storage Tanks are designed to store thermal energy for cooling data centers, renewable applications, loss of power, or delivery during off-peak hours. The tanks feature diffuser piping and special dual inner-screen baffles to stratify and reduce the thermal mixing zone (thermocline), increasing the efficiency for the amount of deliverable hot or chilled water. Relatively low water volume systems require additional "buffer energy" capacity for the systems to eliminate problems such as excessive equipment cycling, poor temperature control, and erratic system operation. The properly sized TES adds the necessary volume to "buffer" the system volume.

#### Construction:

Shell: Carbon Steel  
Exterior: Primer Painted  
Options: Epoxy surface  
Stainless steel

#### Design Parameters:

Maximum Design Temperature: 450°F  
Maximum Design Pressure: 125 PSIG\*

\*200 & 250 PSIG available

| MODEL NUMBER | Connection Size and Type | VOLUME (GAL) | TAGGING INFORMATION | QUANTITY |
|--------------|--------------------------|--------------|---------------------|----------|
| TES-1175     |                          | 1175         |                     |          |
| TES-1650     |                          | 1650         |                     |          |
| TES-2300     |                          | 2300         |                     |          |
| TES-3050     |                          | 3050         |                     |          |
| TES-4000     |                          | 4000         |                     |          |
| TES-5050     |                          | 5050         |                     |          |
| TES-6300     |                          | 6300         |                     |          |
| TES-7700     |                          | 7700         |                     |          |
| TES-9400     |                          | 9400         |                     |          |
| TES-11300    |                          | 11300        |                     |          |
| TES-13400    |                          | 13400        |                     |          |
| TES-15700    |                          | 15700        |                     |          |
| TES-18300    |                          | 18300        |                     |          |
| TES-20000    |                          | 20000        |                     |          |
| TES-24400    |                          | 24400        |                     |          |
| TES-27800    |                          | 27800        |                     |          |
| TES-31500    |                          | 31500        |                     |          |
| TES-41000    |                          | 41000        |                     |          |
| TES-52000    |                          | 52000        |                     |          |

#### Typical Specification:

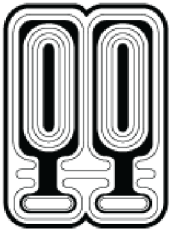
Furnish and install, as shown on plans, a TES-\_\_\_\_\_ as manufactured by Wessels Company. The tank shall incorporate stratification baffles to reduce tank water storage temperature thermocline to increase usable temperature efficiency. The system water connections must be \_\_\_\_\_" (flanged/grooved). The TES must be constructed in accordance with the most recent addendum of Section VIII Division 1 of the ASME Boiler and Pressure Vessels Code and constructed and stamped for 125 PSI working pressure @ 450°F.

Each tank shall be Wessels model number TES-\_\_\_\_\_ or approved equal.



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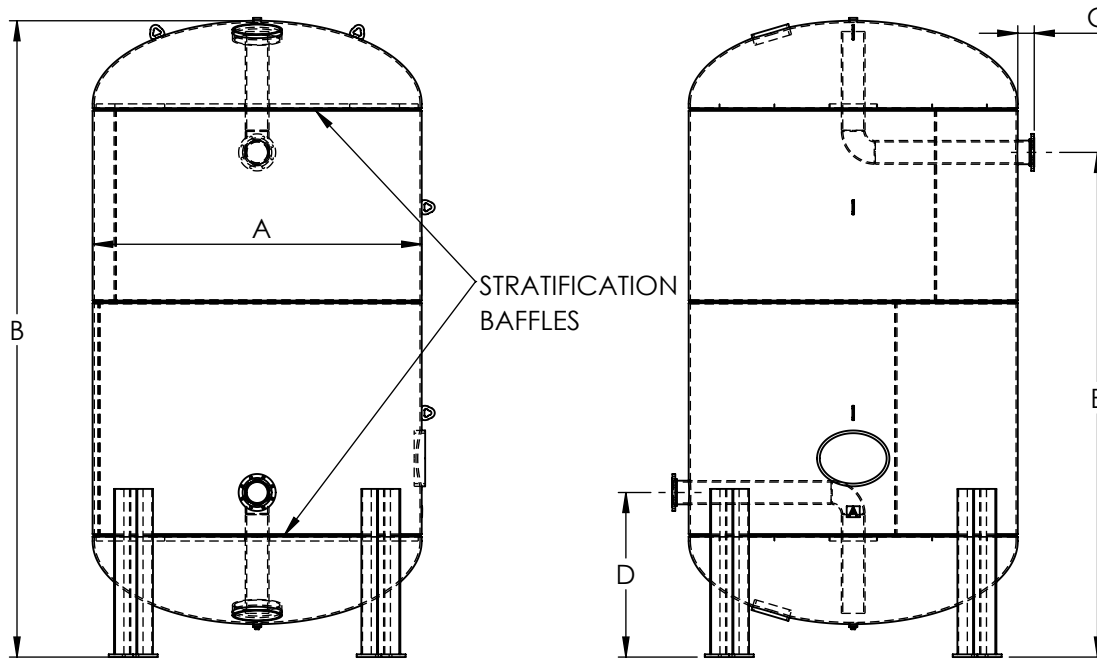
## TES-SERIES

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### Model Definitions

TES - 1175 - 10F - 150

(a) (b) (c)(d) (e)

(a) CBTH Model

(b) Gallon Size

(c) Connection Size

(d) Connection Type

F = Flanged

G = Grooved

(e) Pressure

(blank) = 125 PSI

150 = 150 PSI

200 = 200 PSI

250 = 250 PSI

### Dimensions & Weights:

### TES-1175 thru TES-52000

| Model Number | Dims. in Inches |     |             | (D/E In Inches) for Various Connection Sizes |        |        |        |        |        |        |        |        | Approx. Shipping Weight (lbs) |
|--------------|-----------------|-----|-------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------|
|              | A               | B   | C           | 8                                            | 10     | 12     | 14     | 16     | 20     | 24     | 30     | 36     |                               |
| TES-1175     | 54              | 144 | SEE NOTE #1 | 32/123                                       | 35/122 | 36/121 | 37/120 | 38/119 | 40/117 | 42/115 | -      | -      | 2100                          |
| TES-1650     | 60              | 166 |             | 35/143                                       | 36/142 | 37/141 | 38/140 | 39/139 | 41/137 | 43/135 | 46/132 | -      | 2700                          |
| TES-2300     | 72              | 180 |             | 38/154                                       | 39/153 | 40/152 | 41/151 | 42/150 | 44/148 | 46/146 | 49/143 | 52/140 | 3700                          |
| TES-3050     | 72              | 204 |             | 38/178                                       | 39/177 | 40/176 | 41/175 | 42/174 | 44/172 | 46/170 | 49/167 | 52/164 | 5000                          |
| TES-4000     | 84              | 204 |             | 41/175                                       | 42/174 | 43/173 | 44/172 | 45/171 | 47/169 | 49/167 | 52/164 | 55/161 | 7100                          |
| TES-5050     | 84              | 254 |             | 41/225                                       | 42/224 | 43/223 | 44/222 | 45/221 | 47/219 | 49/217 | 52/214 | 55/211 | 8100                          |
| TES-6300     | 96              | 238 |             | 44/206                                       | 45/205 | 46/204 | 47/203 | 48/202 | 50/200 | 52/198 | 55/195 | 58/192 | 9600                          |
| TES-7700     | 108             | 232 |             | 47/197                                       | 48/196 | 49/195 | 50/194 | 51/193 | 53/191 | 55/189 | 58/186 | 61/183 | 11800                         |
| TES-9400     | 120             | 232 |             | 50/194                                       | 51/193 | 52/192 | 53/191 | 54/190 | 56/188 | 58/186 | 61/183 | 64/180 | 14400                         |
| TES-11300    | 120             | 282 |             | 50/244                                       | 51/243 | 52/242 | 53/241 | 54/240 | 56/238 | 58/236 | 61/233 | 64/230 | 17300                         |
| TES-13400    | 120             | 326 |             | 50/288                                       | 51/287 | 52/286 | 53/285 | 54/284 | 56/282 | 58/280 | 61/277 | 64/274 | 20500                         |
| TES-15700    | 138             | 286 |             | 50/244                                       | 56/243 | 57/242 | 58/241 | 59/240 | 61/238 | 63/236 | 66/233 | 69/230 | 24000                         |
| TES-18300    | 138             | 327 |             | 50/288                                       | 56/284 | 57/283 | 58/282 | 59/281 | 61/279 | 63/277 | 66/274 | 69/271 | 28000                         |
| TES-20000    | 144             | 328 |             | 55/244                                       | 57/283 | 58/282 | 59/281 | 60/280 | 62/278 | 64/276 | 67/273 | 70/270 | 31000                         |
| TES24400     | 144             | 392 |             | 55/285                                       | 57/347 | 58/346 | 59/345 | 60/344 | 62/342 | 64/340 | 67/337 | 70/334 | 37000                         |
| TES-27800    | 144             | 442 |             | 56/284                                       | 57/397 | 58/396 | 59/395 | 60/394 | 62/392 | 64/390 | 67/387 | 70/384 | 42000                         |
| TES-31500    | 144             | 492 |             | 56/448                                       | 57/447 | 58/446 | 59/445 | 60/444 | 62/442 | 64/440 | 67/437 | 70/434 | 48000                         |
| TES-41000    | 156             | 542 |             | 59/495                                       | 60/494 | 61/493 | 62/492 | 63/491 | 65/489 | 67/487 | 70/484 | 73/481 | 63000                         |
| TES-52000    | 156             | 672 |             | 59/625                                       | 60/624 | 61/623 | 62/622 | 63/621 | 65/619 | 67/617 | 70/614 | 73/611 | 79000                         |

### Notes:

- For connections 24" and below, the "C" dimension is 6". For connections 30" and 36", the "C" dimension is 8".
- Dimensions shown are subject to change and should not be used for pre-piping.
- Weights are based on max flange connections.
- Contact your local Wessels Representative if certified dimensional drawings are required.



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