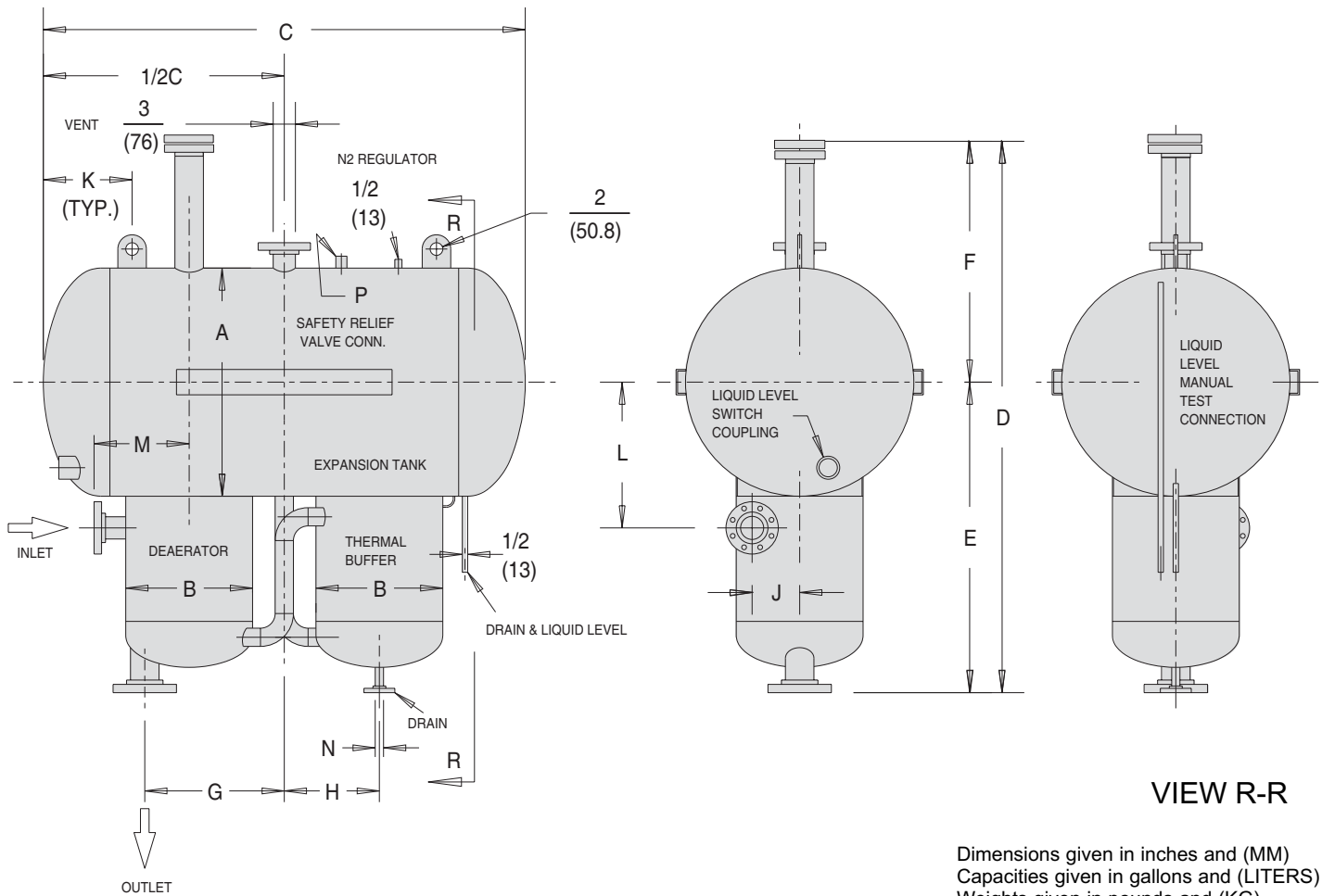


# Dimensions and Sizing Instructions of the Fulton Combination Expansion/Deaerator/Thermal Buffer Tank Models FT-200-L to FT-5000-L



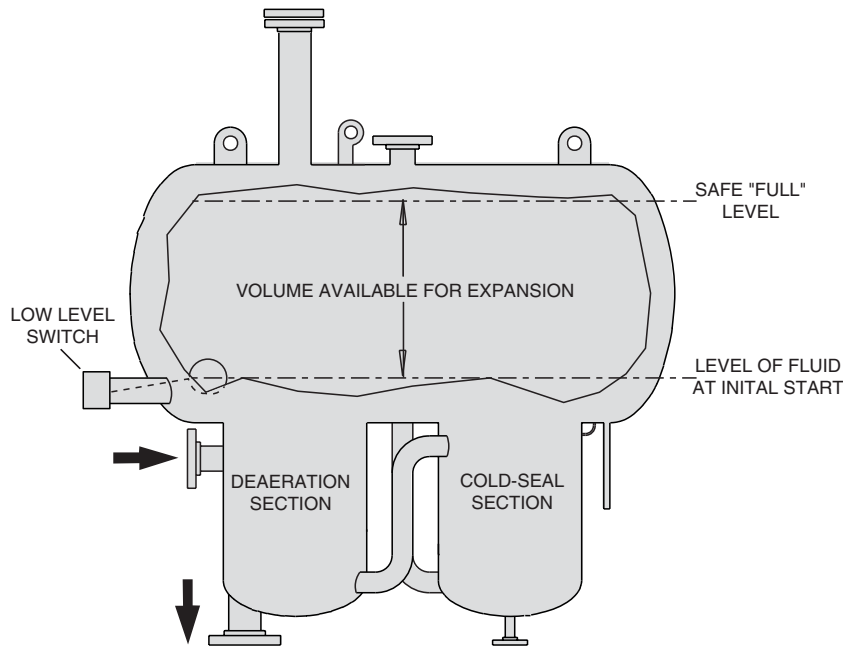
VIEW R-R

Dimensions given in inches and (MM)  
Capacities given in gallons and (LITERS)  
Weights given in pounds and (KG)

MODEL	A	B	C	D	E	F	G (Ref)	H	J (Ref)	K	L	M	N	P	CAP.	Dry Wt.	Max. Full Wt.
FT-200-L	20 (510)	12 <sup>3</sup> / <sub>4</sub> (325)	54 (1370)	60 <sup>5</sup> / <sub>8</sub> (1540)	34 (865)	26 <sup>5</sup> / <sub>8</sub> (676)	16 <sup>1</sup> / <sub>8</sub> (424)	12 (305)	4 <sup>1</sup> / <sub>2</sub> (115)	4 <sup>1</sup> / <sub>4</sub> (108)	15 (381)	12 <sup>1</sup> / <sub>8</sub> (329)	<sup>3</sup> / <sub>4</sub> (20)	<sup>3</sup> / <sub>4</sub> (20)	52 (200)	636 (289)	1314 (596)
FT-500-L	26 (660)	16 (405)	74 (1880)	66 <sup>5</sup> / <sub>8</sub> (1692)	37 (940)	29 <sup>5</sup> / <sub>8</sub> (752)	19 <sup>3</sup> / <sub>4</sub> (502)	14 (355)	6 (150)	11 <sup>1</sup> / <sub>2</sub> (290)	18 (460)	14 <sup>1</sup> / <sub>8</sub> (379)	<sup>3</sup> / <sub>4</sub> (20)	<sup>3</sup> / <sub>4</sub> (20)	132 (500)	970 (440)	2450 (1111)
FT-1000-L	36 (915)	20 (510)	76 (1930)	87 <sup>5</sup> / <sub>8</sub> (2226)	49 (1245)	38 <sup>5</sup> / <sub>8</sub> (981)	22 <sup>1</sup> / <sub>4</sub> (565)	15 (380)	7 <sup>1</sup> / <sub>8</sub> (202)	14 (355)	24 (610)	14 <sup>1</sup> / <sub>8</sub> (379)	1 (25)	1 (25)	264 (1000)	1350 (612)	4380 (1987)
FT-1500-L	36 (915)	20 (510)	106 (2690)	87 (2210)	49 (1245)	38 <sup>5</sup> / <sub>8</sub> (981)	24 <sup>3</sup> / <sub>4</sub> (629)	17 <sup>1</sup> / <sub>2</sub> (445)	8 (203)	14 (355)	24 (610)	14 <sup>1</sup> / <sub>8</sub> (379)	1 (25)	1 <sup>1</sup> / <sub>4</sub> (32)	397 (1500)	1710 (776)	5875 (2667)
FT-2000-L	42 (1070)	22 (560)	106 (2690)	107 <sup>5</sup> / <sub>8</sub> (2734)	62 <sup>1</sup> / <sub>2</sub> (1590)	45 <sup>5</sup> / <sub>8</sub> (1146)	31 <sup>3</sup> / <sub>8</sub> (792)	24 (610)	8 <sup>1</sup> / <sub>2</sub> (216)	15 <sup>1</sup> / <sub>2</sub> (394)	28 (710)	14 <sup>1</sup> / <sub>8</sub> (379)	1 (25)	1 <sup>1</sup> / <sub>2</sub> (38)	528 (2000)	2550 (1134)	8230 (3733)
FT-3000-L	42 (1070)	26 (660)	140 (3556)	115 <sup>5</sup> / <sub>8</sub> (2924)	70 (1778)	45 <sup>5</sup> / <sub>8</sub> (1146)	33 <sup>3</sup> / <sub>8</sub> (843)	24 (610)	9 <sup>1</sup> / <sub>8</sub> (252)	15 <sup>1</sup> / <sub>2</sub> (394)	28 (710)	18 <sup>1</sup> / <sub>8</sub> (481)	1 (25)	1 <sup>1</sup> / <sub>2</sub> (38)	793 (3000)	3200 (1451)	11,610 (5265)
FT-5000-L	60 (1524)	26 (660)	130 <sup>3</sup> / <sub>8</sub> (3312)	132 <sup>5</sup> / <sub>8</sub> (3356)	77 <sup>1</sup> / <sub>2</sub> (1969)	54 <sup>5</sup> / <sub>8</sub> (1387)	32 <sup>3</sup> / <sub>8</sub> (818)	24 (610)	9 <sup>3</sup> / <sub>8</sub> (238)	20 <sup>5</sup> / <sub>8</sub> (524)	37 (940)	18 <sup>1</sup> / <sub>8</sub> (481)	1 (25)	1 <sup>1</sup> / <sub>2</sub> (38)	1321 (5000)	5300 (1637)	17,370 (7895)

NOTE: Inlet and outlet dimensions vary with installation

All dimension are approximate.  
Specifications subject to change without notice.



Developed specifically for thermal fluid system use, the Fulton Combination/Deaerator/Expansion/Thermal Buffer Tank is a patented design. The unique combination of the operation of these three vessels in one results in numerous advantages including: pipework simplification, protection of thermal fluid from oxidation, ease of installation, and continuous deaeration of fluid, avoiding pump cavitation.

**Expansion Section:**

The expansion section is vital to the thermal fluid system. From ambient to operating temperature, the thermal fluid in the system will typically expand in the range of 30%, and a vessel capable of handling this expansion is mandatory. Additional expansion section features include a liquid level switch and manual fluid levels test connections. In the event of system fluid loss, the level in the expansion section of the combination tank will drop, and the liquid level switch will shut the unit down. Manual low and high fluid level test connections are always provided.

**Deaerator Section:**

At start up the primary purpose of the deaerator section is to remove all volatiles from the system to avoid pump cavitation. The deaerator section also allows oxygen to be vented from the system on a continuous basis during operation to avoid oxidation of the thermal fluid, and removes other volatile particles generated by the fluid itself during system operation

**Thermal Buffer Section:**

A system of interconnecting pipework in the thermal buffer tank section prevents the movement of any oil, that has not cooled sufficiently, into the expansion section. This avoids contact of very high thermal fluid temperature with oxygen contained in the atmosphere.

**Sizing the Tank for the System:**

Expansion tank capacity is the total volume of the tank. It is necessary to have some air space available at the top of the tank to avoid spillage or overflow.

At initial fill (for system volume calculations) the deaerator and cold seal sections must be filled completely, and the expansion section must be filled to a level of 4" to "make" the low level switch.

The volume between the initial fill level and the safe "full" level is the amount available for expansion. That volume is used to decide which tank is suitable for the system expansion.

Model	Capacity (Gallons)	Initial Fill (Gallons)	Available For Expansion (Gallons)	Max System Volume
FT-200-L	52	25	46	184
FT-500-L	132	40	121	525
FT-1000-L	264	80	232	1000
FT-1500-L	397	90	380	1400
FT-2000-L	528	145	444	1700
FT-3000-L	793	215	717	2600
FT-5000-L	1310	300	1168	4600

Example: A System contains 175 gallons, including the heater, but not the tank. You select the FT-200-L, so you add 25 gallons to 175. You must look up the expansion rate for the thermal fluid. (Assume it's 25%). 200 gal. x 1.25=250 gal. 250-200=50 gal. expansion. The FT-200-L has only 46 gal. available for expansion, so the correct selection is FT-500-L.



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