

# INSTALLATION INSTRUCTIONS

Highly Advanced Thermal Systems

The Simpler Solution for Insulating Vessel Heads.



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## HOW TO PUT HATS® ON YOUR HEADS

HATS are designed to be put on INSIDE OUT, not outside in. It is important to start in the center of the vessel and work out towards the vessel shell. It is very difficult to start at the vessel shell and put your HATS on straight.

1. Install the two center half sections with the Pamrod logo in the center of the head using the specified adhesives or mechanical supports. (Refer to Figure 1). Any center nozzles smaller than 16" IPS should be field cut. Your HATS may have been designed to fit around the center nozzle if it is 16" IPS or larger. (For center nozzles greater than 20" IPS that require field cutting, please refer to Figure 6).

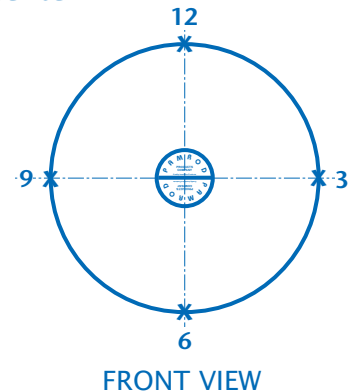
Each course is numbered for ease of installation, starting at 1, 2, 3 ... to the last course. The number of courses is determined by the diameter of the vessel head. On multiple layered systems, the inner layer will have an "I" and the outer layer will have an "O." If it is triple layered, the second course will have an "M."

2. Install one of each different numbered segments in sequence starting at the bottom of the center section and continuing in a straight line towards the "six o'clock" position. (Refer to Figure 2). This "row" will confirm the proper location of the center and verify the fit of the HATS on the head. The row should end at the tangent of the head and the straight flange, short of the weld line.
3. Proceed in this fashion by adding additional "rows" of each numbered block on each side of the first row in a clockwise and counterclockwise fashion. (Refer to Figure 3). Continue insulating the head to finish at the "twelve o'clock position." (Refer to Figures 4 and 5).

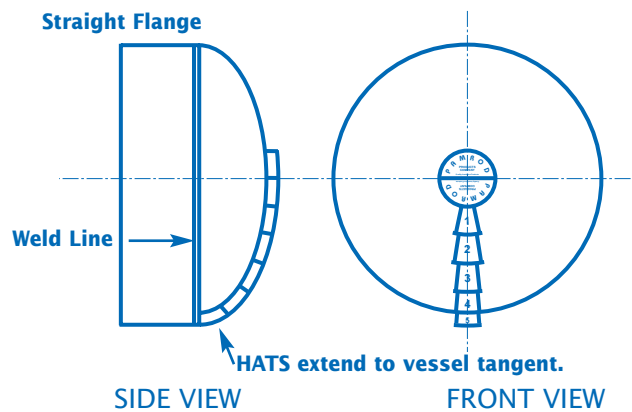
**Fig. 1. Showing Two Center Half Sections.**

If there is no center nozzle, locate the center of the vessel head as follows:

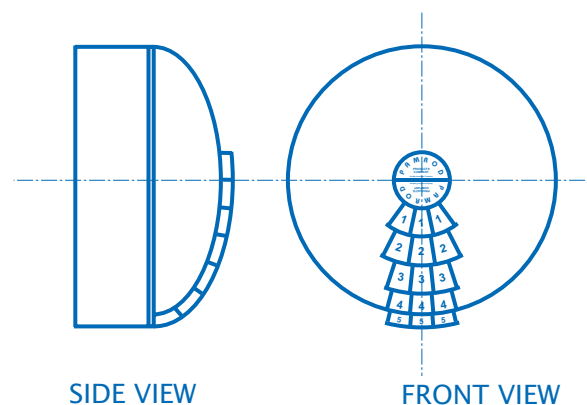
1. Measure the circumference of the tank.
2. Divide the circumference into four sections and mark an X as shown at right at the 12:00, 3:00, 6:00, and 9:00 positions.



**Fig. 2. Showing one of each different numbered segments forming the first row.**



**Fig. 3. One additional row of segments added on each side of first row.**



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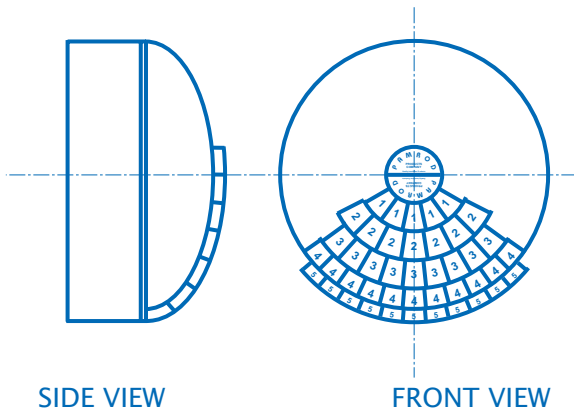


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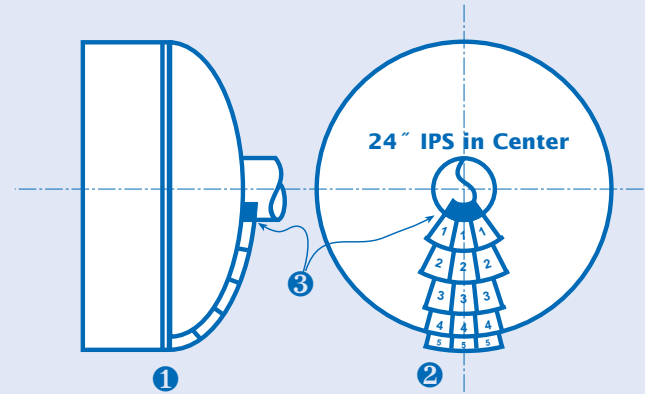
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**Fig. 4. Additional segments are added in a clockwise and counterclockwise fashion.**



**Fig. 6. How to Field Cut a Center Nozzle.**



1. Position the last segment at the vessel head tangent.
2. Install numbered segments in reverse order in a straight line toward the center nozzle.
3. Field trim segments to fit around center nozzle; and then install your HATS® inside out.

**Fig. 5. Completed Installation.**

