Title (en)

THERMOREGULATED TANK CONTAINER.

Title (de)

TEMPERIERBARER TANKCONTAINER.

Title (fr)

CONTENEUR POUR CITERNES A TEMPERATURE REGLABLE.

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Abstract (en)

[origin: US4923075A] PCT No. PCT/DE88/00476 Sec. 371 Date Mar. 27, 1989 Sec. 102(e) Date Mar. 27, 1989 PCT Filed Aug. 2, 1988 PCT Pub. No. WO89/00962 PCT Pub. Date Feb. 9, 1989.The thermostatically controllable tank container has a support structure with the dimensions of a parallelepipedic, standardized container. In the support structure (1) is provided a circular cylindrical tank (3) with a non-supporting thermal insulation jacket (4). Between the tank skin and the thermal insulation jacket are provided longitudinally directed ducts (9) for carrying a heating or cooling medium. The external diameter of the tank is essentially adapted to the internal dimensions of the square cross-section of the support structure, so that there is an optimum utilization by the cylinder of the theoretically available space of the parallepiped. The thermal insulation jacket adapted to the tank contour is arranged within the parallelepiped shape defined by the support structure (1). In cross-section, together with the circular cylindrical tank skin, the thermal insulation jacket (4) forms four crescent-shaped ducts (9) for carrying the heating or cooling medium and which are bounded in the longitudinal direction by the placing of the thermal insulation jacket on the circular cylindrical tank skin in the corresponding vertical and horizontal planes (tangents in cross-section). Thus, the invention provides a thermostatically controllable tank container with standardized external dimensions, whose internal space is utilized in optimum manner by the circular cylindrical tank. The four corners made available by the difference between the circle and the square are used for forming the crescent-shaped ducts. As the thermal insulation jacket (4) is also substantially circular, less insulating material is used in its manufacture.

Abstract (de)

Der temperierbare Tankcontainer weist eine Stützkonstruktion mit den Abmessungen eines quaderförmigen, genormten Containers auf. In der Stützkonstruktion (1) ist ein kreiszylinderförmiger Tank (3) mit einem nichttragenden Wärmedämmantel (4) angeordnet. Zwischen der Tankhaut und dem Wärmedämmantel sind in Längsrichtung verlaufende Kanäle (9) zur Führung eines Kühl- oder Heizmediums vorgesehen. Der Außendurchmesser des Tanks ist im wesentlichen den Innenabmessungen des quadratischen Querschnitts der Stüzkonstrucktion angepasst, so daß der theoretisch zur Verfügung stehende Raum des Quaders durch den Zylinder optimal ausgenutzt wird. Der der Kontur des Tanks angepaßte Wärmedämmantel ist innerhalb der durch die Stützkonstruktion (1) definierten Quaderform angeordnet. Der Wärmedämmantel (4) bildet mit der kreiszylinderförmigen Tankhaut im Querschnitt vier sichelförmige Kanäle (9) zur Führung des Kühl- oder Heizmediums, die in Längsrichtung durch die Anlage des Wärmedämmantels an der kreiszylinderförmigen Tankhaut in den entsprechenden senkrechten und waagerechten Ebenen (Tangente im Querschnitt) begrenzt sind. Die Erfindung schafft hier also einen temperierbaren Tankcontainer mit genormten Außenabmessungen, dessen Innenraum durch den kreiszylinderförmigen Tank optimal ausgenutzt wird. Die durch die Differenz zwichen Kreis und Quadrat zur Verfügung stehenden vier Ecken werden zur Bildung der sichelförmigen Kanäle ausgenutzt. Da der Wärmedämmantel (4) ebenfalls im wesentlichen kreisförmig ist, wird zu seiner Herstellung weniger Isoliermaterial verwendet. Abstract A thermoregulated tank container has a supporting structure having the dimensions of a standard parallelepipedal container. A cylindrical tank (3) with a heat-insulating jacket (4) is arranged in the supporting structure (1). Longitudinal channels (9) for conducting a cooling or heating medium are provided between the tank shell and the heat-insulating jacket. The external diameter of the tank is essentially adapted to the internal dimensions of the square cross-section of the supporting structure, so that the theoretically available space inside the square is optimally occupied by the cylinder. The heat-insulating jacket is adapted to the contour of the tank and is arranged inside the parapellelepiped defined by the supporting structure (1). The heat-insulating jacket (4) together with the cylindrical tank shell forms, in cross-section, four crescent-shaped channels (9) for conducting the cooling or heating medium which are delimited in the longitudinal direction by the points of contact between the heat-insulating jacket and the cylindrical tank shell in the corresponding vertical and horizontal planes (tangents in the cross-section). The invention thereby achieves a thermoregulated tank container with standard external dimensions, the interior of which is optimally occupied by the cylindrical tank. The four corners resulting from the difference between the circle and the square serve to form the crescent-shaped channels. As the heat-insulating jacket (4) is also essentially circular, less insulating material is used to manufacture it.

Abstract (fr)

Un conteneur pour citernes à température réglable comprend une construction de support ayant les dimensions d'un conteneur paralléllépipédique standard. Une citerne (3) cylindrique circulaire ayant une enveloppe calorifuge (4) non-porteuse est agencée à l'intérieur de la construction de support (1). Entre la coque de la citerne et l'enveloppe calorifuge sont agencés des canaux (9) longitudinaux d'écoulement d'un milieu de refroidissement ou de chauffage. Le diamètre extérieur de la citerne est essentiellement adapté aux dimensions internes de la section transversale carrée de la construction de support, de sorte que l'espace carré théoriquement disponible est occupé de manière optimale par le cylindre. L'enveloppe calorifuge adaptée au contour de la citerne est agencée à l'intérieur du carré défini par la construction de support (1). L'enveloppe calorifuge (4) forme avec la coque cylindrique circulaire de la citerne quatre canaux (9) en croissant d'écoulement du milieu de refroidissement ou de chauffage, délimités dans le sens longitudinal par les points de contact entre l'enveloppe calorifuge et la coque cylindrique circulaire de la citerne sur les plans verticaux et horizontaux correspondants (tangentes dans la section transversale). On obtient ainsi un conteneur de citerne à température réglable ayant des dimensions extérieures standard et dont l'espace intérieur est occupé de manière optimale par la citerne circulaire cylindrique. Les quatres coins disponibles en raison de la différence entre le cercle et le carré sont utilisés pour former les canaux en croissant. Etant donné que l'enveloppe calorifuge (4) est elle aussi essentiellement circulaire, on utilise moins de matériau isolant pour la construire.

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