

PRESS RELEASE

Pfannenberg air/water heat exchanger for mounting on top

New type of installation simplifies planning and system adaptations

Hamburg, 21st October 2019. With the PWT air/water heat exchanger 6402, thermal management specialist Pfannenberg has developed a cost-efficient thermal management solution to be mounted on top of electrical enclosures that offers a further safe alternative to the side-mounted units already in the portfolio. The condensate proof PWT heat exchanger with output of 3.8 kW enables effective cooling at low energy and maintenance costs.

Secure supply and free routes

Traditionally, water connections were installed on the ground, but in modern factories these are now often installed hanging at a height of two metres. Heat exchangers with an overhead water connection have been developed to meet these requirements. In addition to heat exchangers for side mounting, Pfannenberg now presents a heat exchanger for top-mounting. This means that the connections are better protected against damage during normal operation and that transport and escape routes remain clear. The clear design also ensures clear lines of sight.

Easy installation ensures higher machine availability

The T-water connection used for top-mounting ("T" for top) is particularly suitable for intelligently planned production halls, as fundamental structural changes, e.g. for a new production line, can be carried out more easily and flexibly. The water supply and the top-mounted installation also allow better use to be made of the available space. Furthermore, the flexibility is greatly increased by the available quick-change frame, so that conversions can be carried out more quickly. In addition, the easily accessible fans and magnet valves ensure high machine availability during maintenance.

Water cooling in any environment

Regardless of the environment, PWT heat exchangers are always powerful. They are particularly suitable where other cooling units fail: in harsh environments with hot temperatures and oily air. Here, the heat is dissipated into the water and thus does not need a sufficiently cold outside. Cooling towers or chillers provide the right water temperature. Water is the perfect coolant in most applications: It has a good heat transfer and heat storage performance and is non-toxic. In addition, water recooling is often already available, which saves costs. In addition, the central supply of cooling water is superior in terms of energy and leads to cost savings and high efficiency.

Security at all levels

The heat exchanger has four essential safety features: Condensate safety, temperature alarm, leakage sensor and IP 55 protection.

- 1. Condensate safety:** Everyone knows it from cool drinks in summer - condensation forms on cold surfaces. Top-mounted cooling units are therefore always suspected of undercooling the top of the electrical enclosure and thus provoking hanging drops. During development, therefore, attention was paid to a sufficient distance between the heat exchanger and the bottom of the device. The air acts as insulation and effectively prevents subcooling. The height gained also ensures efficient condensate drainage. At the same time, the flow-optimised air flow ensures a high cooling capacity. Alternatively, an external condensate evaporation or condensate bottle can be added. If the packing density is high, an air duct system can also be selected.
- 2. Temperature alarm:** The temperature of the heat exchanger is controlled and monitored by built-in twin thermostats; remote monitoring of the enclosure temperature is also possible here. If the overtemperature is +10K above the setpoint, a warning is issued.
- 3. Leakage sensor:** The heat exchanger is mounted on a plastic trough, allowing condensate and any leakage water to drain via a > 1 cm deep channel into the condensate drain arranged below. An installed float switch serves to interrupt the power contact to the magnetic valve when detecting a certain amount of

liquid. This ensures not only water drainage, but also the safety of the electronics in the event of leakage.

- 4. Protection type IP 55:** An all-round sealed housing prevents the ingress of water and dust. This makes the PWT series also suitable for use in heavily polluted environments.

Flexible portfolio

Pfannenberg's portfolio already provides air/water heat exchangers for side mounting and installation (PWS/PWI 6502 T) featuring a water connection at the top. All in all, the product range of heat exchangers offers a high degree of flexibility. Planners of production and manufacturing halls have the choice of installation: either on top or on the side.

Pictures and captions:



Picture 1: The air/water heat exchangers on the enclosure top are condensate-proof, energy-efficient and reduce the footprint.

About Pfannenberg

Pfannenberg is a medium-sized company which provides innovative and high-quality electro-technology for industry. Today, the company belongs to the global players of this industry with its headquarters in Hamburg, Germany and its locations in Brazil, China, England, France, Italy, Russia, Singapore and the USA. The product portfolio comprises components and system solutions for the thermal management of electrical enclosures, chillers, visible and audible signaling technology and custom solutions. A special highlight in the Pfannenberg portfolio is the designed illuminations which are commissioned by architects, designers, and urban and spatial planners (www.pfannenberg.com/en/solutions/industries/art-illumination/).

You can find more information about Pfannenberg on: <http://www.pfannenberg.com>

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