



# HIGH TEMPERATURE VALVES & FITTINGS

**It is a niche segment of the transport industry but some cargos need to be transported at a high temperature, whilst some other cargoes are allowed to solidify in transit but require heating on arrival prior to discharge.**

The reason for this depends on the cargo, but a well-known example is bitumen that needs to be heated to melt it from its solid state to allow loading/discharge. Although most valves easily go up to 150°C in working temperature, this does not suffice for those particular kinds of cargo requesting an even higher temperature.

BIP Perolo explains the various solutions they can offer to make sure that performance at the requested high temperature is met. The function of the valve is the deciding factor. An airline valve for instance is not in direct contact with the transported cargo, but 'only' needs to be able to withstand the heated air in the upper part of the tank or tanker. For these kinds of valves, the

most common solution will be special seals that can withstand +250°C working temperature. The material of the seals depends on the size and kind of valve, because the design concepts are unlikely to be affected by the change of seal material. Most common material will be PFA/Silicone or PTFE/graphite.

Of course the same option of special seals is available on the valves with other functions such as top discharge or bottom discharge, but sometimes for the latter that does not suffice. Some products are so sensitive to temperature drops that the bottom discharge needs extra heating to make sure that the product does not alter its physical state whilst passing through the valve during loading or unloading operations.

For this challenge, BIP Perolo developed steam heating systems that can be attached to the footvalve. Either this high temperature request is specified during order stage in which case the steam heating box will be welded onto the body



of the valve or BIP Perolo can offer bolt-on heating boxes that can be attached to the footvalve (requiring heat transfer paste) in case of modifying an existing tank.

For ISO tanks and road tankers it is the tank manufacturer that provides the insulation for the vessel. However for the rail tank car sector there are pipes that are supplied mostly by the valve manufacturer. For these kinds of pipes, insulation can be fitted in-house in Perolo's factory based in Blaye.

A last special feature that BIP Perolo can offer is working together with companies who specialise in producing heating systems during the manufacturing stage of the tank. A good example for this is a project that BIP Perolo undertook together with an electrical heating specialist to develop a trace heating mat to envelope the lower half of the valve for a renowned Chinese tank manufacturer.

A unique high temperature solution does not exist. In reality there are many solutions depending on the type of tank, the external conditions and the product to be transported as cargo.

BIP Perolo having an in-house engineering department ensures the safest and most efficient fit between valves and tank.

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