



KÖCO stud welding machinery Bitzer Kühlmaschinenbau GmbH

Refrigerating aggregates are used for many purposes, such as food conservation, cold storage and processing, medical technology, research, air conditioning, cold storage in transport and at sports facilities.

A vital part of refrigerating machines is the condenser, inside which a bundle of copper pipes filled with water is surrounded by a refrigerant. As required, heat is exchanged between the refrigerant and the cooling agent. The condenser must withstand the pressure prevailing inside the machine as well as the agents used (refrigerant and water, including seawater). Both ends of the cylindrical condenser are formed of perforated plates made from P265GH pressure-resistant steel, onto which the copper pipes are soldered.

The baffle plates ensure a pressure-tight closed-loop water circuit and regulate the water circulation by means of built-in deflectors. They are attached to the inner part by means of stainless steel M 10 threaded studs which are welded onto the perforated plates. The threaded studs are connected by using the drawn-arc stud welding process with a ceramic ferrule. The ceramic ferrule increases the fusion penetration and forms the welding pool into a precisely calibrated bead. A high standard of process safety is required, as the studs are subjected to pressure, and the failure of a weld will immediately lead to leakages and a subsequent machine standstill. The design conforms to the EU standard for pressure vessels No. 97/23/EU.

KÖCO threaded studs are delivered with 3.1B certificates according to EN 10204 for this application. Thus, the required high quality standard is guaranteed. Each welded stud can be identified and traced back even after several years.

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