

A. EMSA HVAC SYSTEM DESCRIPTION

The HVAC system of the EMSA building is based on a centralized solution with simultaneous production of hot and chilled water, operating under a four-pipe configuration.

At the hydraulic circuit level, energy efficiency measures have been implemented through the use of variable flow pump sets. This approach enables the modulation of energy consumption in accordance with the building's instantaneous thermal demand.

The existing chilled water and hot water distribution networks have been installed using medium-grade, welded black steel pipes, compliant with DIN 240 and DIN 2448 standards. All piping systems include the necessary installation fittings, with supports and clamps adequately metallized to ensure durability and corrosion resistance.

Pipe connections are executed using threaded joints for diameters up to 2 inches and welded or flanged joints for larger diameters.

Thermal insulation of the piping network has been carried out using expanded polyurethane shells, non-combustible, or elastomeric rubber foam of a quality not inferior to that manufactured by Armstrong. The insulation thickness has been selected in accordance with the applicable regulations in force at the time of installation.

B. REQUIREMENTS

The existing chilled water and hot water distribution networks, installed in 2008, are currently exhibiting advanced signs of material degradation, primarily associated with corrosion processes. These include both internal and external corrosion mechanisms, which have compromised the integrity of the piping system. As a result, multiple leakage points have developed, leading to uncontrolled water discharge within occupied office areas and increasing the risk of further system failure, operational disruption, and damage to building finishes and equipment.

Given that the building is currently in operation, it is intended to carry out a phased replacement of all existing HVAC system piping within the building.

An entirely pre-insulated plastic piping system is required, providing a lightweight, durable, and cost-effective solution suitable for air conditioning and refrigeration applications.

At this moment, it is considered that the most suitable solution, offering greater versatility and rapid installation, will be a system equivalent to the COOL-FIT range by Georg Fischer (+GF+) or similar.

C. REQUESTED DELIVERABLES (1 copy in paper + electronic version):

Phase 1) Conduct a full assessment of the existing pipes and accessories
Phase 2) Redesign the HVAC projects with this new pipe technology
Phase 3) Report and supporting documents
a) Prepare a bill of quantities
b) Provide a technical report detailing the required work, including:
<ul style="list-style-type: none"> Materials and equipment to be reused. A Gantt chart with two possible execution scenarios. A cost estimate for the execution project.

NOTE: For the assessment of the existing piping, sections of the ceiling will be removed by on-site maintenance personnel to allow for proper inspection.

Appendix II - Price offer

	Price excluding VAT
Phase 1	
Phase 2	
Phase 3	
TOTAL	

Prices must be quoted for the subject in the Invitation to tender further described above in Appendix I and shall be all-inclusive, including all and any costs associated with the delivery of the services.