**Object of the order:**

**Fiber optic cable leakage test rig up to 100 bar in accordance with the relevant standards and normative requirements**

TFK requirements:

* The installation is made of acid-resistant pipes with an external diameter of approx. 800 mm, height approx. 1200 mm, welded on one side and terminated with a flange and cap set on the other side.
* The installation should include a lever to pull off the cap
* The installation should be suitable for continuous operation at a pressure of 100 bar, test pressure 116 bar

The installation should include equipment to heat the NaCl solution to a temperature of

85 °C (is it possible to achieve a higher temperature at 100 bar) and maintain this temperature in the pressure vessel (and a proposal to cool the water to 4 °C and maintain this temperature in the pressure vessel)

* Pallet-boxes for liquid materials (2 pieces) including racks

- capacity min. 1000 l

- suitable for the storage and transport of saline water

- stands made of aluminium profiles, with swivel castors with brakes, height 1-1.2 m

* Measuring section (information data, other solutions may be proposed):

- connection with calibrated manometer with a measuring range of 0-116 bar

- connection with electronic pressure sensor with a measuring range of 0-116 bar for pump control

 - connection with high-pressure pump to ensure pressure in the system

- connection with valve for venting during system filling

- connection with drain valve

- ferrule with two-way solenoid relief valve to stabilise pressure in the system and to release pressure after the test is completed

- connection with safety valve

- temperature sensor with an accuracy of 0.1 °C and real-time readout with dedicated software

* Pumping system 2 pcs:

- high-pressure unit (4% NaCl solution), controlled by a controller together with a control panel

* Hand-held computer with logger (control and real-time measurement of pressure, time and temperature with read-out with dedicated software)
* Dedicated software

Monitored values:

- medium pressure [bar]

- medium temperature [°C]

- calculated pump cut-in pressure

- calculated cut-out pressure of pump

- pump start signal

- test duration

- remaining test time

Settings:

- switching to AUTO operation (automatic activation and deactivation of the pump depending on the pressure in the system)

- opening of the drain valve

- duration of test

- cut-in pressure of the pump

- Pump cut-out pressure

- min/max temperature sensor measurements

Trends (graphs) of monitored parameters

* Adapting the room to the workstation:

- preparation of the room for the installation (floor, walls, ceiling, installation of external, technical double doors approximately 1800 mm wide and 2500 mm high)

- Installation of air conditioning to maintain constant room temperature

- installation of plumbing, electrical, air-conditioning, control and monitoring switchgear

- the tenderer should specify the media to be made/supplied to the pressure installation room through the TKF

* The tenderer should indicate the cycle for the replacement of fast-wearing items and their possible price
* Installation and training of workers at TFK
* Compliance with legal and health and safety requirements (if applicable)

The bidder is obliged to meet/ensure all legal and health and safety requirements that are related to the offered equipment or service. If the fulfilment of legal and/or health and safety requirements entails an increase in the price bid, this must be specified

Date of preparation of the specification: 28.03.2024

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