Tender specification
Heater steam generator **FlexLine Plus Spa**

Ready-to-connect compact steam humidifier for fully automatic and intrinsically safe generation of mineral-free, odourless and sterile steam for steam bath, organic sauna, hamam and many more spa applications. Steam output 5 – 50 kg/h per individual unit. Installation and maintenance-friendly design, for wall mounting. Easy to mount with all commercially available mounting rail systems, manufacturer-specific systems are not required. Completely stainless steel cabinet for optimum handling additionally powder-coated with lockable stainless steel cover and separate areas for steam generation and electrics.
With VDE and GS certification; CE- and EAC compliant. Developed and produced in Germany.
The FlexLine Plus Spa can be operated with demineralised, softened water or tap water.

Powerful control electronics for fastest possible steam delivery with optimal energy utilisation and low maintenance operating mode. Comprehensive operational reliability through continuous self-monitoring of all unit functions. Where required the control is modular and extendible with additional relay boards.

Standard equipment:

- Graphic capacitive 3.5" touch display with simple menu structure for intuitive operation and clearly laid out display of all operating and service messages in plain text mode and as icons
- Separable corrosion resistant stainless steel cylinder, cleanable without using chemicals, re-usable and with especially long service life
- Combined rinsing and scale collection system. During operation with softened or tap water the system rinses scale particles. The amount of scale deposits collected in the filter is clearly reduced. The remaining scale deposits are accumulated in the removable filter and can be removed during maintenance. The system is integrated into the unit therefore the dimensions of the FlexLine Plus are compact even when using tap water. When using demineralised water maintenance is reduced to a minimum
- Steam hose adapter, connectors and cylinder tension ring for quick and easy cylinder removal without tools
- Individually replaceable resistance heaters in Incoloy; extremely heat resistant and corrosion proof even with aggressive water qualities
- Electronic level control – exceptionally tough due to non-wearing contact free continuous proportional water level recording with no moving parts; non-use of conventional float switches is deliberate in order to eliminate any risk of failure due to limescale, swollen or leaking floats
- The units are equipped with certified, discrete and software-independent components and as verification of the highest standard of intrinsic safety are tested and certified by an independent body in compliance with the current product safety legislation of 17/03/2016 based on the low voltage directive (2014/35/EU)
- Powerful blowdown pump to extend service lives through pumping out scale deposits and hardeners
- Good component accessibility from three sides facilitated by unit's removable cover
- Roomy electric compartment
- Assembly materials
- Separate inputs for voltage, current and resistance signals
- Freely programmable overload protected digital input; amongst others load dumps or limited power decreases for reduction of power surges are consequently easily achieved

Performance characteristics:

- Automatic system test incl. power-up diagnosis to check all functions and unit components
- Load-dependent and/or time-based service interval display
- Support of preventative maintenance by maintenance-required messaging in good time BEFORE the occurrence of a possible malfunction by means of selective component monitoring with three service messages
- Continuous uniform steam production with constant steam bath temperature
- Programmable power retention and ECO function (fan shutdown when usage interrupted)

- Real-time clock with programmable timer function; 2 start / finish times can be set per day and weekly programme
- Supervision of maximum temperature with security switch-off
- Analogue output 0-10 V for simultaneous use of several units
- Integrated galvanically isolated serial interface RS-485 (EIA-485)
- Integrated communication protocol Modbus RTU and BACnet MS/TP
- Highest operational safety through thermal protection of the heating elements
- Thermal overload protection of the power semiconductor relays
- Almost maintenance-free when operated with demineralised water
- 2 potential-free relay signal functions; one of them freely parametrisable from 53 functions (factory preset: operating message and collective fault)
- Individual adjustment to the respective water quality
- Cylinder flushing system for significant extension of the service lives of cylinders by means of increased discharging of screenable scale deposits or hardeners
- Stand-by blowdown to prevent stationary cylinder water according to VDI 6022
- DVGW compliant flushing of dead-end line to prevent tap water stagnation

Optional:

- Integrated waste water cooling to limit waste water temperature to max. 60 °C when using PVC waste water pipes or pumping equipment
- Up to 11 additional relay signal functions, freely parametrisable from 53 functions such as e.g. up to 4 essence pumps, lighting, 2 supply and steam bath fans each or use of the booster function of the HygroMatik fan
- Implementation of up to 4 different lighting scenarios possible
- Remote control with capacitive graphic 5" touch display and user-oriented menu e.g. steam production only on request for 15 min.; suitable for installation in steam bath with appropriate on-site waterproofing; screen surface with protection class IP 65
- External 3.5" touch display as surface-mounted version in its own housing