

ELWA

Flow heater ERH 4700

High tech heaters for oil/emulsion



Service Hotline

+ 49 (0) 8141 – 22866-980



Description



Since their introduction to the market, the heaters of the 4700 series are the reference when it comes to perfect temperature control, heat transfer and flexibility in combination with a minimized footprint.

Design

The series 4700 heaters are a modular design. Similar to a conventional plate type heat exchanger, the max heating power can be adjusted by altering the number of plates. The heater stack consists of fluid filled pockets and electric heating elements. Since we cannot only alter the number of plates but also the max power of the heating elements, we can configure the perfect heater for any fluid. Due to the reduced volume in the heater we achieve short resting times and high control accuracy.

Electrics

Due to the flexible design, the heating elements can be adapted to almost any operating voltage between 220 VAC and 690 VAC.

Operating pressure

6 bar in standard design

Operating temperature

Max. 100 °C

Heat transfer

Due to the perfect hydraulic flow around the heating elements, the medium is gently heated to the specified temperature. The surface load (W/cm²) can be precisely adapted to the medium characteristics.

Recommended surface loads:

| | |
|-----------------------------|--|
| 0,8 W/cm² | lube oil/low flow rate of medium |
| 1,1 W/cm² | high viscosity heavy fuel oils and average flow rate of medium |
| 1,5 W/cm² | marine diesel fuels, light diesel fuels and high flow rate of medium |

Material

All parts in contact with the heated fluid are made of stainless steel grade 1.4301 or 1.4305 making it possible to use the heater for aggressive fluids.

Controls (ELWA)

The 4700 heaters come with specially designed control boxes. The complete heating power is switched with solid state relays. The basic configuration of the controls already achieve excellent control quality. For operation in small grids or when perfect temperature control is of utmost importance, we use the optional SPC (smart.power.control) unit. Due to the fast switching cycles and intelligent control, the stress on the power supply is reduced significantly and the heating power is controlled virtually stepless. See product data sheet ELWA ETU/ELWA SPC.

Typical applications

The series 4700 heaters are the perfect choice for heating fluids like fuel oils (MGO/HFO), lubrication oils or emulsions.

Safety

All heaters are equipped with built in safety temperature limiters (STB) and an optional safety valve.

Thermal insulation

The heaters come with an efficient thermal insulation made of rockwool and galvanised steel sheet cover. The cover is also available made of stainless steel (polished upon request).

Painting

Heavy duty powder coating

Process connections

Standard: 1" pipe thread (male)

Optional: SAE 1" flanges

Classifications

ABS, BV, DNV, CCS, GL, LRS, RINA, MRS, others on request



heating element and fluid pocket



intelligent controls



rear view with connection pipes

Overview table

| Typ | Max heating power (at given surface load) | | |
|------|---|-----------------------|-----------------------|
| | 0,7 W/cm ² | 1,1 W/cm ² | 1,5 W/cm ² |
| 4701 | 1,50 kW | 2,25 kW | 3,00 kW |
| 4702 | 3,00 kW | 4,5 kW | 6,00 kW |
| 4703 | 4,50 kW | 6,75 kW | 9,00 kW |
| 4704 | 6,00 kW | 9,00 kW | 12,00 kW |
| 4705 | 7,50 kW | 11,25 kW | 15,00 kW |
| 4706 | 9,00 kW | 13,50 kW | 18,00 kW |
| 4707 | 10,50 kW | 15,75 kW | 21,00 kW |
| 4708 | 12,00 kW | 18,00 kW | 24,00 kW |
| 4709 | 13,50 kW | 20,25 kW | 27,00 kW |
| 4710 | 15,00 kW | 22,50 kW | 30,00 kW |
| 4711 | 16,50 kW | 24,75 kW | 33,00 kW |
| 4712 | 18,00 kW | 27,00 kW | 36,00 kW |
| 4712 | 19,50 kW | 29,25 kW | 39,00 kW |

Complementary products

ELWA SPC

smart.power.control

Schaltschrank mit Stufenschaltung und stufenloser Regelung einer Teilleistung mit der intelligenten ELWA SPC Steuerung und Solid State Relais

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