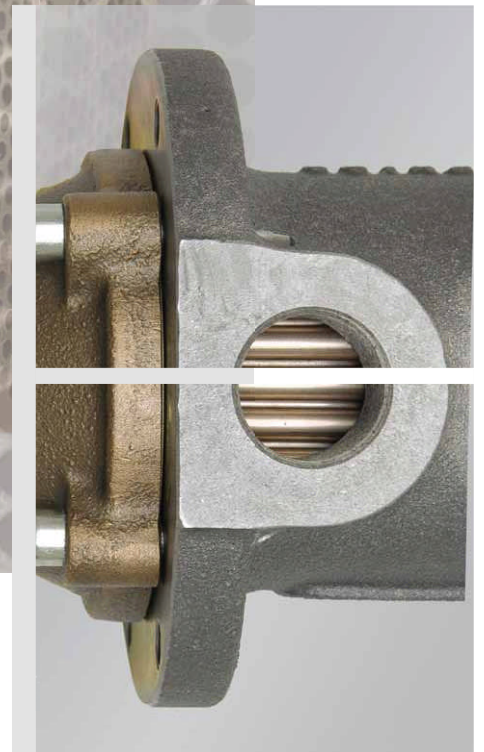
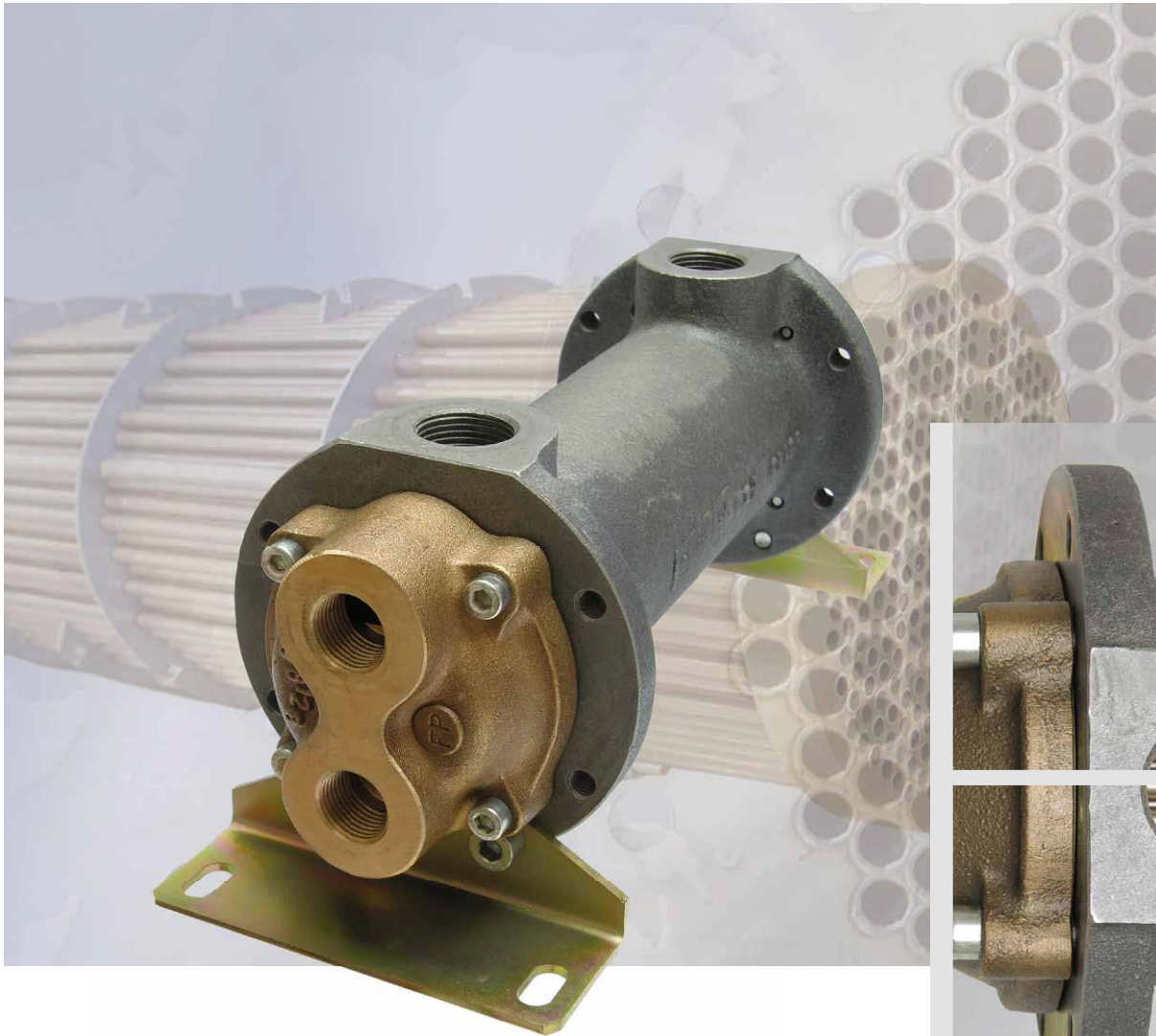


Quality Heat Exchangers



Univex
Compact Heat Exchanger

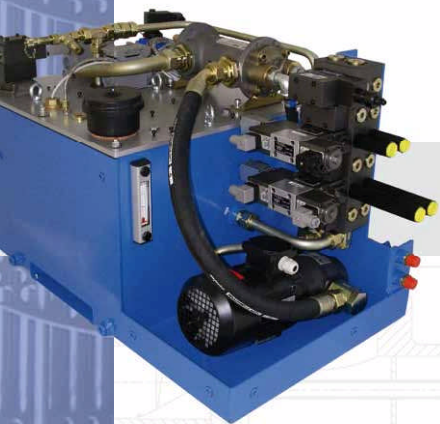
mdt



With partnership into the future

FUNKE is a leader in the development and production of quality heat exchangers with a heat transfer area of up to 2 400 m². The range of products comprises shell-and-tube heat exchangers, bolted and brazed plate heat exchangers as well as oil / air cooling units and electrical oil pre-heaters. Thus, as one of the few producers worldwide, FUNKE offers solutions with optimum thermodynamic designs for different industries and virtually all applications.

FUNKE focuses on customer orientation, highest quality standards, flexibility and advisory skills – important benefits a company of just the right size is able to offer.



Technical description

Application

Cooling of hydraulic- and lube oils, converter oils, cutting and cooling oils, hydraulic liquids, water/glycol. Low-cost coolants that can be used are process water and seawater.

Function

The warm medium flows around the tube bundle within the shell. The cooling water flows in 4-pass principle through the tubes.

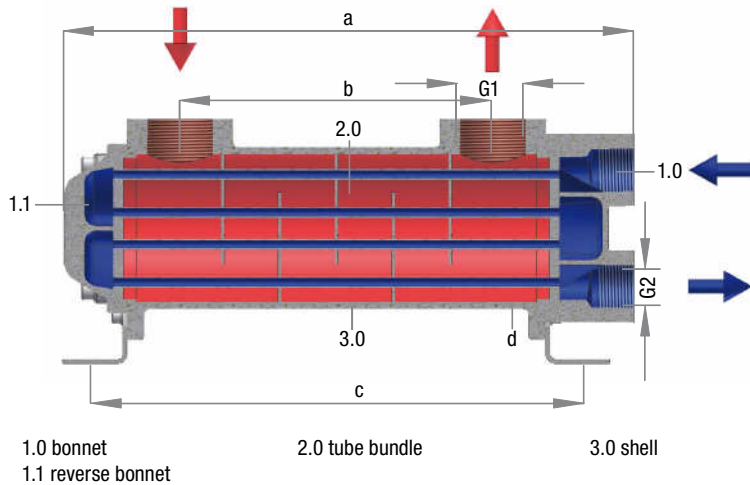
Operating data

| max. allowable working pressure | | bar |
|------------------------------------|--------------|-----|
| • Shell side | | 16 |
| • Tube side | | 10 |
| max. allowable working temperature | | °C |
| • Shell side | oil | 120 |
| | water/glycol | 90 |
| | emulsion | 90 |
| • Tube side | water | 90 |

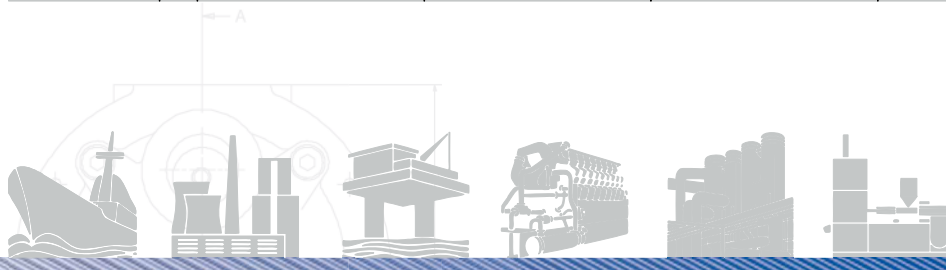
Special features

- attractive price-performance ratio
- extreme reliability
- high specific heat transfer coefficient due to compact tube bundle
- tube bundle is easy to remove and to clean
- stress-free expansion of the bundle is ensured
- as standard corrosion-resistant material is used:
 - tubes: CuNi₁₀Fe
 - bonnets: CuSn₇Pb₆Zn₄
- mounting bracket included in delivery

Technical data



| Type | A075- | | | A093- | | | A114- | | | A130- | | | A190- | |
|-----------------|-------|-----|-----|-------|-----|-----|-------|------|------|-------|------|------|-------|-----|
| | 161 | 241 | 411 | 190 | 241 | 411 | 214 | 314 | 564 | 324 | 524 | 814 | 720 | |
| Weight (kg) | 3,8 | 4,4 | 5,6 | 5,8 | 6,6 | 8,4 | 9,0 | 10,4 | 14,6 | 13,2 | 17,6 | 24,0 | 32,0 | |
| Dimensions (mm) | a | 212 | 292 | 462 | 261 | 312 | 482 | 299 | 399 | 649 | 415 | 615 | 905 | 813 |
| | b | 100 | 180 | 350 | 99 | 150 | 320 | 120 | 220 | 470 | 222 | 422 | 712 | 602 |
| | c | 205 | 285 | 455 | 233 | 284 | 454 | 256 | 356 | 606 | 365 | 565 | 855 | 772 |
| | d | | 75 | | | 93 | | | 114 | | | 130 | | 190 |
| G1 | | ¾" | | | 1½" | | | 1½" | | | 1½" | | 2" | |
| G2 | | ½" | | | ¾" | | | 1" | | | 1" | | 1½" | |



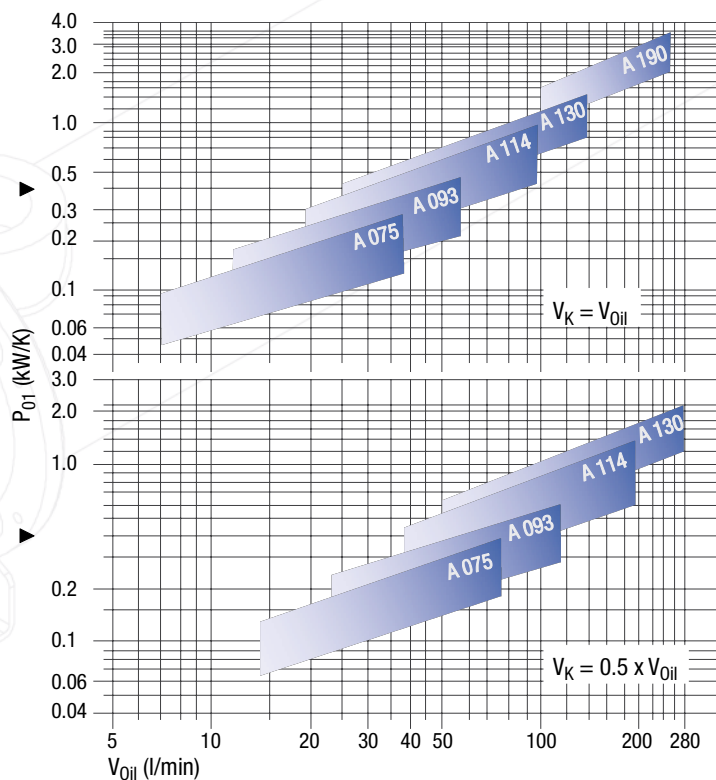
Specific heat dissipation (P₀₁)

$$P_{01} = \frac{P_V}{t_{Oil} - t_{Cl}} \quad (\text{kW/K})$$

$$= \frac{14}{55 - 20} = 0,4 \quad (\text{kW/K})$$

Legend:

- P₀₁ : Specific heat dissipation (kW/K)
- P_{Pl} : Power loss (kW)
- t_{Oil} : Oil inlet temperature (°C)
- t_{Cl} : Cooling water inlet temperature (°C)
- V_{Oil} : Oil Flow (l/min)
- V_C : Cooling water flow (l/min)



Quality means safety. Each unit built by FUNKE is design and pressure tested. Additional approvals are also available in accordance with quality authorities such as:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Lloyds Register of Shipping (LRS)
- Schweizerischer Verein für technische Inspektionen (SVTI)
- Technischer Überwachungsverein (TÜV)

as well as customers' test and inspection regulations.



FUNKE has been certified according to DIN EN ISO 9001:2008 and is an approved manufacturer according to:

- EU Pressure Equipment Directive 97/23/EC (PED), Module H/H1
- HP0 in connection with DIN EN 729-2
- ASME U-Stamp
- GOST R (incl. RTN & hygiene certificate)
- China Certificate

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FUNKE



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