

**Univex**  
Compact Heat Exchanger



## 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 2400 m<sup>2</sup>. 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.

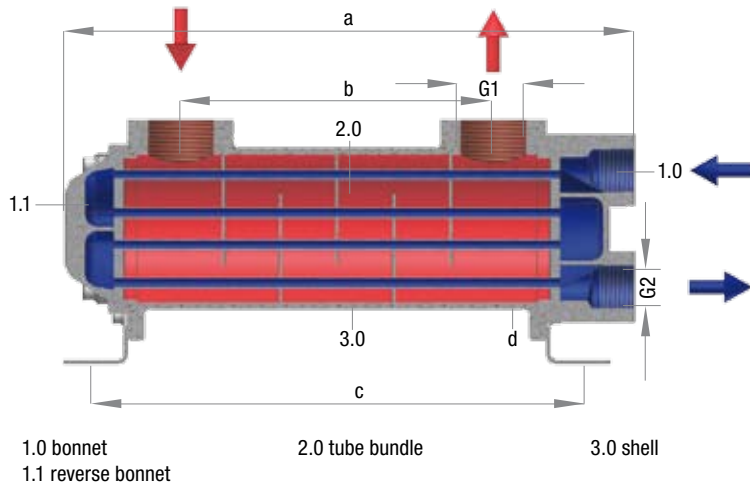
#### Operating data

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

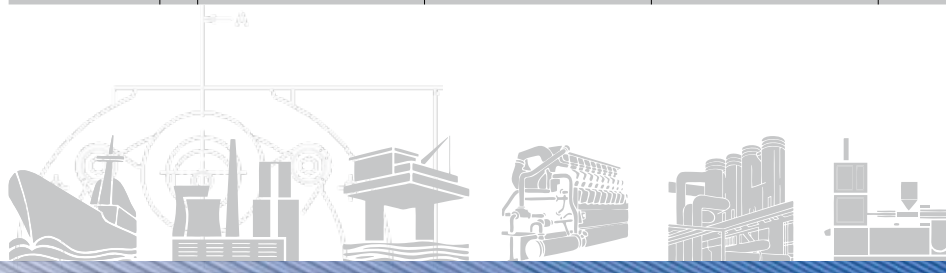
### Special features

- 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: CuNi<sub>10</sub>Fe
  - bonnets: CuSn<sub>7</sub>Pb<sub>6</sub>Zn<sub>4</sub>
- 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"	



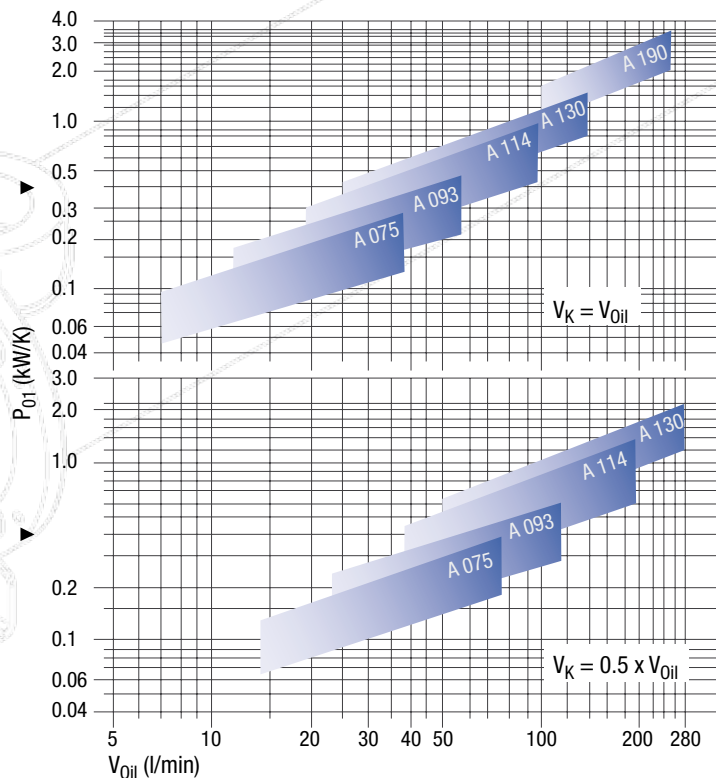
## Specific heat dissipation (P<sub>01</sub>)

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

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

Legend:

- P<sub>01</sub> : Specific heat dissipation (kW/K)
- P<sub>Pl</sub> : Power loss (kW)
- t<sub>oil</sub> : Oil inlet temperature (°C)
- t<sub>Cl</sub> : Cooling water inlet temperature (°C)
- V<sub>Oil</sub> : Oil Flow (l/min)
- V<sub>C</sub> : 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)
- Technischer Überwachungsverein (TÜV)

as well as customers' test and inspection regulations.

FUNKE has been certified according to DIN EN ISO 9001:2008, DIN EN ISO 14001:2004 and is an approved manufacturer according to:

- EU Pressure Equipment Directive 2014/68/EU (PED), Module H/H1
- HP0 in connection with DIN EN ISO 3834-2
- ASME U-Stamp & ASME R-Stamp
- Custom Union (TRTS 032/2013)
- China Certificate



FUNKE Wärmeaustauscher Apparatebau GmbH  
Vertrieb SIP  
Echterdinger Straße 111  
70794 Filderstadt · Germany  
T +49 (0) 711/707 082-0  
F +49 (0) 711/707 082-19  
info@funke.de  
www.funke.de

Funke Wärmeaustauscher Apparatebau GmbH  
Zur Dessel 1  
31028 Gronau/Leine · Germany  
T +49 (0) 51 82/582-0  
F +49 (0) 51 82/582-48  
info@funke.de  
www.funke.de

