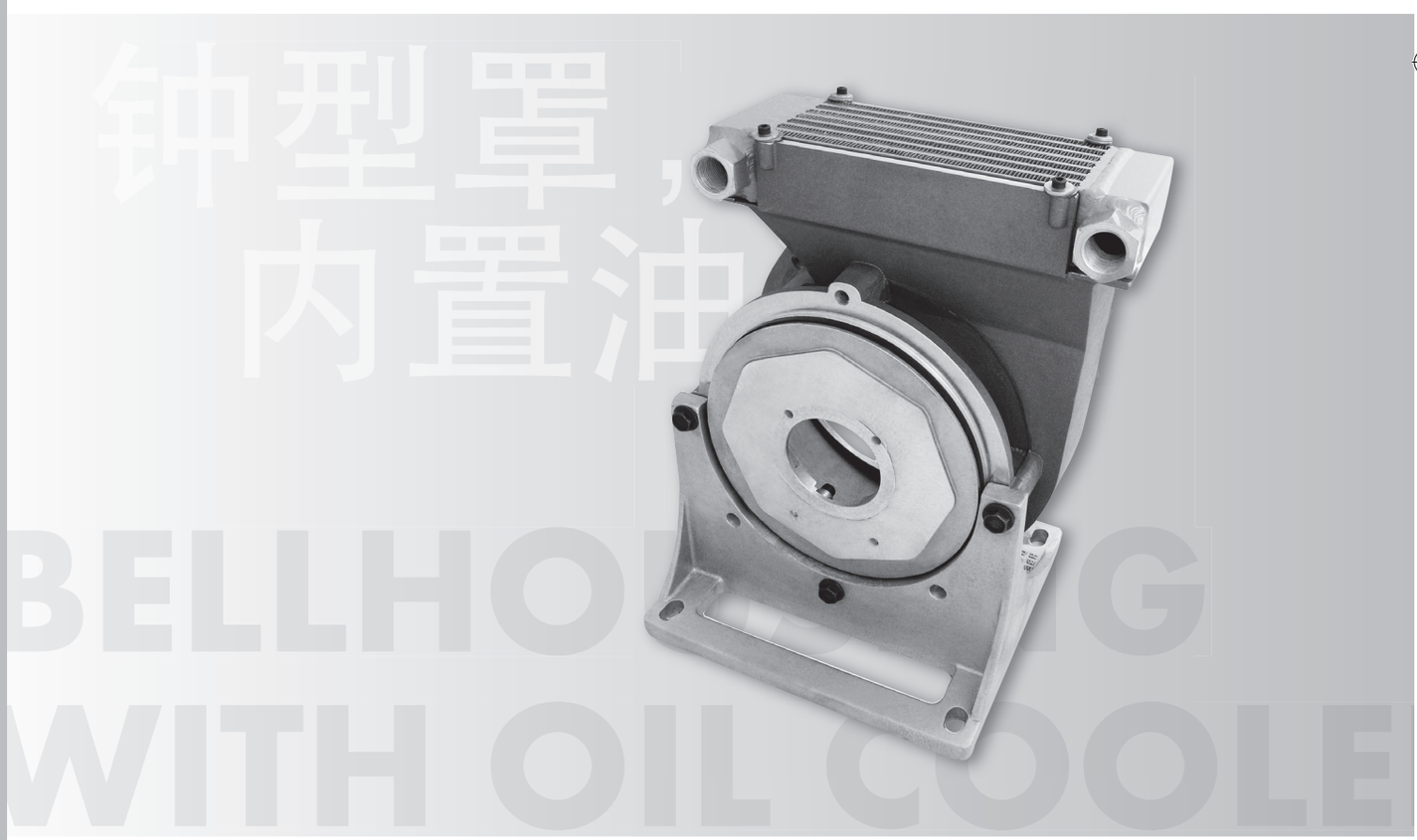
液压配件
联轴器
油箱

HBE

Hydraulic Components
Drive Couplings
Oil Tanks

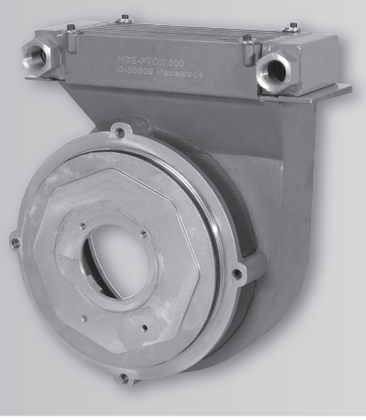
流体技术解决方案 Solutions for Fluid Technology

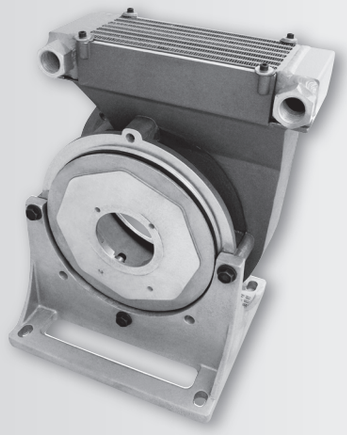


钟型罩，内置油冷器
BELLHOUSING WITH OIL-COOLER

钟型罩，内置油冷器
BELLHOUSING WITH INTEGRATED OIL AIR COOLER

系列 **PTOK**
SERIES PTÖK





产品说明

- 圆形钟罩，内置油冷器，PTOK 系列
- 多个型号，适用于 0.55–22 KW 的电机 (IMB 5/IMB 35/IMV 1)
- 低噪音设计，B型
- 冷却功率 0.95–5.15 KW
- 有4个型号可选 (ø200–ø350)
- 所有钟罩的长度都符合 VDMA 24561 标准
- 由于长度标准相同，所以带内置油冷器的钟罩可以直接替换标准钟罩
- 可以水平安装 (IMB 5/IMB 35) 或者垂直安装 (IMV 1)
- 可适用符合 VDMA 24561 标准的 PTFL 和 PTFS 型脚支架

PRODUCT DESCRIPTION

- Round bell housing with oil air cooler, series PTÖK
- Model series for electrical motors 0.55-22 KW (IMB 5/IMB 35/IMV 1)
- Noise reduced design, form B
- Cooling pipes 0.95 - 5.15 KW
- 4 model series available (ø200-ø350)
- All bell housing lengths comply with VDMA code 24561
- The standard bell housing can be replaced easily with a bell housing with oil cooling at any time due to identical installation lengths
- Can be used horizontally (IMB 5/IMB 35) as well as vertically (IMV 1)
- Foot brackets series PTFL and PTFS mountable acc. to VDMA 24561

技术优势

- 冷却效率高，且噪音低，占用极少的安装空间
- 适用于回油，或者漏油的冷却
- 不需任何电气连接
- 易于维护，安装和移除都非常容易
- 结构坚固，在峰值压力下更安全
- 标准减震结构最大可降低噪音 6db (A)

TECHNICAL ADVANTAGES

- High cooling capacity with low noise output on the smallest installation space
- Suitable as reflux or leak oil cooler
- Requires no electrical installation
- Easy to maintain through simple installation and removal of the cooler element
- Sturdy cooler element for more safety during pressure peaks
- Due to the standard dampening, reduction of noise level up to 6db (A) possible

钟型罩，内置油冷器
BELLHOUSING WITH INTERGRATED OIL AIR COOLER

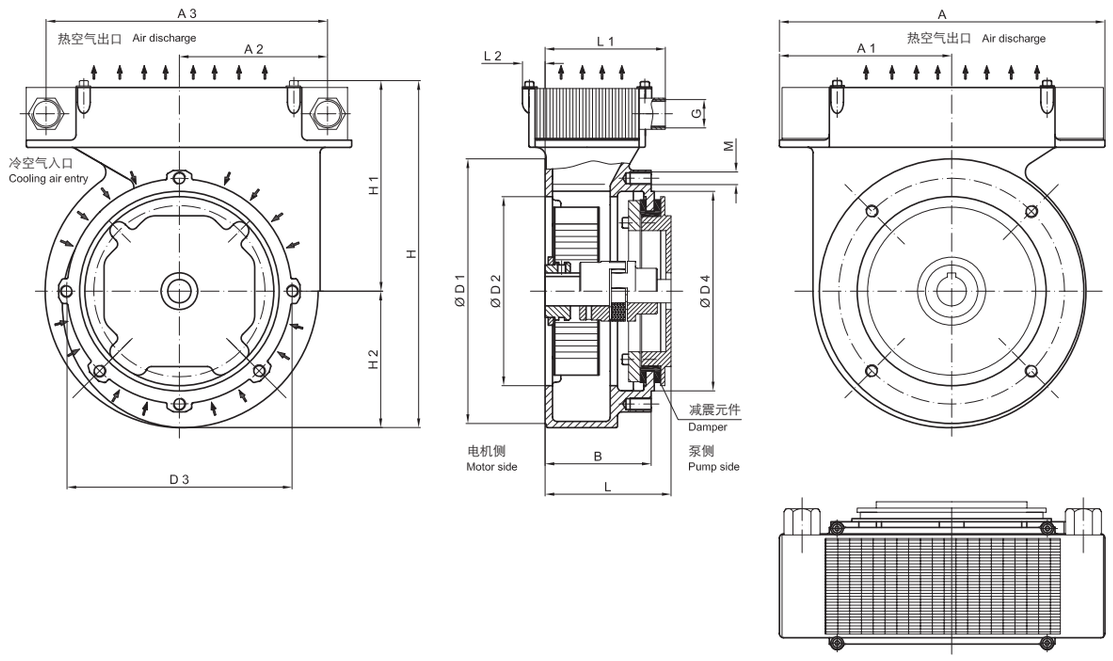
技术参数 TECHNICAL DATA

工作压力 WORKING PRESSURE	负载循环 LOAD CYCLE	最大静态压力 MAX. STATIC PRESSURE
16 bar	1 x 10^6, f = 2 Hz	10 bar

产品型号 / SIZE	冷却功率 COOLING POWER P [kW]Δt = 40 k	标准电机功率 [kW] E-ENGINE POWER [kW] n=1500 ^{1}/min (1)	空气流量 AIR FLOW [m^3/h]	风扇的功率 INPUT POWER [W]	噪音水平(2) NOISE LEVEL(2) [dB(A)]	冷却功率占电机功率比例 CORRELATION COOLING AND E-ENGINE POWER [%]
PTÖK 200	0,95	0,55-1,5	72	20	52	63-100
PTÖK 250	2,1	2,2-4	260	30	58	53-95
PTÖK 300	3,22	5,5-7,5	430	90	69	43-59
PTÖK 350	5,15	11-22	780	140	70	23-46

- 额定转速 (1)1500 rpm。其它转速要求请垂询。
- 噪音 (2)，是电机和带标准减震的油冷钟罩发出的，测试点距离被测物 1 m。具体的噪音值，根据不同电机会有所变化。
- 泵的转向都是顺时针（面对泵的轴端方向）

- Nominal rotation (1) of driven machine 1,500 kW 1/min. In case of different rpm please contact the manufacturer.
- Noise levels (2) of damped version are measured with bellhousing and electric motor. Distance to the tested object 1 m. The stated values of noise level will be various depending on the electric motor
- Direction of pump rotation always clockwise (looking on pump shaft)



钟型罩支架 PTFL 和 PTFS 可选用
相关尺寸请参考另外资料 “钟型罩及其附件”

Foot brackets series PTFL and PTFS used optionally
For dimensions please see catalogue “Pump Housings and Accessories“.

钟罩型号 SIZE	电机规格 FRAME SIZE	电机功率 POWER P [kW]	电机轴 SHAFT DxI	钟罩支架类型 FOOT FLANGES TYPE	尺寸标注 / DIMENSIONS in mm																
					A	A1	A2	A3	B	D1	D2	D3	D4	G	H	H1	H2	L	L1	L2	MW
PTÖK 200	80	0,55	19 x 24	PTFL 200	241	141	122,5	205	70	200	130	165	145	G 1/2	285	180	105	100	88	10,3	M10
		0,75																110			
	90 S + L	1,1	24 x 50															118			
		1,5																124			
																		128			
PTÖK 250	100 L	2,2	28 x 60	PTFL 250 PTFS 250	310	164	144,5	267	102	252	180	215	190	G 3/4	329	199	130	120	101,5	22	M12
		3,0																124			
	112 M	4																128			
																		135			
																		148			
																		175			
PTÖK 300	132 S +M	5,5	38 x 80	PTFL 300 PTFS 300	310	191	168,5	267	126	300	230	265	234	G 3/4	384	234	150	144	128,5	8	M12
		7,5																150			
																		155			
																		168			
																		196			
PTÖK 350	160 M + L	11 15	42 x 110	PTFL 350 PTFS 350	355	230	210,5	316	152	350	250	300	260	G 3/4	426	251	175	188	155	6	M16
																		204			
	180 M + L	18,5 22	48 x 110															228			
																		256			

订货描述示例: 内置油冷器钟型罩 ORDERING CODE: BELLHOUSINGS

PTÖK 350 / 228 / LR 48 / DF

- 钟罩类型 / Bellhousing
- 电机法兰 / motor flange ø
- 钟罩长度 / Length L
- 内部加工代码，泵侧 / Internal boring code, pump side
- 风扇孔径ø (与电机轴对应) / Fan shafts ø (correspond with motor shafts)
- 泵侧带有减震元件/ Inclusive damping to pump side

订货描述示例: 联轴器 ORDERING CODE: COUPLING

24 / 30 22–28

- 联轴器型号 / Size of coupling
- 泵轴径/ ø pump shaft
- 电机轴径/ ø motor shaft

安装说明可从 www.hbe-hydraulics.com下载

Assembly instructions are available for download here: www.hbe-hydraulics.com

冷却效率

在没有外部热源的情况下，泵与电机成套液压传动系统以正常的效率工作时，电机的输出功率中，将有 30%–40% 以热能的形式损失掉。损失的热能中多余的部分，必须通过系统中各个部件散发出去，因此油箱的散热面积就显得很重要。

然而，还是有部分热能留在系统中，可能会使油温过高。为了避免残余热能过多，就需要增加一个冷却器。

在大多数情况下，冷却功率有电机输出功率的 20%–30% 就足够了，同时油箱的散热面积也可以减小。

同时，一个液压系统不配置带冷却器的钟罩是很难想象的。带冷却器的钟罩拆装简单，结构紧凑，可以省掉通风系统，节省了空间，而且大多数情况下，均能满足冷却要求。请看图 1。

从图1中可以得出，温差在 1 K – 40 K 之间时，各型号冷却钟罩，达到最佳冷却效率的最佳油液流量。如果油液流量特别低，或者是不连续，那么就需要使用另外的冷却回路，而该 PTOK 冷却钟罩很容易就能配合这一改装。
图1表示了冷却效率和油液流量的关系。将温差为1K时的冷却效率，乘以实际的温差，既可以算出实际的冷却功率。

COOLING CAPACITY

Should no additional heat sources have an effect on the hydraulic aggregate between 30 and 40 percent of the engine output is lost as heat energy when the engine is operated at an average efficiency. A part of this heat is released outwards from the individual components. Above all, the surface area of the tank plays an important role here. However, some heat energy remains which may lead to overheating of the oil. In order to avoid this, the usage of an additional cooler is required. In the vast majority of cases, a cooling capacity of between 20 to 30 percent of the engine output is sufficient – also with aggregates with a smaller tank surface area.

Meanwhile, it is hard to imagine oil hydraulics without bell housing coolers. They are simple to install, they require very little space – particularly due to the ventilation system no longer being required – and, in most applications, achieve the complete required cooling capacity. See figure 1.

The values from figure 1 apply for an optimal amount of oil flow and applies to one Δt from 40 K. Should the oil flow be notably low or not sufficiently continual, the installation of a separate cooling circuit could be necessary – even this is effortlessly convertible with PTÖK bell housing coolers. Figure 1 shows the dependency of the cooling capacity with the amount of oil flow. You will achieve the actual cooling capacity by multiplying the values for 1K Dt with the relevant Δt.

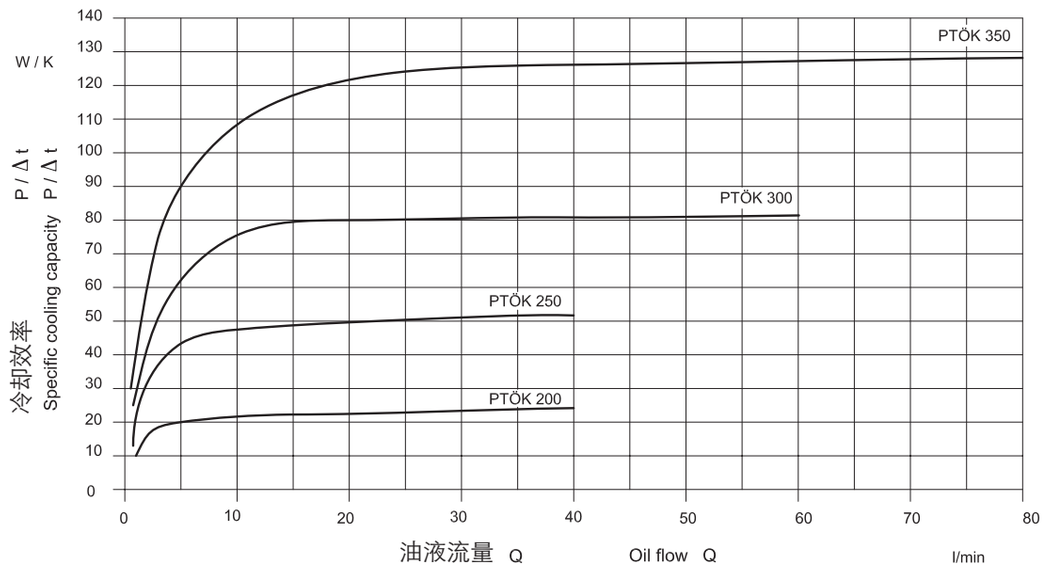


Fig. 1

冷却功率 P/与油液流量，以及入口油温与入口气温之差Δt有关。.
Specific cooling power P / Δt depending on oil flow Q and temperature difference Δt = 1 K (oil inlet to air inlet).

HBE 任何时候都保留，对技术参数进行修改的权利
HBE reserves the right to modify technical data at any time.

备注
NOTES

产品简介

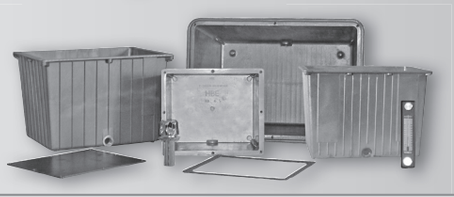
DELIVERY PROGRAMME

Solutions for Fluid Technology

HBE

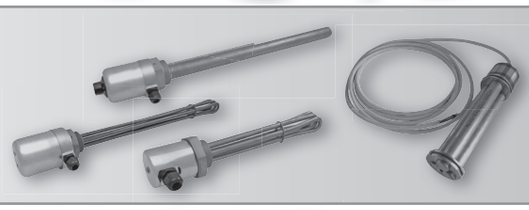
- 钢质油箱，不锈钢质油箱
- Oil tanks made of steel / stainless steel

- 铝质油箱
- Oil tanks made of aluminium



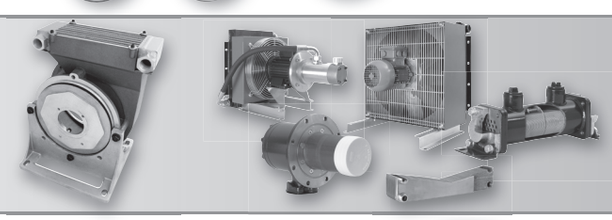
- 清洗盖及其他油箱附件
- Cleaning covers and further accessories

- 油箱加热器
- Tank heaters



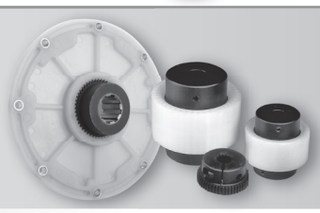
- 钟形罩及其附件
- Bellhousings and accessories

- 钟形罩内置油冷器
- 热交换器
- Bellhousing with oil-cooler
- Heat exchangers



- SOFTEX® 弹性联轴器，无齿隙弹性联轴器
- SOFTEX® elastic and no backlash shaft couplings

- STAREX® 曲面齿联轴器，内燃机法兰联轴器
- STAREX® flexible couplings



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