

AHLSTAR泵用TB1, TB1F 和 TB2预装式机械密封
TB1, TB1F and TB2 Ready-fitted Mechanical
Seals for AHLSTAR Pumps



简易稳固的设计实现最佳运转可靠性

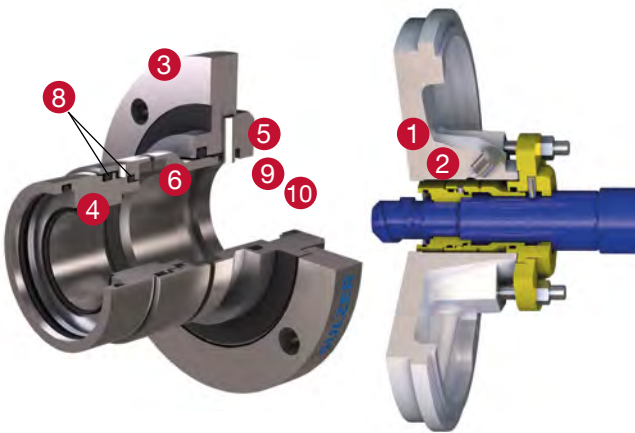
- 1 TB1, TB1F 和 TB2 预装式机械密封是为标准的填料式密封腔而设计的，不需要额外配置轴套。适用于 AHLSTAR 流程泵 A, APP, NPP, WPP 等不同泵型。
- 2 该预装式密封设计成为特定类型离心泵的有机组成部分，不需要其他额外的部件，尽可能在密封和泵盖间得到较大的空间来实现最可靠的运行
- 3 该预装式密封是通过一个法兰或者密封压盖法兰固定在泵盖上。
- 4 该密封不需要额外的零件例如轴套而直接固定在轴上，从而获得最佳材料壁厚保证运转可靠性。
- 5 该预装式密封可实现快速简易的安装和维护，不需要集装密封所采用的限位板装置。
- 6 该单端面密封通过设计保证了在泵送流体出现任何压力波动以及失压的情况下密封端面不会被打开。
- 7 该双端面密封已经被设计成当泵送流体或密封液在任何压力波动、失压或真空的情况下密封端面都不能被打开。
- 8 密封面在弹性 O 形圈的作用下不会发生倾斜，确保与轴保持准确的对中，保证机械密封长时间可靠运行
- 9 密封的所有零部件包括密封端面、O 形圈、弹簧等都可在车间手动安装和拆卸，不需要特殊工具。
- 10 由于这种预装式密封的简单化设计，成本远低于集装式密封。

Simple and Robust Design Maximize Reliability in Operation

- 1 TB1, TB1F and TB2 ready-fitted mechanical seals are designed for the seal chamber of the standard gland packing casing cover and for the standard shaft without extra shaft sleeve, for different pump types like AHLSTAR process pump range types A, APP, NPP, WPP.
- 2 The ready-fitted seals are designed as an organic part of certain centrifugal pump types without any extra components to get as much space between the seal and casing cover as possible for maximizing reliable operation.
- 3 The ready-fitted seals are fixed to the casing cover with a standard flange of the pump or with the flange of the seal.
- 4 The seal is fixed on the shaft without extra components such as shaft sleeve to get optimal material wall thickness for highly reliable operation.
- 5 The ready-fitted seals are simple and robust for fast and easy installation and maintenance. They do not need any complicated setting clips like cartridge seals do.
- 6 The single seal has been designed so that any pressure variations or dropouts of the pumped liquid do not open the seal faces.
- 7 The double seal has been designed so that any pressure variations or dropouts either on the side of the pumped liquid or sealing liquid do not open the seal faces. The seal faces do not open in the case of vacuum pressure, either.
- 8 The seal faces lie on the flexible O-rings so that they do not stand at an angle but are aligned accurately according to the shaft, giving a long and reliable operation time.
- 9 All parts of the seal including seal faces, O-rings, springs etc. can be disassembled and assembled by hand in the workshop without any special tools.
- 10 Due to the simple design of the ready-fitted seal, the cost of the seal is much lower than the cost of cartridge mechanical seals.

TB1 预装式单端面机械密封

TB1 Ready-fitted Single Mechanical Seal

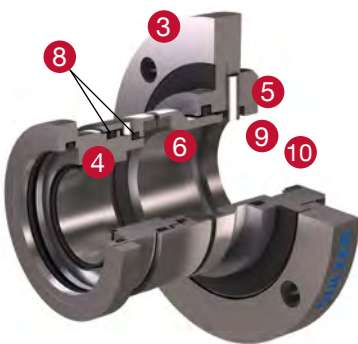


- 密封端面是通过泵送介质进行润滑的，泵送介质穿过叶轮平衡孔到密封腔
- 入口压力必须是正压
- 必须有叶轮平衡孔
- 介质
 - 清洁或轻度污染的介质
 - 粘性介质
 - 不同品质纤维浆料浓度可达 2-4%
- 温度可达 125°C / 257 °F

- **The seal faces are lubricated by the pumped liquid pumped through the impeller balancing holes into the seal chamber**
 - Positive inlet pressure is required
 - Impeller balancing holes are required
- **Liquids:**
 - Clean and slightly contaminated liquids
 - Viscous liquids
 - Fibrous slurries up to 2 - 4 % depending on quality
- **Temperature up to 125°C / 257°F**

TB1F 预装式单端面机械密封，需要对密封冲洗。

TB1F Ready-fitted Single Mechanical Seal with Flushing

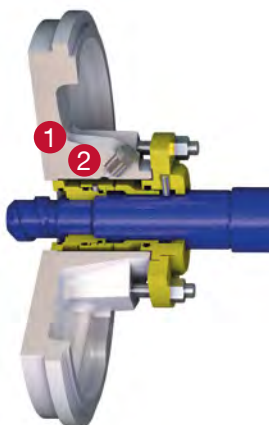


自冲洗

- 通过把泵送液体从泵出口管路引入到密封腔的循环对密封端面进行润滑
- 正的或负的入口压力
- 不需要叶轮平衡孔，但可以存在。
- 介质
 - 清洁或轻度污染的介质
 - 不超过 250 cSt 的粘性介质
- 根据密封腔的压力温度不能超过 140 °C / 284 °F

Internal recirculation liquids

- **The seal faces are lubricated by the pumped liquid which is circulated through a pipe from the discharge pipe into the seal chamber**
 - Positive or negative inlet pressure
 - Impeller balancing holes are not required, but can be
- **Liquids:**
 - Clean and slightly contaminated liquids
 - Viscous liquids up to 250 cSt
- **Temperature up to 140°C / 284°F depending on the seal chamber pressure**



外冲洗

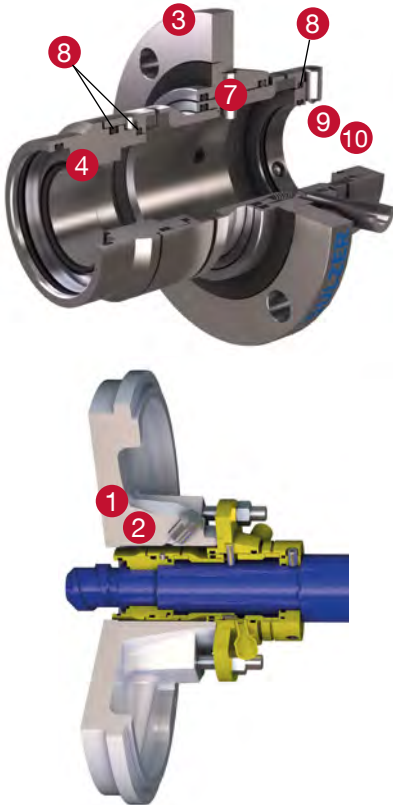
- 外部清洁的冲洗介质通过管线导入到密封腔对密封端面润滑
- 正的或负的入口压力
- 不需要叶轮平衡孔，但可以存在。
- 介质
 - 清洁或轻度污染的介质
 - 不超过 4000 cSt 的粘性流体
 - 纤维状料浆不超过 8%
 - 无纤维状料浆不超过 70%
 - 流体中含有大的固体颗粒
- 温度不超过 180 °C / 355 °F

External flush liquids

- **The seal faces are lubricated by external clean flushing liquid led through a pipe from an external source into the seal chamber**
 - Positive or negative inlet pressure
 - Impeller balancing holes are not required, but can be
- **Liquids:**
 - Clean and slightly contaminated liquids
 - Viscous liquids up to 4,000 cSt
 - Fibrous slurries up to 8%
 - Non-fibrous slurries up to 70%
 - Liquids containing large solids
- **Temperature up to 180°C / 355°F**

TB2 预装式双端面机械密封

TB2 Ready-fitted Double Mechanical Seal



- 外部冲洗源为无压（急冷）或加压（隔离液）的清洁密封液，通过管路 / 软管导入到密封和密封端面的部件间，实现对密封端面润滑。
 - 入口压力必须是正压
 - 叶轮平衡孔是不需要的，但可以有叶轮平衡孔
 - 流出的密封液温度不能超过 60 °C / 140 °F
 - 介质
 - 清洁或轻度污染的介质
 - 不超过 4000 cSt 的粘性介质
 - 纤维状料浆不超过 8%
 - 液体中含有大的固体颗粒
 - 温度不超过 180 °C / 355 °F
- **The seal faces are lubricated by non-pressurized (quench) or pressurized (barrier) external clean sealing liquid led through a pipe/ hose from an external source into the seal between the seal face pairs**
 - Positive or negative inlet pressure
 - Impeller balancing holes are not required, but can be
 - **Temperature of the out-flowing sealing liquid may not exceed 60°C / 140°F**
 - **Liquids:**
 - Clean and slightly contaminated liquids
 - Viscous liquids up to 4,000 cSt
 - Fibrous slurries up to 8%
 - Liquids containing large solids
 - **Temperature up to 180°C / 355°F**

技术参数/材料选择

Technical specifications / material alternatives

	TB1	TB1F	TB2
P_{max}	16 bar / 232 psi	16 bar / 232 psi	16 bar / 232 psi
V_{max}	25 m/s / 82 ft/s	25 m/s / 82 ft/s	25 m/s / 82 ft/s
T_{max}	125°C / 257°F	140°C / 284°F 内冲洗 with internal flushing 180°C / 355°F 外冲洗 with external flushing	180°C / 355°F
密封面 Seal faces	SiC/SiC, C/SiC	SiC/SiC, C/SiC	SiC/SiC-SiC/SiC SiC/SiC-C/SiC
O形圈 O-rings	EPDM, FKM	EPDM, FKM	EPDM, FKM
其他零件 Other parts	AISI 316, AISI 329	AISI 316, AISI 329	AISI 316, AISI 329

我们言行一致 / We Do What We Say

与客户的合作伙伴关系

- 我们是值得信赖的合作伙伴。
- 我们提供高品质的服务。
- 我们帮助客户提升竞争力。

Customer partnership

- We are **reliable partners**.
- We provide a **high level of service**.
- We **make our customers more competitive**.



尽职的员工

- 我们倡导负责任的精神。
- 我们的运行公开透明。
- 我们具有团队精神。

Committed people

- We drive **accountability**.
- We are **open and transparent**.
- We are **team players**.



卓越运营

- 我们注重结果。
- 我们积极主动，并遵守既定流程。
- 我们安全操作。

Operational excellence

- We **focus on results**.
- We take **initiative** and work within **established processes**.
- We **act safely**.



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