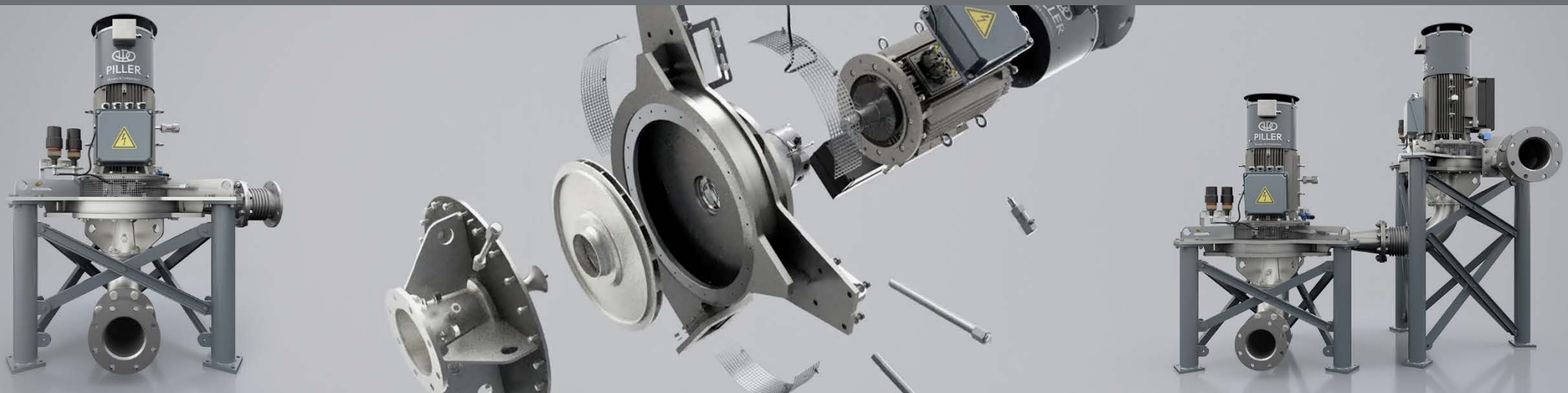


THE PILLER VAPOFAN

For Low Mass Flows

小质量流量的改进解决方案



THE PILLER VAPOFAN



Dr. rer. nat.

Steffen Kuberczyk

Chief Sales Officer

全球销售总监

Piller Blowers & Compressors GmbH

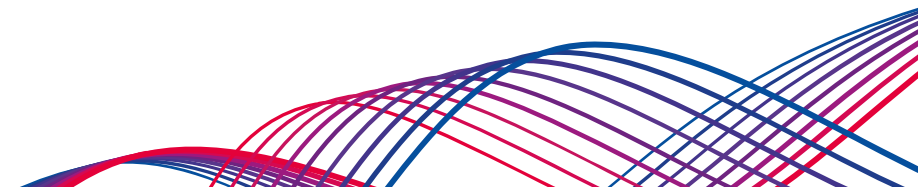
琵乐风机和压缩机公司

Moringen, Germany

莫林根, 德国

OUTLINE大纲

- General Features
一般特征
- VapoFan Types
VapoFan型号
- Performance Summary
性能概要
- Special Features
其他特性
- Control concept
控制理念



OUR VAPOFAN AT A GLANCE

VAPOFAN概述



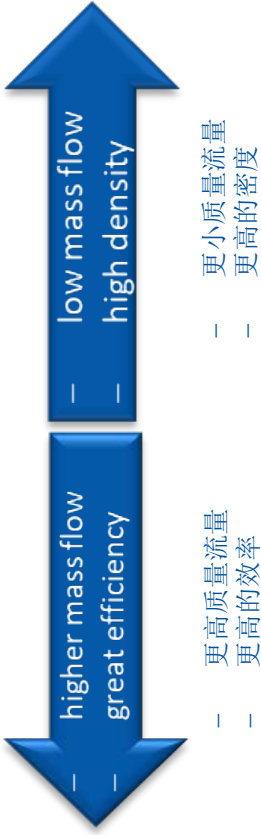
BENEFITS

性能特点

- Efficiency of up to 86 percent
效率可达 86%
- Designed for applications with mass flows of 200 - 9,000 kg/h
专为质量流量为 200 - 9,000 公斤/小时的应用而设计
- Radial blower design ensures reliable and smooth operation
径向鼓风机设计确保运行可靠平稳
- Fast implementation
快速部署
- Minor maintenance requirements
微型设备维护

VAPOFAN TYPES

VAPOFAN型号

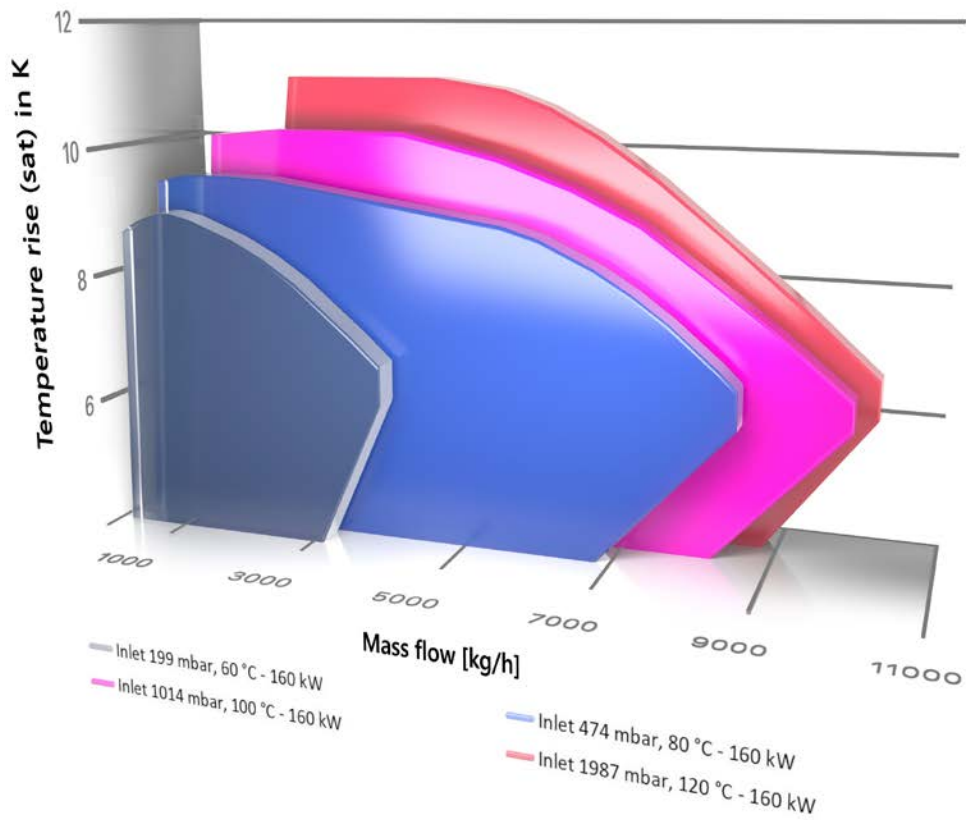


TYPE 型号	NMAX [RPM] 转速	PN 6 INLET FLANGE进 口法兰	OUTLET FLANGE出 口法兰	FEATURES 设计特性
28 45	13369	DN 150	DN 150	- Ambient temperature -10°C to 45°C 环境温度 -10° C 至 45° C - Mechanical design temp. up to 150°C —机械设计温度可达 150° C - Dimensions approx. LxWxH 1.00m x 1.50m x 1.90m —尺寸：长 x 宽 x 高约 1.00 米 x 1.50 米 x 1.90 米 - Weight approx. 400kg to 600kg 重量约 400 千克至 600 千克
28 56	10743	DN 200	DN 200	
32 45	13369	DN 200	DN 150	
32 56	10743	DN 200	DN 200	
36 45	13369	DN 200	DN 200	
36 56	10743	DN 250	DN 200	
40 45	13157	DN 200	DN 200	
40 56	10572	DN 250	DN 250	
45 45	13369	DN 250	DN 200	
45 56	10743	DN 300	DN 250	
56 45	13369	DN 300	DN 250	
56 56	10743	DN 350	DN 300	

PERFORMANCE SUMMARY

性能概要

SINGLE STAGE DESIGN 单级设计

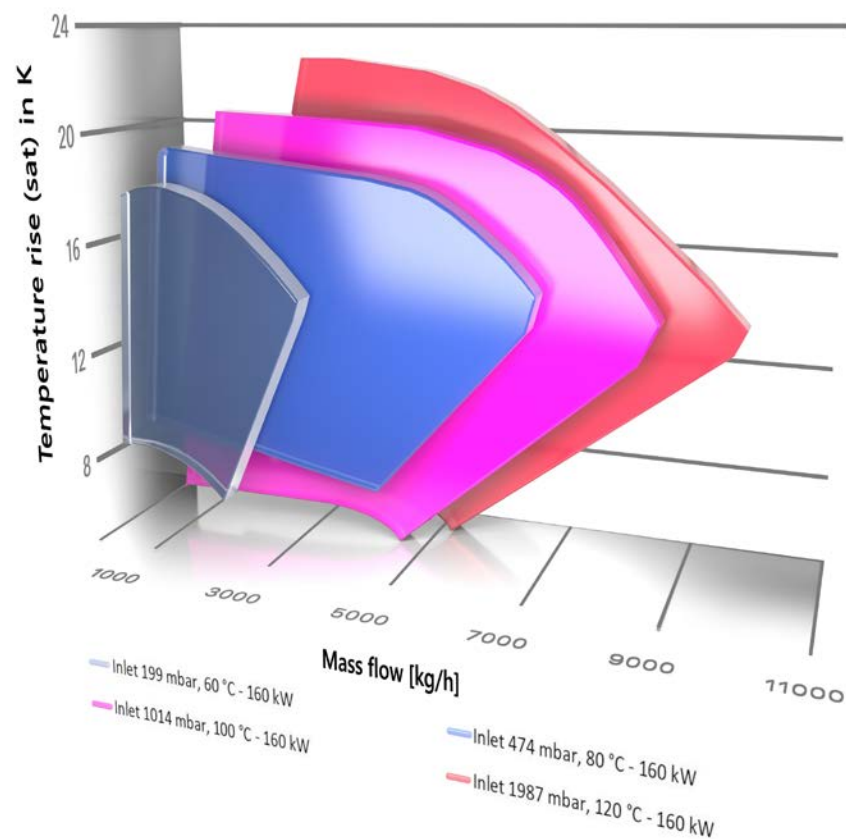


TYPE 型号	MASS FLOW [KG/H] AT 60 DEGC 60度条件下的质量流量
28 45	200-500
28 56	350-850
32 45	250-700
32 56	450-1,200
36 45	350-1,000
36 56	550-1,600
40 45	500-1,300
40 56	750-2,100
45 45	550-1,600
45 56	900-2,550
56 45	1,000-2,500
56 56	1,600-4,000

PERFORMANCE SUMMARY

性能概要

2-STAGE DESIGN 两级串联设计





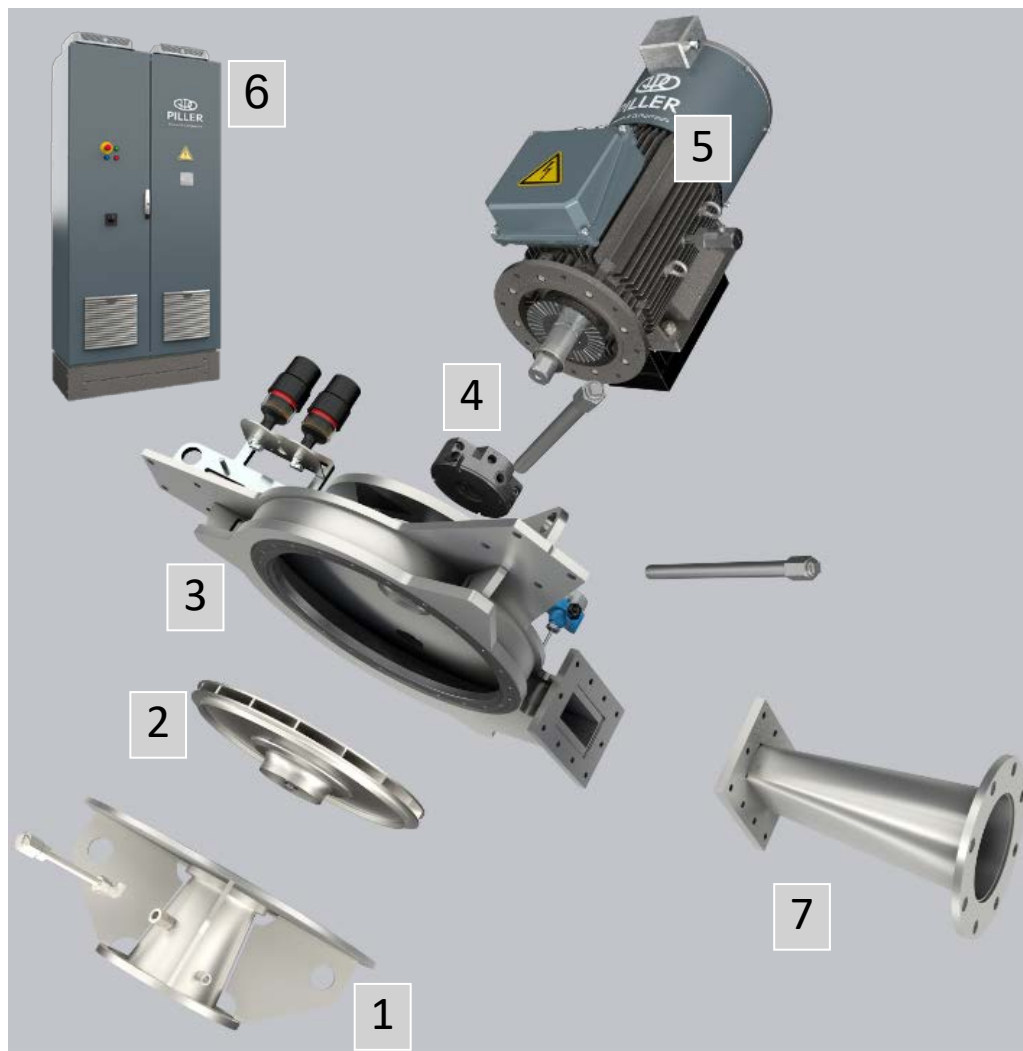
COMPONENTS AND ACCESSORIES

为高效性能服务的部件与附件



DESIGN FEATURES

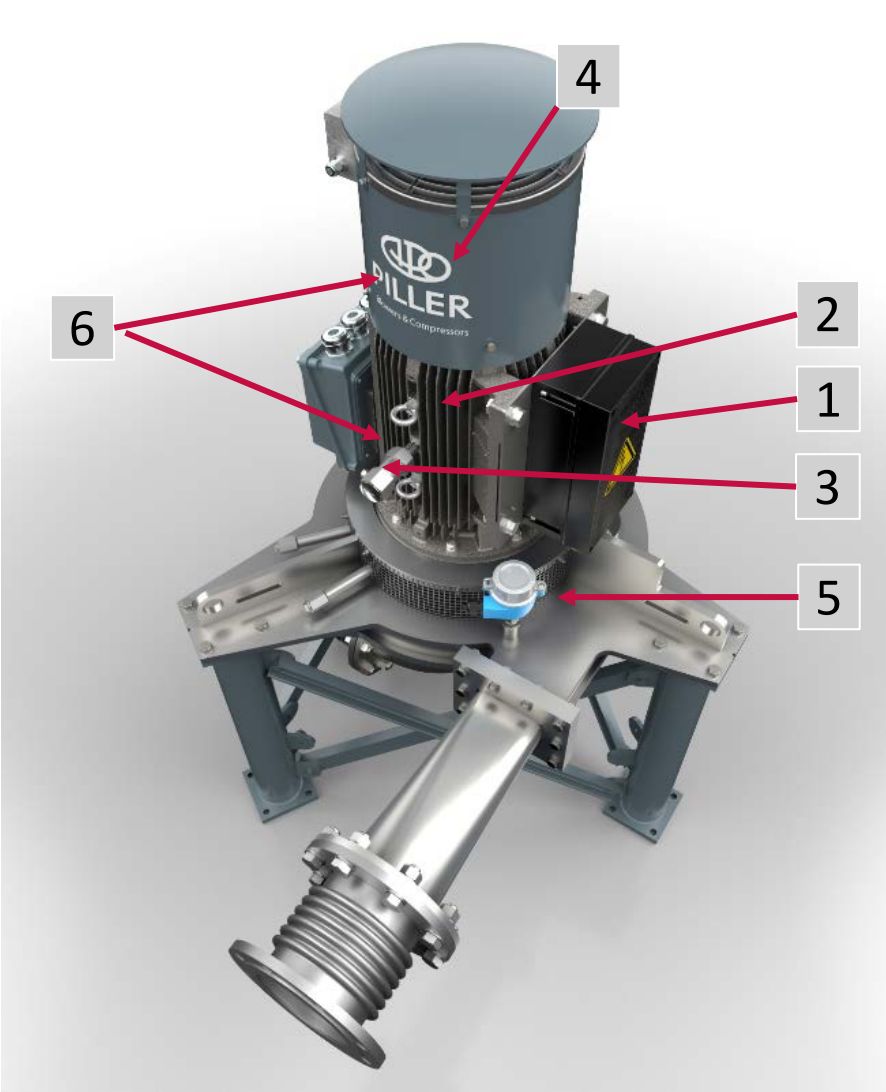
设计特征



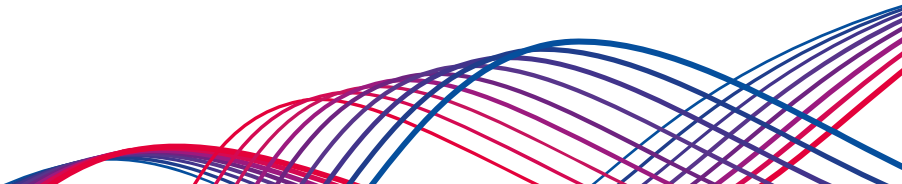
MAIN COMPONENTS

主要部件

- | | |
|---|--|
| 1 | Casing cover
壳体盖 |
| 2 | Impeller
叶轮 |
| 3 | Casing
壳体 |
| 4 | Shaft seal
轴封 |
| 5 | Synchronous high speed motor
同步高速电机 |
| 6 | Drive cabinet
电柜 |
| 7 | Discharge cone
锥形出口 |

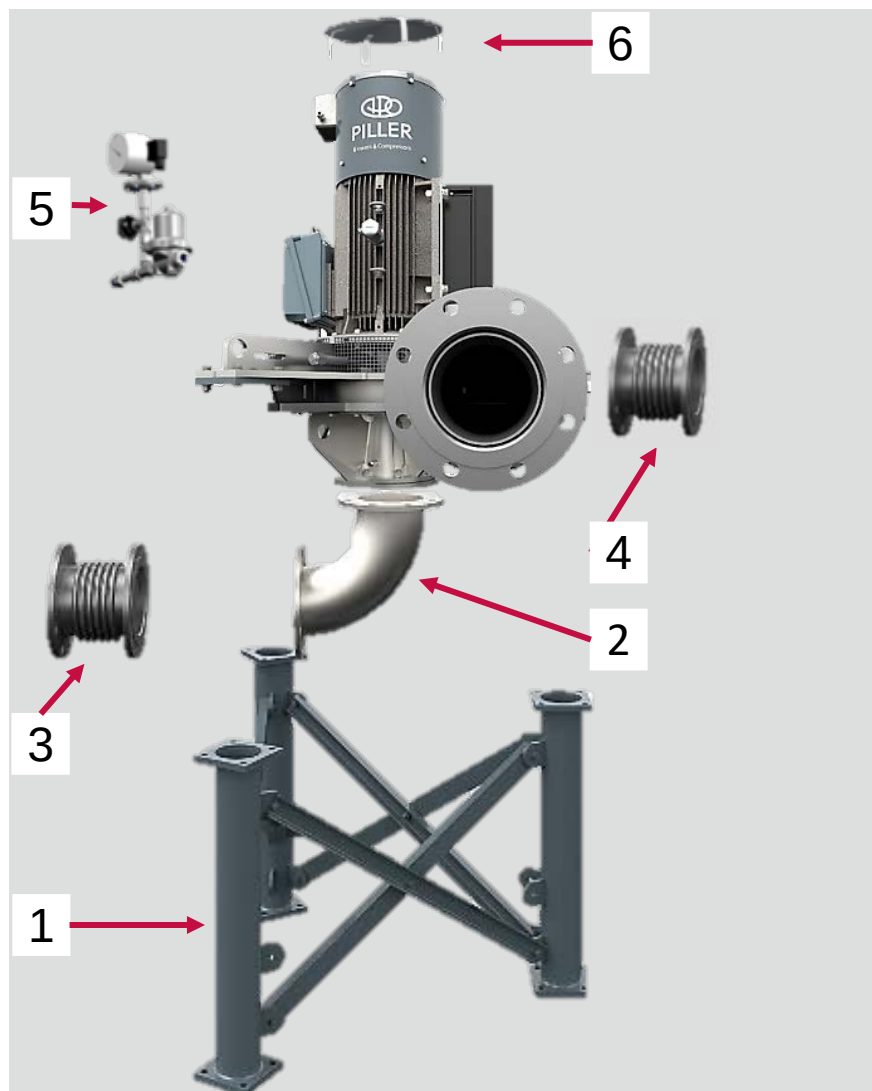


ITEM 序号	DESCRIPTION 项目	AMOUNT [PC(S)] 数量
1	Junction box 接线箱	1
2	PT1000 motor winding PT1000 电机绕组	3
3	Vibration sensor 振动传感器	1
4	Speed sensor 速度传感器	1
5	PT100 fan casing 壳体PT100	1
6	PT100 motor bearing 电机轴承PT100	2



DESIGN FEATURES – ACCESSORIES

设计特征- 附件



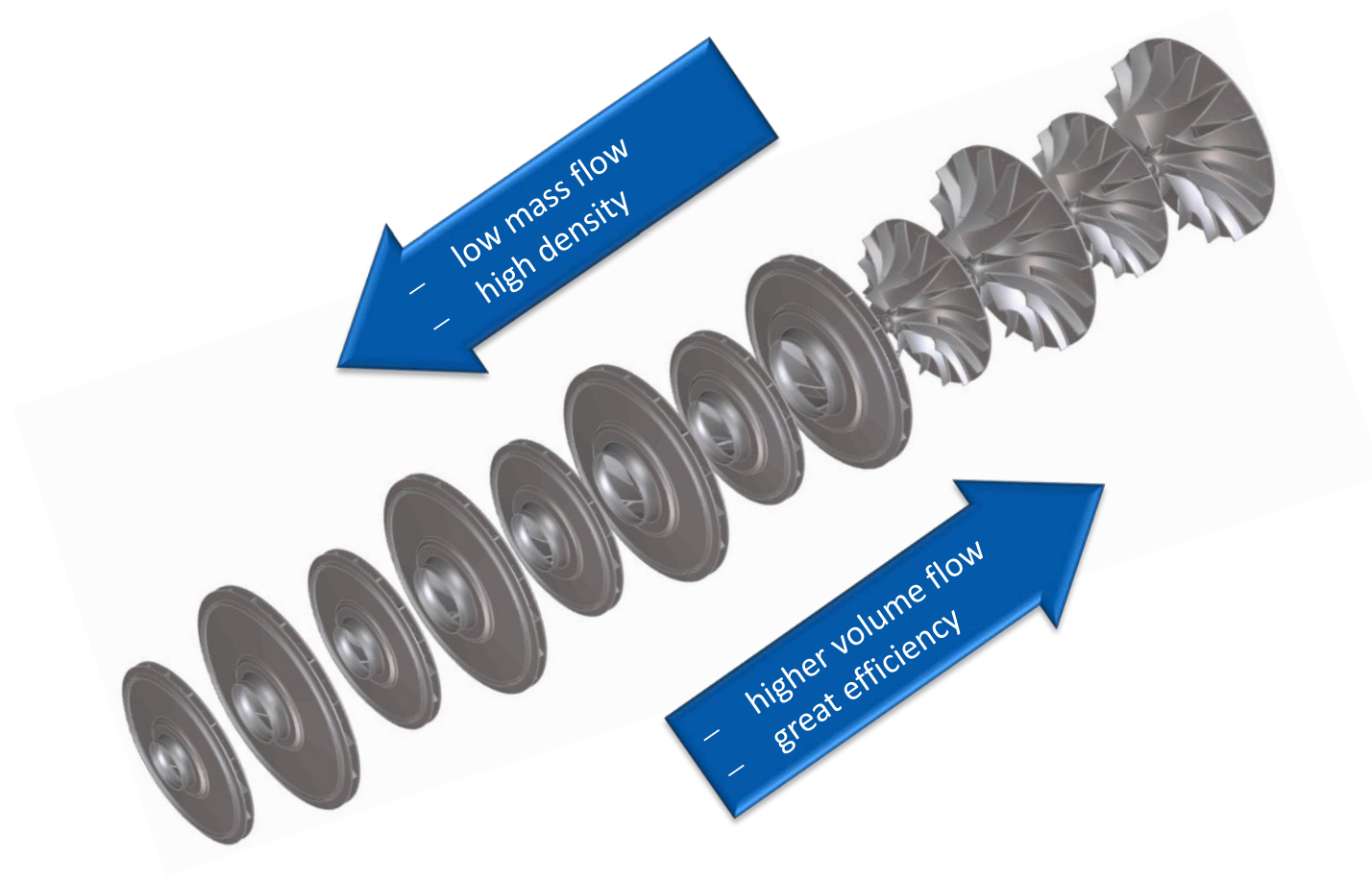
STANDARD OPTIONS

标准配置

- | | |
|---|--|
| 1 | Base frame
底座 |
| 2 | Inlet pipe
入口弯管 |
| 3 | Flexible joint inlet
入口膨胀节 |
| 4 | Flexible joint outlet
出口膨胀节 |
| 5 | Buffer media instrumentation
介质缓冲仪表 |
| 6 | Rain roof
防雨顶盖 |

IMPELLER 叶轮

- 2 diameters (450 mm + 560 mm)
2 种直径 (450 毫米 + 560 毫米)
- Mechanical design temp. up to 150 °C
机械设计温度高达 150 ° C
- Tip speed up to 315 m/s
外缘速度高达 315 米/秒
- Optimal chamber geometry
最佳腔室几何形状
- High efficiency
效率高
- Wide operating range
运行范围广

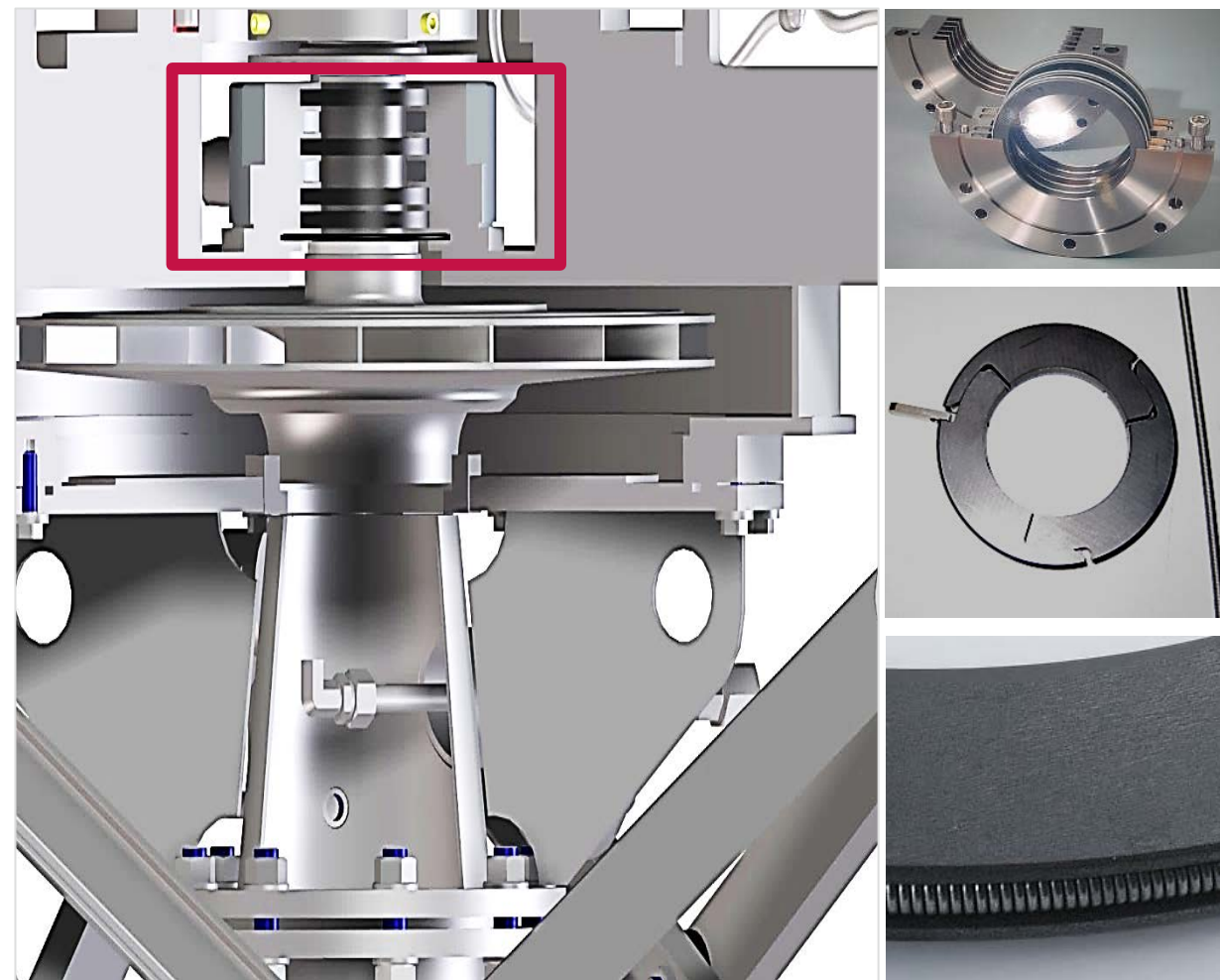


SHAFT SEAL 轴封

Shaft Seal

轴封

- Split housing design 分体式设计
- Self-adjusting seal rings 自动调节密封环
- Long-term operation time 可长时间运行
- Segmented seal rings for easy replacement
分段式密封环便于更换



LUBRICATION CONTROL

润滑控制



Lubrication Control

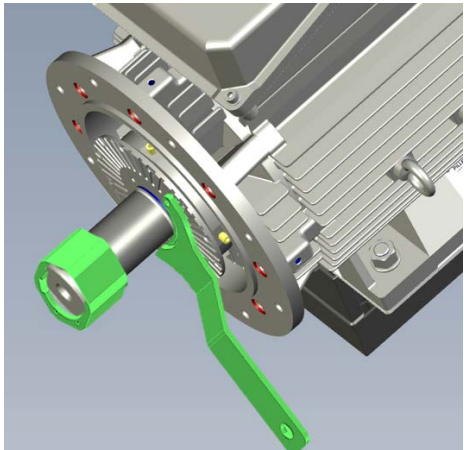
润滑控制

- Automated reusable cartridges with external power supply
带外部电源可自动重复使用的滤芯
- Remote monitoring for OK / NOK
远程监控
- Local LED (red / green) visible
本地 LED 指示灯（红/绿）

SPECIAL TOOLS 特殊工具

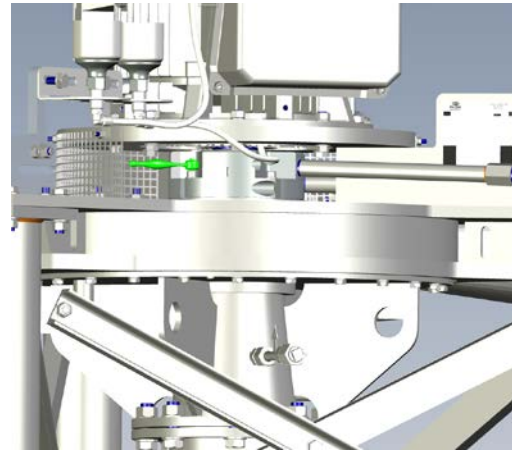
MOUNTING COOLING DISC

安装冷却盘



SHAFT SEAL CASING

轴封壳



PILLER HIGHSPEED MOTOR AND VFD

PILLER高速电机及变频器

- PSM – permanent synchronous motor 永磁同步电机
- Very high efficiency (IE4, 98%) 效率极高(IE4, 98%)
- 37, 55 kW => max. speed 最高转速 13,500 rpm
- 90 kW => max. speed 最高转速 11,000 rpm
- 160 kW => max. speed 最高转速 13,500 rpm
- Bearing lifetime 40,000 LH 轴承寿命 40,000 LH
- IP54



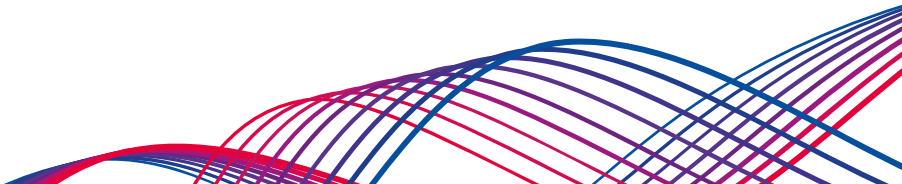
VARIABLE FREQUENCY DRIVE

变频器

	VFD F6	
Power supply 电源	Multi core cable 多芯电缆	
Power range 功率范围	37KW / 55KW / 90KW / 160KW	
Fieldbus communication 线路通信	37KW – 90KW:	PROFINET (IRT), EtherNet/IP, Modbus/TCP
	160KW:	PROFINET (IRT), Modbus/TCP
Certification 认证	EN / cULus / UL 508 a	



Combivert F6



CONTROL CONCEPT F6

控制理念

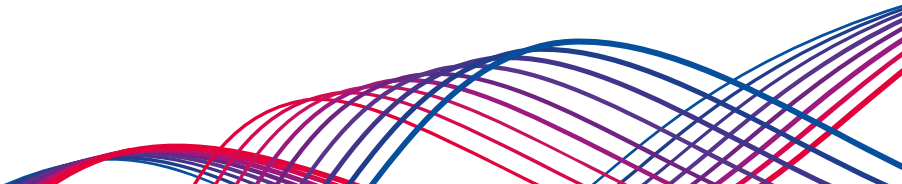


SINGLE STAGE APPLICATION



MULTI STAGE APPLICATION

NAME	STAGE	FUNCTION OF THE SAFETY CHAIN
Master 主变频	Single stage application 单级应用中的变频器	Control itself 控制本台风机
	1st stage of serial connection application 多级应用中的第一台风机的变频器	Control itself and all serial connected Slaves 控制第一台风机和多级装置中所有连接的变频器
Slave 从变频器	2nd to 7th stage of serial connection application 2-7级串联应用	Control itself 控制本台风机



MULTI STAGE ARRANGEMENT

3 VAPOFANS IN SERIES

3台风机串联

- Example for customized solution

客户定制解决方案的实例



THANK YOU FOR YOUR ATTENTION
感谢聆听！

