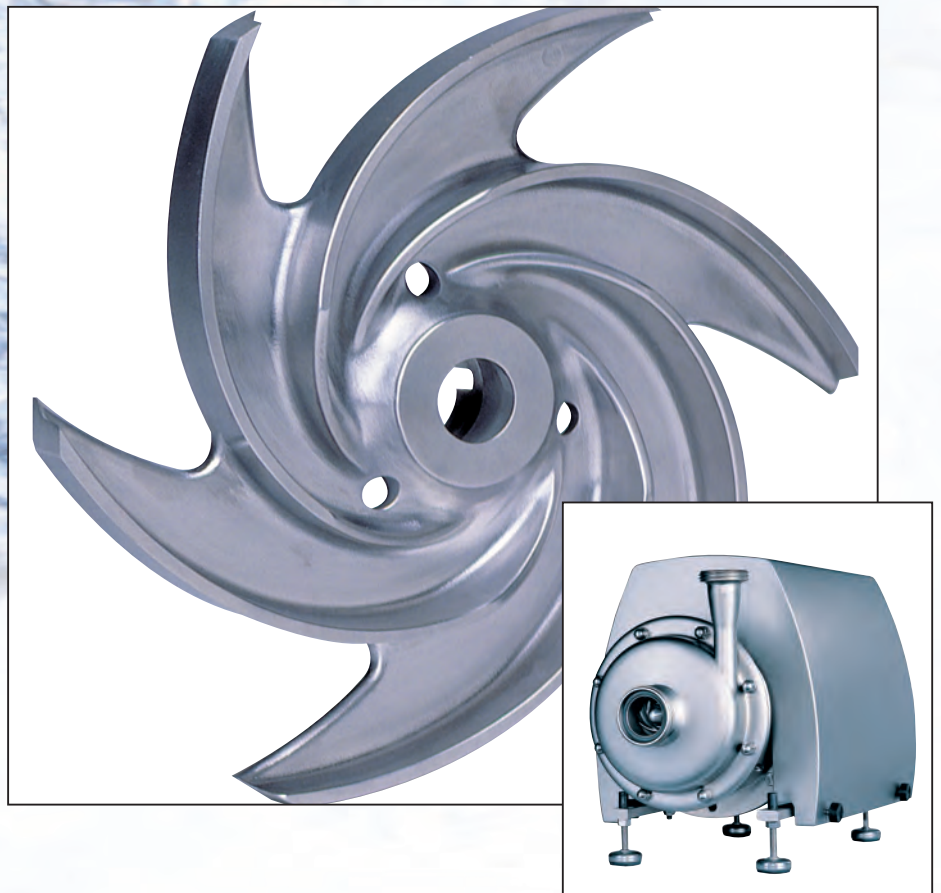


Tuchenhagen®-VARIFLOW Centrifugal Pump

TP Series



Process Equipment

Tuchenhagen



Tuchenhausen®- VARIFLOW TP-Series. . .

. . . is designed to meet today's industry requirements of cleanability, gentle product handling, efficiency and easy maintenance.

The TP series is covering a capacity range of 1 m³/h up to 220 m³/h and flow heads up to 92 m w.c..

The TP-Series is designed for pumping media up to a viscosity of 1,000 mPas.

Low flow velocities and gentle discharge of media through the spiral housing ensure extremely gentle product handling. Independent institutes have proven the cleaning ability of the TP series, an important fact for pumping media in hygienic processes.

The spiral housing for the TP series is made of cold rolled stainless steel. This material has an excellent surface quality of $R_a \leq 0.8 \mu\text{m}$ which is essential for optimum cleaning in CIP/SIP processes. Wall thickness of 6 mm giving a high strength for critical pipings and high inlet pressures. A hygienic mechanical sealing is used with an isolated spring outside the product room. Flushing mechanical seals are available as an option.

Hydraulic characteristics

- Gentle product handling due to low flow velocities in the impeller.
- Low NPSH-value avoids early cavitation to the pump.
- Optimised hydraulic efficiency.
- The pumping characteristic can be adapted to the requirements of your system by speed control or impeller trimming.
- Optimal SIP/CIP characteristics are obtained by avoiding undercuts, dead corners and as well as by use of the VARIVENT® principle.

Geometric characteristics

- The open impeller design ensures optimum cleaning characteristics.
- Surface roughness of $R_a \leq 0,8 \mu\text{m}$ can be achieved by mechanical treatment of the surface. Better surfaces available on request.
- Standard foot and flange motors of type IM B35, according to IEC can be used as pump drive.

The concept, which has been designed with economic efficiency in mind, offers many advantages:

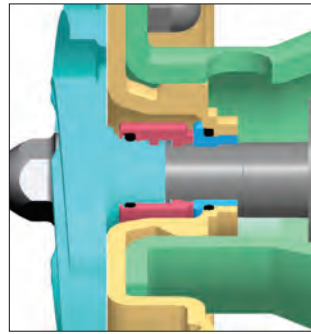
- Flow rates of up to 220 m³/h
- Pump heads of up to 92 m w.c.
- Open impeller with optimum hydraulic properties
- Low-noise operation
- EHEDG certified
- 3A as an option

Available range of TP types (50 Hz operation)

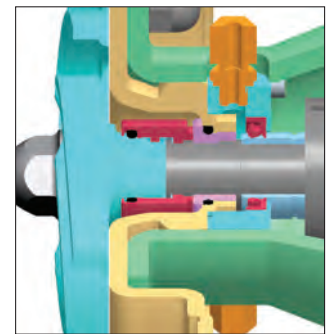
Pump Type	Poles	Flow Volumes in m ³ /h	Pump Heads in m	Motor Power in kW
TP 1020	2-pole	1 - 18	23	1.1 - 3.0
TP 1020	4-pole	1 - 10	6	0.55 - 1.1
TP 1540	2-pole	5 - 35	42	3.0 - 7.5
TP 1540	4-pole	3 - 20	11	0.55 - 1.1
TP 2030	2-pole	3 - 35	36	1.5 - 5.5
TP 2030	4-pole	2 - 20	9	0.55 - 1.1
TP 2575	2-pole	1 - 44	85	4.0 - 22.0
TP 2575	4-pole	3 - 20	31	0.75 - 4.0
TP 3050	2-pole	10 - 70	65	3.0 - 15.0
TP 3050	4-pole	5 - 40	16	0.55 - 2.2
TP 5060	2-pole	5 - 80	74	5.5 - 22.0
TP 8080	2-pole	15 - 110	90	11.0 - 37.0
TP 8080	4-pole	5 - 40	18	3.0 - 7.5
TP 16040	2-pole	10 - 220	48	11.0 - 45.0
TP 16040	4-pole	5 - 110	12	3.0 - 5.5

All pumps can be equipped with a variety of mechanical seals

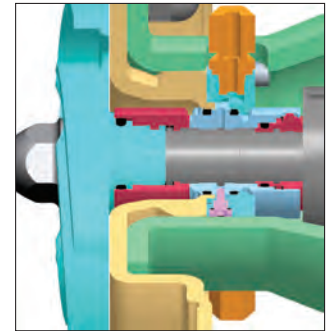
- Isolated seal springs lead to optimum CIP/SIP characteristics
- Constant flushing of mechanical seal
- Single mechanical seal
- Single mechanical seal with flush
 - Simple upgrade of flushing unit
 - Pump shaft protection by wear sleeve
- Double mechanical seal
- Different seal face materials available:
 - Carbon/Stanless steel
 - Carbon/Silicon carbide (Standard)
 - Silicon carbide/Silicon carbide
- Different FDA approved gaskets:
 - EPDM
 - FKM
- Ease of maintenance:
 - No dismantling of the pipe system is required



Single mechanical seal



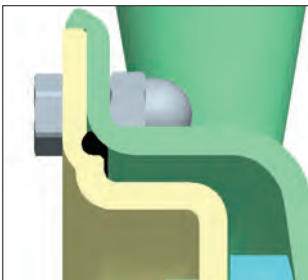
Single mechanical seal with flush



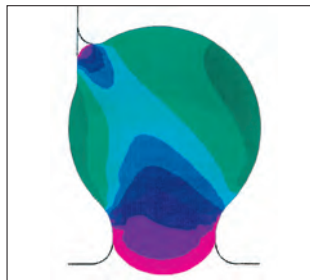
Double mechanical seal

VARIVENT® Principle

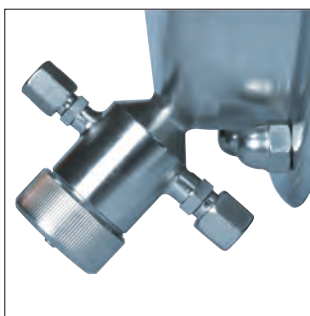
The special groove ensures the safe seal location of the whole time. The shape of the groove is designed on the basis of FEM. The metallic stop allows the defined compression of the seal, ensuring gap-free sealing against the product chamber without dead corners and long service life of the gaskets.



O-ring sealing between pump housing and cover



FEM showing the seal ring in operating mode



Drain Valve

Pneumatic and manual actuated drain valve for complete draining of the pump housing without dead pockets.



Inducer

for the reduction of the NPSH-value of the pump

Special features

- All parts in stainless steel, wetted components are made of AISI 316L (1.4404)
- Acceptance test certificate 3.1
- max. operating pressure 16 bar
- High efficiency
- Gentle product handling
- Low noise
- No bearing flange needed due to low axial forces (pump shaft force-fit connected to motor shaft).

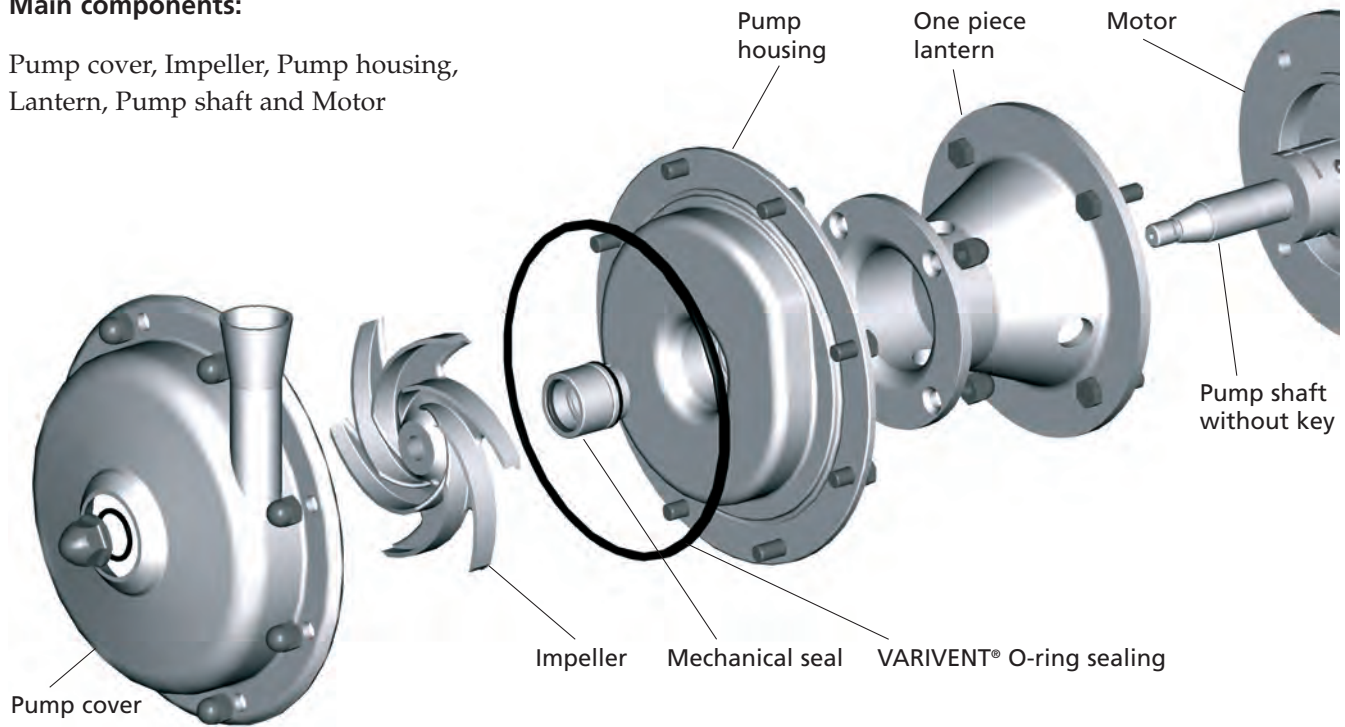
Connection fittings

- Metric and Inch diameters
- Threaded joint according to DIN 11851 (Standard)
- VARIVENT® flange connection, type tested and TÜV approved
- Aseptic union to DIN 11864-1
- Aseptic flange to DIN 11864-2
- Other marketable connections according to BS, SMS, RJT, Tri-Clamp

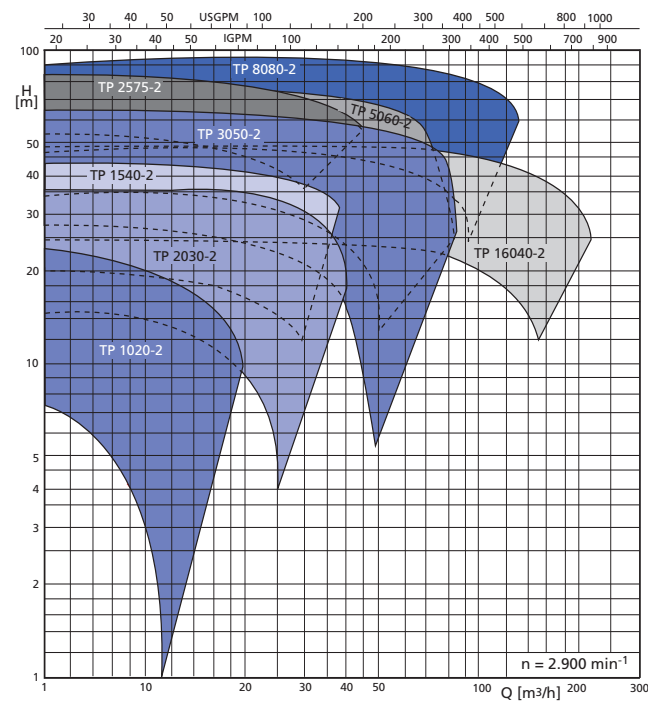
Tuchenhagen®-VARIFLOW, TP Series

Main components:

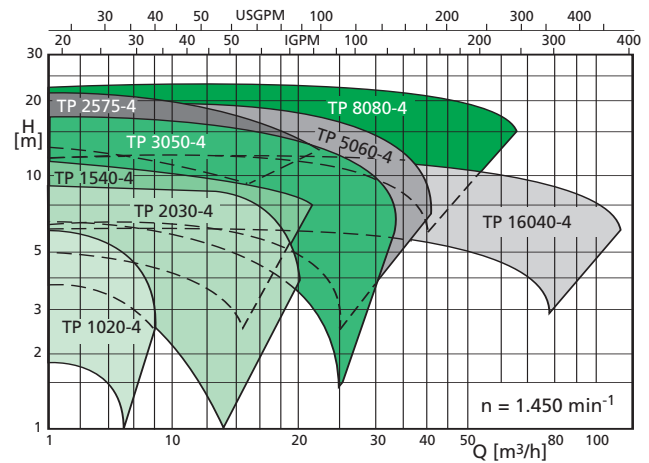
Pump cover, Impeller, Pump housing,
Lantern, Pump shaft and Motor



Performance characteristics, n = 2.900 min⁻¹, 50 Hz



Performance characteristics, n = 1.450 min⁻¹, 50 Hz



Your Contact



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Process Equipment

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