

# HIGH- EFFICIENCY IN-LINE PUMPS





# WITH TP/TPE GRUNDFOS OFFERS A COMPREHENSIVE RANGE OF HIGH EFFICIENCY IN-LINE PUMPS DESIGNED FOR USE IN A VARIETY OF APPLICATIONS

## A wide range of applications covered

Use the TP and TPE pumps for maximum efficiency and reliability in the following application areas:

- Heating
- Cooling
- District energy
- Industrial cooling
- Industrial processes
- Water supply

## Energy efficiency in every detail

We have looked at every detail of the TP/TPE pumps to increase efficiency. Optimised flow geometry and cataphoresis surface treatments are two examples of how we've succeeded.

### Optimised flow geometry

With our unique high-precision machinery, we have minimised the tolerances used in the manufacture of the impeller and pump casing, and optimised the flow geometries of these two crucial components. The result: minimal backflow and increased energy efficiency.

### The perfect surface

Sometimes, looking at the surface is a good thing. Grundfos TP/TPE pumps are given cataphoresis surface treatments, consisting of Powercron® cathodic electrocoating and zinc phosphate coating. Cataphoresis on the inside of the pump means a longer lasting inside surface that keeps efficiency high.



**Grundfos Blueflux® technology included**  
The Grundfos Blueflux® technology label is your guarantee for the best-in-class pump motor solution from Grundfos in terms of performance and energy consumption.

## Pumps for life: TP and TPE

TP and TPE are the ultimate choice in In-line pumps. These highly adaptable, intelligent pumps are extremely efficient and built to match your needs perfectly.

**TP:** Comes with the highly efficient IE3 Grundfos Blueflux® motor as standard.

**TPE:** Features both the IE3 Grundfos Blueflux® motor as well as an integrated frequency converter that ensures maximum efficiency at all times. All TPE components are tailor-made and mutually optimised, resulting in energy savings of up to 50% compared to conventional pumps.

**TPD/TPED:** Twin-head pump variants of the TP and the TPE.

## Advantages of an integrated frequency converter

- Easy commissioning
- Easy installation – no need for cabling
- Preset solution for quick and safe installation
- Space saving
- Motor, frequency converter and motor protection in one
- Software optimised for pump operation – low operation costs
- One supplier, one warranty

## BIG benefits for small TPEs

All our TPEs sized 0.12 - 2.2 kW, 2-pole and 0.12 - 1.1 kW, 4-pole feature some very big benefits. This particular part of our range as been fitted with advanced motors – permanent-magnet motors with an efficiency that exceeds IE4 demands: Efficiency levels in IEC60034-30-1 Ed. 1 (CD); even when you include the energy consumption of the integrated frequency converter.

## Benefits

- Efficiency exceeds IE4 demands
- Up to 4 pumps in parallel operation/cascade
- No need for external control unit – the pump communicates via radio frequency
- Improved user interface – easy commissioning, trouble-shooting and maintenance
- Fully compatible with Grundfos GO
- Advanced functional module featuring more inputs and outputs – digital as well as analog





# TP/TPE THE DETAILS

## Integrated frequency converter in TPE

The integrated frequency converter in the TPE ensures easy commissioning, easy installation and low operation costs.

## The all-in-one solution

In Grundfos TP/TPE pumps, coupling and shaft have been friction-welded together to create a completely stable mechanical unit, which drastically reduces the vibration levels. The stability of this all-in-one solution prolongs the lifetime of both shaft seal and bearings.

## Anti-corrosion surface

Cataphoresis surface treatment consisting of Powercron® cathodic electrocoating and zinc phosphate coating.

- Maximal protection against corrosion
- Cataphoresis on the inside of the pump means a longer lasting inside surface that keeps efficiency high

## Renewable neck rings

All TP and TPE pumps come with renewable neck rings, making it possible to upgrade your pump when necessary.

## Compact perfection

The proportion between the length and width of the shaft in the pump is extremely important. Large shaft diameters and a short distance from impeller to motor maximise stability and ensure lower maintenance costs. Grundfos pumps always strive for the most optimal proportion between the length and width of the shaft.

- Maximal shaft seal lifetime
- Especially well suited for frequency converter operation

## Unique design of shaft seal chamber

- No need for external piping
- Ensures optimal water circulation, thereby prolonging the lifetime of the shaft seal

## Mechanically and hydraulically balanced impeller

- Minimised vibration levels and axial forces
- Maximised motor bearing and shaft seal lifetime

## Advanced fan design

Advanced axial fan design means dramatically reduced noise levels.

## Grundfos Blueflux® IE4

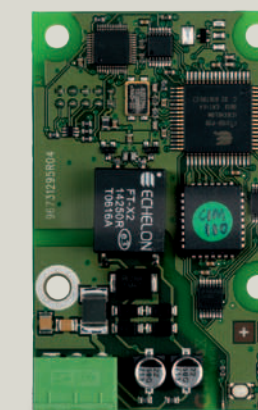
Grundfos Blueflux® motors come as standard in both TP and TPE pumps. The motor on small TPEs easily meets IE4 demands – even if you include the energy consumption of the integrated frequency converter.

# ACCESSORIES



## Grundfos GO

Grundfos GO gives you intuitive handheld pump control and full access to the Grundfos online tools on the go.



## CIM/CIU modules

For connection to BMS, CIM/CIU modules with the following field-bus standards can be added: LON, Profibus, Modbus, SMS/GSM/GPRS and BACnet. In addition, the GENIBus is also available.





# OUR COMPREHENSIVE RANGE

You can have all the benefits of the TP/TPE series whether you are looking for a small- or large-scale solution.

The whole range features:

- Liquid temperature range up to +150°C
- Ambient temperature up to +60°C
- Operating pressure up to 25 bar

## TP/TPE 50 Hz:

- From 0.12 kW to 630 kW – TPE up to 22 kW
- Capacities of up to more than 4500 m<sup>3</sup>/h
- Head up to 170 m

## TP/TPE 60 Hz:

- From 0.37 kW to 315 kW – TPE up to 22 kW
- Capacities of up to 1250 m<sup>3</sup>/h
- Head up to 235 m

## Choose between the 1000 or the 2000

Grundfos offers two concepts within E-pumps: The TPE Series 1000 and the TPE series 2000.

### TPE Series 1000:

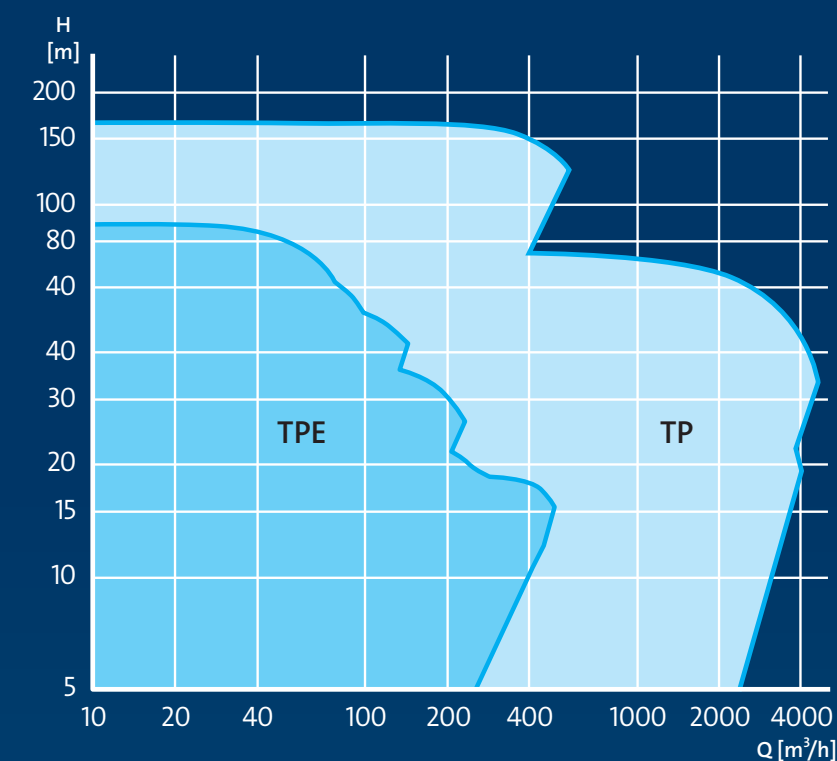
- Suitable for applications where a sensor in the system controls the pressure, temperature or flow rate
- Very suitable for larger systems and customised systems

### TPE Series 2000:

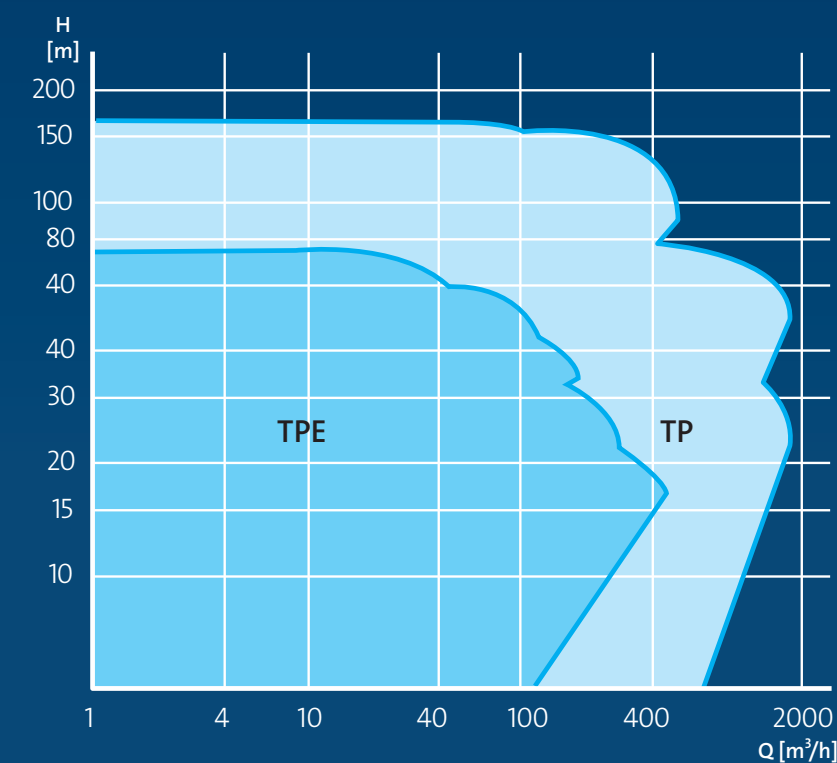
- Easily commissioned and installed – plug and pump solution
- Have a factory-fitted differential sensor
- Are factory-set to proportional pressure control
- Continuously adjust the pressure to fit the current demand

# PERFORMANCE CURVES

## TP/TPE 50 Hz



## TP/TPE 60 Hz



Grundfos TP/TPE is a comprehensive range of high efficiency In-line pumps. They feature the world-renowned Grundfos Blueflux® motor as standard and the TPE has an integrated frequency converter that ensures maximum efficiency at all times.

#### Application areas

- Heating
- Cooling
- District energy
- Industrial cooling
- Industrial processes
- Water supply

Learn more and see our full product programme at [www.grundfos.com](http://www.grundfos.com)

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