# TCP

Ready for the future with enhanced performance and efficiency – The TCP series of radial turbochargers can achieve maximum pressure ratios of up to 7.

**Benefits at a glance**
A benchmark figure that sets new industry standards.

Everllence

# TCP
Turbochargers

## Technical data

| | |
|---|---|
| Turbine type | Radial |
| Max. permissible temperature | 650 / 750 °C |
| Pressure ratio | up to 6.7 |
| Suitable for Future fuels (Hydrogen, Ammonia and Methanol) as well as conventional fuels (HFO, MDO and gas) | |

## Supercharged engine output

| Type | [kW] | Mass [kg] |
|---|---|---|
| TCP12 | 800 | 80 |
| TCP14 | 1,150 | 120 |
| TCP16 | 1,600 | 190 |
| TCP18 | 2,200 | 320 |
| TCP19 | 3,000 | 520 |
| TCP20 | 4,200 | 840 |
| TCP22 | 5,800 | 1,300 |

All weights and dimensions are for guidance (project-specific requirements can lead to deviating values). More information available upon request. Last updated August 2023

### General

While existing 1-stage turbocharger systems typically deliver pressure ratios of well above 5, the TCP range achieves stable operating points of well above 6. These remarkable figures are thanks to a complete redesign of the aerodynamic stages on both the compressor and turbine side.

The TCP range is key-enabler for increases in power output of around 20 %. That translates to increased power at a similar cost, or a smaller engine or fewer cylinders for the same output.

When creating aerodynamic and structural mechanical models for the TCP series, PBST development teams used advanced numerical simulations, which are driven by the ongoing trend towards faster computer processing capability.

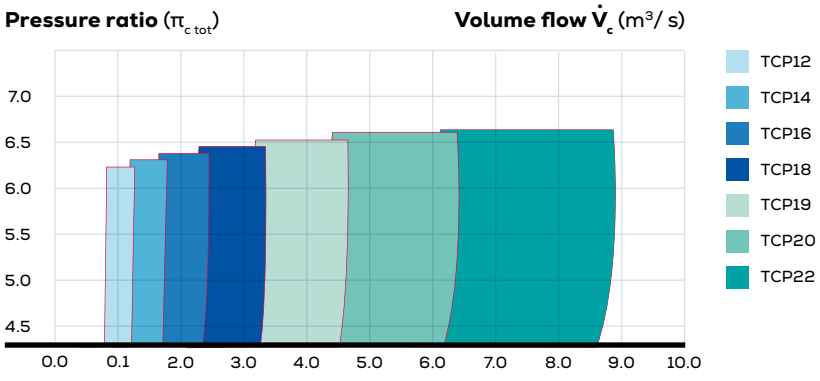
They were thus able to create highly complex simulations, used as the basis for targeted optimization of flow components, enhanced turbocharger performance and longer working life.

### Key Benefits

- Increase in power density of up to 20 %
- Decrease of specific engine costs up to 20 %
- Improved efficiency levels of › 70 %
- Significantly improved dynamic behavior: 25 % reduction in rotor moment of inertia
- Plug & play (keep same flange connections as existing turbochargers)
- Improved cost of ownership: long time-between-overhaul
- Maintenance-friendly

### Applications

- High- and medium-speed engines
- Conventional and future fuels
- Seven frame sizes, to cover a wide range of power, marine and off-road applications





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