

---

**Press release**

Copenhagen, 2019-05-07

---

**MAN Energy Solutions SE**  
Tegholmegade 41, 2450 Copenhagen SV,  
Denmark[www.man-es.com](http://www.man-es.com)

---

**Group Communications**  
Nils Søholt  
P +45 33 85 26 69  
[Nils.Soeholt@man-es.com](mailto:Nils.Soeholt@man-es.com)

## **VTA Solution Now Standard for MAN 51/60DF Engine**

### **MAN Energy Solutions becomes first turbocharger manufacturer to establish VTA as standard for large-bore, four-stroke engines**

MAN Energy Solutions has announced that VTA (Variable Turbine Area) is now standard on TCA turbochargers for its MAN 51/60 engine type, marking the first time that VTA technology has been approved as standard for a large-bore MAN four-stroke engine. Indeed, MAN is the only turbocharger manufacturer to offer axial turbochargers with VTA as standard for any large-bore, four-stroke engines.

Stefan Terbeck, Project Manager for the MAN 51/60 engine series at MAN Energy Solutions, said: "High-tech solutions are necessary to meet the market's demanding requirements and – with this announcement – we have really delivered. VTA turbochargers are becoming more and more important, especially when it comes to gas engines. VTA has already been applied from our licensee, Kawasaki Heavy Industries, who has reported excellent performance and high reliability on their engines. Furthermore, the VTA concept is even now employed commonly in the significant formaldehyde-manufacturing segment."

MAN Energy Solutions reports that it already has more than 380 references of turbochargers sold with VTA technology, and that VTA is approved for its TCA turbocharger sizes TCA55 to TCA88 – both for marine and power applications.

Terbeck added: "We collected more than seven years of operational experience before approving VTA technology as standard. As a result, our 51/60DF engine is getting a proven, field-tested product."

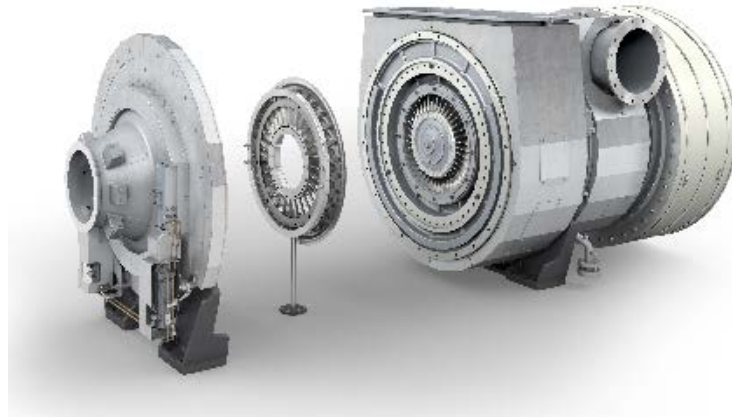
### **VTA benefits**

Under the VTA concept, the volume of charge air can be precisely matched to the quantity of injected fuel at all points in an engine's load and speed range. This has several benefits, including:

- significant fuel savings
- improved dynamic performance
- fuel flexibility: smart control management means engine adapts itself automatically to get to best possible operating point
- range extension: it includes elevated ambient temperature without de-rating
- peaking balance: handles load fluctuations.

MAN Energy Solutions reports that the typical payback period for VTA on MAN engines will be one-and-a-half to two years, and that its next step is to make VTA standard for its MAN 51/60G engine type. It also states that its PrimeServ

Academy has already increased the VTA training portfolio, due to its rising importance, citing the new VTA-VacSeal four-stroke course that was introduced in September 2018 as an example of this.



*MAN's VTA turbocharger*



*VTA: nozzle ring with adjustable vanes, closed on the left, open on the right*

---

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.