

VOITH

Safe Transportation.
PriTarder-Operation
for MAN TGS / TGX





Dear Truckers,

Stress due to tight schedules, increasing operating cost and a huge number of traffic on the road have become permanent companions for both drivers and forwarders. But particularly in times of increasing and tougher competition it is impossible to go without safety and profitable driving. Profitable driving means driving fast – with the lowest wear possible. Driving professionals thus appreciate the brake output of a Retarder:

Up to 80 % of all brake operations can be performed without wear with the new MAN PriTarder® brake system – no matter whether on descending routes, on adaptation brakings or in a stop-and-go traffic.

Have a pleasant trip at all times!
Your Voith Retarder Team

Why MAN PriTarder® Braking System?

Because even the best service brakes reach their limits.

The MAN PriTarder® Braking System is the combination of pressure-controlled engine brake EVBec and Voith Aquatarder PWR.

The PriTarder is an endurance braking system working without wear and keeping the temperature level of the service brake low. Your advantage: The service brake remains fully functional, and offers an additional safety reserve in case of emergency.



More advantages

- Braking power up to 610 kW/830 HP
- Net Retarder weight approx. 33 kg
- No additional operating medium
- Maintenance-free



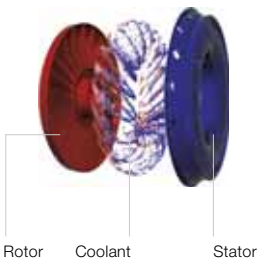
Aquatarder attached to engine front end

Function and Installation

The Voith Aquatarder PWR works with the engine coolant. Its rotor, directly driven by the crankshaft, moves and accelerates the coolant. Same is deflected in the stator, slowed down and returned to the rotor. Consequence: Pressure builds up creating a braking torque and the vehicle is decelerated. Accumulating braking heat is immediately dissipated via the vehicle cooling system.

Depending on the possible equipment of your vehicle with a multi-function steering wheel, there are two variants for operating the PriTarder.

Hydrodynamic principle





MAN TGS

Operating Concept of the MAN PriTarder® with Multi-Function Steering Wheel

Allocation of the function keys to FGR* and FGB**

When a multi-function steering wheel is installed, the upper steering-column switch is not required. The lower steering-column switch takes over the function of the engine brake/PriTarder.

1. Steering-column switch:
 - Stepwise increase or reduce braking force (tip-function)
2. Push-button „MAX/OFF“:
 - Switch to maximum braking force or switch off

Allocation of function keys



The functions of FGR/FGB, controlled from positions on the lower steering-column lever are integrated in the multi-function steering wheel.

6. Push-button „+“:
 - Switch on and store speed
 - Increase and store speed
7. Push-button „-“:
 - Switch on and store speed
 - Lower and save speed
8. Push-button „OFF“:
 - Switch off
9. Push-button „MEM“:
 - Switch on again with speed last stored
10. Preselection push-button:
 - Change over between FGR* and FGB** (and ACC***)

* FGR = Driving speed control

** FGB = Driving speed limitation

*** ACC = Adaptive cruise control

Allocation of function keys



What Happens when Changing Gear?

With the PriTarder you may change gears during the braking process at any time – either manually or automatically (Tipmatic).

1. Shift down early enough when shifting manually. The green LED-line in the tachometer serves as an orientation guide and lights up when the PriTarder is activated.
2. Depending on the lever position or on the Brake-Matic requirements the Retarder control system automatically switches off and on the PriTarder when opening/closing the clutch. While the clutch is opened, the PriTarder cannot – system-inherent – for a short period pass on any braking torque into the drive line.
3. Speed increase while shifting gears on a descending route may be avoided by shortly operating the service brake.
4. In addition, the vehicles are equipped with the electronic braking system EBS5 with brake blending (automatic service braking).
5. Shifting down increases the braking torque at the prop-shaft and the water throughput in the PriTarder, optimizing its availability.
6. When the BrakeMatic is set, the adjustment is automatically reactivated after the shifting process.

Cold-start Function

With cold engine during vehicle standstill: switch on PriTarder (step 6 or push-button)!

The PriTarder warms up the cooling water. When reaching the coolant temperature of 60 °C the PriTarder is automatically switched off again.

Advantages

- The engine reaches the operating temperature a lot faster
- The driver's cab warms up faster
- The windows defrost and the view is improved
- Fuel consumption is reduced



Voith Turbo GmbH & Co. KG
Commercial Vehicles
Voithstraße 1
74564 Crailsheim, Germany
Tel. +49 7951 32-622
Fax +49 7951 32-574
retarder@voith.com
www.voith.com

VOITH
Engineered Reliability