

F-VERSION UPGRADE FOR JENBACHER TYPE 3 ENGINES

Product description

Upgrading your Jenbacher Type 3 engine to the latest F-version technology increases total efficiency while reducing the engine's fuel consumption.

Product details

The efficiency upgrade can be applied anytime—ideally during a minor or major overhaul—and includes an engine upgrade, control software, and settings update.

A key feature of the Type 3F engine is a new four-valve cylinder head and optimized camshaft for better gas exchange. Paired with a new power unit that delivers better combustion, the upgrade results in significantly increased fuel efficiency and lower hydrocarbon-emissions (THC).

Its improved cooling concept along with new valve and valve seat materials translates to a robust package that can handle challenging applications.

Typical engine upgrade scope:

- Camshaft and cylinder head exchange
- New pistons and liner
- Cylinder individual knock control for improved combustion control
- Turbocharger and gas inlet (TecJet[®]) modification, depending on engine version and application
- Crankcase ventilation system upgrade, if applicable
- OEM documentation update

Jenbacher Type 3F:
The reference for robustness and reliability—now with higher efficiency:

Innovative Design Features



Head (4V)
- Optimized gas exchange with cooling upgrade
- Reduced THC emissions

Camshaft

- Increased charge efficiency
- Enhanced Miller timing
- Reduced hydrocarbon emissions



Valve train (4V)

- New valve train with floating bridge



TecJet[®]

- Improved start reliability

Turbocharger adaptation required

DIA.NE XT4 / XT4 light version

- Support of cylinder's individual knock control



Power Unit

- New aluminium piston design
 - > Minimized crevice volume
 - > Reduced hydrocarbon emissions
 - > Revised piston bowl shape
 - > Reduced oil consumption
- New liner and scraper ring



Knock control

- Cylinder individual knock control
 - > Improved engine protection
 - > More efficient combustion
 - > Simplified serviceability

Customer benefits



Greater efficiency

Up to 2% points improved fuel usage means savings for you.

Lower THC emissions

The new 3F technology delivers a smaller environmental footprint by helping you comply with your country's THC-emission regulations (such as the future requirements of the 44th BImSchV in Germany).

Reduced oil cost

Less lube oil consumption and a longer lube oil lifetime means less oil management requirements and lower oil life-cycle costs. Moreover, the use of Jenbacher oils enables the extension of both filter life and service intervals.

Convenient upgrade

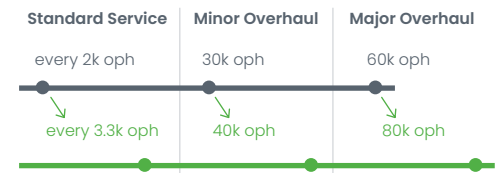
This simple upgrade can be applied at your site during a minor overhaul or at INNIO's Overhaul Center as part of a major overhaul.

Greater runtime (optional)

If your engine runs on pipeline gas or treated biogas, you can opt for a special, expanded-scope overhaul at one of INNIO's repair shops. The result is an engine with the same extended maintenance schedule introduced with D version engines, allowing you to extend the major overhaul to 80,000 oph.

Future-proof fuel flexibility²⁾

The upgrade prepares your engine for our "Ready for Hydrogen" option, facilitating your move from conventional fuels today to H₂ operation tomorrow, once H₂ becomes more readily available.



Applicable units³⁾

Type 2	Type 4
Type 3 ✓	Type 6

²⁾ "Ready for H₂" = Optional scope on demand

³⁾ The upgrade is applicable to all Type 3 C- & D-version (50 Hz) engines with a corresponding F-version engine released according to the new unit product program (for instance, D05 versions can be upgraded to F05)

INNIO is a leading energy solution and service provider that empowers industries and communities to make sustainable energy work today. With our product brands Jenbacher and Waukesha and our digital platform myPlant, INNIO offers innovative solutions for the power generation and compression segments that help industries and communities generate and manage energy sustainably while navigating the fast-changing landscape of traditional and green energy sources. We are individual in scope, but global in scale. With our flexible, scalable, and resilient energy solutions and services, we are enabling our customers to manage the energy transition along the energy value chain wherever they are in their transition journey.

INNIO is headquartered in Jenbach (Austria), with other primary operations in Waukesha (Wisconsin, U.S.) and Welland (Ontario, Canada). A team of more than 3,500 experts provides life-cycle support to the more than 54,000 delivered engines globally through a service network in more than 80 countries.

INNIO's ESG Risk Rating places it number one of more than 500 worldwide companies in the machinery industry assessed by Sustainalytics.

For more information, visit our INNIO company website at www.innio.com or Jenbacher product website at www.jenbacher.com.

Follow INNIO on Twitter and LinkedIn.

Find your local support online:

www.innio.com/en/company/providers

© Copyright 2022 INNIO. Information provided is subject to change without notice.

All values are design or typical values when measured under laboratory conditions

¹⁾ Indicates a trademark of Woodward Inc.

INNIO, INNIO, Jenbacher, Waukesha, myPlant and DIA.NE are trademarks in the European Union or elsewhere owned by INNIO Jenbacher GmbH & Co OG or one of its affiliates. All other trademarks and company names are property of their respective owners

