JENBACHER

INNOVATIVE DESIGN FEATURES ALLOW FOR HIGHER EFFICIENCY

F-version upgrade for your Type 3 engines

When you upgrade your Jenbacher Type 3 engine to the latest F-version technology, you can increase your engine's total efficiency while reducing its fuel consumption.



Camshaft
— Increased charge efficiency
— Enhanced Miller timing
— Reduced hydrocarbon emissions



Valve train (4V)
— New valve train with floating bridge



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





TecJet[1]
— 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
› Lower crevice volume
› Reduced hydrocarbon emissions
› Revised piston bowl shape
› Reduced oil consumption
— New liner and scraper ring



Knock control
— Individual cylinder knock control
› Improved engine protection
› More efficient combustion
› Simplified serviceability

Upgrades: Enhancing performance

Our innovative solutions are constantly upgraded to increase your plant's sustainability and bring you top economic results. Let INNIO Group—your Jenbacher system's original equipment manufacturer (OEM)—partner with you for the unique insights you need to always stay up to date. Building on your constant feedback, we offer a broad range of upgrade packages for your Jenbacher products. That is why we also continuously develop our engine versions for you.

[1] Indicates a trademark of Woodward Inc.

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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 enhanced combustion, the upgrade results in significantly increased fuel efficiency and lower total hydrocarbon content (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
- Individual cylinder knock control for improved combustion control
- Turbocharger and gas inlet (TecJet[2]) modification, depending on engine version and application
- Crankcase ventilation system upgrade, if applicable
- OEM documentation update

Applicable units[3]

Type 2		Type 4
Type 3	✔	Type 6

Customer benefits

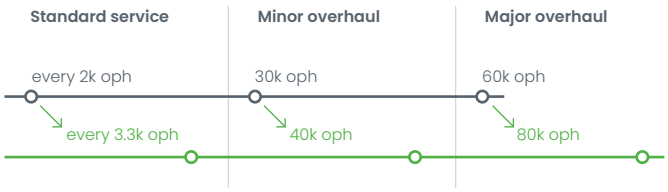
Greater efficiency
Up to 2% points improved fuel usage means savings for you.

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 requirements of the 44th BImSchV in Germany).

Reduced oil cost
Less lube oil consumption and a longer lube oil lifetime means fewer 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 the Jenbacher Overhaul Technology 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 Group'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 flexibility[4]
The upgrade prepares your engine for our "Ready for Hydrogen" option, facilitating your move from conventional fuels today to H_2 operation tomorrow, once H_2 becomes more readily available.

Upgrade your engine
Enhancing performance
jenbacher.com/upgrades

[2] Indicates a trademark of Woodward Inc.
[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). 60 Hz application on special release.
[4] "Ready for H_2" = Optional scope on demand

Contact us:
jenbacher.com/en/contact

For more information, visit INNIO Group's website at **innio.com**, the Jenbacher website at **jenbacher.com**, or the Jenbacher Services website at **jenbacher.com/en/services**

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