

FANUC

SUSTAINABLE
SOLUTIONS FOR
PRODUCTIVE
ENERGY EFFICIENCY





The yellow world thinks green

Our Japanese headquarters are located at the foot of Mount Fuji, surrounded by forests and lakes in the Hakone Izu National Park. As a result, sustainability is not just part of who we are but also inherent to our FANUC philosophy of leaving nature as we found it. Since our company's inception, our credo has been not to fell a single tree. All our business activities and processes are designed to minimize their environmental impact continuously and to actively promote environmental protection. Our environmental activities are periodically assessed and subject to continuous quality assurance. **An independent "Committee on Nature Conservation" provides steerage on the achievement of middle and long-term environmental objectives.**

Environmentally-friendly production

Manufacturing processes at FANUC are subject to rigorous energy and environmental management emissions standards in accordance with international ISO 14001 certification. Our goal is to make our production processes as environmentally neutral and sustainable as possible. This entails continuously reducing energy consumption and promoting waste reduction and recycling activities as well as the constant improvement of control processes involved in the use of chemical substances.

The green core: Intelligent servo technology

The energy efficiency that FANUC products deliver is the result of over 50-years experience in servo technology. 100% FANUC developed, made and tested to perfection in-house, 15 million FANUC servomotors attest to this everyday in factories around the world. **FANUC servomotors lower energy consumption throughout the entire system thanks to unrivalled energy recovery of close to 99%.**



ROBOTS



CNC
amplifiers
and motors



ROBODRILL
CNC machining
centre



ROBOCUT
Wire cut EDM



ROBOSHOT
Electric injection
moulding machine



Efficient energy recovery

The FANUC brake energy recovery system in its servo- and spindle motors has represented the cutting edge of efficiency for over 20 years. On large servo-motors up to 3000 Nm the energy charge module (ECM) recovers brake energy from the servo amplifier and makes it available to the system's servomotors.

Energy saving software features

To save energy when running servomotors, features such as the High Response Vector Control (HRV) maintain optimal motor performance by accounting for the motor's operating temperature.

Less reliance on climate control

FANUC amplifiers exhibit minimal energy loss. Heat occurs outside the control cabinet thus drastically reducing air conditioning costs.

Minimal energy consumption

FANUC CNC servo systems can be operated in two ways: Power Optimisation ensures optimum energy use during prolonged processes. Motion Optimisation optimises process times during periods of higher energy use.

The FANUC energy savers

The FANUC CNCs in FANUC servo systems are also designed to the finest detail to obtain maximum energy efficiency. During standby periods individual components such as lighting, ventilation, cooling lubricant supply, compressed air system can be turned down or off. Equipped with intelligent features, high performance controls also provide additional opportunities to save energy. **Extremely short warm up and shut down times save energy, with FANUC CNCs ready to use in just 30 seconds.**

Ready to run in less than 30 seconds

Efficient brake energy regeneration

Intelligent management for up to 40% less energy



FANUC CNC systems

The FANUC CNCs in FANUC servo systems are also designed to the finest detail to obtain maximum energy efficiency. During standby periods individual components such as lighting, ventilation, cooling lubricant supply, compressed air system can be turned down or off. Equipped with intelligent features, high performance controls also provide additional opportunities to save energy. Extremely short warm up and shut down times save energy, with FANUC CNCs ready to use in just 30 seconds.

FANUC CNC systems save energy thanks to:

- **Simple energy monitoring**
FANUC's high-end CNC is capable of controlling axes to minimise energy consumption, ensures optimum settings and monitors energy use and recovery during the process – axle for axle, regardless of whether it's a machine or a robot.
- **Convenient real-time visualisation**
Monitored energy data - individual values and accumulated values – are displayed, stored and processed easily.
- **Energy-optimised adjustment of processing speeds**
Shows energy used by individual axes and enables you to adjust processing speeds to optimise consumption. Depending on the process, you can switch between maximum performance and optimal energy usage.
- **Energy-efficient FANUC Power Motion control**
Designed for a wide range of motion control applications, Power Motion optimises cycle times thanks to superlative response times to external signals and rapid traverse overlap programming.

FANUC robots save energy thanks to:

- **FANUC energy saving technology** feeds recovered brake energy into the electrical supply
- **Manual support mechanism** enables remote control on/off during breaks in production
- **Intelligent motor brake management** saves energy by shutting down the motor after a defined period of non use
- **Offline energy management** lets you define cycle times using the FANUC ROBOGUIDE modelling software
- **The energy saving handheld:** FANUC iPendant Touch uses 10 % less energy
- **Servo tools** reduce energy costs thanks to FANUC's incredible servo technology

FANUC machining centres and injection moulding machines save energy thanks to:

- **Up to 70% less energy on electric CNC injection moulding**
Boasting the lowest energy consumption in the world, FANUC's Roboshot electric injection moulding machine uses 50-70% less than hydraulic machines and 20% less than other electric machines.
- **Up to 34% less energy on milling and drilling**
Thanks to light-weight construction, reduced air consumption and intelligent control technology combined with energy recovery, FANUC Robodrill offers energy savings of 40%. Using brake energy regeneration alone, Robodrill uses 34% less energy on drilling cycles.
- **Intelligent energy management for wire EDM**
Robocut, FANUC's wire EDM, and all its components, in particular its generators and pumps, are designed to save energy. Energy consumption is optimised using intelligent features including monitoring, stand-by mode, LED lighting, efficient cooling and energy regeneration.

Green service

Where service is concerned, FANUC also strives to be as environmentally friendly and sustainable as possible. That's why we not only take back your used greases, batteries and motors but also guarantee you original spare parts on all FANUC products for 25 years plus. **It doesn't get much more sustainable than that.**

“Our origins determine our actions. That's why sustainability and caring for the environment lay at the heart of all our activities.”

Preventive services procedures such as the real-time diagnostics using FANUC Diagnostics Pro help to reduce the need for repairs or minimise repair times. By repairing, overhauling and upgrading your FANUC products you increase their life span over the long term. This avoids the necessity to buy new machines and, in the long run, saves raw materials and reduces CO₂ emissions.



ClimatePartner[®]
climate neutral

Print | ID: 53126-1503-1004



RECYCLED
Aus
Recyclingmaterial
FSC[®] C002419

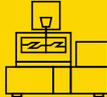
MANUFACTURED EFFICIENCY: 5 PRODUCT GROUPS - ONE COMMON SERVO AND CONTROL PLATFORM



FA
CNCs, Servo Motors
and Lasers



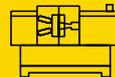
ROBOTS
Industrial Robots,
Accessories and Software



ROBOCUT
CNC Wire-Cut Electric
Discharge Machines



ROBODRILL
Compact CNC Machining
Centres



ROBOSHOT
Electric CNC Injection
Moulding Machines



WWW.FANUC.EU