

**Vehicle wash  
systems –  
optimally solved with  
Lenze inverters**





# Passenger and utility vehicle washing technology

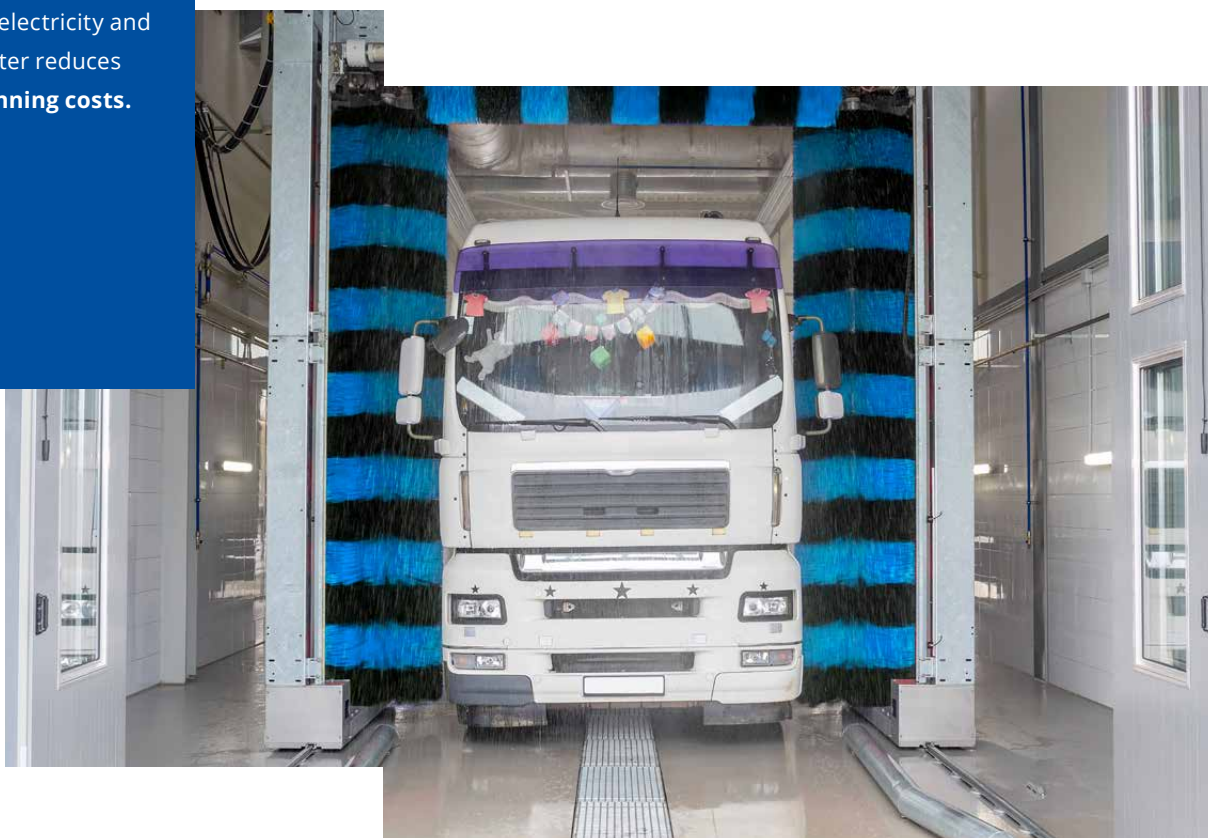
Roll over wash units, tunnel car washes, self-service car washes, and water treatment systems all require different technological solutions due to their demanding environments.

The scaled i-series inverter range coupled with Lenze's application expertise overcome the challenges of increasing demands for energy efficiency, space constraints, a lack of skilled staff, and changing customer requirements.

## Compact dimensions

Open up new possibilities and save costs with the smallest inverters in the series: Taking up little space in the control cabinet with a width of only 60 mm | 2.36 in wide (up to 4 kW | 5.0 hp) and 130 mm | 5.13 in deep (up to 11 kW | 15 hp), several inverters can easily be integrated into a slim control cabinet of a portal washing unit. The decentrally installed variant offers a high degree of protection with IP66 rating. It weighs just 1.8 kg | 4.0 Lb making it a light and compact solution measuring 190 x 140 x 117 mm | 7.48 x 5.51 x 4.61 in (H x W x D).

The efficient use of **valuable resources** such as electricity and water reduces **running costs**.



# Compelling solutions with Lenze inverters

## Energy efficiency

Lenze inverters satisfy the European Ecodesign Directive and achieve the lowest energy losses in an industry-wide comparison. This guarantees long-term planning reliability. Thanks to the DC bus's robust size optional braking resistors are not needed in gantry applications.

## Save costs

Our frequency inverters ensure easy handling and greatly reduced installation, commissioning and service times. Expect programming without mains power, easy menu navigation, optimal Ethernet communication, plug-in connections and easy-to-use memory modules.

## Flexibility

The scaled range offers the best solution for any environment:

- Wall or motor mounting
- IP20 or IP66 (NEMA 4X Indoor & Outdoor)
- Power variance 0.25 to 132 kW (0.33 to 180 hp)
- Price or functional optimization

## Our i-series solutions from 0.25 to 132 kW (0.33 to 180 hp)

### i510 cabinet i550 cabinet



For portals – minimum space requirements in control cabinets

Plug-in terminals for rapid installation

i550 cabinet for all fieldbuses and STO, i510 cabinet for cost-sensitive applications

### i510 protec (for UL installations)



Cubic design for control cabinet

Compact and economical decentralized installations in accordance with NEMA Type 1

### i550 protec



For self-service washing units and vacuum cleaners

Most compact and economical decentralized IP66/ NEMA 4X inverter

Saves on expensive control cabinet and motor cable

### i550 motec



NEW

IP66/NEMA 4X wall or motor mounting

Extremely easy plug-in installation

Lowest harmonics with lowest leakage current

CANopen

EtherCAT

EtherNet/IP

IO-Link

Modbus

ETHERNET POWERLINK

PROFINET

PROFINET

# Roll over wash units, water pumps and vacuum cleaners

## i-series frequency inverters

optimize the variable speed during washing, ensuring **lower power consumption and improved energy efficiency**. Water consumption per wash is reduced while optimizing the cycle time per vehicle.

Lenze inverters are suitable for narrow installation fields where a short installation time is guaranteed through the inverter's ease of use.

## Roll over wash units & wash tunnels

- The scaled range offers solutions for cost-sensitive applications with the i510 variant.
- The i550 delivers the same level of quality in higher performance applications.
- The i950 servo inverter with motion control offers more precise control when needed, e.g. for washing brushes.
- Within milliseconds, the inverters switch over to other motor parameter sets. By doing so, they ensure shorter cycle times for the vehicles and fewer required inverters.

- Optional Ethernet communication and STO functionality allow for extremely easy and robust wiring with greater intelligence. See a quick return of investment by eliminating the need for expensive IO interface modules, power and voltage measuring systems, and having the possibility of automatic parameterization.
- **Savings** in installation costs **of € 11 to 40 | \$15 to 50 per device** are possible. This is ensured by the easy-to-use plug-in terminals, the already integrated C2 filter, the robust DC bus without external brake resistor, and the practical memory chip.



The narrowest design of the **i500 cabinet** up to 4 kW | 5.0 hp measures just **60 mm | 2.36 in width** and is an attractive solution for increasingly narrower portals. This allows five inverters to be installed in an installation field with a width of 30 cm | 11.80 in.

### Water treatment and self-service washing and vacuum technology

- Both the control cabinet inverters and the decentralized variants fulfill all the requirements for washing technology while maintaining the same look & feel, so there is no need for additional familiarization.
- The compact design of the robust i550 protec in IP66 (NEMA 4X Indoor & Outdoor approved) for decentralized wall installation saves control cabinet costs.

- The version of the i550 protec with optional extension box and maintenance/disconnect switch allows service tasks to be conducted safely and quickly.
- Lenze inverters are optimized for use in residential areas due to their integrated EMC filter C2 and simultaneous 30mA residual current operation.
- The i550 motec with plug-in design for motor and wall mounting allows for easy installation on site, featuring an IO-Link interface for the convenient integration of IO-Link sensors.
- The i-series is suitable for harsh environments from  $-30^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  |  $-22^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ .



Fieldbus/IO control unit

This pump is controlled using an **i550 protec with an optional extension box** and service switch with IP66. Thanks to the **locking service/disconnect switch**, regular maintenance work can easily and safely be carried out directly on site.



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