

# INNOVATIONS

## FOR CONSTRUCTION MACHINERY

### 2025



# PROTECTOR E4

With the PROTECTOR E4, the most promising generation of FOPS protective structures has now been realised. The advantages are more than convincing:

The basis of every guard is safety, which in the case of the patented PROTECTOR E4 has been tested and certified to ISO 10262 category 2.

The structure is fitted to existing screw-on points on the cab and can therefore be installed without any additional preparation or great effort. A hinged roof flap allows unrestricted cleaning of the roof window and is designed to provide more vision and light in the cab.

However, this is not the only innovation that has a positive effect on visibility: each individual bar of the guard is aligned in the direction of vision, allowing optimum all-round visibility.

By customising the shape of the protective structure to each cabin, the installation height of the PROTECTOR E4 can be reduced to a minimum of 40 mm. Where previously strength and skill were required, gas pressure springs now ensure effortless and assisted swivelling of the front guard from the ground or the cab.





## Oilquick: Exclusive Service Centre

ECHLE is the exclusive service centre for all OilQuick products. Not only do we offer maintenance and repairs, but thanks to our large stock, you can also obtain all standard OilQuick products and spare parts from us. Various tiltrotators and quick couplers can be seen and tested live in our new demo park at our headquarters close to the French and Swiss borders.



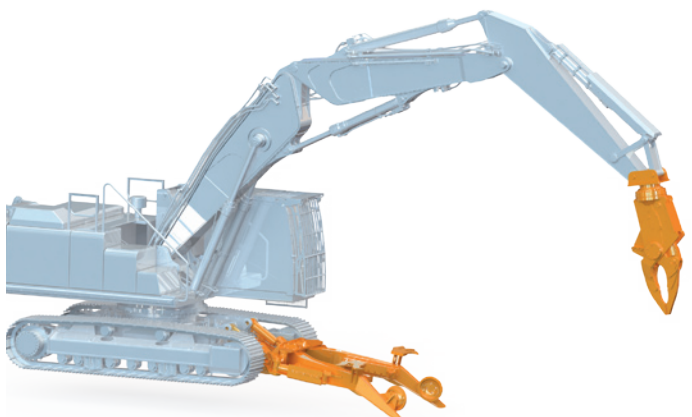
## Long Reach Front

We have expanded our portfolio and now have long reach booms for excavators from all manufacturers in our programme. The booms with reaches between 7 and 28 m are suitable for machines from 3 to 125 tonnes. For optimum cost efficiency, the original main lift cylinders and stick cylinders can be used for the conversion.



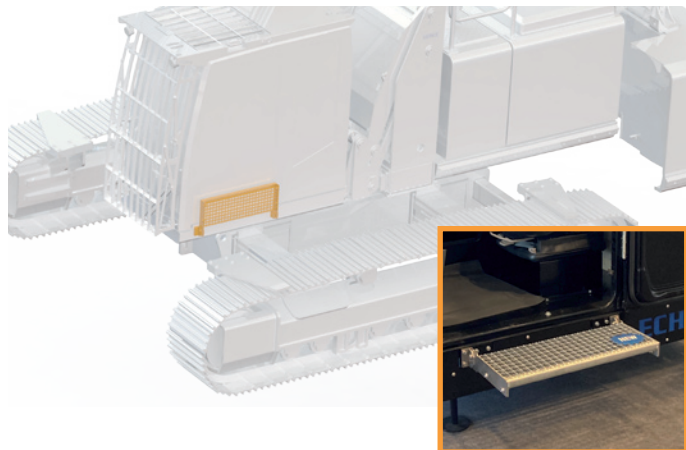
## Powerhand - Vehicle Recycling System

We are exclusive dealer of the Powerhand VRS, with which you can maximise the residual value of end-of-life vehicles. The system is suitable for mounting on standard machines between 16 and 30 tonnes.



## Foldable Excavator Step

Convenient entry and exit into and out of the cab is also ensured by ECHLE's latest step, which can be folded up and down in no time at all. The special feature of this variant is that the step can be fixed in three positions: it can be folded up, out and down.



## FlexGuard - Cylinder Protection

The flexible protective covers for piston rods of hydraulic cylinders prevent scratches and scoring and therefore also the ingress of dirt and particles into the hydraulic system. This extends the service life of the cylinders and reduces downtime and increased costs due to leaks. Several materials are available for a wide range of working environments.



## Digital Product Information

In future, a wide range of product information can be accessed digitally. By scanning the QR codes attached to the products, the browser opens and all important product information can be viewed online.

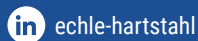


**ECHLE Hartstahl GmbH**, based in Wolfach, is a family-run, medium-sized company specialising in the development of intelligent solutions for construction machinery. With around 70 employees, **ECHLE** realises the most demanding projects in the areas of attachment tools, protection systems, electrification and special solutions for construction machinery. Construction machinery manufacturers and construction companies worldwide rely on **ECHLE**'s expertise and experience.

The company has made a name for itself in particular through the continuous development and high-quality production of protective systems, most recently with the PROTECTOR E4 FOPS cab protection system. **ECHLE** also plays a pioneering role in the electrification of construction machinery and has successfully positioned itself in this field for over two decades.

Another company strength is customised special solutions, which are tailored to customers' individual requirements. These include conversions and customised versions of booms, upper and undercarriages as well as counterweights.

Thanks to its strong team and comprehensive pool of in-house services, **ECHLE** is able to successfully realise complex projects from the initial idea to the final delivery. The customer's wishes always take centre stage.



#### Boom modification

- Quick-change systems
- Manufacture of new booms
- Boom stretching / boom extension / boom shortening
- Protective structures / cylinder guards
- Stick extensions / stick shortenings
- Additional sticks

#### Protective structures

- PROTECTOR E4 (ISO 10262)
- Retractable FOPS (ISO 10262) – THE ORIGINAL
- Hinged FOPS (ISO 10262)
- Frame-mounted FOPS (ISO 10262)
- Polycarbonate FOPS (ISO 10262)

#### Modification of the upper carriage

- Electrification with a trailing cable
- Electrification with rechargeable batteries
- Electrification as hybrid
- Ram protections
- Reinforcements
- Protective structures

#### Attachments

- Buckets
- Grapples
- Hammers
- Shears / pulveriser / crusher
- Loading shovels

#### Modification of counterweights

- Hydraulically removable counterweights
- Additional counterweights
- Individual counterweights

#### Cabin modification

- Lifting and tilting cabins & lift-tilt cabins
- Protective glazing
- Tinted windows
- Driver seats
- Joysticks

#### Accessories

- Handrails / steps
- Dust suppression systems
- Magnet systems
- Central lubrication systems
- Miscellaneous

#### Modification of undercarriages

- Hydraulically adjustable undercarriage
- Narrowing the undercarriage
- Expansions of the undercarriage
- Lengthening of the undercarriage
- Chain scrapers
- Dozer blades / support blades
- Dome covers

