



Katsa Drivetrain Gearboxes

- Dropboxes and Transfer-Cases
- Electric Drivetrain Gearbox
- Electric Wheel Hub Drive



Katsa – Geared for You



Katsa Oy designs and manufactures gearboxes and power transmission components. Katsa has series of platform gearbox products but can also provide special gear units which are fully tailored to meet customer's demands. For end users, Katsa provides modelling, modernisation, gearbox repair and maintenance services as well as spare parts. Moreover, Katsa manufactures a range of toothed components as single batches and in serial production.

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Electric Wheel Hub Drives

Katsa's innovative Wheel Hub design enables to fit the Electric motor almost fully inside the Hub. This makes the complete package short and helps turning the wheels.

For heavy Full Electric or Hybrid vehicles, Katsa has developed wheel hub drives by combining planetary gearbox design and Permanent Magnet electric motor technology.

With this kind of technology it is possible to minimize exhaust emissions. This creates benefits especially in Underground Construction sites when the need for air-conditioning is significantly lower with minimal exhaust emissions.

Electric Wheel Hub Drive – Technical Specifications

- Max.Power 70 kW
- Max. Input Torque 800 Nm
- Gear ratio $i = 30.86$
- Max. Output Torque 5675 Nm
- Input integration designed Danfoss PM Motor with tailored mounting
- Wheel Loads Radial max. 114 kN, Axial max. 21 kNm
- Output connection to wheel hub with PCD $\varnothing 540$ mm
- Weight approx. 400 kg without motor,
Housing material: Cast iron





Dropboxes and Transfer-Cases

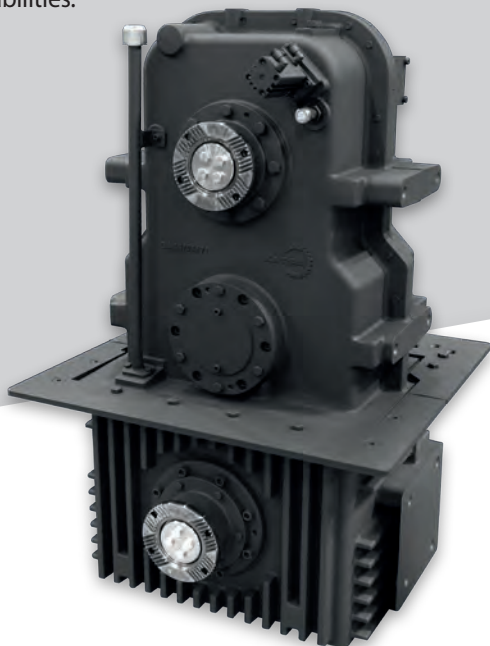
Are you planning to create a new vehicle and targeting to select standard components to keep the costs down?

Katsa Transfer-Case is the perfect link between your vehicles transmission and driving axles.

Almost all heavy-duty vehicles require a transfer-case to get the power and torque down to the drivetrain from the power pack. In multiple wheel drives the power is also needed to be divided between the axles.

Quite often design process encounters such requirements, limitations or restrictions that it is quite easy to see, that the best point for customization is the transfer-case.

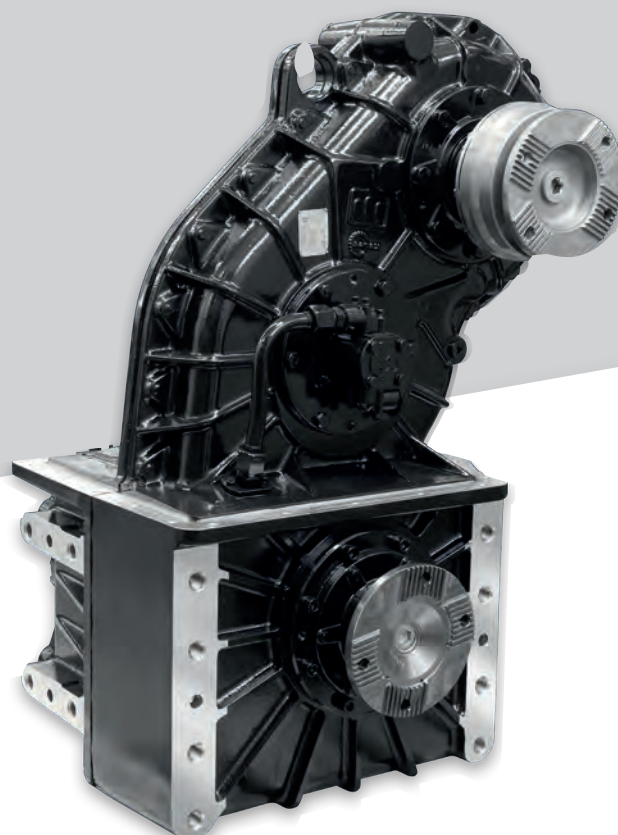
Katsa Oy has decades of experience in supporting customers to combine power packs, normally diesel-engine and the transmission, with the chosen drivetrain axles. Successful projects with customers from business sectors like military, mining and construction, public transport and wood industry have proven our engineering knowledge and manufacturing capabilities.



Dropboxes and Transfer- Cases – Technical Specifications

Depending on the requirements we can offer Katsa's proven technology:

- Max. Power ~1000 kW
- Max. Input Speed over 4000 rpm
- Assorted differentials: Conical or Planetary, lockable
- Max. Output Torque 40.000 Nm
- Full freedom in vertical- and horizontal displacement between power pack and drivetrain.
- Multiple speed ranges:
 - Pneumatically or hydraulically operated gear shifter
 - Automatic shifting with hydraulically operated clutches
- Housing materials: aluminium, grey casting, etc.
- Water tight solutions and special surface treatments
- Additional PTO's eg. for pumps, compressors etc.
- Additional PTI's for hybrid solutions
- Optional Accessory: Gearbox controller, Oil-cooler & filter, remote condition monitoring system





Electric Drivetrain Gearbox

Katsa's new 2-Speed Drivetrain Gearbox enables optimally sized E-motor selection and increased peak torque during accelerating.

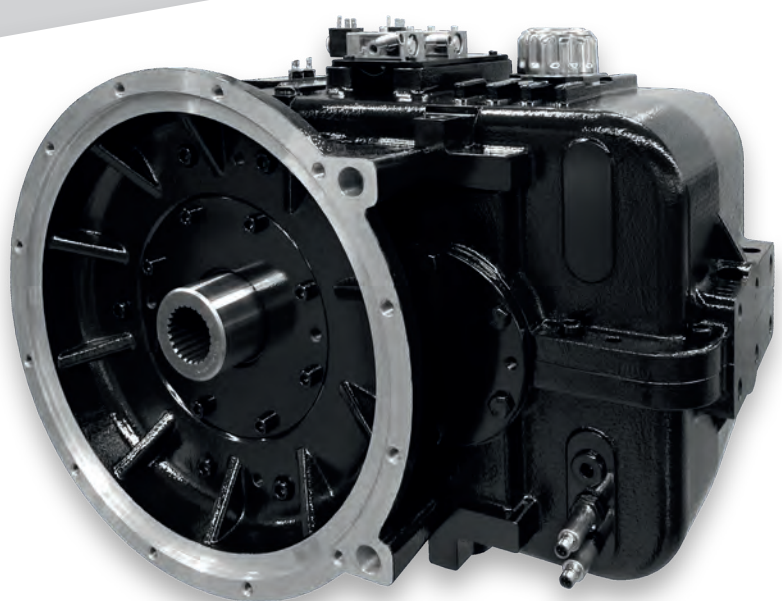
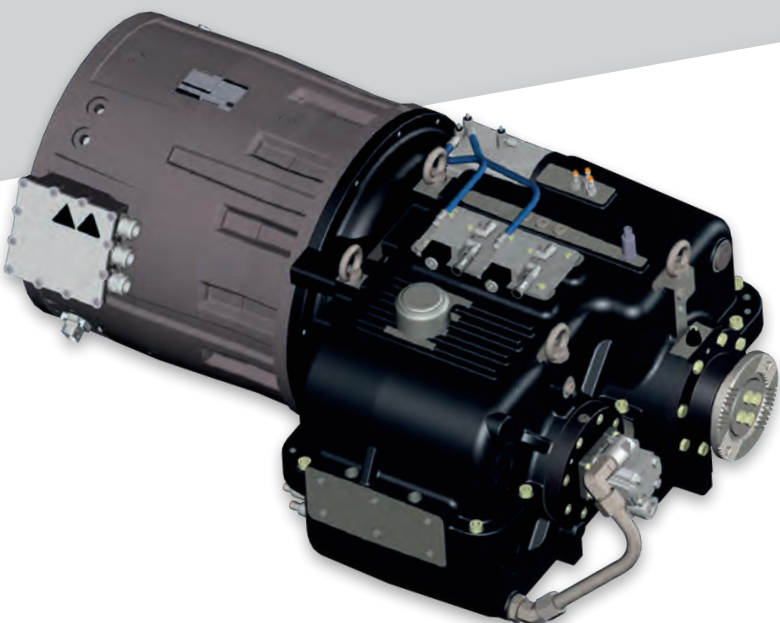
Katsa has developed electric drivetrain gearbox solution for Electric utility vehicles and mobile equipment.

The gearbox has two ratios and speed ranges. Reduction ratio increases torque and therefore enables vehicles movement also in steep upward slopes under heavy load.

With Katsa's 2-speed gearbox the Electric motor can be selected as optimally sized to vehicles nominal usage and peak torques can be handled with Katsa's gearbox reduction ratio.

Electric Drivetrain Gearbox – Technical Specifications

- Max. Power 300 kW
- Max. Output Torques
 - With synchronizer max 5400 Nm
 - Without synchronizer max ~10 000 Nm (in development)
- Gear Ratios
 - 1st gear 2 - 4 : 1 (speed decreasing)
 - 2nd gear 1 : 1
- Input connection
 - SAE flange, direct connection or driveshaft flange.
- Output connection
 - Driveshaft flange XS 150/180, SAE or direct connection.
- Gear shifting in motion with pneumatic or hydraulic shifter by PM motor speed control + synchronizer unit
- Pressure lubrication with integrated oil-pump
- Optional Accessory: Gearbox controller, Oil-cooler & filter, remote condition monitoring system
- Weight approx. 210 kg without Electric Motor, Housing material: Cast aluminium





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