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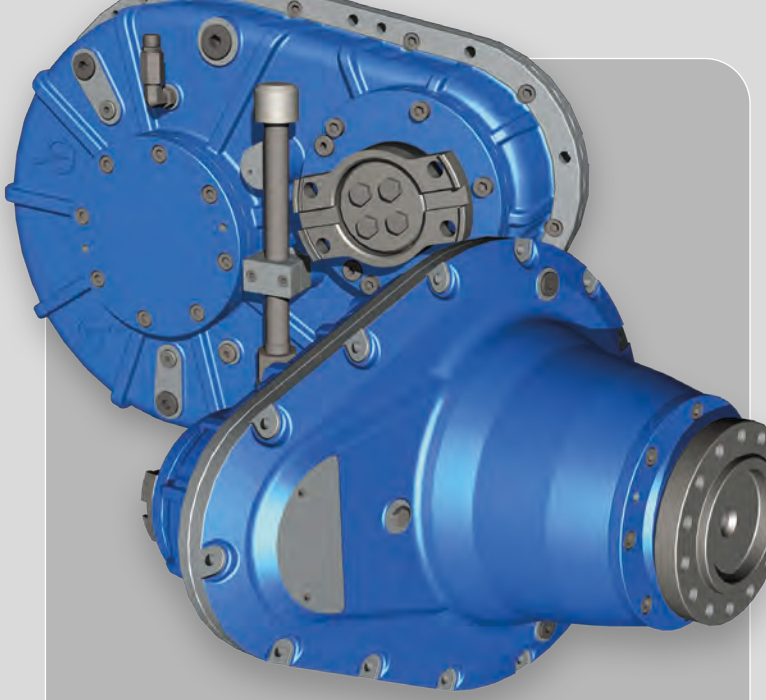
# Drivetrain Transfer Gearboxes

Katsa™ Transfer-Cases and Drivetrain Up- / Dropboxes can be tailored to customer demand and are the perfect link to combine the power pack, diesel-engine and the transmission, with the chosen drivetrain axles.

## Technical Specifications for Drivetrain Transfer Gearboxes

- 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

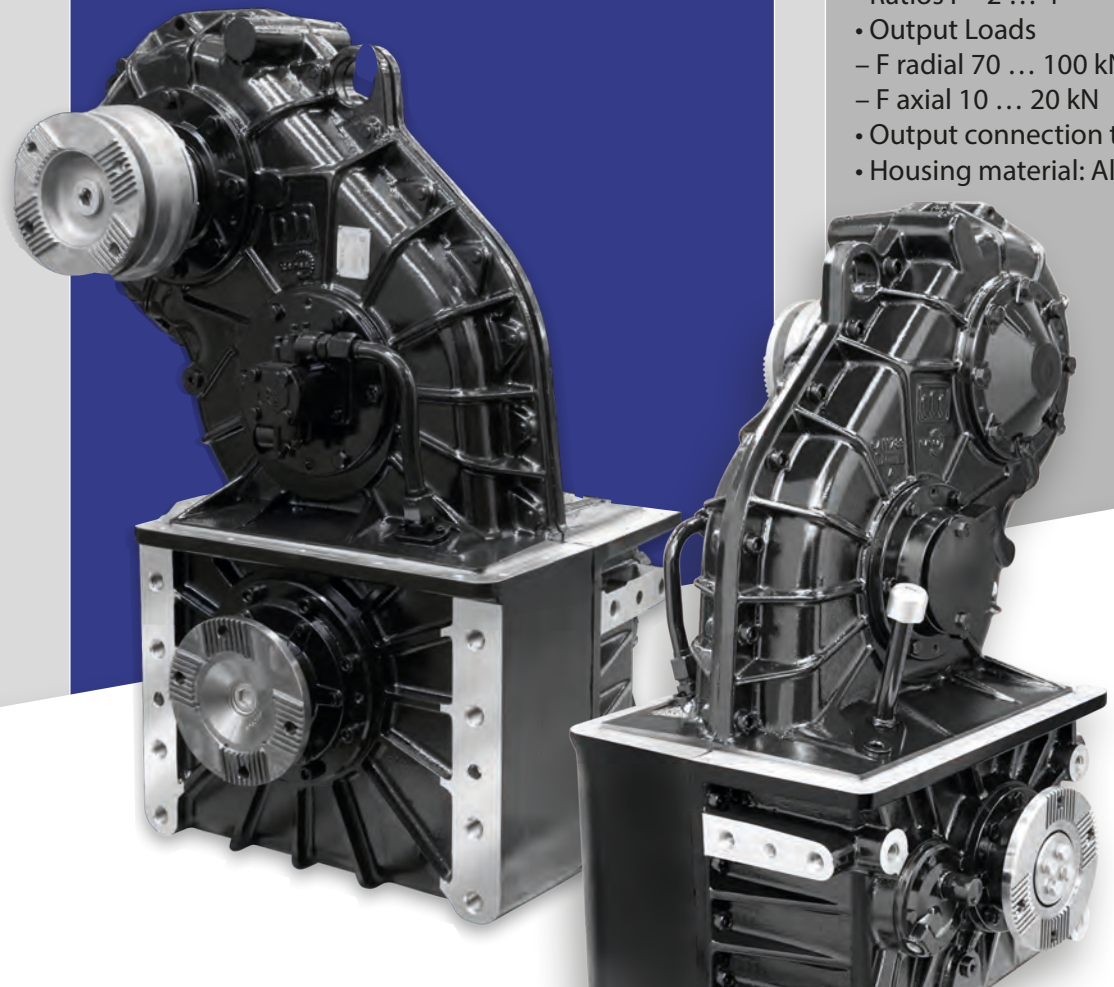


# Final Drive for Tracked Vehicles

Katsa´s Final Drives for Tracked Vehicles have a smart design which is smooth from output sprocket side and maintenance friendy from inside. Both left- and right side drives can be manufactured from same components and handing can be quickly changed in field conditions.

## Typical Technical Specifications for Final Drives

- Input Torques 5000 Nm … 10 000 Nm
- Input Speeds 2500 … 4000 rpm
- Ratios i = 2 … 4
- Output Loads
  – F radial 70 … 100 kN
  – F axial 10 … 20 kN
- Output connection tailored to track drive sprocket
- Housing material: Aluminium or Cast Iron

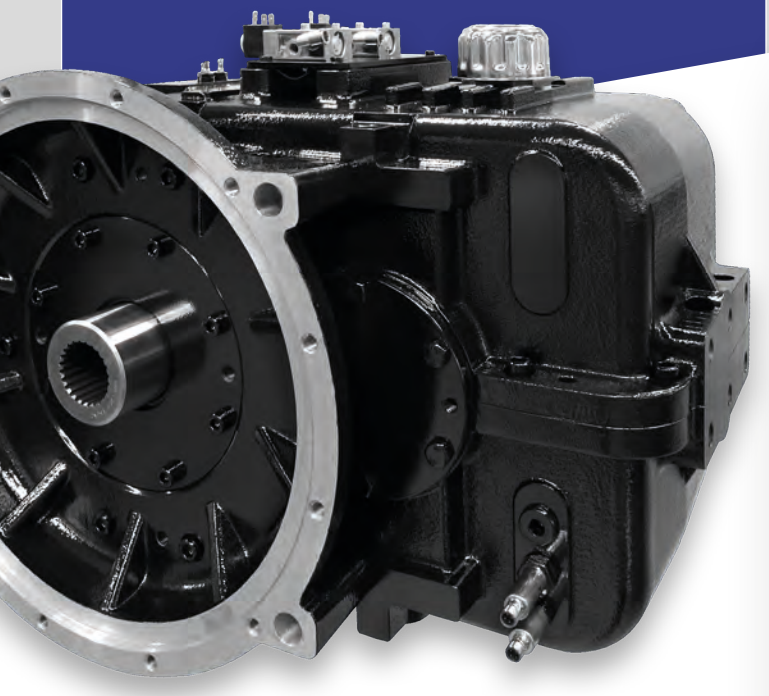


# Electric Drivetrain Gearbox

Katsa has developed a 2-speed drivetrain gearbox solution for Electric utility vehicles. This compact gearbox allows optimally sized Electric motor selection based on vehicles nominal usage and peak torques can be handled with Katsa´s gearbox reduction ratio.
In Defence vehicles drivetrain electrification allows silent driving for example in surveillance or scouting operations.

## Technical Specification for Electric Drivetrain Gearbox

- Max. Power 300 kW
- Output Torques:
  -With standard synchronizer max. 5400 Nm
  -With heavy duty synchronizer max. 10 000 Nm
- 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



# Winches

Katsa´s vehicle winches are tailored to handle extremely harsh conditions and provide the highest level of reliability. Winches are equipped with strong hydraulic motor, brake and advanced high-quality gearbox.
Katsa´s winches are available with side or top mounted, as well as with other flexible tailoring options according to customer requirements.

## Technical Specification for Winches

- Pulling Force up to 9 – 10 tons
- Pulling speed 3.5 – 5.1 m/min
- Gearbox with retentive worm gear
- Drum release by tooth clutch and free rotating protection by friction brakes
- Waterproof design

# Special Applications

- **Antenna Rotation Gear Units**
  Custom-built with high-accuracy components & rotating sensors. Durable design for field conditions and easy mobility.

- **Aircraft Engine Test Rig Gear Units**
  High-speed test rig gearboxes with flexible design options and Katsa´s strong, proven design.

- **Gear Components**
  Gear Component designing & manufacturing for the most demanding applications:
  - Aircraft Engine Accessory Drive Gears
  - Naval Propulsion & Engine Gears
  - Land Vehicle & Equipment Gears

# References

## Various world-class manufacturers have chosen Katsa™ Products for their vehicles:

- Patria AMV 8x8
- Patria 6x6
- Calidus WAHASH 8x8
- Protolab PMPV 6x6
- CNIM SPRAT 10x10

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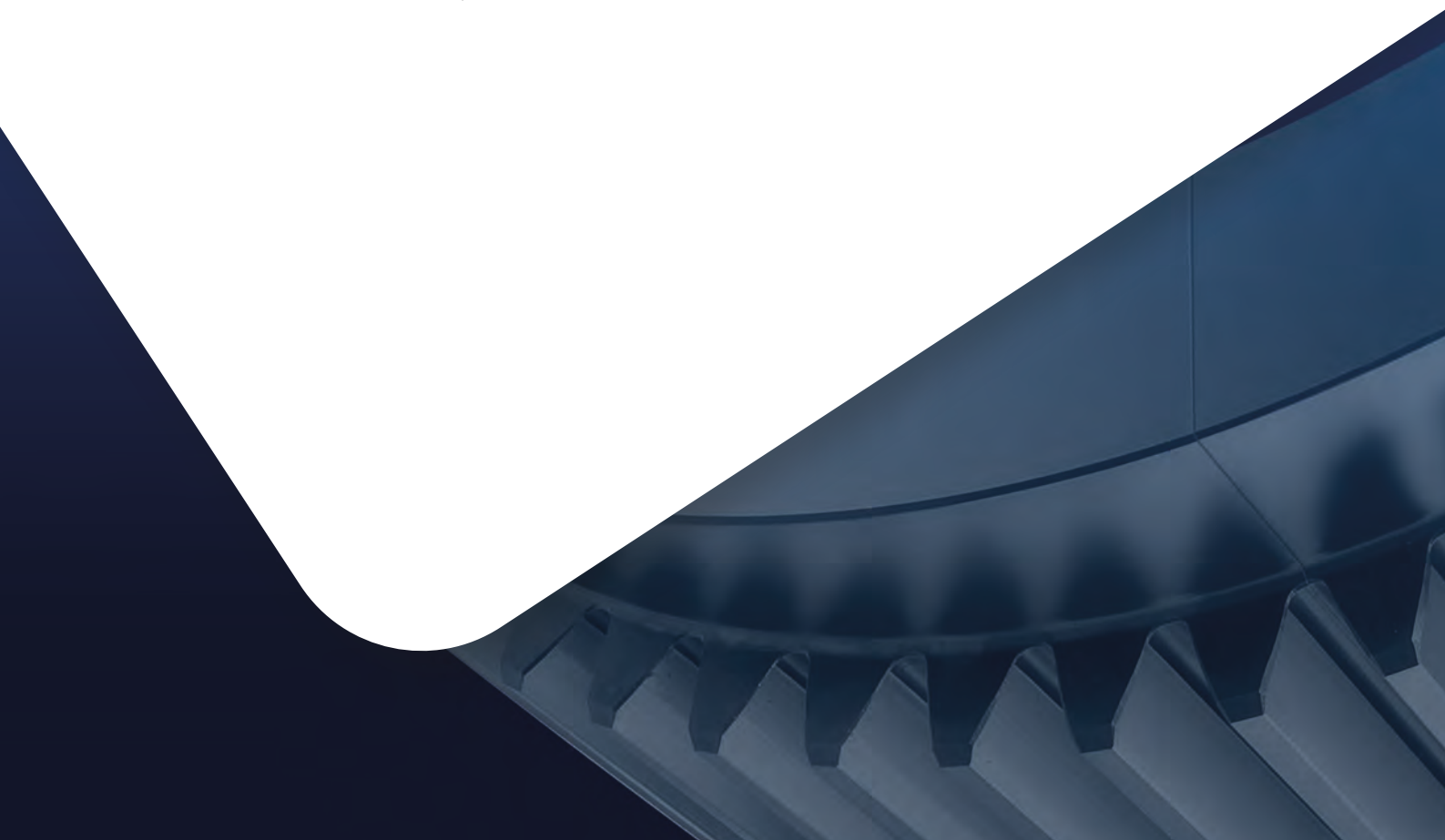
Katsa is a Finland based company with decades of experience designing and manufacturing demanding drivetrain gearboxes and winches for heavy defence vehicles.

Solid family-ownership, expertised in-house engineering & manufacturing as well as long term customer relationships are the core values stating Katsa as a highly trusted partner in the defence industry.



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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