



Katsa™ PTO350 / L350 Clutch Gearbox Series Introduction

For Direct Driven Working Machines

- Rock Crushers & Screeners
- Wood Chippers & Grinders
- Waste Shredders
- Agriculture Machines





Katsa Oy - Company Introduction

Katsa is a Finnish company specialized in designing and manufacturing gearboxes, gear components and provide gearbox refurbishment- / modernization services.

Katsa Gearbox Business Unit offers innovative gearbox solutions for following business sectors:

- Power-Take-Off Gearboxes and Clutches for working machines and marine applications
- Drivetrain Transfer Geaboxes and Electric Drivetrain Gearboxes for utility- and defence vehicles
- Turning Devices with high output torque
- Special Vehicle Winches
- Tailored Gearboxes for the most demanding applications

Katsa Gear Component manufacturing has manufacturing capabilities for gear components up to Ø1500mm including gear grinding and in-house heat treatment. Katsa´s modern machinery includes latest technology in gear component manufacturing, such as 5-axis machining, high-accuracy gear profile & cylindrical grinding and balancing capability for high speed components.

Katsa Service offers a wide range of after-sales services for mechanical power transmission systems. These include spare parts, reverse engineering, gearbox refurbishment and modernization projects.

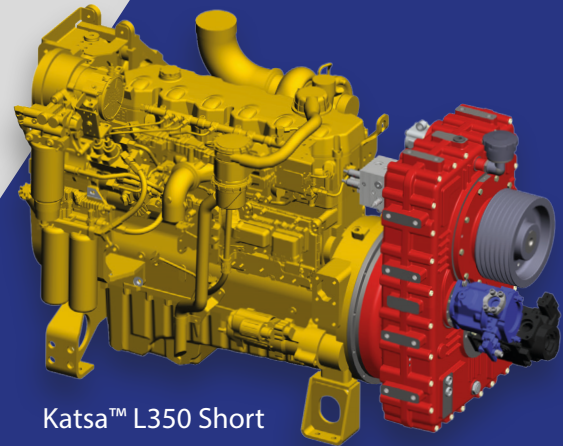
Katsa™ PTO350 / L350 Clutch Gearbox Series

- Engine Power Range 200 –1400 kW
- Directly Diesel-Engine mounted with SAE flange
- Up to 4x PTO's for hydraulic pumps or other devices.
- Wet Running multi-plate clutch up to 11.000 Nm
- Integrated Lubrication System & Oil-Sump
- Full Katsa™Clutch Control system

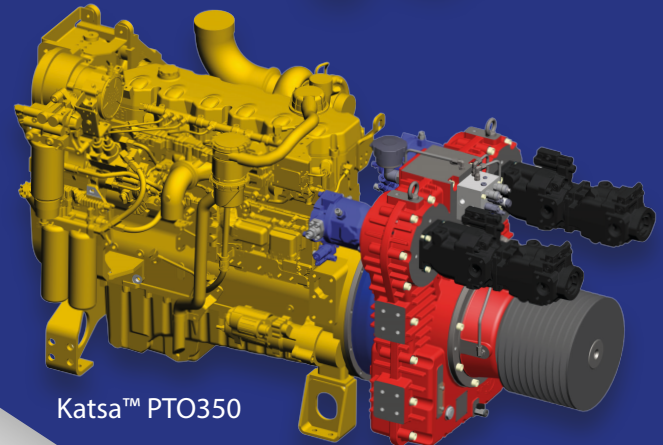
"Customer Testimonial"

Metso Minerals has been cooperating with Katsa Oy Ltd for decades.

According to Mikko Takaniemi, Driveline Specialist, Metso Mining and Construction, "The communication between ourselves and Katsa's engineering department works seamlessly, and their technical knowledge is extremely impressive. With Katsa's gearboxes we have been able to achieve the highest levels of efficiency and reliability in our equipment."



Katsa™ L350 Short



Katsa™ PTO350

Katsa™ PTO350 Series

Complete Inline PTO Clutch Package for Mobile Working Machines

Input

- Direct Engine mounting to bell housing J617 SAE 3 to SAE 00
- Optional Flexible Engine Coupling

Main Output

- Hydraulic Wet Plate Clutch Sizes 4000 Nm / 11000 Nm

PTO's

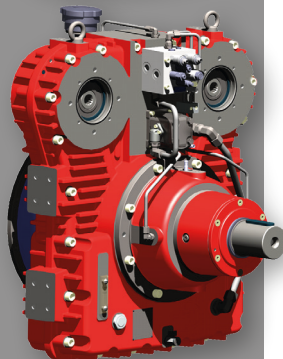
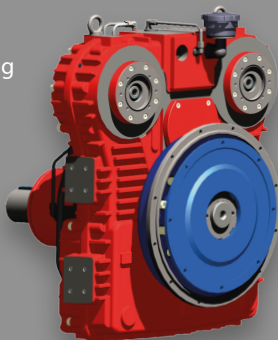
- 4 x PTO's available:
Front 2 x SAE B/C/D - Back 2 x SAE B/C

Lubrication

- Hydraulic Clutch Control Valve
- Internal oil sump
- Integrated oil pump and pressure lubrication

Optional Accessory

- Clutch Controller with CANbus interface
- Oil-Filter & Cooler
- KAre-Katsa Remote Condition Monitoring System



Technical Specifications

Input Power Max.	1425 kW (Depending on application)
Input Speed Nom. / Max.	1600 rpm / 2100 rpm
Power Factor	0.8861
Clutch options	4000 Nm / 11000 Nm
Input Connection Options	- Engine Flange SAE 3 to SAE 00 - Shaft Connection
Main Output	- Shaft Ø100 mm with keyway - Others on request
PTO Connection Options Max. Combined Power 260 kW	- Pump Pad SAE B to SAE D - Shaft Connection
Weight	~720 kg

Standard PTO Gear Ratios	PTO Speed @1600 rpm Engine	PTO Speed @4800 rpm Engine
1: 1.667	2667 rpm	3000 rpm
1: 1.433	2293 rpm	2580 rpm
1: 1.303	2085 rpm	2345 rpm
1: 1.182	1891 rpm	2127 rpm
1: 1	1600 rpm	1800 rpm
1: 0.902	1444 rpm	1624 rpm

Other ratios on request!

Standard SAE Pump Splines

ANSI B92.1 14T 12/24 DP • ANSI B92.1 8/16 13T • ANSI B92.1 16/32 21T
DIN5480 N40 x 2 x 19 x 9H • Solid shaft D60x115 with key

Other spline types on request!

Dimensions and Technical Features

- Direction of rotation indicated with arrows
- Dimensions in millimetres (mm)

Front PTO's-2 x SAE B/C/D

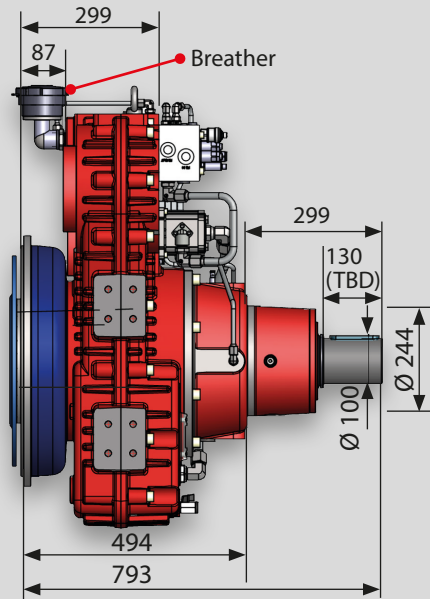
Hydraulic Control Valve

Integrated Oil Sump

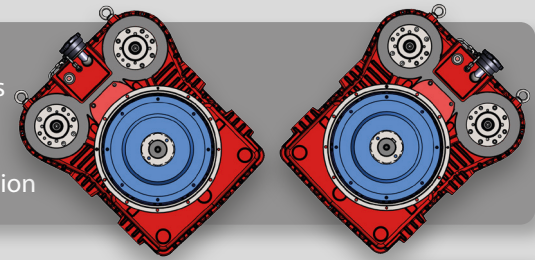
Main Output for Pulley

Internal Oil Sump Incl. Oil level indicator, Magnetic Plug, Drain tap (Clutch)

Direction: Front



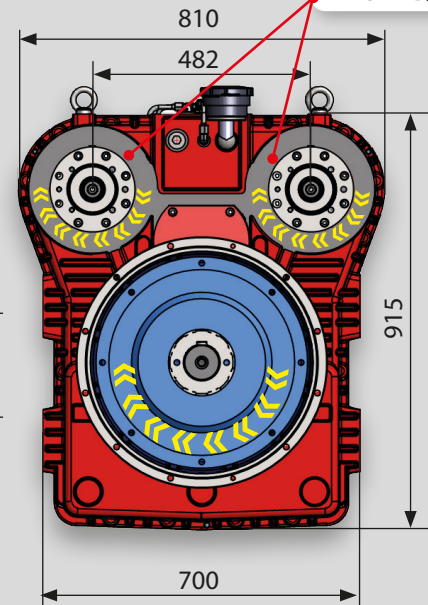
Direction: Side



Orientation

- Max. tilt 45° Degrees Left or Right
- Tilting not allowed in Front -Rear direction

Back PTO's
2 x SAE B/C



Direction: From Engine

Katsa™

L350 Inline PTO Clutch

Complete Short PTO Clutch Package for Mobile Working Machines

Input

- Direct Engine mounting to bell housing J617 SAE 3 to SAE 1 (up to SAE 00 with extender)
- Optional Flexible Engine Coupling

Main Output

- Hydraulic Wet Plate Clutch
- Sizes 4000 Nm / 11000 Nm

PTO's

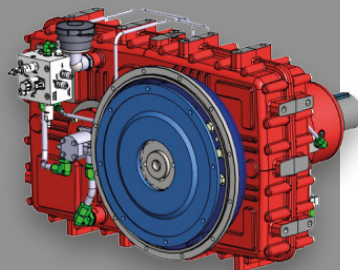
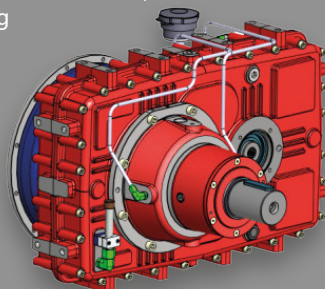
- One PTO #1 SAE B/C/D

Lubrication

- Hydraulic Clutch Control Valve
- Internal oil sump
- Integrated oil pump and pressure lubrication

Optional Accessory

- Clutch Controller with CANbus interface
- Oil-Filter & Cooler
- KAre–Katsa Remote Condition Monitoring System



Technical Specifications

Input Power Max.	1420 kW (Depending on application)
Input Speed Nom. / Max.	1600 rpm / 2100 rpm
Power Factor	0.8861
Clutch	4000 Nm / 11000 Nm
Input Connection Options	- Engine Flange SAE 3 to SAE 1 - Shaft Connection
Main Output	- Shaft Ø 100 mm with keyway - Others on request
PTO Connection Options Max. PTO Power 150 kW	- Pump Pad SAE B/C/D - Shaft Connection
Weight	~400 kg

Standard PTO Gear Ratios	PTO Speed @1600 rpm Engine	PTO Speed @4800 rpm Engine
1: 1.90	3040 rpm	3420 rpm
1: 1.51	2416 rpm	2718 rpm
1: 1.39	2224 rpm	2502 rpm
1:1	1600 rpm	1800 rpm
Other ratios on request!		

Standard SAE Pump Splines

ANSI B92.1 12/24 14T • ANSI B92.1 12/24 17T • ANSI B92.1 16/32 13T
DIN 5480 N50 x 2 x 24 x 9H • DIN5480 N40 x 2 x 19 x 9H
Other spline types on request!

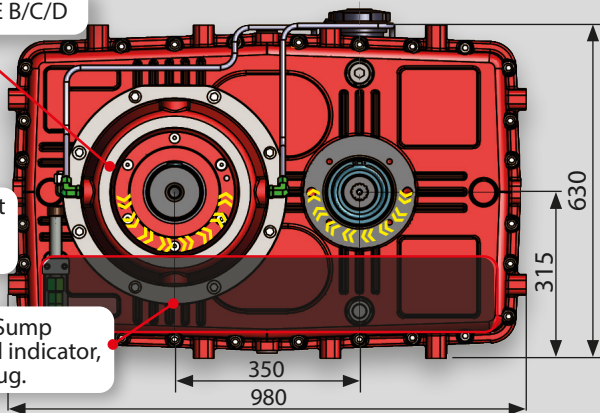
Dimensions and Technical Features

- Direction of rotation indicated with arrows
- Dimensions in millimetres (mm)

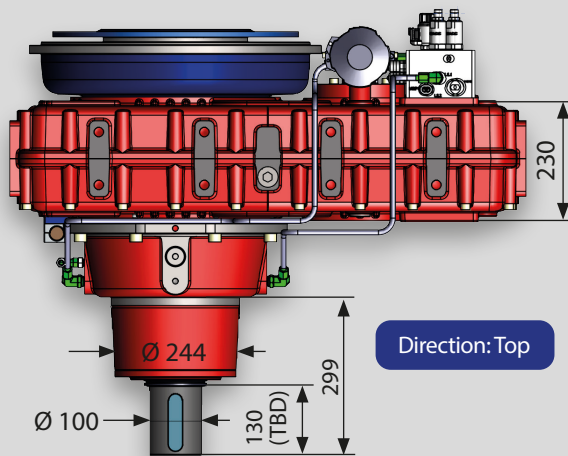
PTO #1 –SAE B/C/D

Main Output for Pulley (Clutch)

Internal Oil Sump Incl. Oil level indicator, Magnetic Plug.



Direction: Front

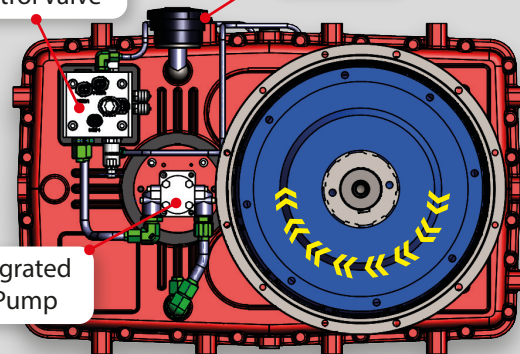


Direction: Top

Hydraulic Control Valve

Breather

Integrated Oil Pump

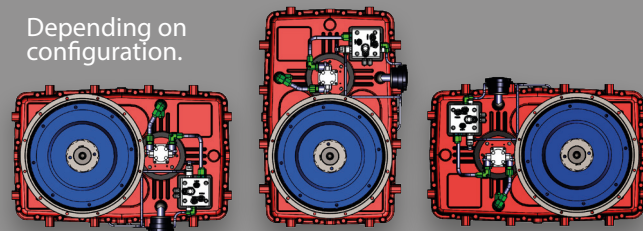


Direction: From Engine

Free Orientation within range

- 90° Right
- Straight Upwards
- 90° Left

Depending on configuration.



Katsa™

L350 Short PTO Clutch

Complete Short PTO Clutch Package for Mobile Working Machines

Input

- Direct Engine mounting to bell housing J617 SAE 3 to SAE 1
- Optional Flexible Engine Coupling

Main Output

- Hydraulic Wet Plate Clutch 4000 Nm

PTO's

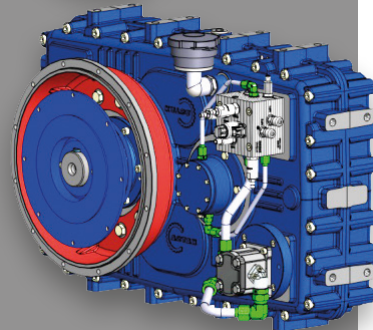
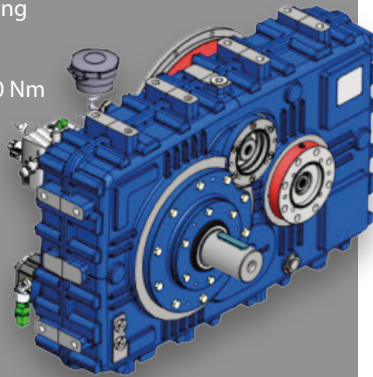
- 2 x PTO's available:
#1 SAE B/C -#2 SAE A/B

Lubrication

- Hydraulic Clutch Control Valve
- Internal oil sump
- Integrated oil pump and pressure lubrication

Optional Accessory

- Clutch Controller with CANbus interface
- Oil-Filter & Cooler
- KAre-Katsa Remote Condition Monitoring System



Technical Specifications

Input Power Max.	300 kW (Depending on application)
Input Speed Nom. / Max.	1600 rpm / 2100 rpm
Clutch	4000 Nm
Input Connection Options	- Engine Flange SAE 3 to SAE 1 - ShaftConnection
Main Output	- Shaft Ø 80 mm with keyway - Others on request
PTO Connection Options	- Pump Pad SAE B to SAE D
Max. PTO Power 50 kW each	- ShaftConnection
Weight	~400 kg

Output	Gear Ratio	Output Speed @1600 rpm Engine
PTO #1	1:1	1600 rpm
PTO #2	1: 0.93	1488 rpm
Main Output	1: 1.20	1920 rpm
Other ratios on request!		

Standard SAE Pump Splines

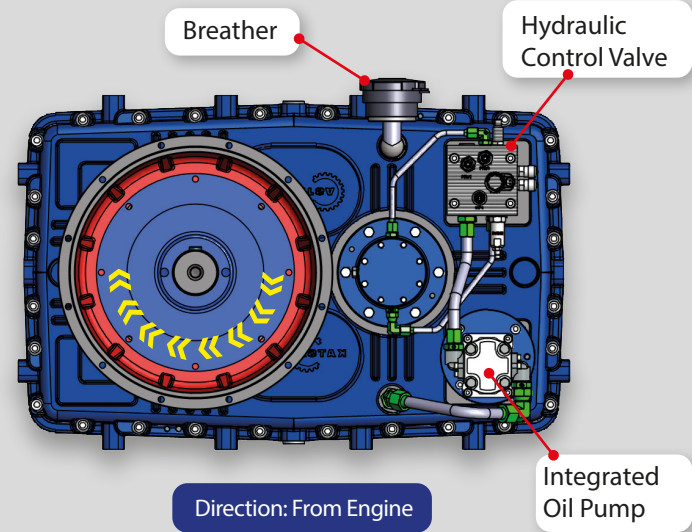
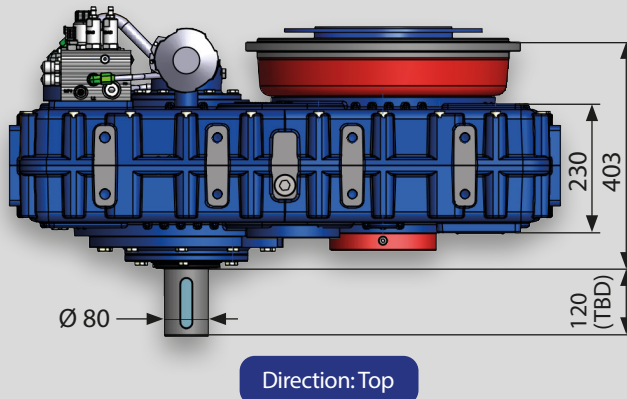
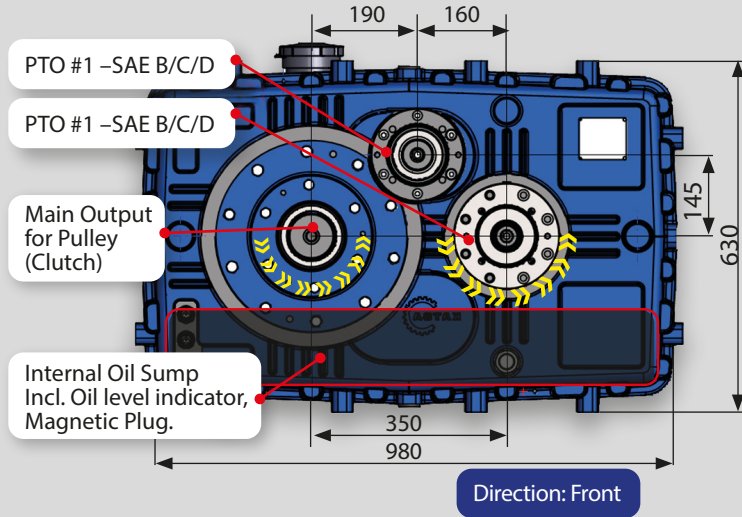
ANSI B92.1 12/24 14T • ANSI B92.1 12/24 17T • ANSI B92.1 16/32 13T

DIN 5480 N50 x 2 x 24 x 9H • DIN5480 N40 x 2 x 19 x 9H

Other spline types on request!

Dimensions and Technical Features

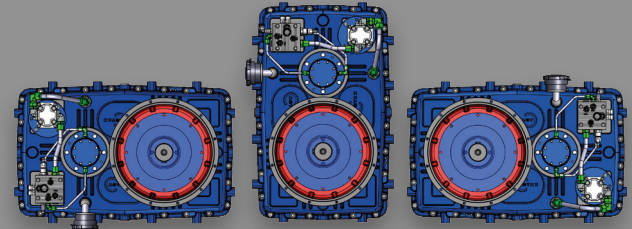
- Direction of rotation indicated with arrows
- Dimensions in millimetres (mm)



Free Orientation within range

- 90° Right
- Straight Upwards
- 90° Left

Depending on configuration.



Katsa™ PTO Clutch Accessory

Katsa™ Clutch Control Unit

- Katsa™ Clutch Control Unit is designed to ensure smooth clutch engagement, trouble-free & safe usage and extended lifetime for Katsa's PTO Clutches.
- Control includes software-based and flexibly adjustable parameters for monitoring critical values from Clutch Input and Output sides as well as lubrication diagnostics.
- Control Unit communicates with CANbus on standard protocols SAE J1939 and CANopen.

Optional Accessory

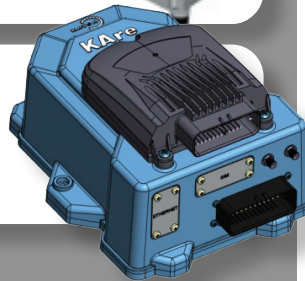
External Clutch Control

- For Operator Panel or Control Bridge.



KAre™ –Katsa Remote

- Cloud Based Condition Monitoring and Fleet Management System

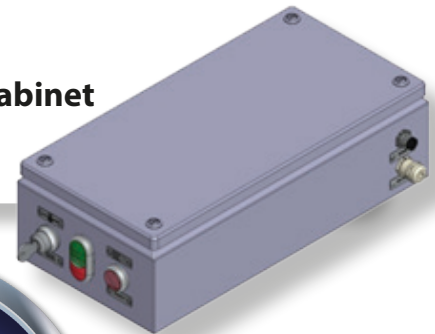


Control Unit Parameters

Speed	Input (rpm)
	Clutch/Output (rpm)
Lubrication/ Hydraulics	Lubrication Oil-Pressure (bar)
	Clutch Oil-Pressure (bar)
	Oil Temperature (°C)
Optional	Oil Level Indication
	Oil Filter Clogging Indicator

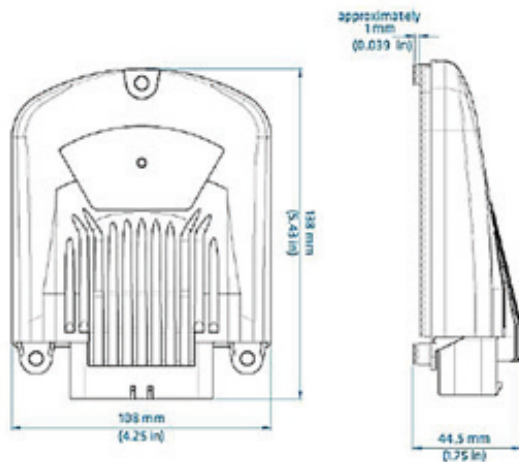
Control Terminal Cabinet

- Including Local Control



Main Controller

Dimensions	138 x 108 x 44,5 mm
Weight	0,44kg
Temperatures	-40 ... +85 °C
Protection Class	IP67
Power Supply	12/24 VDC M12 5-Pin



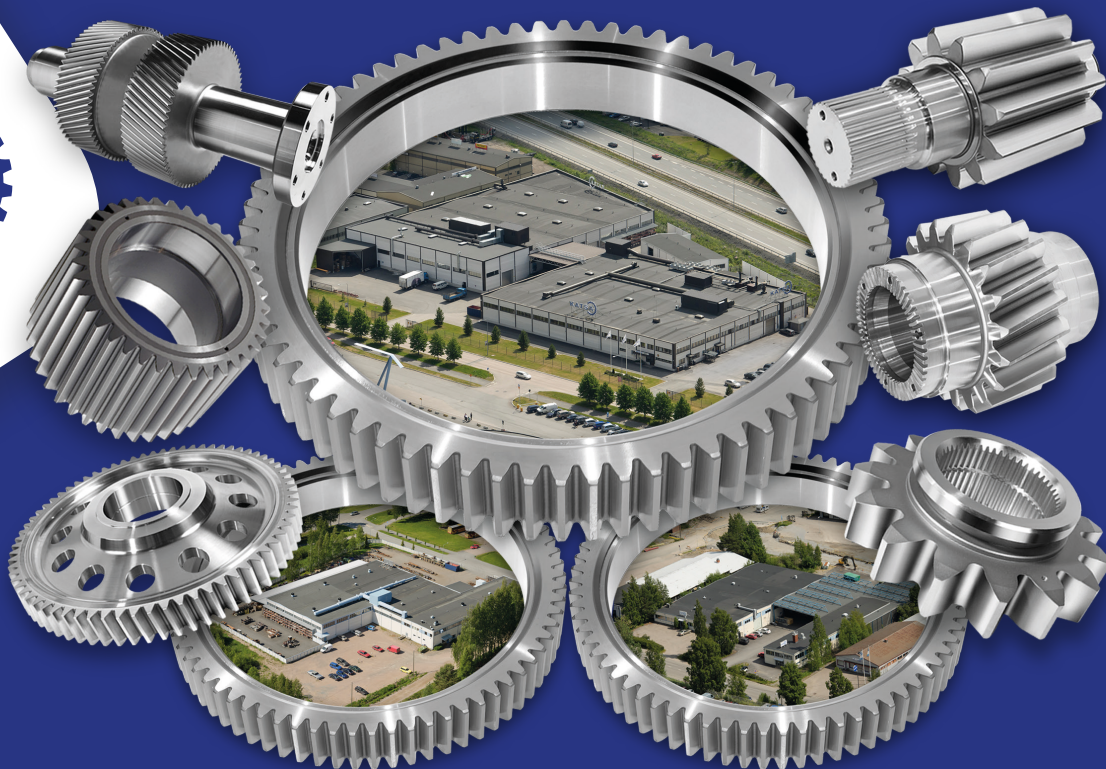
Lubrication system accessory

- Oil Filter with Clogging Indicator
- Oil Level Indicator
- Oil Cooler





Katsa – Geared for You



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