

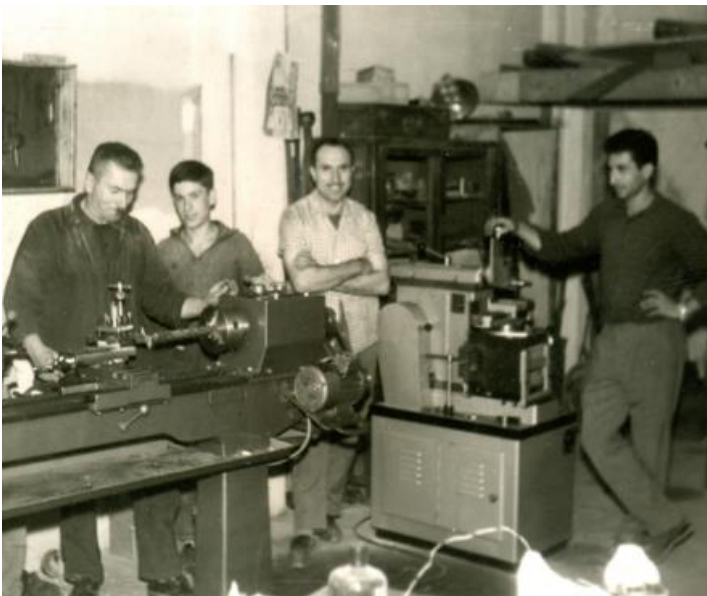


Turned and Milled Parts
Gears



BRIEF HISTORY

With its roots going back to 1960s and founded in 1990, Disa is an IATF 16949 certified, VDA 6.3 compliant premium quality parts manufacturer with productional plant located in Ergene, Tekirdag, Turkey and regional office in Stuttgart, Germany



1968: 4 employees.
Repair shop for turning, milling and welding operations of special parts



Today: 170 employees.
28.000 m² production plant,
producing millions of parts each
year.

DISA
PRODUCTION PORTFOLIO



**Production of
Suspension &
Steering Parts**



**Production of
Gears**



**Production of
Precision
Turned-Milled Parts**

Parts for Differential Systems

Gears, pinion gears, side gears, planetary gear system, pinion shafts, shafts with splines, drive pinion, rings

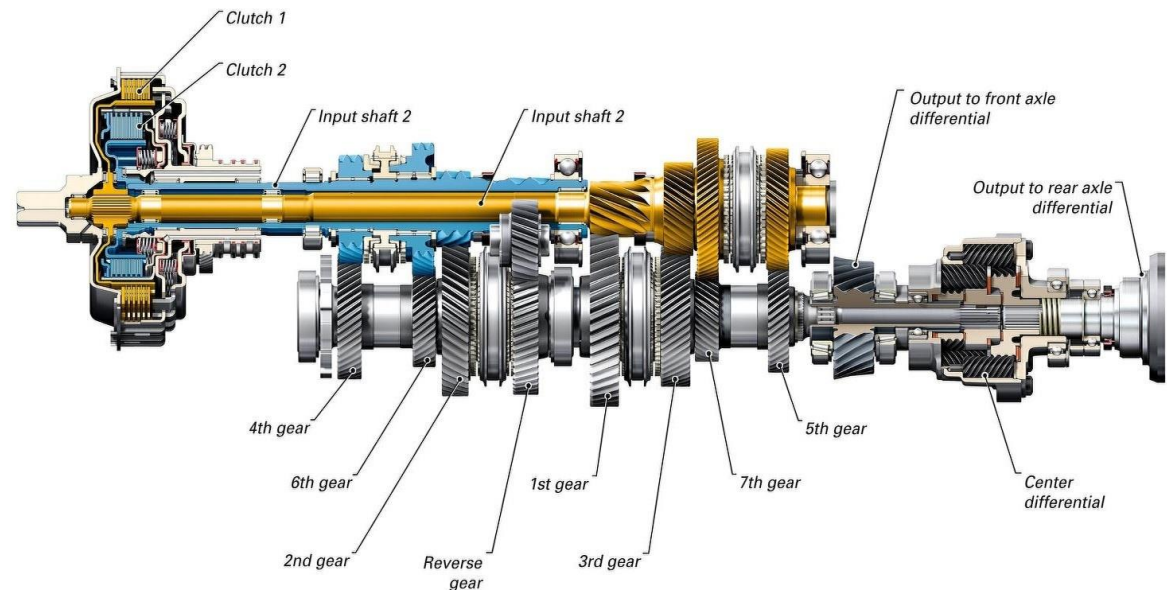
- >> Turning
- >> Milling
- >> Drilling
- >> Gear cutting, hobbing
- >> Gear profile grinding
- >> Broaching
- >> Grinding
- >> Hardening (outsourced)



Parts for Transmission Gear Boxes

Gears, input shafts

- >> Turning
- >> Milling
- >> Gear cutting, hobbing, shaving, pointing
- >> Power skiving
- >> Gear profile grinding
- >> Broaching
- >> Hard turning
- >> Grinding
- >> Burnishing
- >> Hardening (outsourced)



Drivetrain & Front and Rear Axle Components

Universal joints, u-joints, axle shafts, spline shafts, axle rings, flanges, fork flanges, sliders and shaft ends

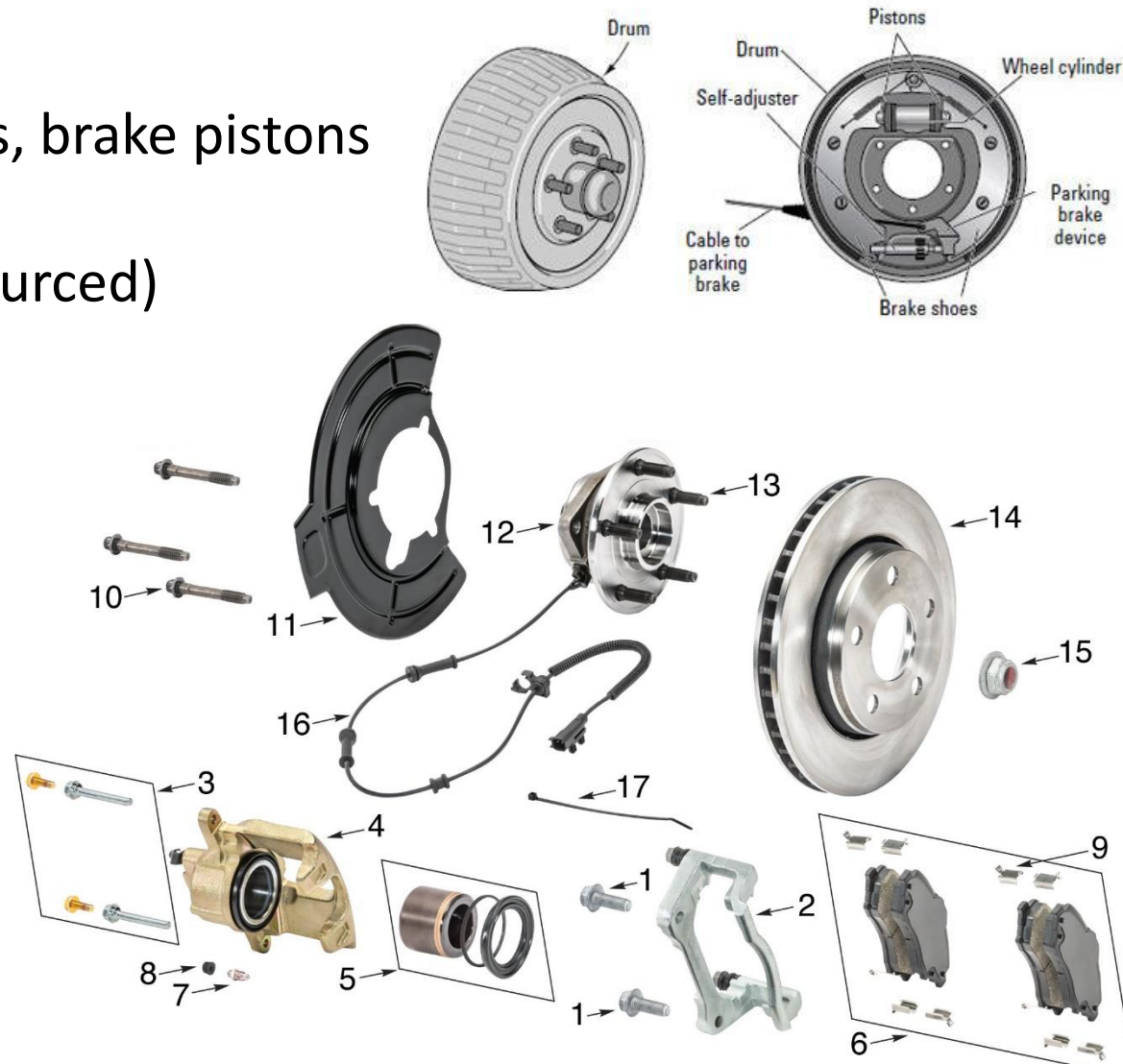
- >> Turning
- >> Milling
- >> Drilling
- >> Threading
- >> Broaching
- >> Gear cutting, hobbing
- >> Grinding
- >> Hardening (outsourced)



Brake Parts

Wheel hubs, brake cylinders, brake pistons

- >> Forging or casting (oursourced)
- >> Turning
- >> Grinding
- >> Hardening (outsourced)
- >> Hard chrome coating (outsourced)



Steering Parts (column, gear box, linkage)

Gears, racks, pinion gears, shafts with serrations, ball pins, housings, axial joints, tie rod ends

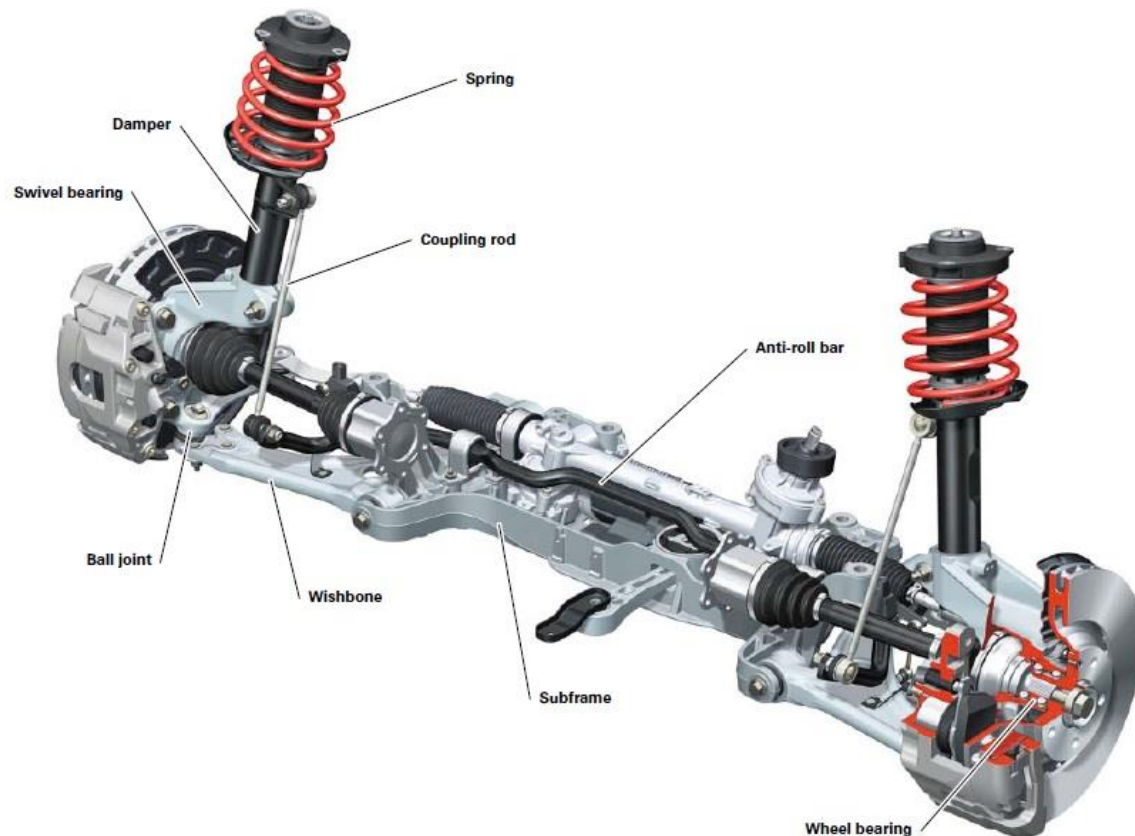
- >> Forging (oursourced)
- >> Turning
- >> Gear cutting, hobbing
- >> Hardening (outsourced)
- >> Coating (outsourced)



Suspension Parts

Ball joints, stabilizer links, cross axis joints, shafts, bushings, axle nuts and special machined bolts

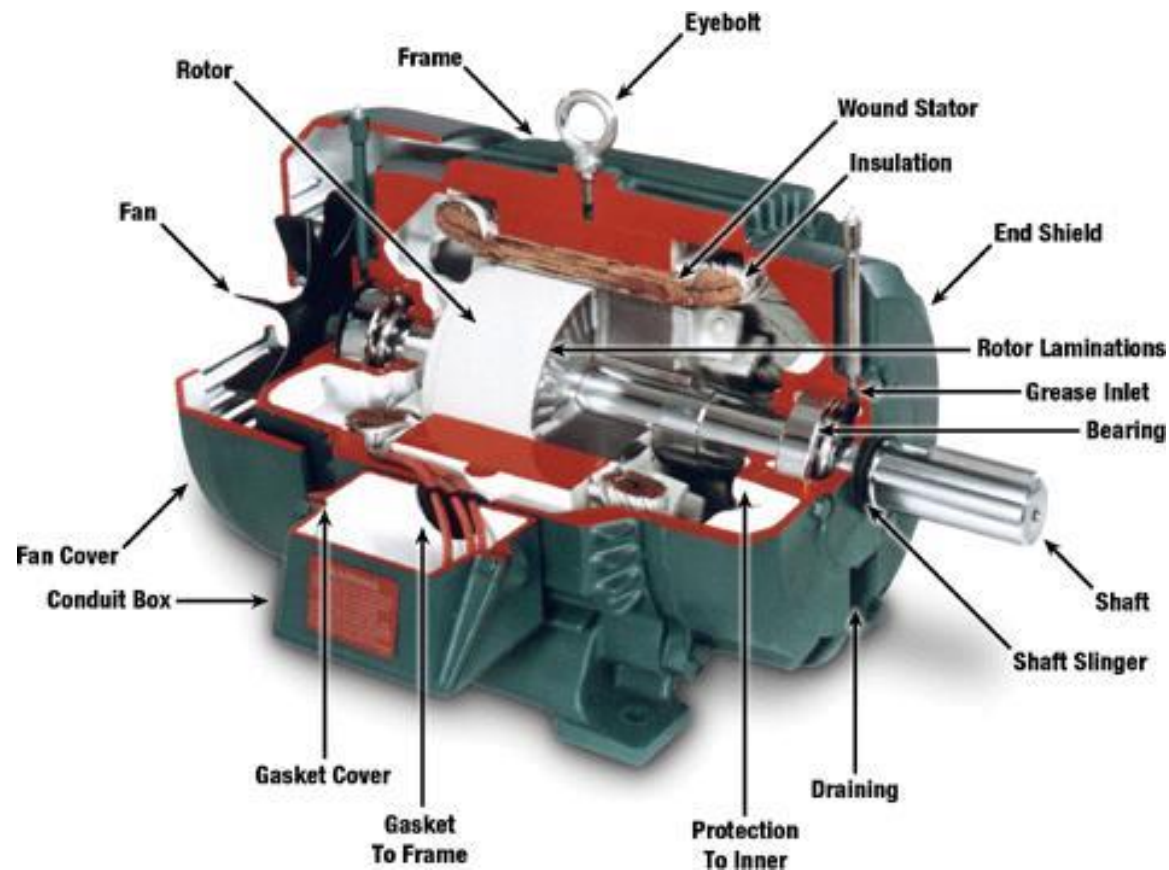
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Parts for Electric Motors

Gears, spline shafts

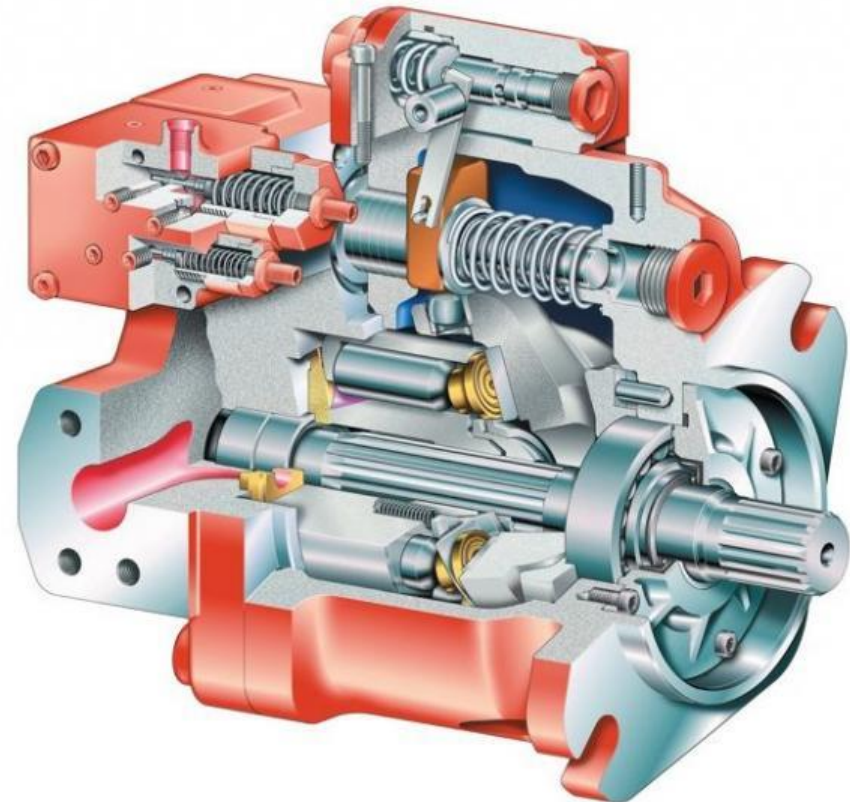
- >> Turning
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- >> Gear cutting, hobbing
- >> Gear profile grinding
- >> Grinding
- >> Hardening (outsourced)



Parts for Hydraulic Pumps

Shafts with serrations, pins, housings, bushings, pistons

- >> Turning
- >> Milling
- >> Drilling
- >> Gear cutting, hobbing
- >> Grinding





Parts for other vehicle control systems, diesel systems, hydraulic systems and industrial applications

- ✓ Complex machined parts.
- ✓ Close tolerance parts.
- ✓ Parts machined from bar material on high precision multi-spindle CNC machines, multi-turret CNC machines, live tooling and 3 / 4 / 5 axis machining centers.
- ✓ Parts with special hardening or coating process.
- ✓ Assemblies or mating parts.



TYPES OF GEARS PRODUCED



Gear Family	Description
Straight Spur Gears	Straight or Splined or Broached Bore
Helical Spur Gears	Straight or Splined or Broached Bore
Sun Gears	
Double Gears	Shaped or Laser/EB Welded
Hubs with Gears	With Lube Bores
Planet Gear	
Bull Gears	
Internal Ring Gears	Broached or Shaped; Straight or Helical
Gears-Spline Collar & Smooth Bore	Tapered External Spline
Shift Collar Gears	Straight or Taper Spline
Synchronizers	
Bevel Gears-Straight	Cutted
Clutches-Integral Gear/Drum	Clutches-Integral Gear/Drum
Sleeve Adapters with External Splines	With Internal Splines
Coupling	
Worm Gears	
Machined Axle Shafts	With External Serrations
Straight Shafts	With External Splines
Shafts with Gears	Hob/Shape Gear Integral to Shaft
Clutch Shafts	





CAPABILITIES and RANGE

Turned and Milled Parts

- Diameter: 12 mm to 320 mm
- Length: up to 600mm
- 20.000 pcs/year to 1.000.000+ pcs/year

Gears

- Up to module 6
- Max diameter of 350 mm
- Gearing Quality DIN 6-7
- 20.000 pcs/year to 1.000.000+ pcs/year

turning, milling, drilling, hobbing, skiving, grinding, boring, slotting, reaming, broaching, tapping, threading.

Turned and Milled Parts & Gears

Do almost any type of machining using a wide range of materials including Alloy steel, High-Medium-Low Carbon Steel, Stainless Steel, Aluminum, Cast and Ductile Iron, Hot or Cold Forged Parts.

Common types of materials machined are:

- 42CrMo4, 42CrMoS4+QT, 41Cr4, 16MnCr5, 20MnCr5, 11SMn28, 9SMnPb36
- C40, C45, St52-3, St37-2, 31CrMoV9
- 304 Stainless - 403 Stainless - 430F Stainless
- Etial 180 Aluminum, 3003 / 3103 Aluminum, 6063 Aluminum

(cold drawn - peeled - turned - hot rolled)

(tempered - quenched - normalized - carburized)

ISO 9001 since 2003.

ISO / TS 16949 since 2014, updated to IATF on 2018.

ISO 14001 since 2019.

GOST-R for sales to Russia.

INMETRO certified for sales to Brazil.

Production, Quality and Project Management compliant with
VDA 6.3 Process Audit * *latest audit in 2018: 94 points*

Statistical Process Control (SPC) * *live SPC analysis during machining.*

Measurement System Analysis (MSA)

Failure Modes and Effects Analysis (FMEA)

Serial production process controls, Incoming goods control



DISA ADVANTAGES

- ✓ Over 50 years experience in machining process.
- ✓ Fully compliant with IATF 16949 and VDA 6.3 requirements.
- ✓ Production of parts for different systems. Knowledge for different types of machining operations, including gears.
- ✓ Have access to cutting tools, live toolings, machinery via international suppliers and connections.
- ✓ Utilization of high quality machinery; like DMG Mori Seiki, Mazak, Miyano, Studer, Brother, Hyundai, Klingelberg, Kapp Niles, Mitutoyo, Mahr, Marposs and others...
- ✓ Quality laboratory and wide range of control devices and gages.
- ✓ ERP system that handles complete production system and live manufacturing monitoring.
- ✓ Support for design of components
- ✓ Consistent quality and delivery performance.
- ✓ Financial strength and ability to invest for additional capacity requirements.
- ✓ Have immediately available expansion space within the current production plant.



THANK YOU

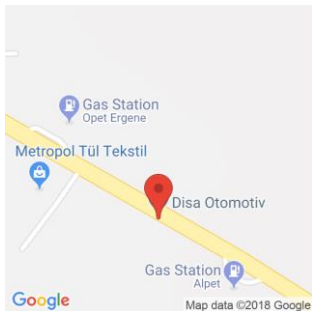
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