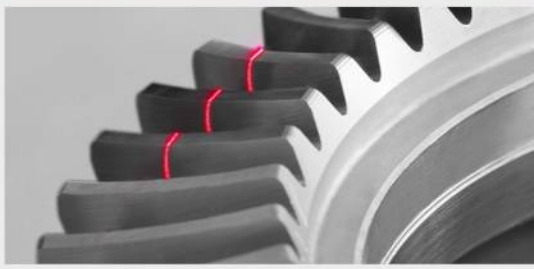
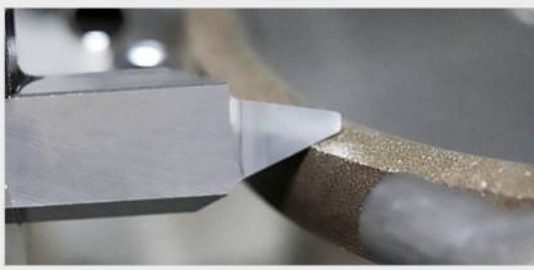
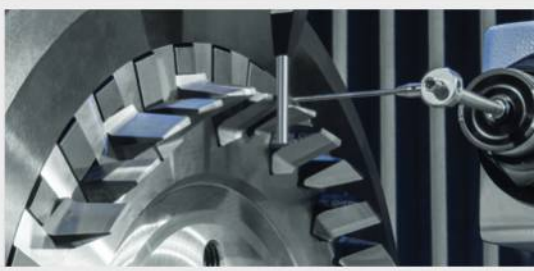
Total Gear Solutions **Gleason**







Bevel Gear Manufacturing Solutions

Bevel Gear Manufacturing

Bevel Gear Cutting Machines

	Workpiece dia. max., mm	Face width, mm	Max. module, mm
Phoenix® 100C•	100*	30	3.5
Phoenix® 280C•	280*	55	10
Phoenix® 280CX•	280*	55	10
Phoenix® 500C•	500*	110	15
Phoenix® 600HC•	600*	110	15
Phoenix® 1000HC	1,000	115	17

• with Coniflex® cutting capabilities
* maximum workpiece diameter is not valid for the Coniflex® option

Bevel Gear Grinding Machines

	Workpiece dia. max., mm	Max. wheel dia., mm	Max. module, mm
Phoenix® 280G•	280*	228	10
Phoenix® 600G•	600*	508	15
Phoenix® 800G	762	600	17

• with Coniflex® grinding capabilities
* maximum workpiece diameter is not valid for the Coniflex® option

Curvic® Coupling Grinding Machines

	Workpiece dia. max., mm	Wheel dia. range, mm	Max. grinding wheel speed, rpm
887	914	164 - 546	3,000
888	610	115 - 530	3,000

Bevel Gear Testing Machines

	Workpiece dia. max., mm	Shaft angle, degree	Offset range, mm
360T	450	90 / 65 -185	±150
600HTT	600	90	±76
1000T	1,050	45 -180	±115
2000T	2,000	30 -135	±210
2500T	2,500	30 -135	±275

/ option

For requirements beyond specified values, consult Gleason Application Engineering.

Bevel Gear Lapping Machines

	Workpiece dia. max., mm	Shaft angle, degree	Offset range, mm
600HTL	600	90	76.2

PMC Quenching Machines

	Workpiece dia. max., mm	Total force, kN	Oil capacity, l
685Q	685	259	1,856

Blade Grinding and Cutter Sharpening Machines

	Stick blades for cutter dia.	Grinding wheel drive, kW	Grinding wheel speed, rpm
BPG	38 - 457 mm 1.5" - 18"	20	10,000

	Maximum cutter dia.	Maximum tilt, degree	Index range
125NCG	1.1" - 12"	+40	1 - 99
205NCG	2" - 25"	+ 0	1 - 99

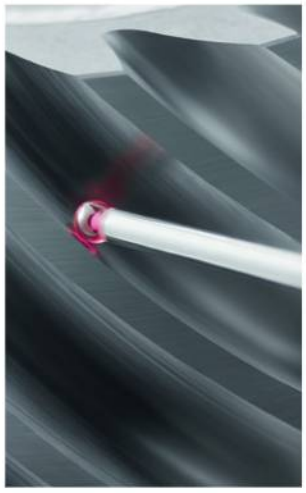
Blade Inspection Machines

	Application	Capacity
GBX	Touch probe – all blades	Stick blade width up to 35 mm
BIM	Optical, automatic loading – all blades	Stick blade width up to 35 mm

Cutter Build Machines

	Application	Capacity
CCB	Coniflex® Plus	4.25" / 9" / 15" outside diameter
	Revacycle®	16" and 21" outside diameter
	Pentac® Slimline	Up to 15" outside diameter
	Curvic® Couplings Inspection	Up to 550 mm max. outside diameter, stacking height 305 mm
CB	All available stick blade cutter systems	Face Milling 1.5" - 21" (diameter) Face Hobbing 16.5 - 210 mm (radius)
500CB	All available stick blade cutter systems	Face Milling 2.75" - 21" (diameter) Face Hobbing 16.5 - 210 mm (radius)

Metrology Solutions



Analytical Gear Inspection Systems

	Workpiece dia. max., mm	Module range, mm	Center distance, mm	Z-axis travel, mm
175GMS nano	175	0.15 / 0.4 - 6.35	480	340
300GMS nano	300	0.15 / 0.4 - 18	500•	450•
300GMSP nano*	300	0.15 / 0.4 - 18	500•	450•
350GMS	350	0.3 - 18	650•	450•
475GMS	475	0.4 - 18	650•	450•
475GMSP*	475	0.4 - 18	650•	450•
650GMS	650	0.5 - 22	1,000•	600•
850GMS	850	0.5 - 22	1,300•	1,000•
1000GMS	1,000	0.5 - 22	1,300•	1,000•
1300GMS	1,300	0.5 - 22	1,300•	1,300•
1500GMS	1,500	0.5 - 32	1,300•	1,000•
2000GMS	2,000	0.8 - 32	2,000•	1,200•
3000GMS	3,000	0.8 - 32	2,000•	1,200•

/ option • other dimensions on request * P version for the production environment

Analytical Gear Inspection Systems (Laser)

	Workpiece dia. max., mm	Module range, mm	Center distance, mm	Z-axis travel, mm
300GMSL	300	0.15 / 0.4 - 18	500•	450•
500GMSL	500	0.15 / 0.4 - 18	1,000•	600•

/ option • other dimensions on request
For laser measurement capability on larger size machines consult factory.

closed loop

Closed Loop

Gleason´s Closed Loop functionality has been available in bevel gear production for many years and was adapted for cylindrical gears in 2015. Closed Loop provides for direct data exchange of measured data between metrology and production machines and is part of the standard repertoire of Gleason´s gear metrology systems.

Automation Solutions

AR Series - Adaptable and Flexible Robotic Material Handling

	Payload, max., kg	Weight of parts handled, max., kg
70AR	7	4.9
120AR	12	8.4
250AR	25	18
700AR	70	49
2700AR	270	150

ARC Series - Highly Versatile Cart Loaded Automation with Greater Capacity

	Tray/basket size, max., mm	Payload, max., kg	Weight of parts handled, max., kg
70ARC	500 x 700	7	4.9
120ARC	500 x 700	12	8.4
250ARC	500 x 700	25	18

ARD Series - Compact, Fast and Efficient Drawer Loaded Automation

	Drawer size, max., mm	Payload, max., kg	Weight of parts handled, max., kg
70ARD	600 x 600	7	4.9
120ARD	600 x 600	12	8.4

ARP Series - Pallet Loading and Unloading Automation

	Tray size, max., mm	Payload, max., kg	Weight of parts handled, max., kg	Weight of trays handled, max., kg
70ARP	500 x 700	7	4.9	49
120ARP	500 x 700	12	8.4	49

Available options on all models include integration of pre- and post-processes including finishing, assembly, cleaning, inspection and marking.

Larger part handling systems are available on request.
Customized solutions available on request.

Gear Manufacturing Tools

Pentac® Plus Cutter System
For face hobbing and face milling on the latest CNC machines at optimum speeds and feeds.

Pentac® Plus RT (Radially Truable) Cutter System
The ideal solution for today's medium to high volume face hobbing and face milling applications.

Pentac® Ecoblade RT Cutter System
For significantly reduced blade blank sizes with specially developed and patented radial spacers for highest productivity and economics.

Pentac® Aero Cutter System
Improves aircraft bevel gears manufacturing efficiency and economy.

Pentac® Slimline Cutter System
A low profile peripheral cutter using stick blades; greatly reduces the large wall thicknesses typically required to accommodate individual clamp blocks and clamp screws for each stick blade.

TRI-AC® Face Hobbing Cutter System
A rectangular stick blade-type face hobbing cutter system used for completing operations.

RSR® Face Milling Cutter System
A rectangular stick blade-type face milling cutter system with a front rake angle used for roughing or completing operations.

Spiroform™ Cutter System
Utilizes Pentac® Plus features to precisely duplicate the flank geometry cut with the older Spiroflex cutter system requiring 3 blades per blade group.

Cyclocut™ Cutter System
Combines the advantages of the classic jobbing method (using interlocking 2-part cutters) with an exceptionally stiff cutter head design and Pentac® Plus design features.

Coniflex® Plus Cutter System
The most productive solution ever for straight bevel gear cutting.

Unimill Universal Milling Process
Gleason's proprietary Unimill™ process enables users of Gleason Phoenix® cutting machines to manufacture bevel gears using universal cutting tools.

Conventional Cutters

- Coniflex® Cutter System
- Revacycle® Flo-Cut™ Cutter System
- Hardac® III Face Milling Cutter System
- Solid Face Milling Cutter System
- Crown Cut™ Face Milling Cutter System
- RIDG-AC® Roughing Face Milling Cutter System
- Helixform® Finishing Face Milling Cutter System

Grinding Wheels and Dressing Tools
For the hard finishing of bevel gears, featuring advanced designs to deliver faster, more aggressive metal removal rates.

Tool Services
Gleason offers the most comprehensive range of reconditioning services for all kinds of bevel blades and cutters. Scan the e-Ticket code for online tooling requests.

Workholding Solutions

Vers Grip® Arbor
Contracting collet system designed to simultaneously center and clamp two pinion or gear shank bearing diameters.

Single Angle Expanding Collets
Expanding collet system designed to center and clamp on one pinion or gear bore bearing diameter.

Uni-Spand® Arbor
Expanding spring clamping system used for small- to midsized bevel gears. Pull back feature to ensure positive seating, auto load compatible and part loading expansion spring safety built into the design.

Hi-Spand®
Hi-Spand is an expanding high torque collet with pull-back for positive seating, designed for gears and pinions with small bores. Bore range for clamping is from 0.560 inch (14.2 mm) to 1.5 inch (38 mm).

X-Pandisk®
Expanding spring clamping system used for medium to large bevel gear applications. Features like Uni-Spand Arbor.

Mechanical and Hydraulic Workholding Systems
Mechanical and hydraulic workholding systems to meet any quality, production, and workpiece-specific requirement.

Single Angle Contracting Collets
Contracting collet system designed to center and clamp on one pinion or gear shank bearing diameter.

Quick-Change Systems
Quick-change systems are available for any work spindle. The simple changeover takes place in 30 seconds or less, ensuring high repeatability.

Pitch Line Fixture
They are used in finishing operations such as hard turning, grinding and inspection. This is a great way to improve final accuracy between the gear pitch line and other critical datums.

Maintenance Programs
Gleason's regular maintenance programs for workholding equipment ensure full availability and consistent quality results in production.

Gear Development and Closed Loop Manufacture

The Next Generation in Bevel Gear Design and Optimization

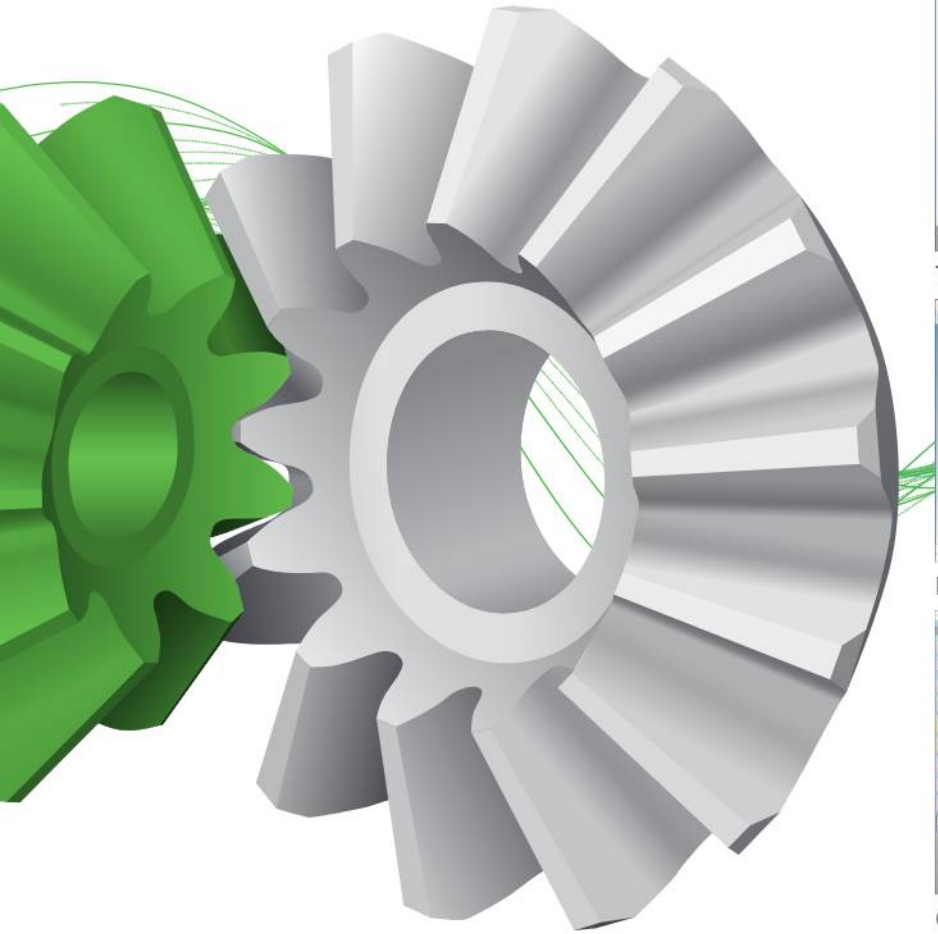
The GEMS® Gleason Engineering and Manufacturing System makes the design of spiral bevel gears and hypoid gear sets simple and fast. This powerful platform provides smart gear design and analysis capabilities for optimal performance of bevel gear-sets. The latest addition to GEMS, Gleason's Coniflex® Pro Design and Manufacturing System, is ideally suit-ed for producing stronger, quieter, and more reliable e-drive differential gears in high volumes, for automotive, truck, bus and off-highway transmissions.

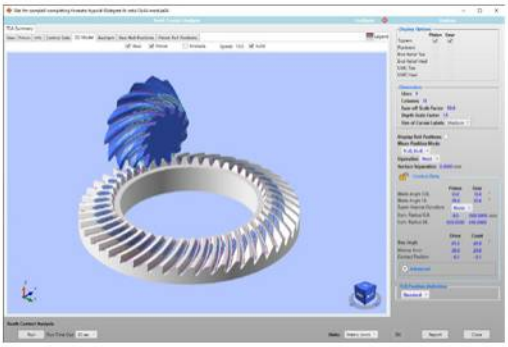
Seamless Connectivity

GEMS and KISSsoft® are linked by a direct interface to exchange gear tooth and system design data. After designing a transmission with KISSsoft, bevel and hypoid gears are calculated and manufactured with GEMS. While designs are simulated more accurately than ever, they can also be optimized in a closed loop system.

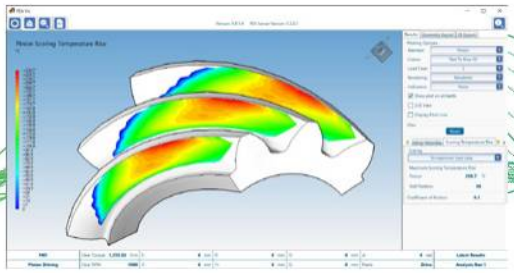
GEMS provides many powerful software tools, including:

- G-AGE® Gleason Automated Gear Evaluation.
- Summary Manager for cutting, grinding, mechanical conversions, blade profile grinding.
- UMC™ Ultimate Motion Concept FEA Finite Element Analysis.
- GABE™ Gleason Automated Blade Evaluation.
- Calculation of straight and Curvic® Couplings.

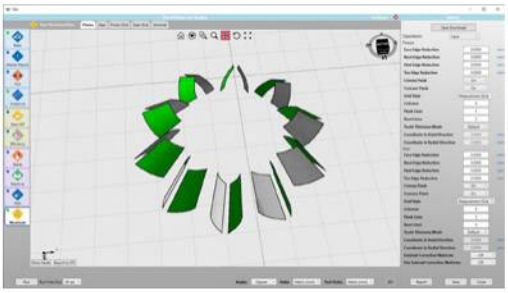




Three-dimensional TCA in GEMS.



Dedicated FEA calculation in GEMS.

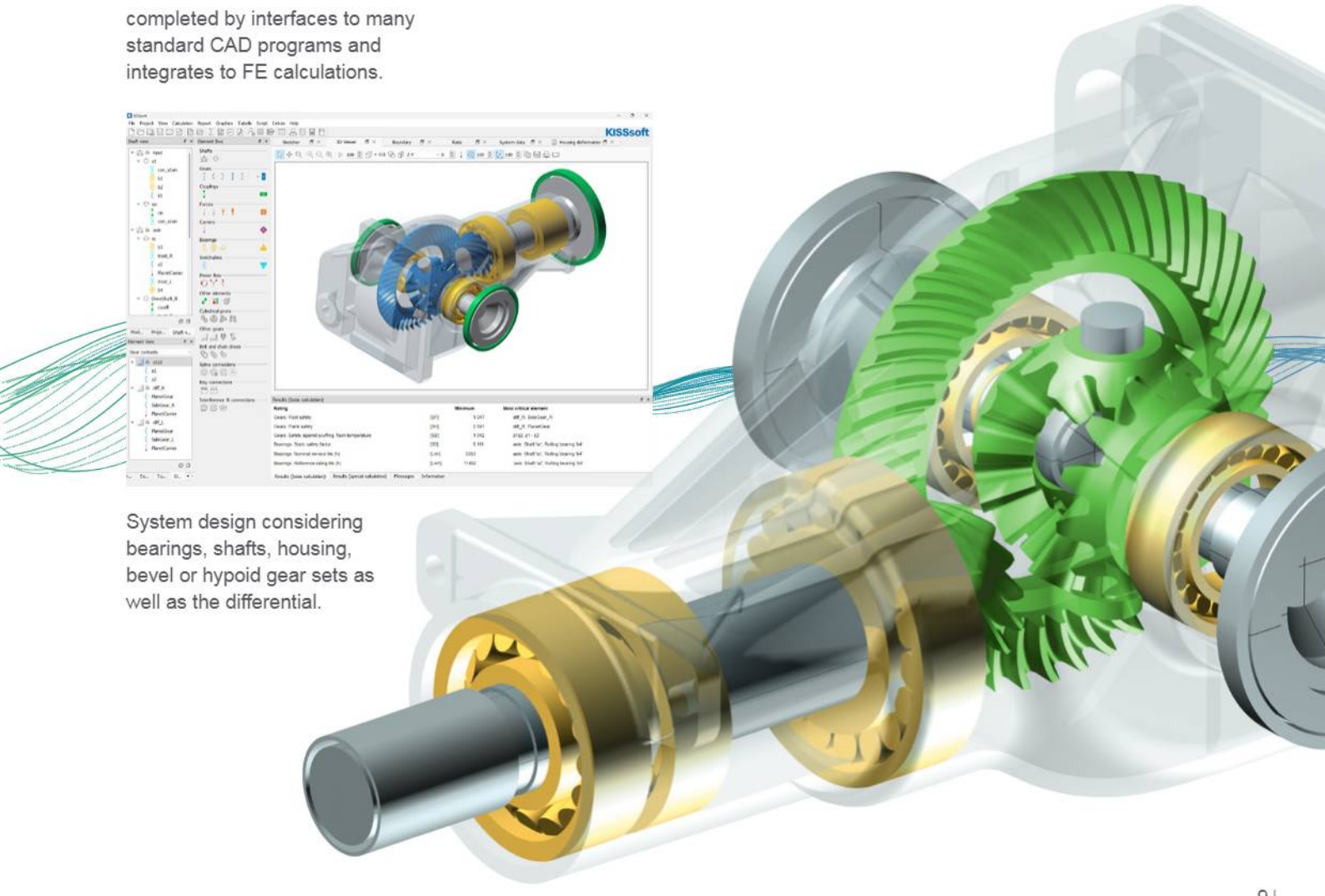


GEMS Coniflex Pro for straight bevel gears.

KISSsoft Design Software for Gears and Transmissions

KISSsoft AG is a fully owned subsidiary of Gleason Corporation. KISSsoft AG develops design software for engineers in a wide variety of fields: industrial gearboxes and geared motors, construction equipment, race car transmissions or aerospace applications. KISSsoft Design and Transmission Software includes rating methods along accepted standards (DIN, ISO, AGMA and others) and serves as a fast, high-quality tool for sizing transmission elements, optimizing gear geometry, determining component reliability, and documenting safety factors and service life values. KISSsoft is completed by interfaces to many standard CAD programs and integrates to FE calculations.

KISSsoft System Module enables users to model complete gearboxes and transmissions, bringing together kinematic analysis, 3D graphics, and user-defined tables and dialogs, allowing users to perform system level evaluations in one run while considering the interdependent effects of every single component of the gearbox. KISSsoft System Module provides tools for system reliability, load spectrum calculation, efficiency and thermal equilibrium evaluation, modal analysis, and much more.



System design considering bearings, shafts, housing, bevel or hypoid gear sets as well as the differential.

Plastic Gear Solutions

Gleason Plastic Gears – Where Precision Gears Take Shape

Custom molded gear solutions leverage KISSsoft Gear Design Software that delivers the smoothest and quietest gear mesh possible.

Designs for Specific Applications
Custom gear tooth forms are tailored to specific applications including high temperature, high torque, low noise, and minimal backlash.

Material Selection
Gear design services include material selection and moldability recommendations.

Metal to Plastic Gear Design Transformation
Many applications can be rendered more efficient and simple by switching from metal to plastic gears. We help you with the transformation.

Molding Solutions
Gleason Plastic Gears provides single and multi-cavity mold solutions including our proprietary no-weldline technology for stronger and more durable gears.

High Quality Gears

- State-of-the-art gear inspection capabilities ensure the highest gear quality levels possible.
- Gear inspection with tactile probing and laser scanning.
- Double flank testing capabilities include roll testing, testing with staging fixtures and product audits.
- Optical Metrology – Precise optical measurements complement contact measurements.
- Plastic Gears – Do Have a Quality Level

We can design and produce your plastic gears according to common gear quality standards.

Stronger and More Durable Gears
Gleason Plastic Gears proprietary no weld-line technology results in stronger and more durable gears, for applications that demand the best that plastic gears can offer.

Single Gears or Complete Gearbox Assemblies
We provide a single plastic gear or a complete gearbox assembly – as prototype suggestion or in serial production.

Solutions for Demanding Applications
Gleason Plastic Gears Solutions can be found in many different industries and applications including gears for e-drives and automotive actuators, gears for power tools, drones, robots and electronics, as well as geared medical applications.

Global Services

Service Programs
Gleason's global service organization keeps customers' machines at optimum performances level, avoiding unplanned downtimes before they occur. Gleason service teams know Gleason machines by heart, and providing comprehensive and certified services.

Original Spare Parts
Original spare parts guarantee optimum performance and longevity of Gleason machines as they are tested for quality and reliability. Gleason Global Services provides more than 100,000 different spare parts from stock supplies located all around the globe.

Original Accessories
Original accessories include items like the Geometry Check Set, Mobile Set-up Station, Gleason Connect® digital retrofit, and Gleason Connect+ augmented reality support to extended remote communication possibilities.

Gleason Fingerprint
Gleason Fingerprint automatically compares machines' status in time for continuous diagnostics, resulting in proactive service actions.

Modernization Programs
Gleason Global Services offers modular packages for machine modernization. Depending on the requirements, customers may choose from a wide range of solutions at different levels: Remanufacturing of mechanical components, update of automation systems, control upgrades, or complete machine remanufacture.

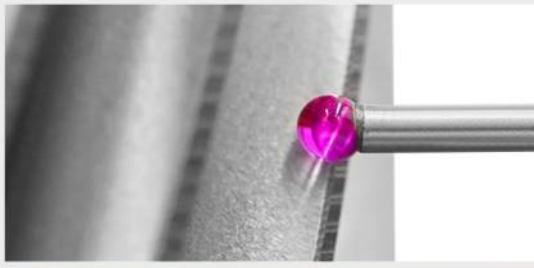
Production Support
Gleason´s Specialized Gear Services group helps design and evaluate all types of bevel and cylindrical gears to optimum functionality and manufacturability, assisting with pre-production series and small lot production runs.

Service Apps
Gleason Global Services offers various helpful applications, such as an electronic parts catalog, Gleason's Connect Cloud, remote and augmented reality support, as well as monitoring programs.

Gleason Academy Training
Gleason offers the industry's widest variety of training classes, covering the full spectrum of bevel and cylindrical gear technology, automation, metrology, as well as gear and transmission design topics. Additionally, we offer seminars,
webinars and online trainings.

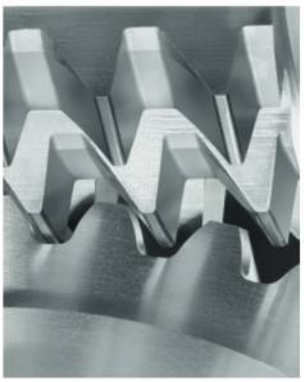
E-Ticket Machine Services
Service requests for Gleason machines can be directly communicated via Gleason's e-Ticket System for immediate and effective service support.

Total Gear Solutions Gleason



Cylindrical Gear Manufacturing Solutions

Cylindrical Gear Manufacturing



Horizontal Gear Hobbing Machines

	Workpiece dia. max., mm	Module max., mm	Axial travel max., mm
100H	100 / 120*	2.5 / 3 / 4	400
100HL	100 / 120*	2.5 / 3 / 4	800
100HCD•	100 / 120*	4	400
100HiC•	100 / 120*	3 / 4	400
100HLiC•	100 / 120*	3 / 4	800
250HL	250	6 / 8 / 10	1,000 / 2,000

/ option * on request • with integrated chamfering & deburring unit

Worm Milling Machine

	Workpiece dia. max., mm	Module max., mm	Axial travel max., mm
100WM	80 / 100*	8	400

/ option * on request

Vertical Gear Hobbing Machines

	Workpiece dia. max., mm	Module max., mm	Axial travel max., mm
Genesis® 130H	130	3	350
Genesis® 180H(CD)•	180	4	250 / 390
Genesis® 210H(iC)•	210	4	350
Genesis® 280H(CD)•	280	4 / 5 / 6	250 / 390
Genesis® 400H(CD)•	400	8	650
P400	400 / 500	8	600
P600	600 / 800	16	400 / 600 / 1,000
P800	800 / 1,200	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600
P1200	1,200 / 1,600	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600
P1600	1,600 / 2,000	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P2000	2,000	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P2400	2,400 / 2,800	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P2800	2,800	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P3200	3,200	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P4000	4,000	20 / 30* (25 / 35*)	700 / 1,000 / 1,300 / 1,600 / 2,200
P5000	5,000	25 / 35*	1,600 / 2,200
P6000	6,000	25 / 35*	1,600 / 2,200
P8000/10000	8,000 / 10,000	45 / 60*	1,200 / 1,800
Titan® 1200H	1,200	20 / 30* (30 / 40*)	1,000 / 1,600
Titan® 1600H	1,600	20 / 30* (30 / 40*)	1,000 / 1,600

/ option * profile milling • with integrated chamfering & deburring unit
Larger machines are available on request.

Power Skiving Machines

	Workpiece dia. max., mm	Module max., mm	Axial travel max., mm
100PS	100• / 210•• / 240••	2.5	320
300PS*	300	4	440
400PS*	400	5	650
600PS*	600	6	650
600/800PS	800	8 / 10	650

/ option •external gear diameter ••swing diameter for internal gears
* optionally with integrated resharpening unit
Larger diameters and modules on request.

Gear Shaping Machines

	Workpiece dia. max., mm	Module max., mm	Stroke length max., mm
GP200S	200	6	55 / 110
GP300S	300 / 400	6	55 / 110
P500S	500	12	250
P600S	600 / 800	8 / 12	110 / 250
P800S	800 / 1,200	12 / 16• / 24•	250 / 380• / 650•
P1200S	1,200 / 1,600	12 / 16• / 24•	250 / 380• / 650•
P1600S	1,600 / 2,000	12 / 16• / 24•	250 / 380• / 650•
P2000S	2,000	12 / 16• / 24•	250 / 380• / 650•
P2400S	2,400 / 2,800	12 / 16• / 24•	250 / 380• / 650•
P2800S	2,800	16• / 24•	380• / 650•
P3200S	3,200	16• / 24•	380• / 650•

/ option •with hydraulic shaping head
Larger machines are available on request.

Gear Shaping Machines

with „Electronic Helical Guide“

	Workpiece dia. max., mm	Module max., mm	Stroke length max., mm
GP200ES	200	6	110
GP300ES	300 / 400	6	110
P500ES	500	12	250
P600ES	600 / 800	8 / 12	110 / 250
P800ES	800 / 1,200	12	250
P1200ES	1,200 / 1,600	12	250
P1600ES	1,600	12	250

/ option
Larger machines are available on request.

Cylindrical Gear Manufacturing

Gear Shaving Machines

	Workpiece dia. max., mm	Module max., mm	Face width max., mm
Genesis® 130SV	150	5	60
200SVP	200	3	40

Rack Milling Machines

Milling of racks, steering racks, broaches,
band saw blades and special profiles

	Module max., mm	Width spur/ helical max., mm	Helix angle max., degree	Length max., mm
640RM	5	230	-	640
2000RM(H)	18	350	+/- 30	2,000
2500RM(H)	18	350	+/- 30	2,500
2000RMP(H)	12	300 / 200	+/- 30	2,000
850RMS	3	100	+/- 30	850

(H) option for helical racks

Profile Grinding Machines

for external and/or internal gears

	Workpiece dia. max., mm	Profile depth max., mm	Axial travel max., mm
P90G	100 / 125•	8	220
P400G	400	35 / 45	400 / 600
P600G	600	35 / 45 / 55 / 80	400 / 600 / 1,000
P600/800G	800 / 1,000	35 / 45 / 55 / 80	400 / 600 / 1,000
1200G	1,250	35 / 45 / 55 / 80	1,300
Titan® 1200G	1,200	100	1,000 / 1,600
Titan® 1600G	1,600	100	1,000 / 1,600
P1600G	1,600	80 / 120	1,000 / 1,300 / 1,600
P2000G	2,000	80 / 120	1,000 / 1,300 / 1,600
P2400G	2,400	80 / 120	1,000 / 1,300 / 1,600 / 2,200
P2800G	2,800	80 / 120	1,000 / 1,300 / 1,600 / 2,200
P3200G	3,200	80 / 120	1,000 / 1,300 / 1,600 / 2,200
P4000G	4,000	80 / 120	1,000 / 1,300 / 1,600 / 2,200
P5000G	5,000	80 / 120	1,000 / 1,300 / 1,600 / 2,200
P6000G	6,000	80 / 120	1,000 / 1,300 / 1,600 / 2,200

/ option • manual loading

Larger machines are available on request.

Threaded Wheel Grinding Machines

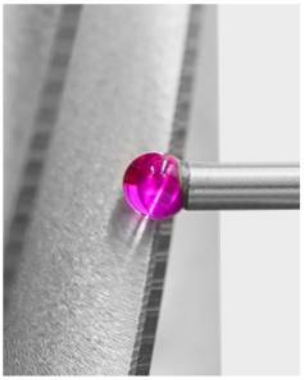
	Workpiece dia. max., mm	Module range, mm	Axial travel max., mm
P90G	100 / 125•	3	220
Genesis® 200GX	10 - 200	0.5 - 4	350
Genesis® 260GX	30 - 260	1 - 4	350

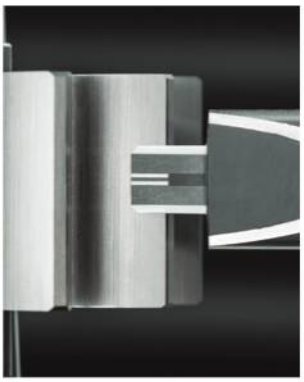
/ option • manual loading

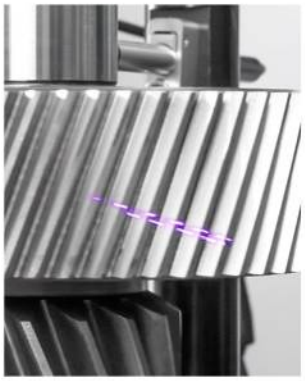
Gear Honing Machines

	Workpiece dia. max., mm	Module max, mm	Workpiece length max., mm
260HMS	270	6	450
260HMX	270	6	650

Gear Inspection Systems







Analytical Gear Inspection Systems

	Workpiece dia. max., mm	Module range, mm	Center distance, mm	Z-axis travel, mm
175GMS nano	175	0.15 / 0.4 - 6.35	480	340
300GMS nano	300	0.15 / 0.4 - 18	500•	450•
300GMSP nano*	300	0.15 / 0.4 - 18	500•	450•
350GMS	350	0.3 - 18	650•	450•
475GMS	475	0.4 - 18	650•	450•
475GMSP*	475	0.4 - 18	650•	450•
650GMS	650	0.5 - 22	1,000•	600•
850GMS	850	0.5 - 22	1,300•	1,000•
1000GMS	1,000	0.5 - 22	1,300•	1,000•
1300GMS	1,300	0.5 - 22	1,300•	1,300•
1500GMS	1,500	0.5 - 32	1,300•	1,000•
2000GMS	2,000	0.8 - 32	2,000•	1,200•
3000GMS	3,000	0.8 - 32	2,000•	1,200•

/ option • other dimensions on request * P version for the production environment

Analytical Gear Inspection Systems (Laser)

	Workpiece dia. max., mm	Module range, mm	Center distance, mm	Z-axis travel, mm
300GMSL	300	0.15 / 0.4 - 18	500•	450•
500GMSL	500	0.15 / 0.4 - 18	1,000•	600•

/ option • other dimensions on request
For laser measurement capability on larger size machines consult factory.

In-Process Gear Inspection Systems (Laser)

	Workpiece dia. max., mm	Module range, mm	Maximal workpiece weight, kg
GRSL	250	0.4 - 7.2	6.8

Availabe as stand-alone system, automated "Quality Cell",
or fully integrated HFC Hard Finishing System.

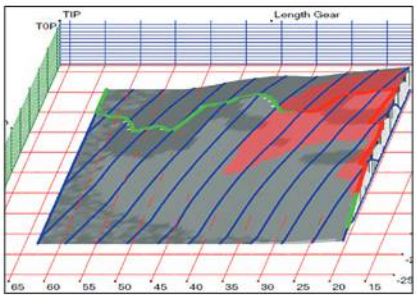
closed loop

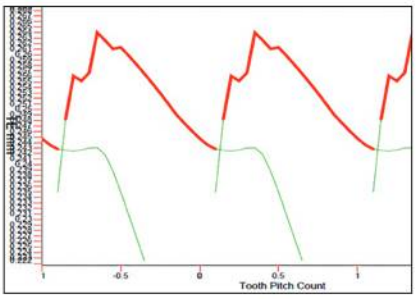
Closed Loop

Gleason´s Closed Loop functionality has been available in bevel gear production for many years and was adapted for cylindrical gears in 2015. Closed Loop provides for direct data exchange of measured data between metrology and production machines and is part of the standard repertoire of Gleason's gear metrology systems.

Tooth Contact Analysis

GAMA™ contact analysis software computes transmission error along the meshing path, generates ease off topographical charts and identifies misalignments, helping to optimize gear surface geometry.

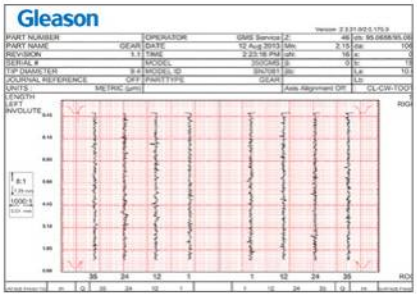




Tooth Contact Analysis

Surface Finish Analysis

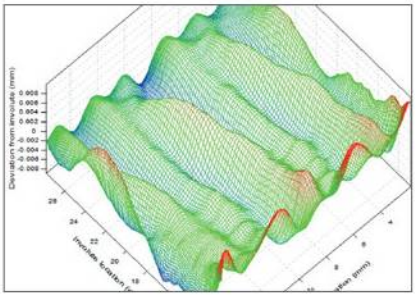
GAMA can measure up to 72 different surface finish characteristics with advanced filter methods to analyze high-frequency noise and micro-waviness.



Surface Finish Analysis

GAMA/KTEPS

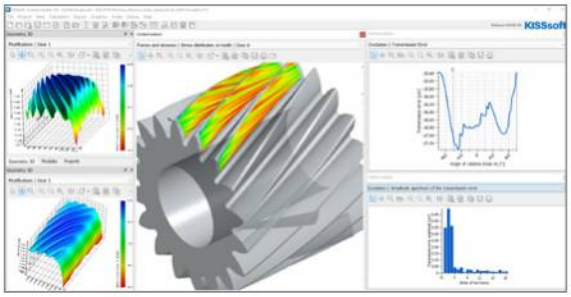
KTEPS uses a revolutionary analysis approach for determining and diagnosing gear noise. GAMA's unique ability to communicate with KTEPS puts this easy-to-use interface at your fingertips.



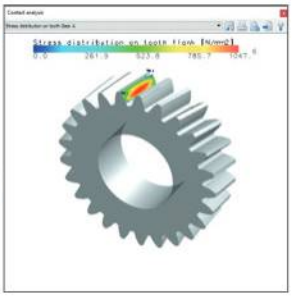
GAMA/KTEPS

Smart Loop

Design Engineers consider the effect of tooth bending under varying load, using tooth flank topograhy data created in KISSsoft for workpiece measurement, feeding back actual workpiece data for noise behaviour evaluation and loaded TCA in KISSsoft.



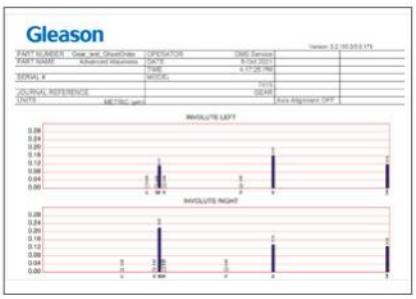
KISSsoft NVH Analysis



Loaded Tooth Contact Analysis

GAMA Advanced Waviness Analysis

Based on traditional index lead profile inspection, the Advanced Waviness Analysis uses enhanced Fast Fourier and other technologies to evaluate noise based on Transmission Error (TE). Deploying progressive methods like patching multiple profile lines, it has the ability to detect waviness over multiple teeth, being cause for medium frequency noise and tooth flank waviness, responsible for high frequency noise. By hiding various influences like pitch and runout, a unequivocal view to individual noise contributors is possible, critical influences easy identifiable by tolerance band implementation. Presentation of up to the 300th orders in an industrially recognized chart.



GAMA Advanced Waviness Analysis

Automation Solutions

AR Series - Adaptable and Flexible Robotic Material Handling

	Payload, max., kg	Weight of parts handled, max., kg
70AR	7	4.9
120AR	12	8.4
250AR	25	18
700AR	70	49
2700AR	270	150

ARC Series - Highly Versatile Cart Loaded Automation with Greater Capacity

	Tray/basket size, max., mm	Payload, max., kg	Weight of parts handled, max., kg
70ARC	500 x 700	7	4.9
120ARC	500 x 700	12	8.4
250ARC	500 x 700	25	18

ARD Series - Compact, Fast and Efficient Drawer Loaded Automation

	Drawer size, max., mm	Payload, max., kg	Weight of parts handled, max., kg
70ARD	600 x 600	7	4.9
120ARD	600 x 600	12	8.4

ARP Series - Pallet Loading and Unloading Automation

	Tray size, max., mm	Payload, max., kg	Weight of parts handled, max., kg	Weight of trays handled, max., kg
70ARP	500 x 700	7	4.9	49
120ARP	500 x 700	12	8.4	49

Available options on all models include integration of pre- and post-processes including finishing, assembly, cleaning, inspection and marking.

Larger part handling systems are available on request.
Customized solutions available on request.

AR Series
AR Series robot material handling provides flexibility of material introduction, cell footprint and functionality. By varying the size of the robot, the AR Series loaders are designed to handle a variety of part sizes.

ARD Series
ARD Series Drawer Loaded Automation feeds parts directly to machine tool chucks, spindles or fixtures, while using minimum floor space. Double-ended configurations can service two machines with a single loading system.

ARC Series
ARC Series Machine Tool Loaders provide maximum capability and flexibility to create the ideal cellular automation system for your projects. All ARC systems include a six-axis high-speed robot for maximum flexibility and productivity.

ARP Series
ARP Series loaders complement Gleason Machine Tool Loaders by loading or unloading trays off standard size pallets.

100PS Power Skiving Machine with fully integrated ARP tray/pallet loading system.

GRSL Laser Inspection System with cobot loading and flexible basket system.

Workholding Systems

Gleason Workholding Systems
Workholding systems for both gears and non-gear applications across machines of many different manufacturers.

Clamping Between Centers
For parts which require clamping between centers, multiple types of drivers and tailstocks are available to ensure rigid clamping for high-quality results.

Mechanical and Hydraulic Workholding Systems
Mechanical and hydraulic workholding systems to meet any quality, production, and workpiece-specific requirement.

Tailstock Clamping Units
Tailstock units complement primary fixtures, with quick-change feature if desired. Special quick-change pendulum units are available for all major machine brands.

Modular Components
Workholding systems feature standardized components to achieve high flexibility and adaptability, available for internal, external, and between-center clamping.

Quick-Change Systems
Quick-change systems are available for any work spindle. The simple changeover takes place in 30 seconds or less, ensuring high repeatability.

ID Clamping
ID clamping systems for mechanical and hydraulic workholding to meet any quality, production, and workpiece-specific requirement.

Clamping Solutions for Internal Machining
Clamping systems are available for various internal machining processes, such as milling/gashing, gear shaping, Power Skiving, or profile grinding.

OD Clamping
Depending on the workpiece size, Gleason offers OD clamping on one or two seats, with a single collet, by expansion chuck, or via clamping head.

Small Series Production and Prototyping
Special clamping systems for small series and prototypes can be quickly adapted to accommodate different sizes of gears and pinions.

Automation Accessories
In addition to workholding systems, Gleason offers related automation equipment, such as grippers, pallet inserts, and fixtures for loading systems of all types.

Workholding Spare and Wear Parts
Spare and wear parts are available for Gleason workholding as well as other manufacturers' workholding equipment.

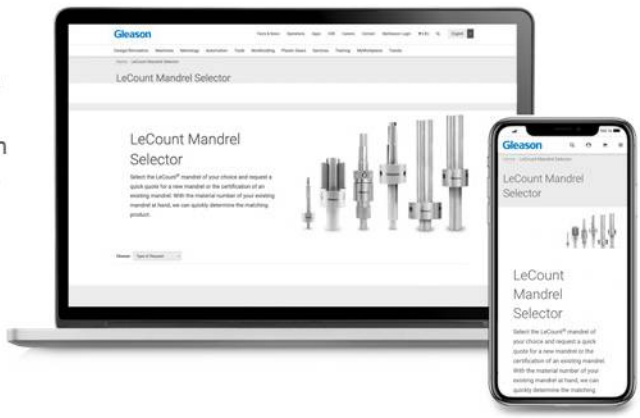
Gleason Workholding Accessories
Gleason offers useful accessories for the operation, inspection, protection and maintenance of workholding equipment.

Connectivity
Gleason workholding can be equipped with RFID and/or a data matrix code (DMC) according to customer specifications for digital networking with various manufacturing systems.

Zero Point Clamping Systems
Zero Point Clamping Systems ensure the clamping and centering of large workpieces on pallets outside the machine before machining, saving precious setup time in the machine.

LeCount Mandrels
LeCount® Expanding Mandrels are available for inspection and grinding tasks of bore-type parts, available from 6.5 to 177 mm bore diameter in various versions.

Retooling of Existing Equipment
Gleason offers comprehensive retooling services including application support for Gleason machines as well as machines from other manufacturers.



Maintenance Programs
Gleason's regular maintenance programs for workholding equipment ensure full availability and consistent quality results in production.

Select your mandrel now

Gear Manufacturing Tools

Hobs
- Bore- or shank-type hobs, made of high-speed steel and solid carbide.
- Coated with PVD coatings.
- Starting at Module size 0.3 mm (DP 85) up to module 40 mm (DP 0.635).

Inserted Blade Hobs and Milling Cutters
Solid and carbide inserted tools for highest accuracy and efficiency in internal and external gearing applications.

Chamfer Cutting Tools
- Chamfer Hobs, Fly Cutters and Radial Chamfer Tools
- Module range on request.
- For one or more gears.

Chamfer Rolling and Deburring Tools
- Module range 0.8 - 5.0 mm.
- For wet and dry machining.
- Chamfer shapes and sizes selectable.
- Adjustable burnishing feature to adapt helix angle.

Shaper Cutters
- High-speed steel shaper cutters in disk, bore- and shank-type designs.
- Standard module range 0.5 - 16.0 mm.

Power Skiving Cutters
- For gears and shafts, internal and external.
- PM and solid carbide.
- Cutters with inserted carbide inserts.
- High performance coatings for Power Cutting.

Shaving Cutters
- For external and internal gears.
- For all shaving methods.
- Module range 0.5 - 17 mm.
- Cutter width up to 50 mm.
- Shaving cutter serration with Opti-Edge® for higher tool life.

Honing ToolsSystems
- Internally toothed ceramic honing rings in Opti-Form®.
- High-precision diamond dressing gears and rolls.
- Multiple replating of diamond dressing tools.

Grinding Tools
- Profile grinding wheels. and threaded grinding worms.
- Polish grinding worms.
- CBN grinding wheels.
- Dressing tools.
- Replating services.

Master Gears
- High quality master gears for double- and single-flank testing.
- Module range 0.3 - 16 mm.
- DIN 3970 or customer request.
- Application-specific coatings for life improvement.

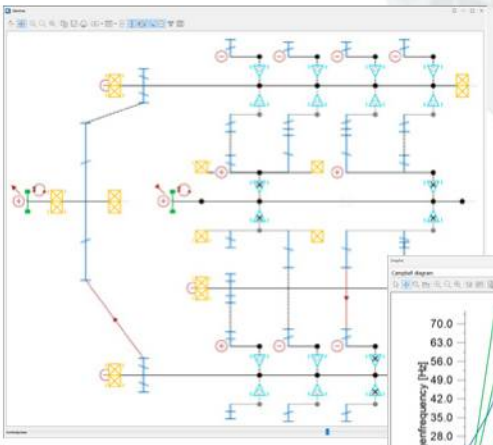
Tool Services
Reconditioning services for hobs, shaper cutters, shaving cutters, hard finishing tools and measuring equipment.
Scan the e-Ticket code for online tooling requests.

KISSsoft Design Software for Gears and Transmissions

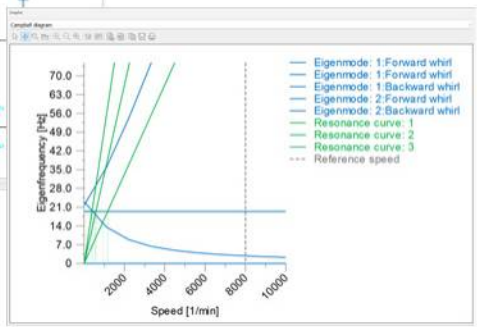
KISSsoft AG is a fully owned subsidiary of Gleason Corporation. KISSsoft AG develops design software for engineers and designers in a wide variety of fields: industrial gearboxes and geared motors, construction equipment, race car transmissions or aerospace applications. KISSsoft® software includes rating methods along accepted standards (DIN, ISO, AGMA and others) and serves as a quick, high-quality tool for sizing transmission elements, optimizing gear geometry, determining component reliability, and documenting safety factors and service life values. KISSsoft is completed by interfaces to many standard CAD programs and integrates to FE calculations.

KISSsoft System Module enables users to model complete gearboxes and transmissions. KISSsoft System Module brings together kinematic analysis, 3D graphics, and user-defined tables and dialogs, allowing users to perform system level evaluations in one run while considering the interdependent effects of every single component of the gearbox. KISSsoft System Module provides tools for system reliability, load spectrum calculation, efficiency and thermal equilibrium evaluation, modal analysis, and much more.

Detail gear design and spatial representation.



Conceptual modelling through sketching.



Dynamic analysis of the system and component.

Plastic Gear Solutions

Gleason Plastic Gears – Where Precision Gears Take Shape

Custom molded gear solutions leverage KISSsoft Gear Design Software that delivers the smoothest and quietest gear mesh possible.

Designs for Specific Applications
Custom gear tooth forms are tailored to specific applications including high temperature, high torque, low noise, and minimal backlash.

Material Selection
Gear design services include material selection and moldability recommendations.

Metal to Plastic Gear Design Transformation
Many applications can be rendered more efficient and simple by switching from metal to plastic gears. We help you with the transformation.

Molding Solutions
Gleason Plastic Gears provides single and multi-cavity mold solutions including our proprietary no-weldline technology for stronger and more durable gears.

High Quality Gears

- State-of-the-art gear inspection capabilities ensure the highest gear quality levels possible.
- Gear inspection with tactile probing and laser scanning.
- Double flank testing capabilities include roll testing, testing with staging fixtures and product audits.
- Optical Metrology – Precise optical measurements complement contact measurements.
- Plastic Gears – Do Have a Quality Level
  We can design and produce your plastic gears according to common gear quality standards.

Stronger and More Durable Gears
Gleason Plastic Gears proprietary no weld-line technology results in stronger and more durable gears, for applications that demand the best that plastic gears can offer.

Single Gears or Complete Gearbox Assemblies
We provide a single plastic gear or a complete gearbox assembly – as prototype suggestion or in serial production.

Solutions for Demanding Applications
Gleason Plastic Gears Solutions can be found in many different industries and applications including gears for e-drives and automotive actuators, gears for power tools, drones, robots and electronics, as well as geared medical applications.

Global Services

Service Programs
Gleason's global service organization keeps customers' machines at optimum performances level, avoiding unplanned downtimes before they occur. Gleason service teams know Gleason machines by heart, and providing comprehensive and certified services.

Original Spare Parts
Original spare parts guarantee optimum performance and longevity of Gleason machines as they are tested for quality and reliability. Gleason Global Services provides more than 100,000 different spare parts from stock supplies located all around the globe.

Original Accessories
Original accessories include items like the Geometry Check Set, Mobile Setup Station, Gleason Connect® digital retrofit, and Gleason Connect+ augmented reality support to extended remote communication possibilities.

Gleason Fingerprint
Gleason Fingerprint automatically compares machines' status in time for continuous diagnostics, resulting in proactive service actions.

Modernization Programs
Gleason Global Services offers modular packages for machine modernization. Depending on the requirements, customers may choose from a wide range of solutions at different levels: Remanufacturing of mechanical components, update of automation systems, control upgrades, or complete machine remanufacture.

Production Support
Gleason´s Specialized Gear Services group helps design and evaluate all types of bevel and cylindrical gears to optimum functionality and manufacturability, assisting with pre-production series and small lot production runs.

Service Apps
Gleason Global Services offers various helpful applications, such as an electronic parts catalog, Gleason's Connect Cloud, remote and augmented reality support, as well as monitoring programs.

Gleason Academy Training
Gleason offers the industry's widest variety of training classes, covering the full spectrum of bevel and cylindrical gear technology, automation, metrology, as well as gear and transmission design topics. Additionally, we offer seminars, webinars and online trainings.

E-Ticket Machine Services
Service requests for Gleason machines can be directly communicated via Gleason's e-Ticket System for immediate and effective service support.