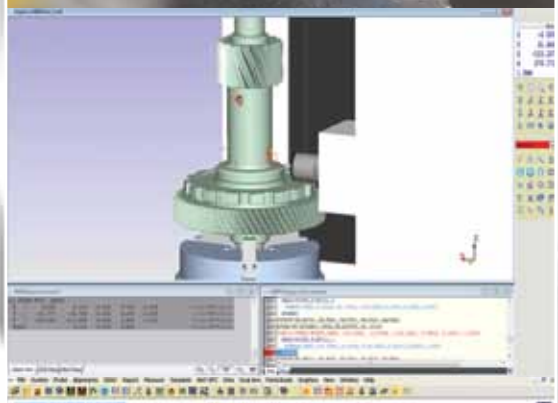
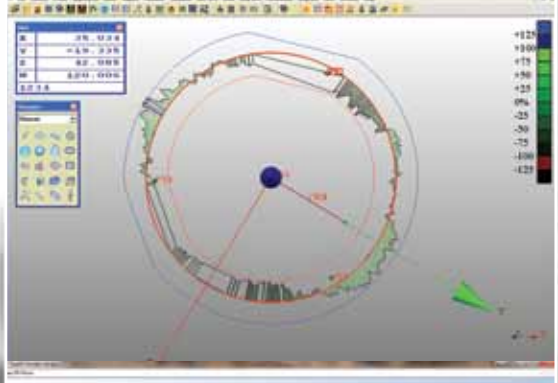
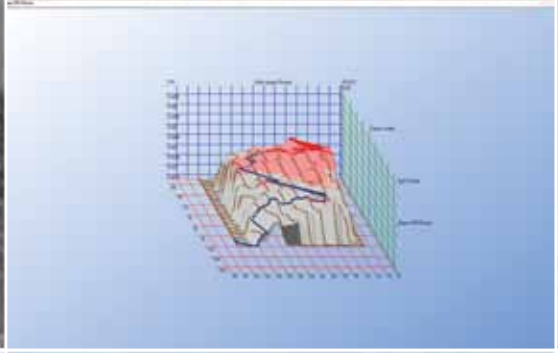
Gleason







THE TOTALGEAR SOLUTIONS™ PROVIDER

300GMS Gear Inspection System

The New 300GMS:
The perfect fit for your growing inspection challenges

300GMS® Highlights

- ✓ **Highly versatile –** The single solution for a very wide range of inspection tasks, from fine pitch gears as small as .2 module, to surface finish measurement on gears down to 1.5 module, and even prismatic parts (CMM) measurement. (For smaller modules, consult with factory.)
- ✓ **More compatibility and control –** Equipped with new GAMA™ 3.0 applications and control software, fully compatible with Windows®; easily networked to customer's server databases, SPC data acquisition software and Gleason Connect® Global Support Services.
- ✓ **Reduced Cycle Times –** Offering users faster inspection cycle times than earlier-generation models and competitive products.
- ✓ **Advanced Operator Interface –** Featuring a new ergonomically mounted operator work station and Advanced Operator Interface with video telephony support, voice mail messaging, environmental monitoring for temperature, humidity, machine temperature; QR/bar codes and more.
- ✓ **Extremely ergonomic –** More compact with variable workstation placement options to optimize the Human/Machine Interface.
- ✓ **Productive –** Equipped with Renishaw® SP25 3D scanning probes in various configurations and stylus sizes, with optional 6-position Automatic Probe Changer.
- ✓ **Rugged reliability –** Featuring a solid a granite base, hardened, high-precision worktable (100kg/220 lb. capacity) and two-speed tailstock.

The Gleason 300GMS® Analytical Gear Inspection System takes on the fast-growing inspection challenges that exist today for global producers of automotive, aerospace and like-size gears: everything from the smallest fine pitch gears, to surface finish measurement, to CMM measurement – and much more.

Gleason's new-generation GMS Analytical Gear Inspection systems work faster, set up easier, and are equally adept at surface finish, prismatic part measurement or typical gear geometry inspection.

Now, the new 300GMS meets every inspection challenge that might exist for producers of fine pitch gears as small as .2 module, shaft-type gears up to 450 mm in length, as well as surface finish measurement on gears down to 1.5 module. Here are some of the 300GMS' most significant new features...

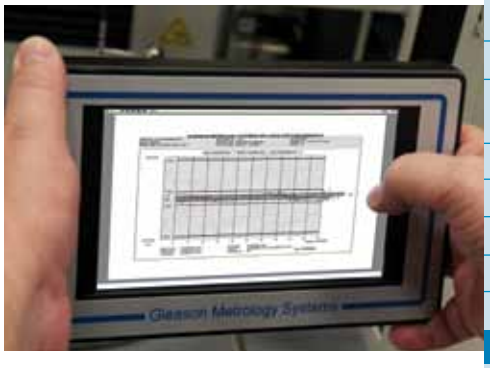
GAMA™ 3.0 applications and control software. The 300GMS is the first in the series to use GAMA 3.0, the latest in the very popular GAMA applications software series. Most significantly, it is fully compatible with Windows® 7 so it can be easily networked in more factory environments. It's also loaded with many new productivity-enhancing features. For example, operators now can be editing or creating programs for future parts simultaneously with an inspection taking place. Additionally, the operator can get inspection results in real-time, rather than having to wait for the inspection to reach the 'print', or completed stage. The operator then can check basic parameters and even cancel an inspection if, for example, involute or profile quality are suspect, rather than waste any additional inspection time. The operator can also tap into expanded help/support tutorial videos.
The use of universally recognizable icon buttons also allows an operator to quickly 'tab' from one open form to the next, such as tip/root chart, index/pitch chart, journals, etc.

Compact, highly ergonomic. Users will appreciate the 300GMS' extraordinarily compact size – about 31% smaller than the 350GMS, while providing more capacity than competitors' machines. A re-designed controller utilizing state-of-the-art remote I/O technology with 30% less machine wiring and connections has reduced overall size and contributed to further cycle time reductions.

The user can also easily position the Human/Machine Interface (HMI) to meet both factory space allotment and operator preference.

Additionally, the operator now has at his or her disposal a powerful new remote operating device called the Advanced Operator Interface (AOI). It 'nests' in close proximity to the operator workstation and can be easily removed by the operator to aid in the performance of a variety of tasks. It provides, for example, a video telephony and voice mail messaging capability, enabling the user to capture video,

(Top) Available with fully integrated surface finish capability. (Below) Dual-display SPC is just one of the many functions that the new Advanced Operator Interface (AOI) puts at the operator's fingertips.



describe a particular programming issue and transmit it over the web to others in the customer's organization or to Gleason for support. It also has environmental monitoring of ambient temperature, humidity and machine temperature. It comes equipped with both bar code reader and QR code reader, a reflection of the increasing trend to use QR codes on routing sheets to simplify the transmittal of important gear data to the inspection system.

The operator workstation also has been improved upon, positioned close to the work zone and designed with a more intuitive interface and simplified ISO symbols easily interpreted by any operator, anywhere in the world.

Fast, accurate probes and probe change. The 300GMS is equipped with high accuracy 3D scanning probes with a broad range of styli to meet various inspection challenges. It's equipped with a stylus calibration library and convenient, easy-access probe storage in the storage cabinet at the operator's workstation. A fast 6-position Automatic Probe Changer (APC) is optional – fast, dependable, and helps simplify operation and reduce non-productive time.

Built to run reliably from day 1. Like the larger machines in the series, the 300GMS features a solid granite base. It also eliminates the need for a time-consuming 'homing' sequence upon startup since it's equipped with .1 µm resolution absolute scales on all the axes instead of incremental scales, which must first find and traverse to a home position before starting an inspection.

The worktable is hardened, high-precision and has a 100 kg/220 lb. work capacity. The tailstock now has two speeds in both up and down directions for faster, more consistent part loading/clamping.

Dimensions		300GMS
Measuring range	W	–
	X	220 mm/8.7"
	Y	200 mm/7.9"
	Z*	450 mm/17.7"
Overall GMS dimensions	Width	1065 mm/42"
	Length	1000 mm/39"
	Height	1857 mm/73"
Table height		937 mm/37"
Helix angle (in degrees)		0 to 90
Module diametral pitch range		0.2 to 18 mm/ 127 to 1.4 DP
Maximum workpiece weight		100 kg/220 lbs.
Maximum workpiece length*		450 mm/17.7"
Maximum workpiece diameter		300 mm/11.8"
GMS weight		2560 kg/5644 lbs.
Packaged GMS weight		2923 kg/6444 lbs.
Performance Data		
Position measuring system		300GMS – 3000GMS: 0.1 µm High resolution scales
Utility Requirements		
Power requirements		220 V (±10%), 50 to 60 Hz
Ambient Requirements		
Humidity		Not to exceed 60% and non-condensing
Permissible ambient temp.		+15° C to 35° C/60° F to 95° F
Temp. limits in which the specified u95 uncertainty are guaranteed		Ambient temp.: 20° C ± 2° C/68° F ± 4° F
		Thermal fluctuation: =/< 1° C/hour; 1.8° F/hour =/< 1.5° C/day; 2.7° F/day
		Thermal gradient: =/< 1.0° C/meter; 1.8° F/å

* Larger travels for Z-axis and tailstocks available on request.

The highly ergonomic new Human/ Machine Interface (HMI) enables users to more readily meet factory space allotment challenges and the preferences of the operator, by providing multiple configurations, including seated and standing.

THE TOTALGEAR SOLUTIONS PROVIDER

Providing customized solutions for all major gear manufacturing processes on a global basis with an industry-leading array of machines, tools, workholding, inspection and service products:

BEVEL GEAR SOLUTIONS up to 2,500 mm

- ✓ Cutting (Spiral and Straight)
- ✓ Cutter Build
- ✓ Grinding
- ✓ Quenching
- ✓ Cutting Tools, All Processes
- ✓ Blade Grinding
- ✓ Lapping
- ✓ Roll Testing
- ✓ Design Software
- ✓ Workholding
- ✓ Global Services

CYLINDRICAL GEAR SOLUTIONS up to 10,000 mm

- ✓ Hobbing, Gashing
- ✓ Power Skiving
- ✓ Shaping
- ✓ Shaving
- ✓ Threaded Wheel and Combined Grinding
- ✓ Cutting Tools, All Processes
- ✓ Combined Processes
- ✓ Chamfering/Deburring
- ✓ Profile Grinding
- ✓ Honing
- ✓ Workholding
- ✓ Global Services

METROLOGY SOLUTIONS all types of gears and gear tools

- ✓ Analytical Inspection
- ✓ Functional Gages
- ✓ A2LA Gear Calibration Lab
- ✓ Master Gears
- ✓ Workholding
- ✓ Global Services

Gleason eSOLUTIONS

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