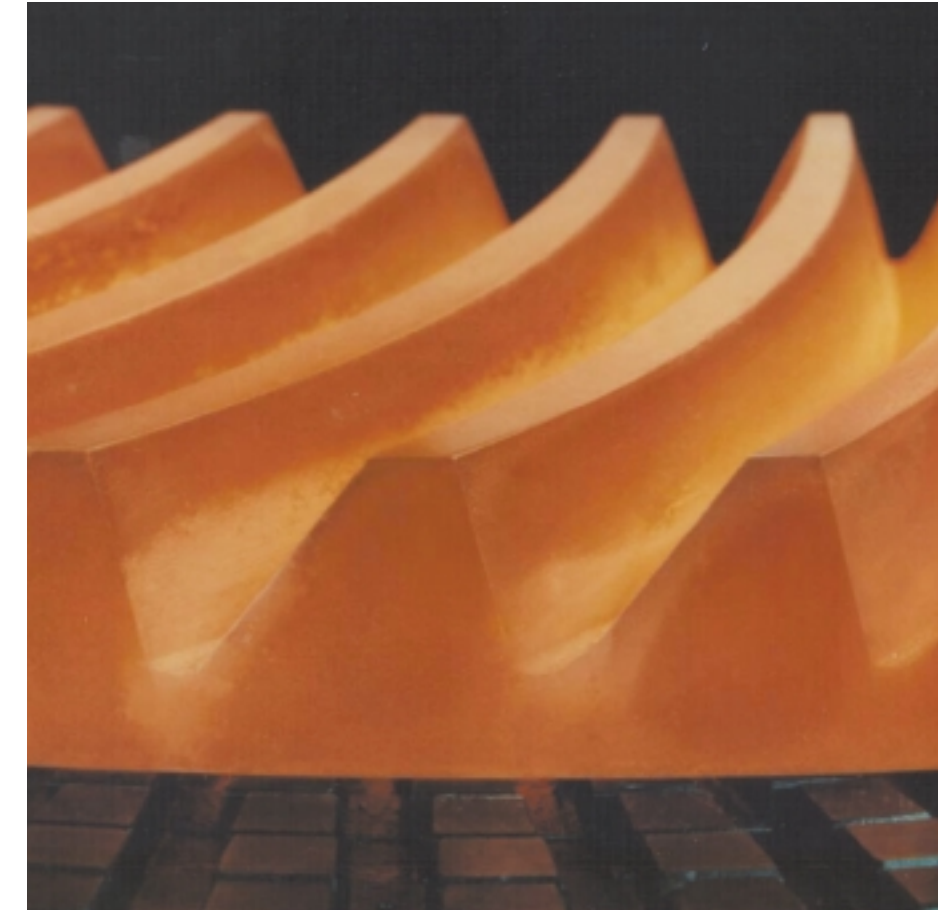


Model	Gleason 529		Gleason 537		
	English	Metric	English	Metric	
Capacity					
Maximum diameter	10.5"	267 mm	28"	711 mm	
With Special Feature (manual only)	16"	406 mm			
Minimum diameter (bore or inner diameter)			6"	152 mm	
Maximum height	4"	102 mm	8"	203 mm	
Bottom of upper die holder to top of bottom holder	6"	152 mm			
- Closed			10"	254 mm	
- Open			22"	558 mm	
Range of adjustable lower die			6" – 20"	152 – 508 mm	
Hydraulic System					
Total force (approximately)	49,500 lbf	22,453 kgf	59,000 lbf	26,762 kgf	
Outer ring force (approximately)	20,000 lbf	9,072 kgf	24,000 lbf	10,886 kgf	
Inner ring force (approximately)	20,000 lbf	9,072 kgf	24,000 lbf	10,886 kgf	
Expander force (approximately)	9,500 lbf	4,309 kgf	11,000 lbf	4,989 kgf	
Oil Supply					
Machine capacity					
Basic Machine	267 gal.	1,041 L	355 gal.	1,343 L	
Size of oil inlet	2"	51 mm	2"	51 mm	
Size of oil outlet	4"	102 mm	4"	102 mm	
External supply required	35 G.P.M.	132 L/min	40 G.P.M.	151 L/min	
Quench Chamber	200 G.P.M.	757 L/min			
Pump capacity	208 G.P.M.	790 L/min	300 G.P.M.	1,135 L/min	
Electrical Equipment					
		60Hz	50Hz	60Hz	50Hz
Quenching Pump (10 HP for PCM)	10.0 H.P.	3,600 RPM	3,000 RPM	3,600 RPM	3,000 RPM
Hydraulic Motor	7.5 H.P.	1,800 RPM	1,500 RPM	1,800 RPM	1,500 RPM
Conveyor	.25 H.P.	4 RPM	3.3 RPM		
Miscellaneous					
Floor space	49" x 91"	1,245 x 2,311 mm	49" x 118"	1,245 x 2,997 mm	
Height	80"	2,030 mm	100"	2,540 mm	
Net weight	8,500 lbs.	3,860 kg	11,975 lbs.	5,443 kg	
Shipping weight – boxed for export			14,000 lbs.	6,364 kg	
Manual (1 box)	10,400 lbs.	4,715 kg			
Size of case	112" x 65.3" x 102"	2,845 x 1,659 x 2,591 mm	135" x 67" x 104"	3,429 x 1,700 x 2,640 mm	

The Gleason Works

No. 529 and 537 Quenching Machines



Gleason Corporation

1000 University Avenue
P.O. Box 22970
Rochester, NY 14692-2970, USA
Tel: +1-585-473-1000
Fax: +1-585-461-4348
e-mail: sales@gleason.com

The Gleason Works

1000 University Avenue
P.O. Box 22970
Rochester, NY 14692-2970, USA
Tel: +1-585-473-1000
Fax: +1-585-461-4348
e-mail: sales@gleason.com

Gleason - PFAUTER

Maschinenfabrik GmbH
Daimlerstrasse 14
71636 Ludwigsburg, Germany
Tel: +49 7141 4040
Fax: +49 7141 404 500
e-mail: sales@gleason.com

Better quality, faster production: No. 529 and 537 Quenching and Process Controlled Quenching Machines (PCM)

The Gleason No. 529 Quenching Machine (Manual) and the No. 529 Process Controlled Quenching Machine (PCM) are designed primarily for rapid production quenching of automotive ring gears and other round, flat or cylindrical parts up to 10.5" (266 mm) diameter and 4" (102 mm) high. These machines offer complete control of the quenching operation, and a host of user benefits, including:

- Reduced setup/changeover time. The PLC has the capability of storing setup data for 96 parts.
- Repeatable setups for reduced scrap and consistent quality.
- Ease of use improves efficiency, reduces labor costs and minimizes operator's error.
- Improved process control.
- Fault monitoring.

In comparison, the Gleason No. 537 Quenching Machine (Manual) and the No. 537 Process Controlled Quenching Machine (PCM) are designed for quenching automotive, truck and tractor main drive gears and other flat, cylindrical parts up to 28" (711 mm) diameter and 8" (203 mm) high. Excellent part quality is assured with minimum of distortion and positive control of material hardness and uniformity. Both models are offered new or remanufactured machines.

Both series of machines (manual and PCM versions) are Process Controlled Machines which have a Programmable Logic Controller (PLC). They are capable of storing setup data for up to 96 parts. Setup functions controlled by the PLC include expander, inner and outer ring pressures, quench oil flow rates and time cycles, and pulsing.

Process control is greatly improved because these cycle segments are individually controlled on the manual version by selector and timer switches and on the 529 Manual and PCM version by input to a Programmable Logic Controller (PLC):

- Fast initial quench to control the cooling rate for proper material transformation,
- Slow intermediate quench to minimize distortion, and
- Rapid cooling for removal of the workpiece from the quencher.



No. 529 Quenching Machine

Standard Features

Pressure Control:

- Hydraulic pressure is individually controlled to the inner and outer die rings and expander pistons by:
- 529/537 Manual – setting three pressure regulating valves.
- 529/537 PCM – by input to the PLC, pressure transducers feed back analog signals to the PLC in a closed loop system. Hydraulic pressure is then accurately adjusted by air piloted proportional control valves.

Lower Die Ring Compensation (537 only):

- Convenient adjustment of the lower die rings compensates for a predetermined amount of dishing or coning of the workpiece and eliminates the shimming of gears up to 20" (508 mm).

Quick Change Die

- Latest machines can be equipped with an optional quick change feature for the upper die pressure rings. This feature uses a pivoted latch instead of bolts.

The upper pressure rings can be designed to make direct use of this feature or can be designed shorter (thus less expensive) and be assembled to spacers away from the machine. This pivoted latch can then be quickly attached to the machine.

Custom Die Design:

- Customized dies designed and manufactured at The Gleason Works are built to exact tolerances to provide the proper flow of oil and the application of forces to control the final dimensions and the shape of the workpiece.

Optional Capacity:

- The manual version of the No. 529 can be arranged to quench gears, bearing races, clutch plates, etc., up to diameter 16" (406 mm). Additional support rings used with the standard universal lower die, are included with this feature. It is recommended that Gleason Arbor Engineering review this application.

Minimal Distortion:

- A pulsing action alternately applies and releases pressure to the die assemblies and expander piston to allow the part to contract normally, minimizing the development of stresses which would distort the workpiece.

Arrangement for pulsing pressures.

Complete electrical equipment for NFPA 300 to 400 volts, 50 Hertz or NFPA 480 volts, 60 Hertz.

Light curtain.

Optional features:

- Arrangement to automate cycles for process controlled quenching (529 PCM) using Siemens 135U or using Siemens and Modicon (537 PCM) including:
- Fault monitoring
- Quenching oil level gauge



- Temperature sensor for quench oil in the machine frame with PLC display
- Flow meter with PLC display
- Arrangement to connect quenching machine to the Central Quench Oil System.
- Cycle start through the use of a foot switch.
- Universal lower die.
- Furnish heat exchanger for installations without central quenching oil system.
- Quick change die arrangement.
- Standard style spacers and threaded rods required to adapt existing die equipment to a new machine equipped with the quick change die arrangement where the die arrangement bolts directly to upper-die holders.
- Replacement parts kits.
- Export Boxing.
- Prepare machine for truck shipment
NOTE: Machine cannot be containerized.

