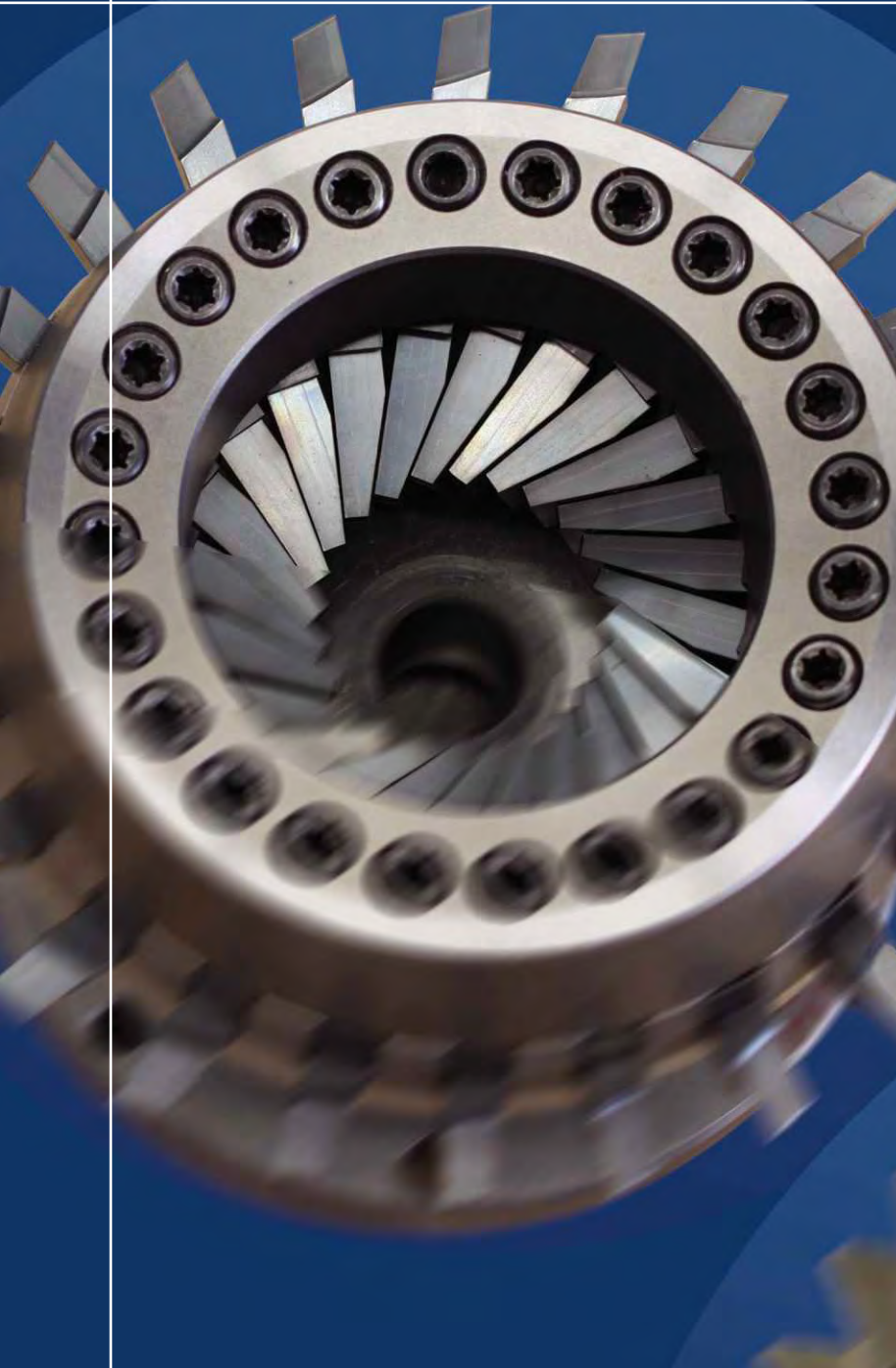


**Gleason**

**More Accurate  
More Efficient  
More Economical**



**CONFIFLEX<sup>®</sup> Plus**  
**THE NEW  
GENERATION**

## Cut More Gears With Advanced CONIFLEX<sup>®</sup> Technology

**Now You Can Manufacture Higher Quality  
Straight Bevel Gears in Less Time,  
With Higher Accuracy and  
Repeatability, With  
Advanced PHOENIX  
Technology**

Introducing the new generation in CONIFLEX gear Cutting Technology. Designed to take advantage of advanced PHOENIX Free Form full CNC capability, the new CONIFLEX System will drastically reduce setup times and allow you to produce straight bevel gears with the highest accuracy ever.

### **Exceptional Accuracy Repeatability and Versatility**

Combining the new CONIFLEX Cutting System with advanced PHOENIX technology enables the manufacture of straight bevel gears with a high degree of accuracy and repeatability, unparalleled in mechanical or partial CNC straight bevel gear machines. More importantly, the PHOENIX's versatility allows you to also manufacture other types of hypoid and bevel gears, presenting your company with new market opportunities.

### **One Cutting Tool, No Conversion**

Instead of using two interlocking cutters as found on older mechanical machines, the new CONIFLEX System requires only one cutter, simplifying the system and reducing tool maintenance cost. In addition, you don't have to invest in new tooling, you can use all of your existing CONIFLEX cutters and workholding, including existing summaries.

- ✓ Advanced Technology
- ✓ Exceptional Accuracy
- ✓ Full CNC Capability
- ✓ High Repeatability
- ✓ Longer Tool Life
- ✓ Quick Setup
- ✓ Easy Correction



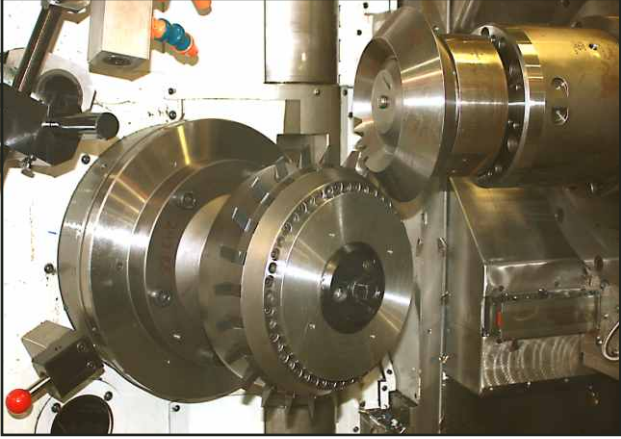
*The New Gleason  
PHOENIX 280C Bevel Cutting  
Machine and CONIFLEX Plus Cutter.*



# and PHOENIX<sup>®</sup> CNC Accuracy and Flexibility

## More Efficient CONIFLEX Plus Cutters for Wet or Dry Cutting

Gleason CONIFLEX Plus cutters are designed to provide a more efficient straight bevel gear cutting system by improving cutting speeds, maximizing tool life and minimizing sharp-enings. They use coated Pentac carbide blades which allow high-speed wet or dry cutting at a maximum of 1000 surface feet per minute (305 surface meters per minute). Up to 1000 parts can be cut before sharpening, with an estimated 100 sharpenings per blade. CONIFLEX Plus cutters are available in diameters of 4.25, 9.0 and 15 inches and the PENTAC<sup>®</sup> blades can be ground with existing Gleason stick blade sharpeners.



## CONIFLEX Grinding With Non-Dressable CBN Coated Grinding Wheels

Gleason's new CONIFLEX grinding technology allows for the first time, a very precise hard finishing process for CONIFLEX gears. These CBN coated grinding wheels are manufactured with various dish angles, grinding wheel point widths and wheel edge radii to precisely meet the requirements from the CONIFLEX SUMMARY. In addition to its unmatched accuracy, CBN grinding wheels provide high tool life and can be refurbished several times over.



*Matching CBN CONIFLEX Grinding Tools for CONIFLEX Cutters.*

## CONIFLEX Formate System

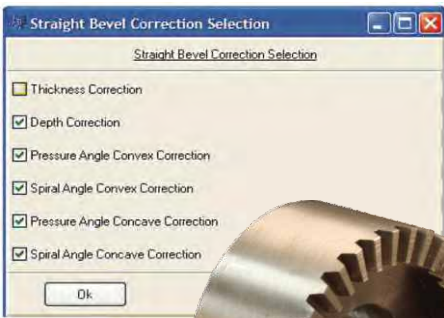
Cut faster with better gear design. The new CONIFLEX offers an advanced Formate cutting process which improves cutting speed while providing enhanced rolling capabilities with higher effective contact ratios. In case of a Formate design, the gear is plunged without generating roll while the pinion undergoes a modified generating process.

## Fast Setup, Easy Corrections

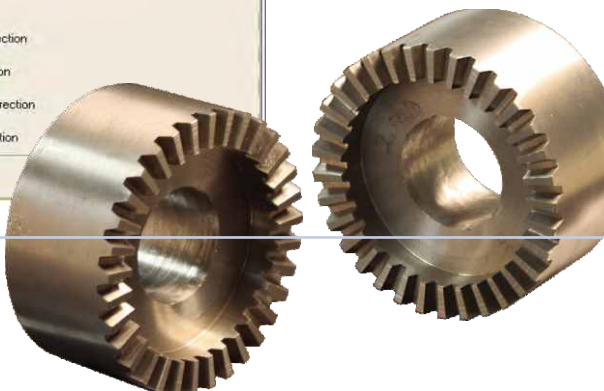
Part changeover on straight bevel mechanical machines can take up to 6 hours. This is due to complicated and time-consuming setup procedures. With the new CONIFLEX Cutting System, setup takes less than an hour!

This remarkable improvement is made possible by the electronic summary transfer, storage and PHOENIX's free form capability. In addition, Gleason G-AGE CONIFLEX correction software allows quick and easy thickness, depth, pressure angle and spiral angle corrections.

The result is minimized setup times and increased productivity, a combinations that adds up to increased profitability.

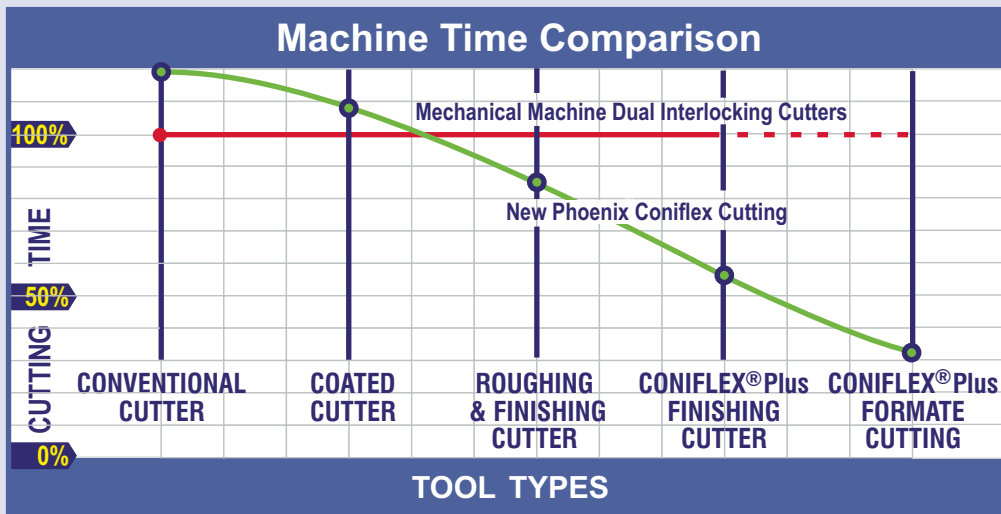


*Straight Bevel Couplings*



## The PHOENIX CONIFLEX System Can Reduce Setup Times by up to 80%!

Generally, manufacturers of straight bevel gears are processing low quantities in a variety of designs. Therefore, setup times are especially crucial to the production process. Combined with the free form flexibility of the PHOENIX machine, the new Gleason CONIFLEX System will reduce setup times by up to 80%! And thanks to PHOENIX's sophisticated networking capabilities, corrections are easier than ever. The result...more jobs produced in less time.



*This chart illustrates the remarkable combined efficiency of the new PHOENIX machines and advanced CONIFLEX Plus Formate Cutting process.*

## Flexibility, Economy and Adaptability

With the latest generation of PHOENIX cutting and grinding machines, not only will you be able to manufacture straight bevel gears, you will have the added capability of cutting and grinding other types of spiral bevel and hypoid gears, including Zerol® bevel gears, enabling you to expand your present customer base. Adapting to the new CONIFLEX System couldn't be easier. The same cutting tools and workholding are used as those on the older machines. Any existing job can be easily converted to the new CONIFLEX System. Gleason can provide any necessary adaptors for cutters and workholding for a seamless transition to the new CONIFLEX System.



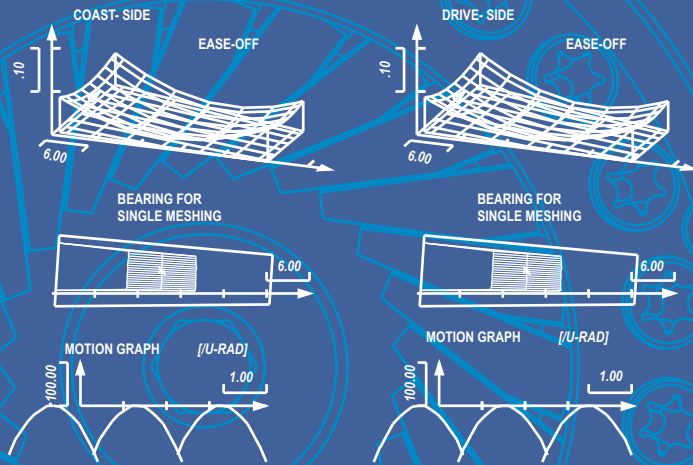
# ■ Technical Data

## CONIFLEX and CONIFLEX® Plus Cutting Heads

Cutting Head Size	Maximum Cutting Depth	Blade Type			
		CONIFLEX	Recommended Cutting Speed	CONIFLEX Plus	Recommended Cutting Speed
4.25 inch	0.25 inch (6.4 mm)	High-speed Steel	0 - 200 ft/min (0 - 61 m/min)	Pentac Carbide	0 - 1000 ft/min (0 - 305 m/min)
9 inch	0.75 inch (19.0 mm)	High-speed Steel	0 - 200 ft/min (0 - 61 m/min)	Pentac Carbide	0 - 1000 ft/min (0 - 305 m/min)
15 inch	1.05 inch (27 mm)	High-speed Steel	0 - 200 ft/min (0 - 61 m/min)	Pentac Carbide	0 - 1000 ft/min (0 - 305 m/min)

## Matching CONIFLEX® CBN Coated Grinding Wheels

Grinding Head Size	Maximum Grinding Depth	Recommended Grinding Speed	Abrasive Type	Abrasive Re-coating	Machine Application
4.25 inch	0.25 inch (6.4 mm)	0 - 79 ft/sec (24 m/sec)	CBN Coated	Yes	PHOENIX 275G/600G
9 inch	0.75 inch (19.0 mm)	0 - 79 ft/sec (24 m/sec)	CBN Coated	Yes	PHOENIX 275G/600G
15 inch	1.05 inch (27 mm)	0 - 79 ft/sec (24 m/sec)	CBN Coated	Yes	PHOENIX 600G



### CONIFLEX Ease-Off Diagram

CONIFLEX Ease-Off, tooth contact and motion graph calculation results.

### Combined CONIFLEX and PHOENIX Capabilities

- 4 CONIFLEX Cutting
- 4 Straight Bevel - No Lengthwise Curvature With No-Dish Cutter
- 4 REVACYCLE® Conversion Into Coniflex Design
- 4 Non-Generated CONIFLEX Design
- 4 Face Couplings (Including Hirth Design)

# CONIFLEX

More Accurate | More Efficient | More Economical

**Gleason**



At every stage of the gear production process, Gleason offers advanced new technologies to significantly reduce production time and cost. Gleason offers a full range of vertical and horizontal hobbing machines, gear shapers (with electronic and mechanical helical guides), shaving and honing machines, and advanced profile and threaded wheel grinding machines for the manufacture of spur and helical gears.

A complete range of bevel gear cutting, grinding, lapping and testing machines is available from Gleason.

The cutting tools, grinding wheels, workholding, support services and software are offered for all gear manufacturing processes and machines. Gleason's ability to manufacture and completely inspect all types of gears is unmatched.



At Gleason we recognize that service is as important to our Customers as the technology that makes Gleason machines the most productive in the world.

Our customers enjoy a leading personal partnership that ensures your Total Gear Solutions are complete.

Gleason Global Services (GGS) has been created to maximize your uptime. You can rely on our 250 factory trained service professionals located in over 50 countries throughout the Americas, Europe, and Asia to work around the clock to support your needs. We realize that you're only making money when your machines are making parts.

Who better than GGS to keep you in motion with a complete range of flexible services and support. Stay up and running, all the time, anywhere in the world.

With a manufacturing presence worldwide, as well as Global Service support in over 50 countries, Gleason is truly a global company.

Our broad-based infrastructure and strong worldwide presence place us in a unique position to respond to customer requirements anywhere, anytime. In addition Gleason also offers application engineering services, development programs, hands-on seminars, gage certification and repair programs.

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