

# New! Universal Bevel Gear Tester

( available with CNC single-flank gear inspection software )

## UHT - 8000



### UHT-800:

The UHT-800 is a truly universal angular bevel gear tester, with the capability of testing a wide variety of straight and curved tooth bevel gears of any shaft angle, including hypoid, spur, helical, internal gears, as well as worm and worm-wheel combinations up to 800mm (31.5") maximum diameter. The machine's prodigiously proportioned pinion spindle features a bore diameter of 220mm (8.66"), and with an overall machine base weight of 11,000 Kg., the UHT-800 was designed from the ground up for stability.

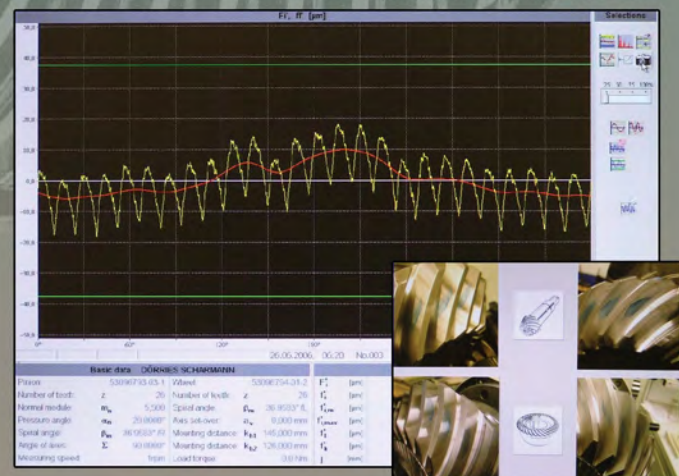
### PRINCIPAL CAPACITIES:

Nominal Work Diameter of Gear	31.5"	(800mm)
Shaft Angle between the two spindles	45° to 180°	
Distance from face of pinion spindle to machine center	8.3" - 22.45"	(210-570mm)
Distance from face of gear spindle to machine center	0 - 19.7"	(0-500mm)
Maximum Hypoid Offset	4.53"	(+/- 115mm)
Spindle Speeds	1000/500 RPM	
Diameter of pinion spindle bore at large end	8.66"	(220mm)

### FEATURES / SOFTWARE:

The machine is equipped with a SIEMENS 820-D CNC and 2 digital AC-servomotors and drives, D.R.O display of 4-Axis, with load simulation via programmable electro-magnetic-braking system for the pinion spindle. With the single flank software option, the UHT 800 can perform detailed Transmission Error Analysis. The user-friendly menu permits evaluations of  $F_i'$  (Tangential Composite Error),  $f_l'$  (Long Wave Component),  $f_k'$  (Short Wave Component), Deviation Spectrum, as well as Backlash, Pitch Deviation, and roundness parameters for the concave or convex tooth flanks.

Single Flank Inspection Results are displayed with Statistical and Graphic Data



With digital photo option, captured images of realized contact patterns can be imported into the data file for the specific part-members



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Maximum gear diameter .....	31.5”	(800mm)
Shaft angle between the 2 spindles .....	45 to 180	degrees
Maximum distance from face of pinion spindle to machine centre .....	22.45”	(570 mm)
Minimum distance from face of pinion spindle to machine centre .....	8.3”	(210mm)
Distance from face of gear spindle to machine centre ...	0-19.68”	(0 -500mm)
Driving head stock horizontal movement		
Forward .....	2.362”	(60mm)
Backward .....	7.0866”	(180mm)
Maximum hypoid offset .....	4.53”	(+/- 115mm)
Diameter of pinion spindle bore at the large end .....	8.66”	(220mm)
Taper of pinion and gear spindle .....	39 / 80	
Spindle speed pinion head stock .....	0 ~ 200	rpm
Power of the main spindle motors (S1 / S6) .....	3,7 / 4,5	kW
Floor space L x W x H .....	(3.965 x 2.720 x 2.000mm)	
Net weight (approx.) .....	24,200 Lbs.	(11.000 kGs)

**OPTIONAL FEATURES / EQUIPMENT:**

- 4-Axis CNC control  
(For Pinion MD, Gear MD, Sliding Base, Pinion Offset)
  
- Basic Single Flank Software
  - Single Flank inspection with FFT analysis with interface software for digital tooth contact display of inspection result with a digital camera.
  
- Fully Automated Single Flank Operation  
(The following options are included in the fully automated Single Flank Operation)
  - Automatic Stock dividing using non-contact sensing system to detect the tooth gap.
  - Automatic or foot actuated clamping of the pinion or gear.
  - Automatic positioning to pre-determined back lash.
  - Best backlash positioning based on single flank running characteristics
  - Automatic programming of single flank test cycles
  - Automatic movement to pre-determined position for bearing pattern inspection for digital image capture.
  - Digital image capture with automatic storage of the image with the single flank data inspection report.

**( automated functions )**

The following describes the automated functions

- The operator bring gear and pinion manually to the machine (or robot / handling system)
- Automatic or manual clamping of the pinion and gear
- Automatic find correct position of the tooth gap by non-contact position sensors.
- Inspection of angular position of gear and automatic position of respective axes
- Automatic approach to pre-determined backlash.
- Automatic cycle start of Single Flank Inspection for respective positions
- Automatic machine movements to test pattern position for bearing pattern inspection for digital imaging capture.
- Digital imaging capture of the contact pattern and automatic saving of the digital image to the test file.