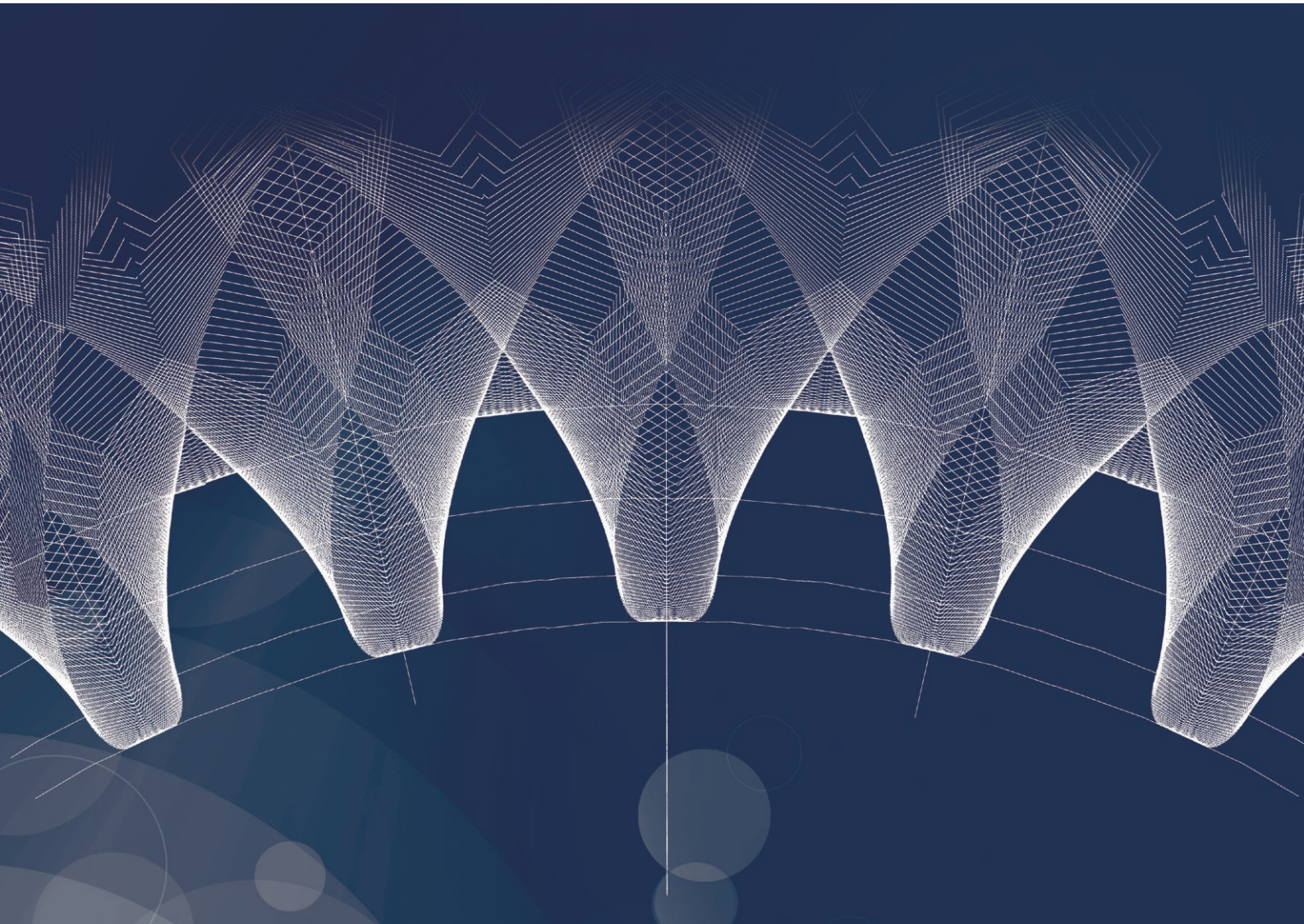
CLP-35DDS/CLP-85DDS

Full automatic gear measuring instrument for profile, helix and pitch



OSAKA SEIMITSU KIKAI CO., LTD.

CLP-35DDS/CLP-85DDS

Direct drive type gear measuring instrument

Realization of higher stability and precision also more diversity than conventional measurement

The measuring mechanism of CLP-35DDS and CLP-85DDS were completely reviewed to provide higher precision and stability on measurement. Also measuring feature of non-involute profile which had been high level of difficulty for conventional system has been added on CLP series dedicated to involute gear measurement.

Major features

Improvement and stabilization of measuring accuracy

By using Granite bed and center support for main body and collocating control device out of machine body, the machine is unaffected by ambient temperature change or the heat generation of control device, and achieves even more stable measurement than the conventional models.

Stabilization of measuring motion

The adoption of direct drive mechanism for all axes instead of ball screw and speed reducer contributed to not only increase of measuring speed and quietness but also reduction of noise and vibration. Furthermore, this revision leads to stability of measuring motion exceeding conventional machines.

Adaptive enhancement of specialized form measurement

Linear encoder on the detector enabled detection of minute error. Also by the use of three-dimensional detector, measurement of specialized form apart from involute form, at which one-dimensional detector isn't suitable has been made possible.

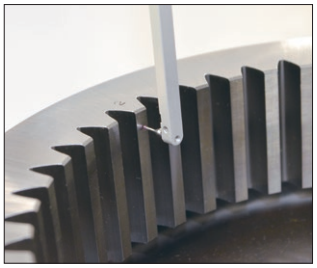
Simplified maintenance support structure

By the adoption of balance weight for the axial slide and the center support and maintenance-free linear guide for all axes, these models can keep wear resistance without regular greasing.

As well as the conventional machines, the interfaces and peripheral equipment are designed with module concept and the system can be resumed with minimum replacement work in case of trouble.

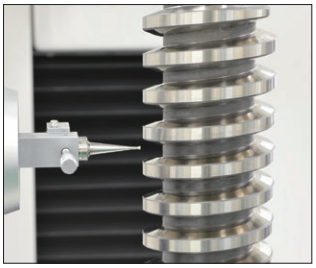
Varieties of measurement

- Internal gear

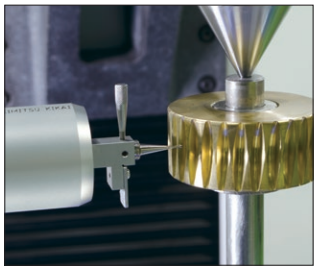


- Strain wave gear

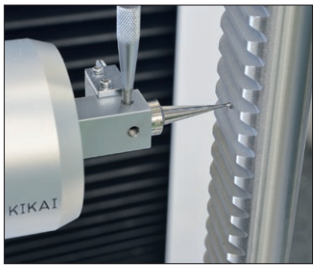
- Worm



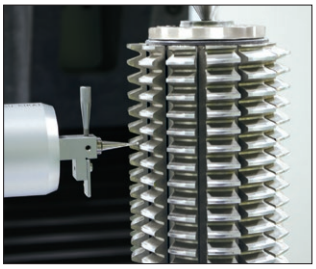
- Worm wheel



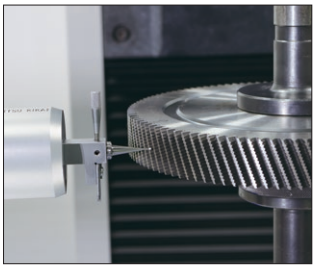
- Rack



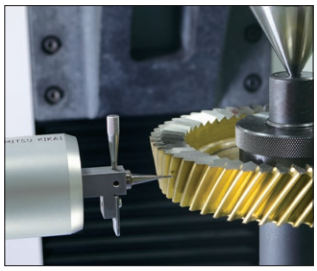
- Hob



- Shaving cutter

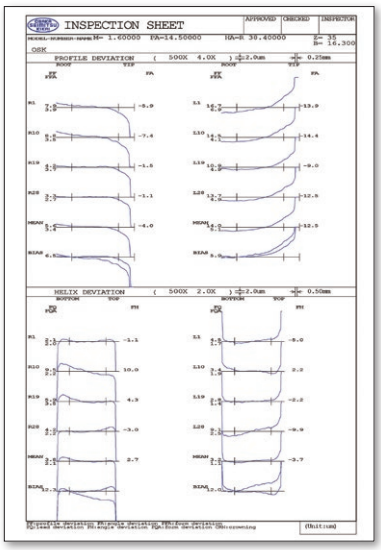


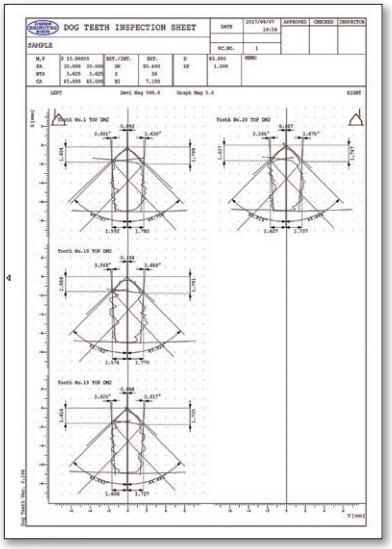
- Pinion cutter



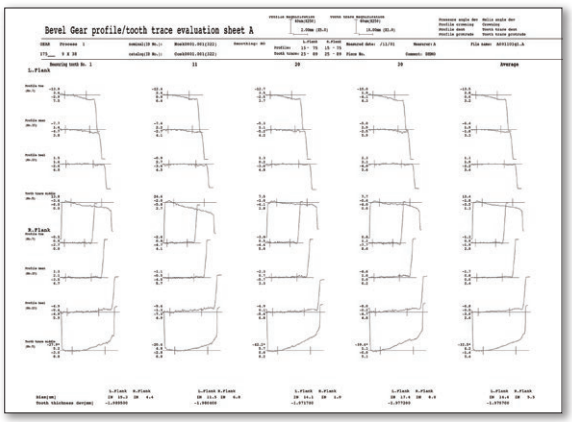
Output of measured data

Measurement of profile deviations and helix deviations





Measurement of dog tooth



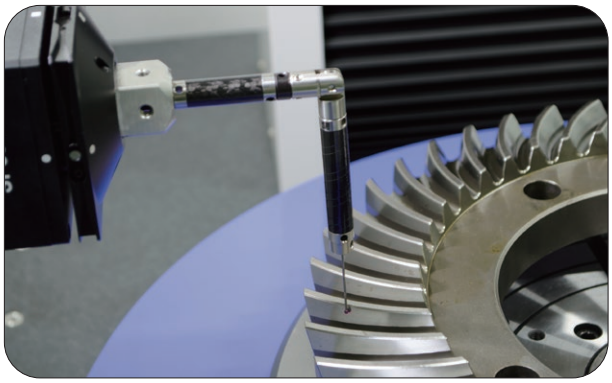
Measurement of hypoid gear

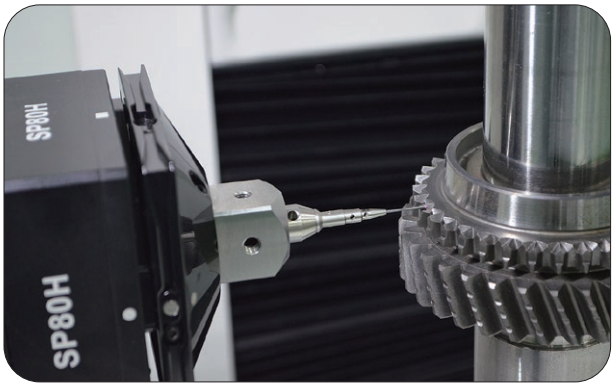
CLP-35DDS/CLP-85DDS

3D Probe measurement

Hypoid gear measurement

Measurement of bevel gears and hypoid gears became possible with CLP-35 & 85DDS (Conventionally Hypoid gear measuring instrument only can perform.)





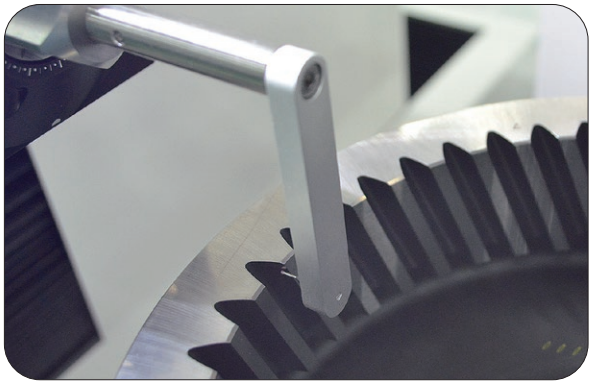
Dog tooth measurement

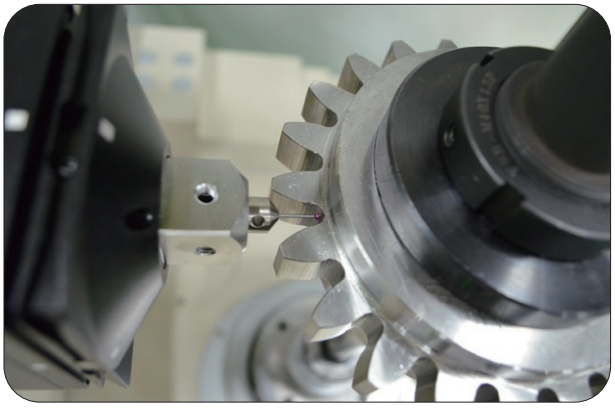
Measurement of dog tooth in speed gear and sleeve, which are used for synchronization of manual transmission can be performed.

Not only profile, helix and pitch measurement, but also chamfer angle and taper angle are possible.

Eccentricity compensation of internal gear

Runout is measured on the reference surface and tooth-tip of internal gears to implement the eccentricity compensation before starting the actual measurement. This software can save man-hour for setup.





Root profile measurement

Measurement of root and fillet profile is possible based on nominal data. The undulation of root surface and the root diameter can be analyzed with this result.

Non-involute profile

In addition to hypoid gear, measurement of non-involute profile form like cycloid gear can be offered.

Specification

	CLP-35DDS	CLP-85DDS
Measuring item	Tooth profile, lead, pitch (single, adjacent and cumulative) and runout for spur and helical gear (Incl. internal gear)	
Standard software	• Detailed measurement of tooth surface and its output • Successive measurement of counter shaft gears • Three-dimensional display of tooth surface • Output of comparison data before and after heat treatment (Overwriting) • ISO, JIS, DIN and AGMA classification etc.	
Module	m0.5～12	m1～25
Number of teeth	10～500	
Gear outer diameter	Max φ350mm	Max φ850mm
Base diameter	0～φ300	0～φ800mm
Tooth width	Max400mm	Max600mm
Tangent length for profile measurement	±120mm	±200mm
Helix angle（with optional equipment）	0° ～±65° (±65° ～±90°)	
Gear shaft length（with optional spec）	50～500mm (50～800mm)	60～800mm
Gear weight	Max150kg	Max500kg
Resolution	0.0001mm	
Power supply	AC 100V ±10%	AC 200V ±10%
Capacitance	2KVA	4KVA
Machine weight	2.0ton	2.5ton
Dimensions of machine（W×D×H）mm	1251×1059×1899 (1251×1059×2199)	1875×1399×2160

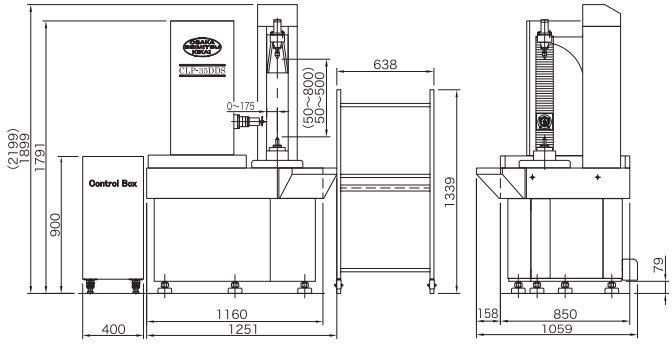
CLP-35DDS/CLP-85DDS

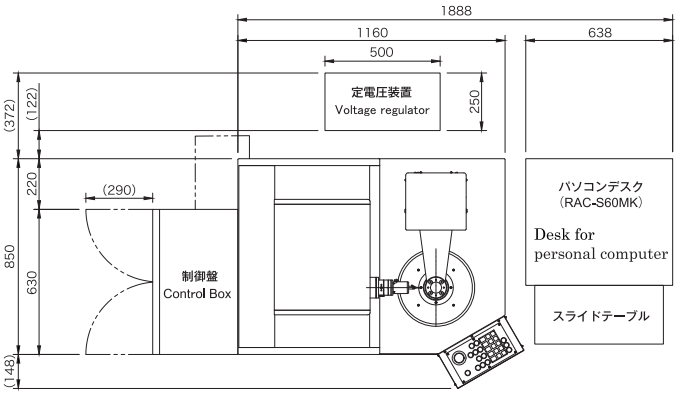
Accessories

Standard equipment	
Personal computer (with PC rack)	1set
Laser printer (A-4 sheet type)	1set
Detector (1D)	1set
Upper center	1set
Lower center	1set
Center support	1set
Work driver	1set
Stylus	5pcs
Tools	1set
Instruction manual	1set
Inspection sheet	1set
Standard software	1set
Optional equipment	
Voltage regulator	1set
3D probe (with reference gauge)	1set
Stylus (Various kinds)	1set
Stylus holder for internal gear (Various kinds)	1set
Stylus and holder for 3D probe(Various kinds)	1set
Test bar	1set
Dial indicator and holder for testing	1set
Dial indicator and holder for adjusting magnification	1set
Lower center	1set
Work driver	1set
Work table	1set
Spare detector	1set
Auto zero set gauge	1set
Master gear for automatic measurement	1set
Laser printer (A-3 sheet type)	1set
Optional software	
[1] Measurement of worm (β>65°)	1set
[2] Measurement of worm wheel	1set
[3] Measurement of rack	1set
[4] Measurement of hob	1set
[5] Measurement of shaving cutter	1set
[6] Measurement of pinion cutter	1set
[7] Eccentricity compensation of spur and helical gear measurement	1set
[8] Unknown gear analysis of spur and helical gear	1set
[9] Calculation of OBD/BBD and span measurement	1set
[10] Measurement of line of contact	1set
[11] Control chart of measuring gear	1set
[12] Simulation of tooth contact and transmission error (by Amtec Inc.)	1set
[13] Measurement of dog tooth	1set
[14] Measurement of root radius (negotiable)	1set
[15] Form measurement of sprocket (negotiable)	1set
[16] Form measurement of cycloid gear (negotiable)	1set
[17] Form measurement of pump rotor (negotiable)	1set
[18] Form measurement of other rotating system parts (negotiable)	1set
[19] Others	1set

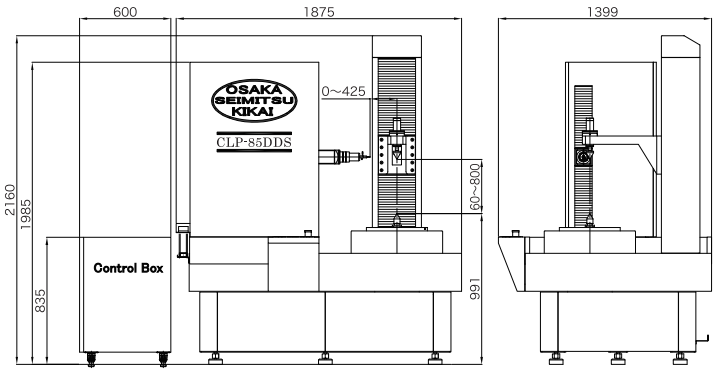
Outline and layout

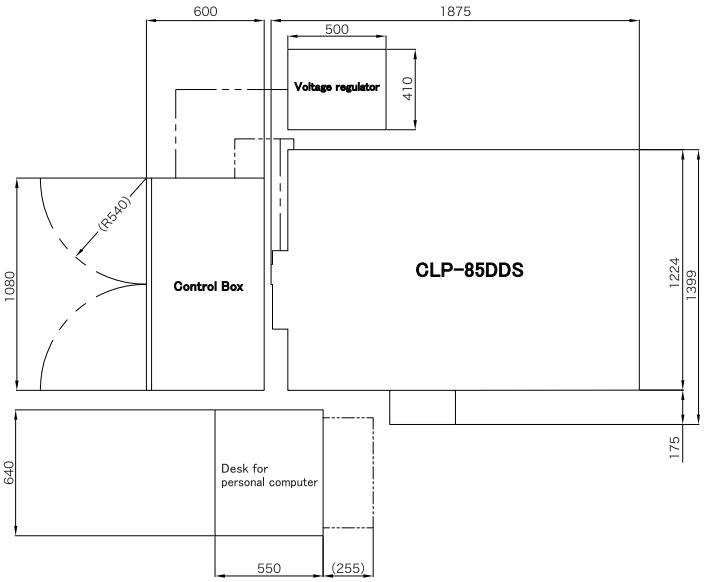
CLP-35DDS





CLP-85DDS





Please ask us for solutions to any of your gear measuring needs.

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OSAKA SEIMITSU KIKAI CO., LTD.

ISO 9001 BUREAU VERITAS Certification

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