

-- Most suitable for evaluation / analysis of motor magnet and encoder magnet--

Magnetic Characteristic Analysis System Apparatus for Motor Magnets



- The principal feature of this apparatus development is research and development / performance evaluation of motor magnet.
- Cover all necessary evaluation item and analysis features completely by exclusive development software.
- Distinguished repetition reproducibility by very high machine accuracy
- Circumferential direction measurement is super high resolution of maximum 40000 point / lap.
- Measure main magnet part and sensor magnet part individually, and phase difference evaluation is possible.
- Realize very high A/D conversion accuracy by our original noise suppression
- Adopt method to fix motor shaft from top and bottom to prevent deflection of pivot point of motor



Magnet Force Co., Ltd.

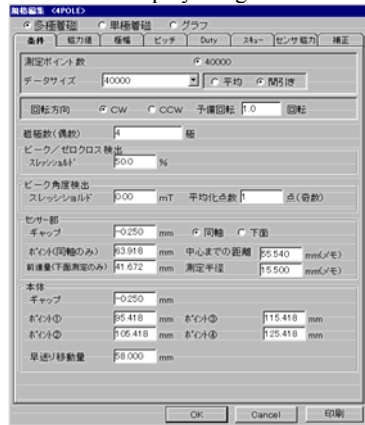
Product Outline

- Number of the possible measurement poles
Maximum 500 pole (N × 250 pole, S × 250 poles. Can change it by option)
HGM-4000 type and A-1A type probe (manufacture : ADS Co, Ltd) or similar products
- Gauss Meter
Adjusted to within 0.1mm
- Deflection of pivot point
Autoconfiguration (Probe go ahead automatically → With touch sensor mechanism, probe detects the position which touched sample softly → Stop the position as reamer origin position automatically (gap : 0 mm) → Probe reverses automatically with the arbitrary measuring gap value which set by software)
- Gap configuration of sensor
- Number of the data samplings
Maximum 40,000 point / lap (Incrementation is possible with option)
- Measurement time
Maximum rotating speed is 1 rotate / second
(However, standby rotating time and chuck / an-chuck time of sample do not include)
- Measurement magnetic force range
±200mT (N pole : + / S pole : -) Resolution : 0.1mT
±2T (N pole : + / S pole : -) Resolution : 1mT
±1% + 0.1mT
- A/D converter accuracy
- Data reproducibility
200mT range : within ±0.2mT (peak value)
2T range : within ±2mT (peak value)
- Measurement direction
Measurement of radial magnetizing direction and axial magnetizing direction is possible if changes direction of a hall probe holder

Basic display image



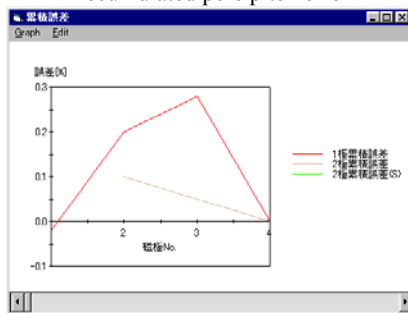
Measurement condition registration display image



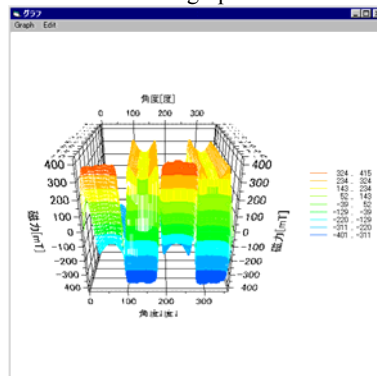
Data list

№	N極 磁力(mT)	S極 磁力(mT)	N極 磁轆(mm)	S極 磁轆(mm)	ピッチ(mm)	ピッチ誤差(%)
1	26.83	26.83	3.748	3.760	7.508	0.104
3	26.86	26.83	3.741	3.736	7.477	-0.211
5	26.86	26.83	3.776	3.744	7.520	0.267
7	26.83	26.78	3.731	3.782	7.513	0.178
9	26.83	26.81	3.708	3.762	7.470	-0.400
11	26.86	26.83	3.768	3.721	7.489	-0.148
13	26.83	26.86	3.753	3.751	7.504	0.059
15	26.83	26.81	3.768	3.727	7.494	-0.074
17	26.81	26.86	3.752	3.751	7.503	0.044
19	26.78	26.83	3.777	3.723	7.500	0.000
21	26.81	26.81	3.748	3.767	7.514	0.193
23	26.83	26.81	3.748	3.734	7.482	-0.237
25	26.78	26.83	3.739	3.771	7.510	0.133
27	26.86	26.73	3.750	3.749	7.489	-0.015
29	26.86	26.81	3.734	3.780	7.514	0.193
31	26.83	26.78	3.734	3.737	7.471	-0.385
33	26.78	26.86	3.760	3.759	7.519	0.252
35	26.83	26.81	3.740	3.749	7.489	-0.148

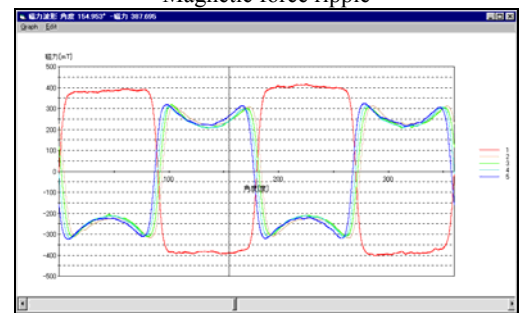
Accumulated pole pitch error



3D graph



Magnetic force ripple



We do design and manufacture of custom-built evaluation system apparatus that suitable for your requirement specification and application. Please feel free to inquire.