HDD 모터 확보기술분야

■ HDD Motor 개요

- **PC, 자동차, 가전 等 대표적인 정보저장기기인 HDD(Hard Disk Drive)에 장착되어, Disk를 초정밀도로 고속 회전시켜 주는 역할**

※ 축계(Shaft) : 유체동압베어링(Fluid Dynamic Bearing) 90% 사용,
現在 Hybrid Bearing 개발진행(Fluid Dynamic + Magnetic)

■ 전공別 세부기술분야

전공	핵심기술	세부기술분야
기계 항공	베어링 설계	• Fluid(Liquid or Gas) Dynamic Bearing Design • Fluid/Aero Dynamic Theory & Analysis • Fluid Seal design & simulation • Vapor Behavior Analysis & Simulation • Magnetic Bearing Design & Fabrication • Electro-Magnetic Design or Simulation • Integrated Multiphysics FEM simulation
	정밀기계 설계	• DSP & PLC Motor Feedback Controlled System • Kinematic System, Link Motion Design
	회전체	• Rotor Dynamics Theory or Simulation • Theoretical Analysis & Structure Analysis
	소음/진동	• Structure & Noise Analysis of Motors • Coupling Analysis Considering Noise/Structure & Electromagnetic Force • Modal Analysis & Vibration Estimation • FEM Simulation
	정밀가공	• CNC Precision Machining(Lathing, Grinding) • Mold & Die Manufacturing, Milling Machining • Ultra-precision Die-Casting, Press, Forging • Design for Manufacturing
	Tribology	• Friction & Wear Theory on Stainless steel materials • Lubrication Theory
	유체해석	• Fluid Dynamic Simulation
	구조해석	• Solid Mechanics, Fatigue Analysis
전기 전자	BLCD 모터	• Estimation of Motor Characteristics • Analysis of BLDC Motor using FEM • Design & Estimation of BLDC Motor Driver
	전자장 해석	• Magnetic Circuit design • Back EMF, Cogging Torque Analysis & Estimation • Magnetic Force Analysis using 2D/3D FEM
금속 재료	소결	• Sinter Manufacturing(Compact) • Powder Press Manufacturing(MIM)
	코팅	• DLC & Carbon Coating • MoS, PTFE Coating
	도금	• Electroless Ni Plating
기타	프로그램	• Labview Programming