

K-FTS

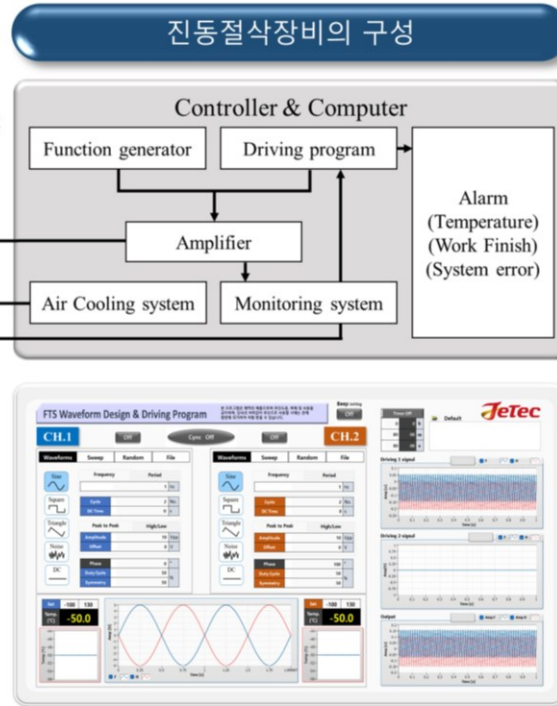
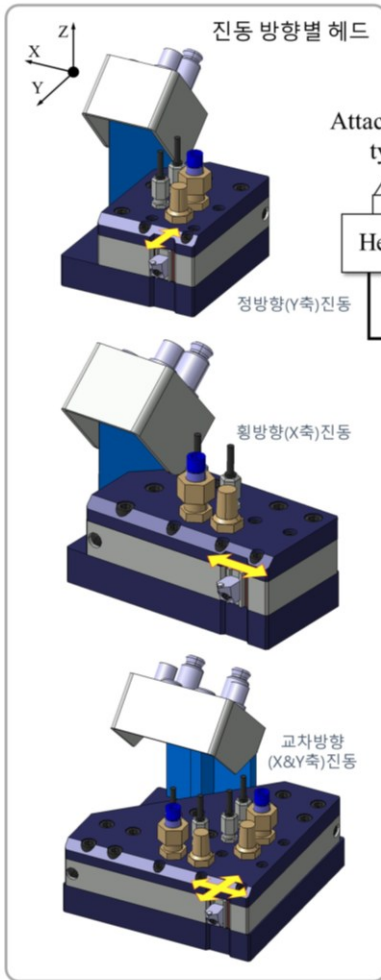
Korean Fast Tool Servo



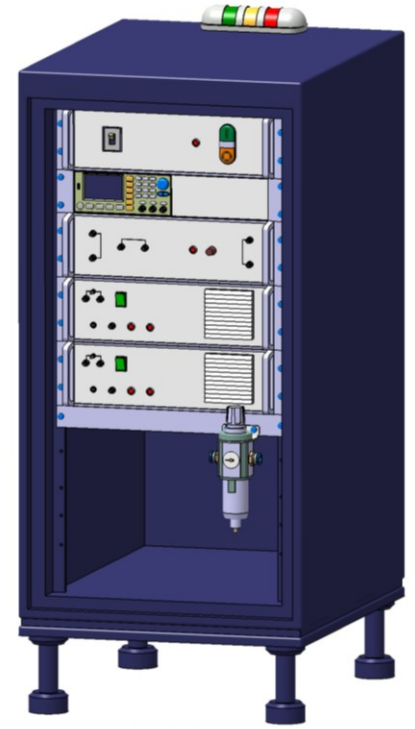
JeTec
COMPANY



기존 공작기계에 장착하여 고속·고정밀 진동절삭 가공으로 난삭재 및 경면 가공과 기능성 표면 제작을 위한 미세 패터닝 공정에 활용하는 응용 기술

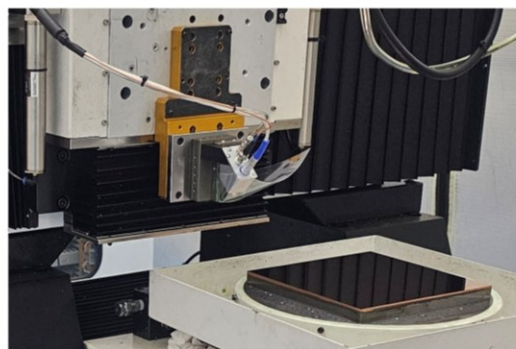
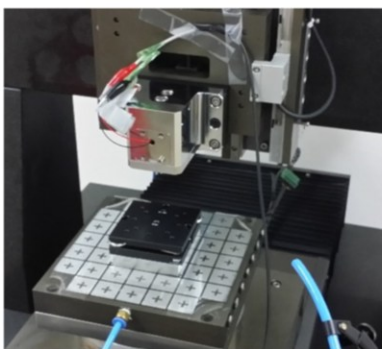
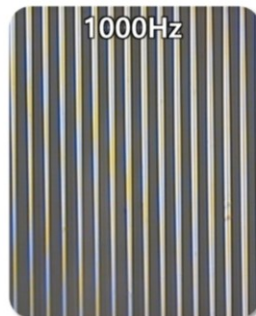
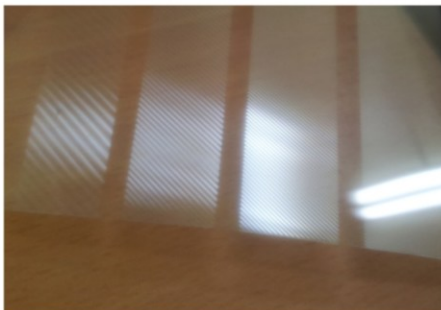
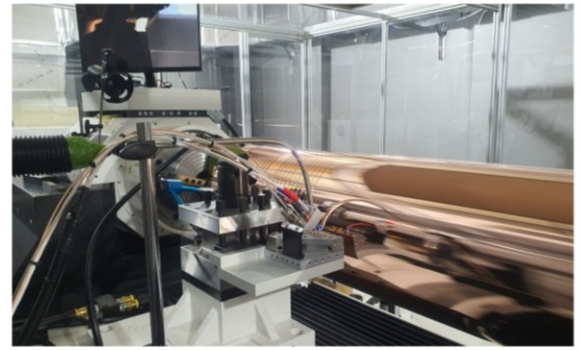
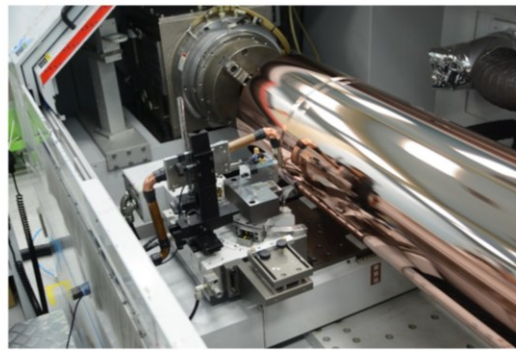


파형 생성 및 운전 프로그램

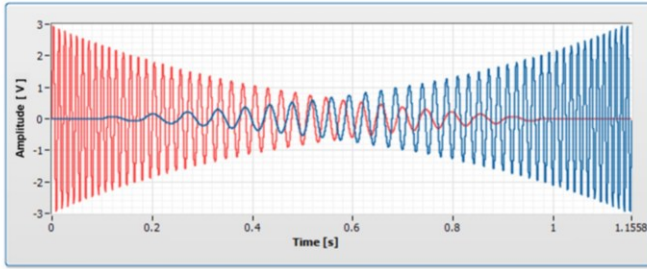
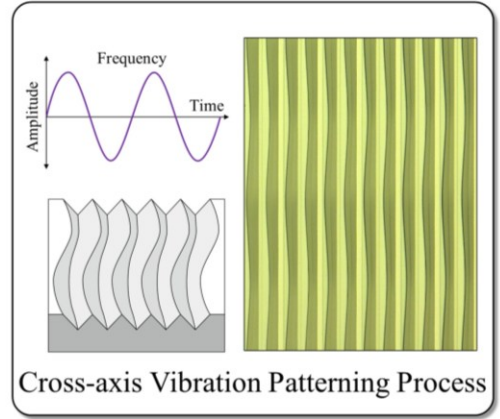
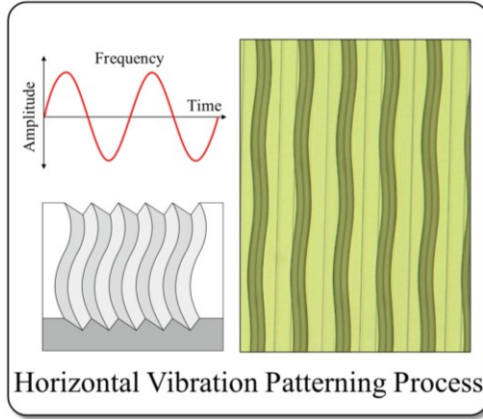
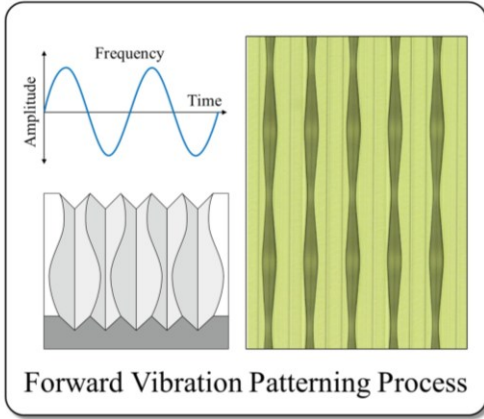


컨트롤러

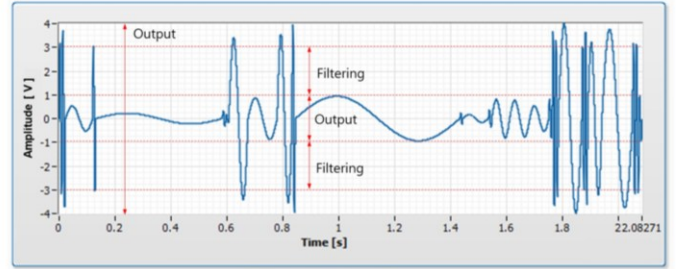
교체형 헤드 시스템 > 사양별 다양한 헤드로 구성, 필요한 공정에 맞춰 개별 구매·교체 사용
 모듈 선택 시스템 > 원하는 공정에 필요한 기술 모듈의 선택적 구매로 저비용·효율화
 에어 냉각 시스템 > 오일 제로, 친환경 청정 절삭 가공 공정 수행
 모니터링 시스템 > 출력 및 온도 모니터링으로 위험 감지



사인 파형과 진동 방향에 따른 패터닝 공정

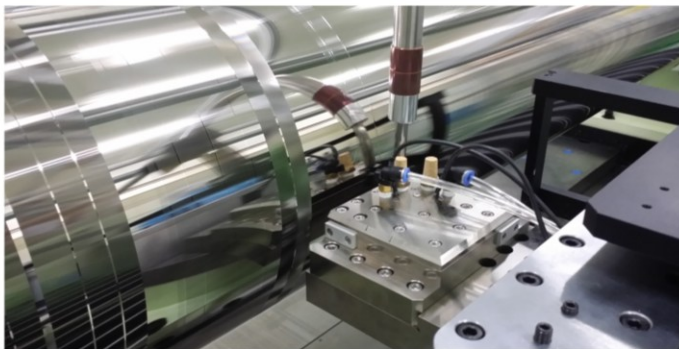
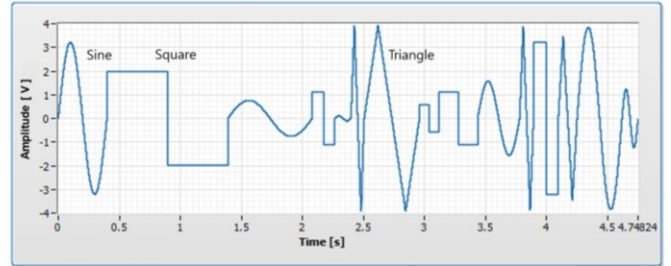


스윙프 파형 설계 모드

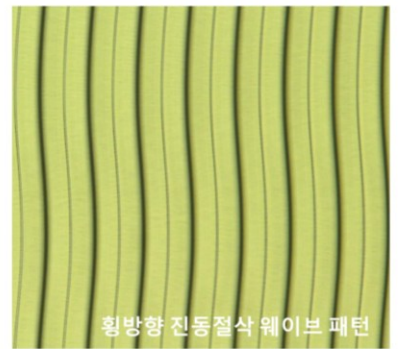


랜덤 파형 설계 모드

일반&랜덤 파형 생성 프로그램▷ 다채로운 3차원 복합 웨이브 패턴 R&D
 다양한 스윙프 파형 설계▷ 전압과 주파수의 다양한 증감 범위 설정
 다양한 랜덤 파형 설계▷ 다양한 파형의 랜덤 생성 및 반복 설정
 제한적 랜덤 파형 설계▷ 제한된 전압과 주파수 범위 설정

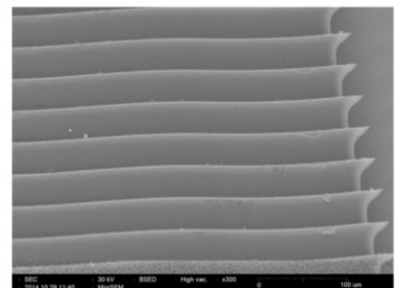
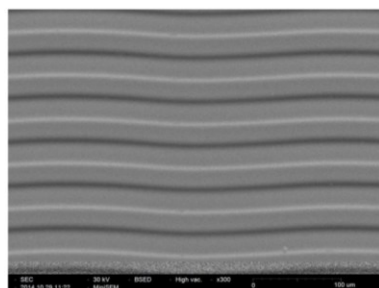
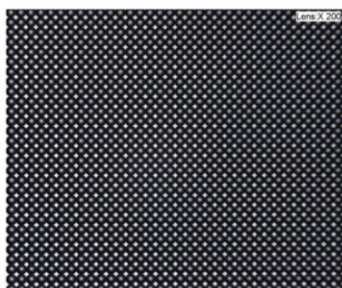
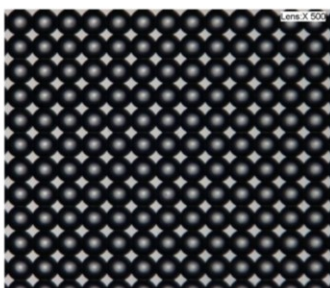
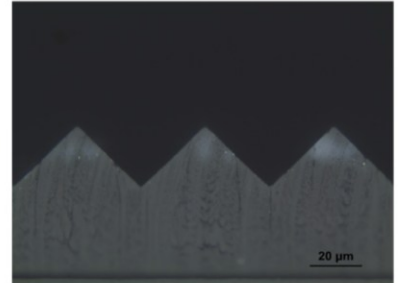
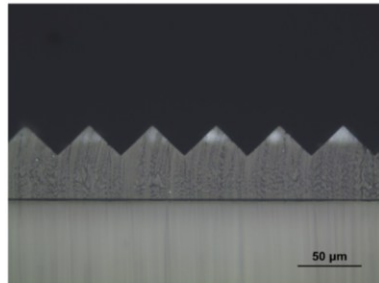
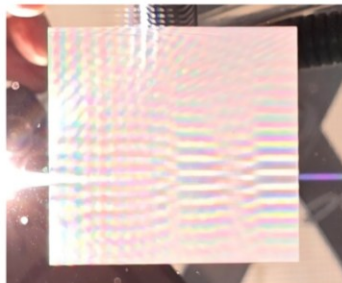
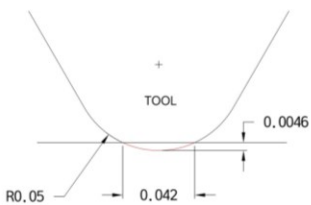


정방향 진동절삭 웨이브 패턴



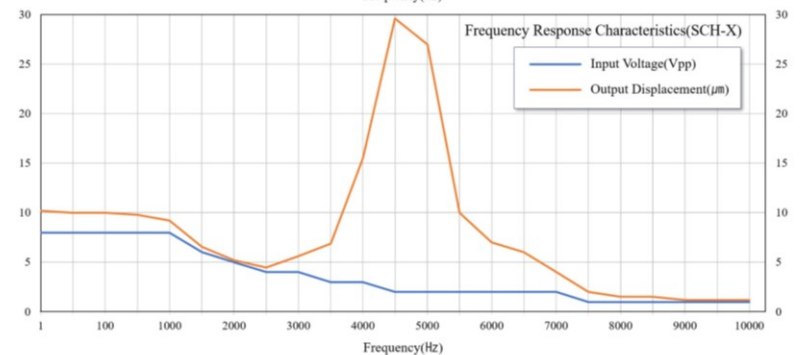
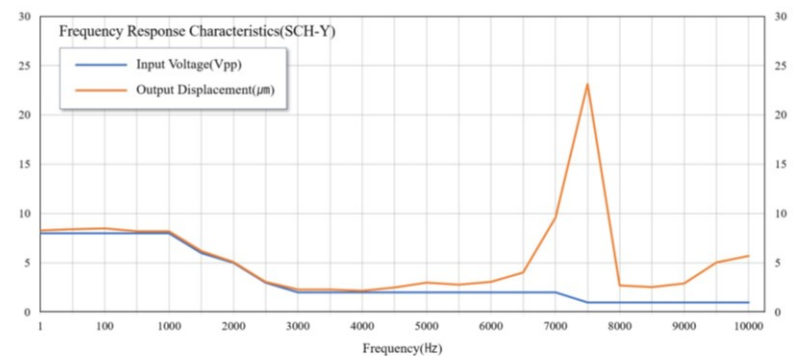
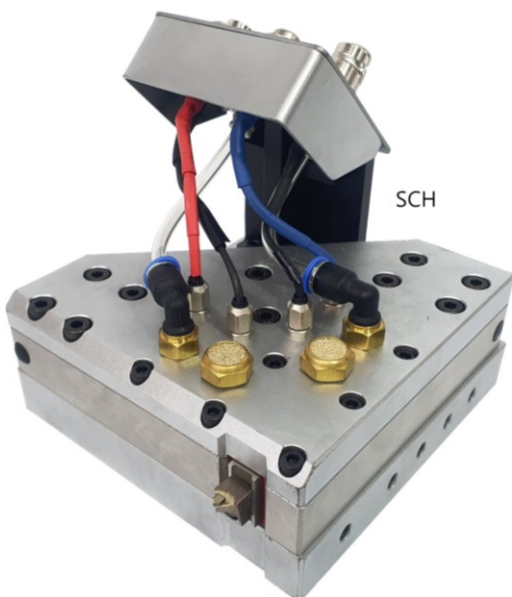
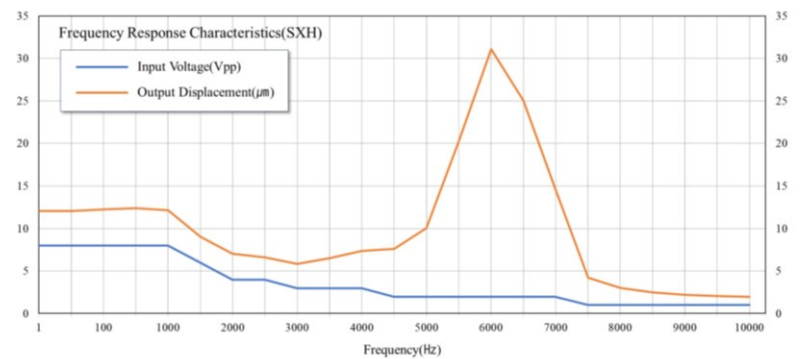
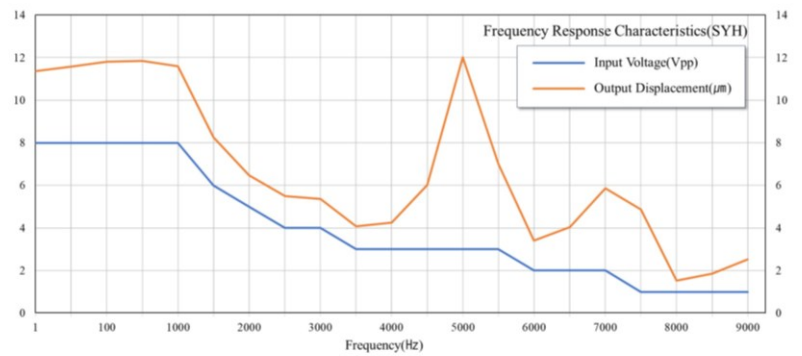
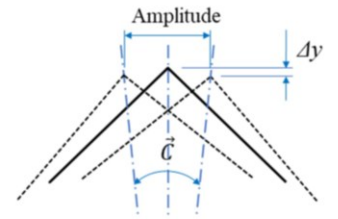
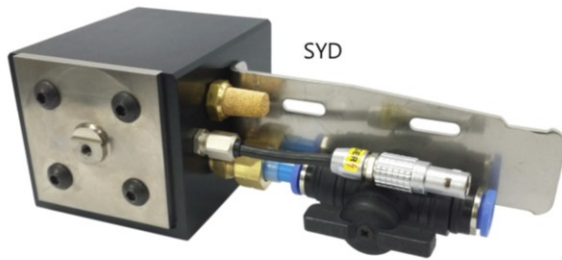
횡방향 진동절삭 웨이브 패턴

FTS를 이용한 물금형 웨이브 패터닝(디스플레이용 기능성 광학 필름 생산)



마이크로 렌즈 어레이 UV필름 샘플 측정(OPTICAL)

횡방향 웨이브 패턴 UV필름 샘플 측정(SEM)



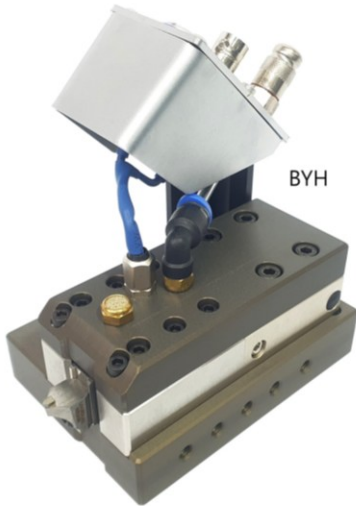
※ 제품별 주파수응답특성 그래프와 가공 실험 분석 자료는 전압에 따른 주파수별 특성을 이해하기 위한 참고용으로 절대적 수치가 아닙니다.

※ 제품의 성능평가는 21 °C (±3 °C) 환경에서 수행되었으며 디자인 변경 및 환경에 따라 성능이 달라질 수 있습니다.

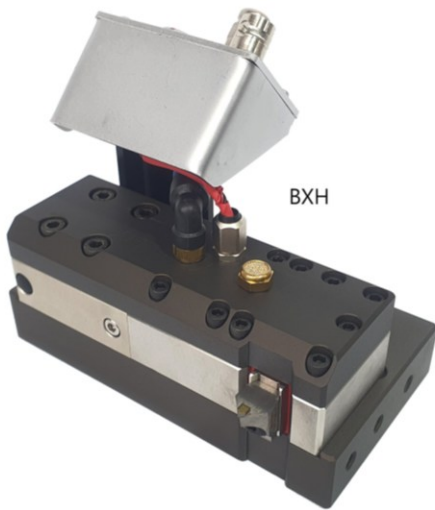


Bseries

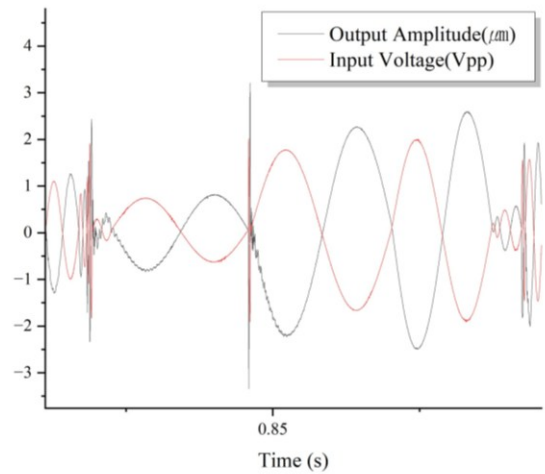
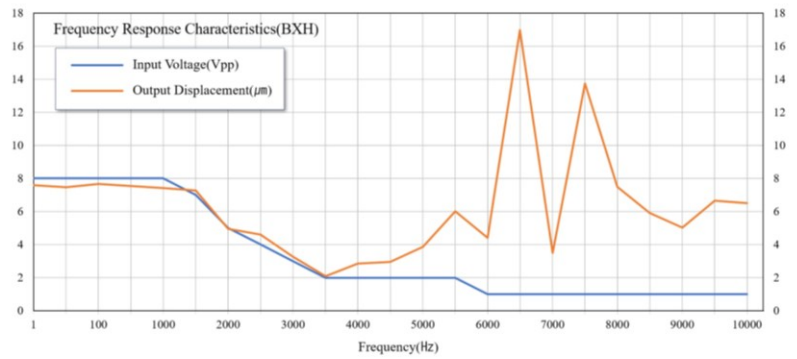
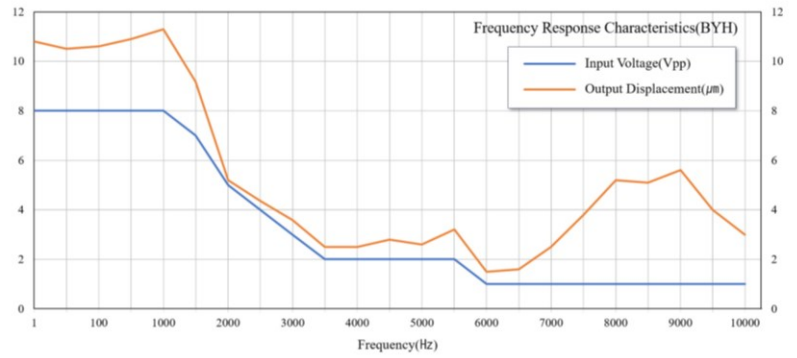
작은 진폭의 고유진동 모델



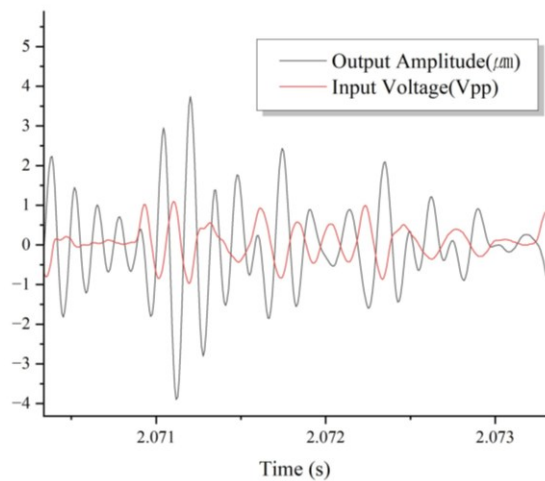
BYH



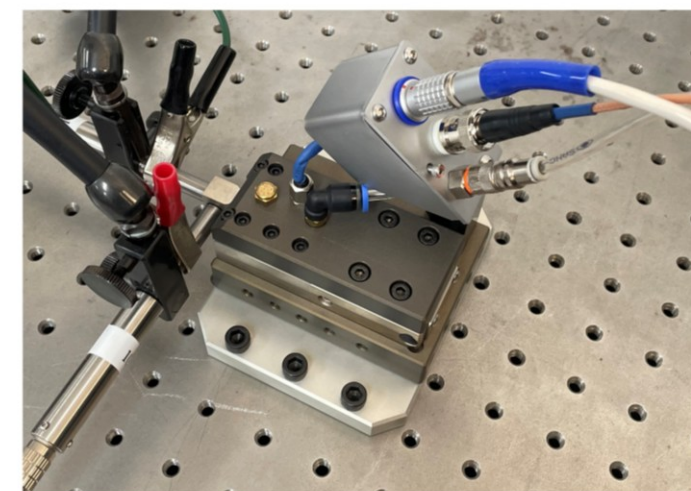
BXH



BYH model Random: 10Hz~3kHz/0.001~4(Vpp)



BYH model Random: 3~6(kHz)/0.001~4(Vpp)



※ 고객의 요청과 협의에 따라 제품의 사양 및 디자인은 변경될 수 있습니다.

※ 제품의 품질 향상 및 고도화를 위해 사전 예고 없이 디자인은 변경될 수 있습니다.

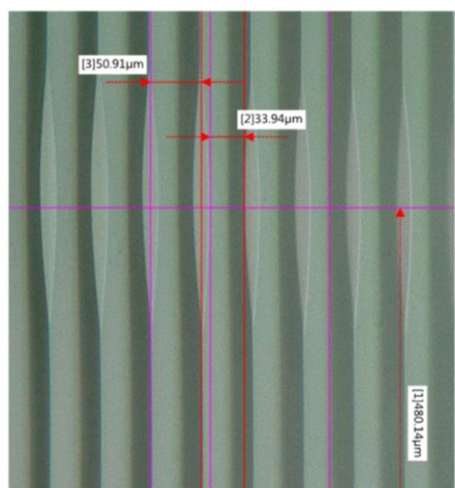
K-FTS 적용 롤금형

정방향 진동절삭 웨이브 패턴닝(BYH 모델)

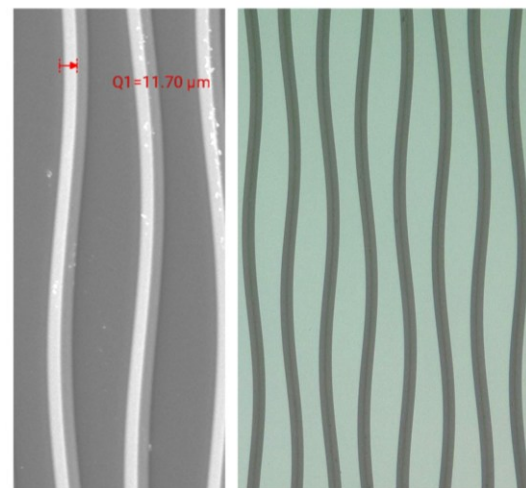
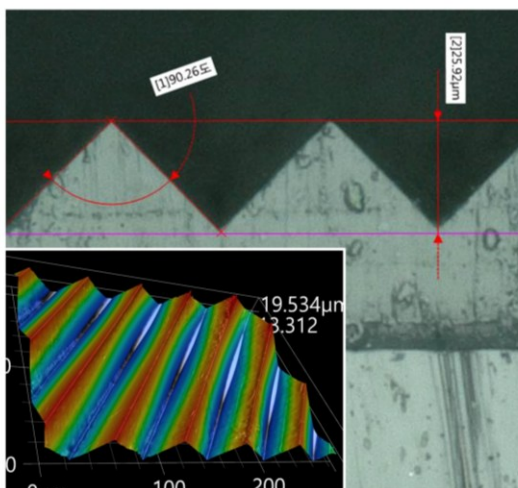
횡방향 진동절삭 웨이브

1 2 3 4 5 6 7 8 9 10 R(5~10) Frequency(kHz)

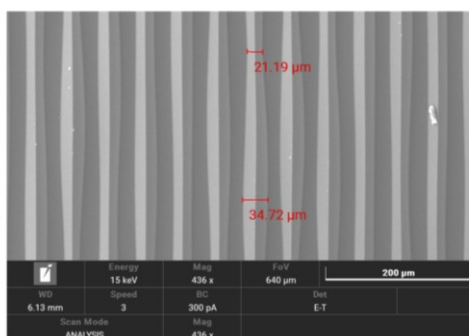
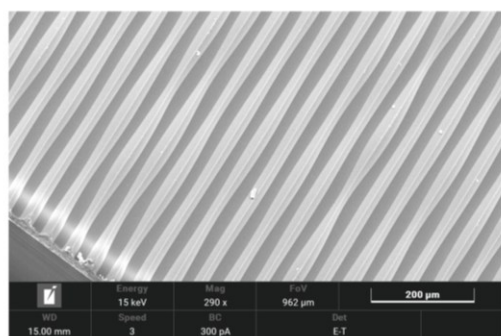
1 2 3 4 5



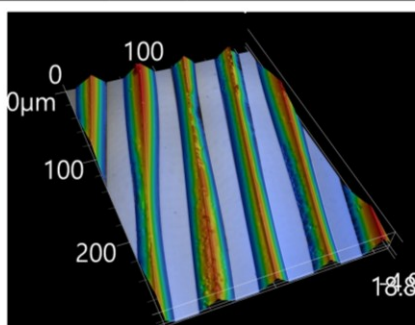
30rpm_1kHz_8Vpp



200rpm_8kHz_1Vpp



200rpm_Random5~10(kHz)_1Vpp



200rpm_Random5~10(kHz)_1Vpp

패터닝 공정 실험

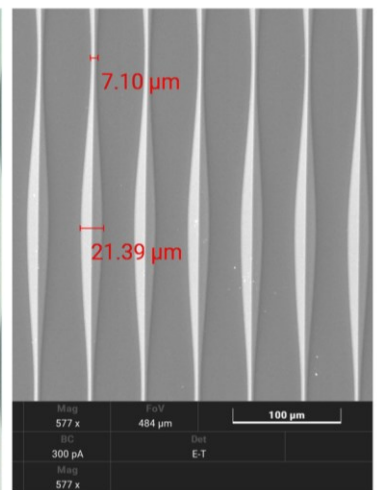
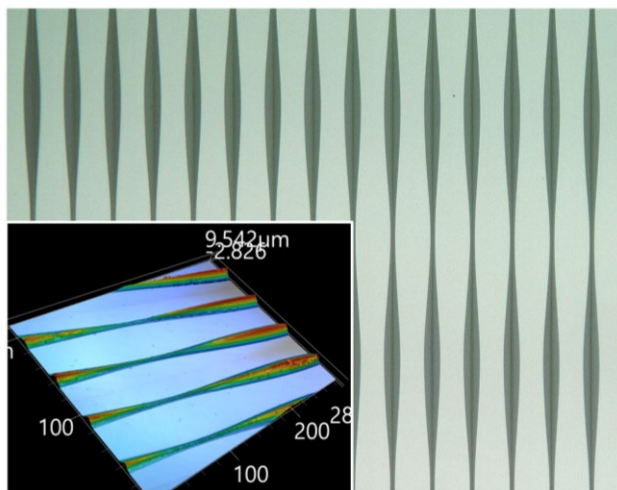
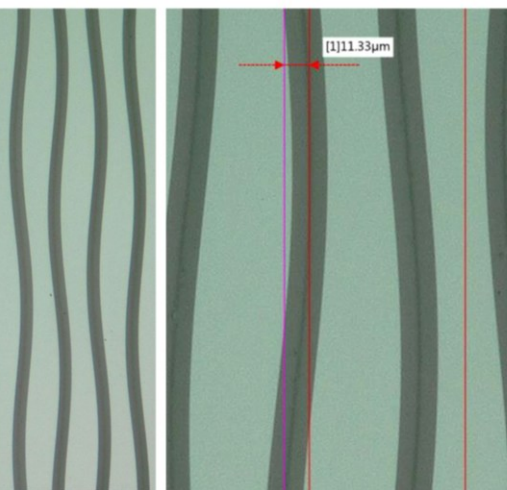
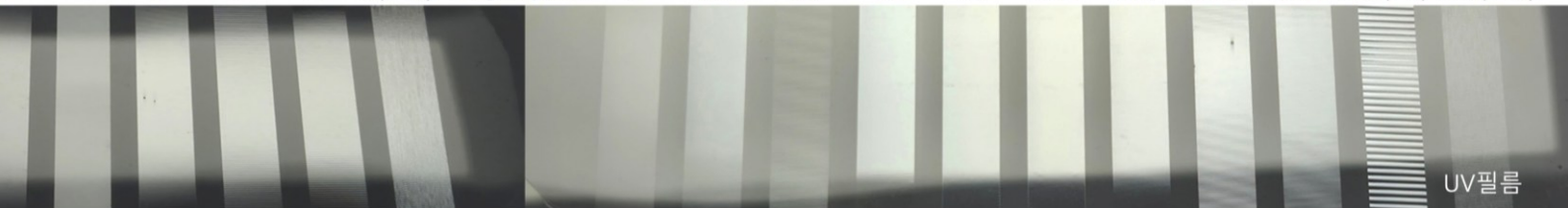
FETEC

패터닝(BXH 모델)

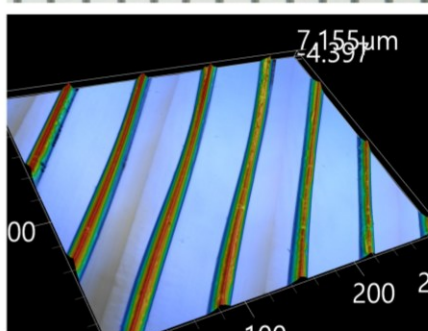
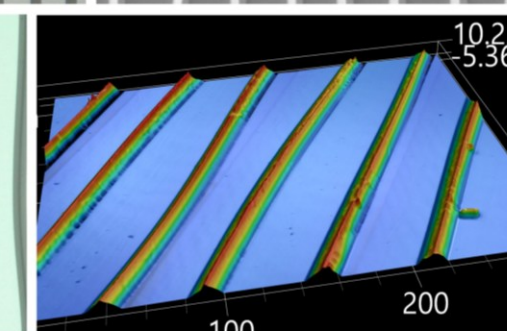
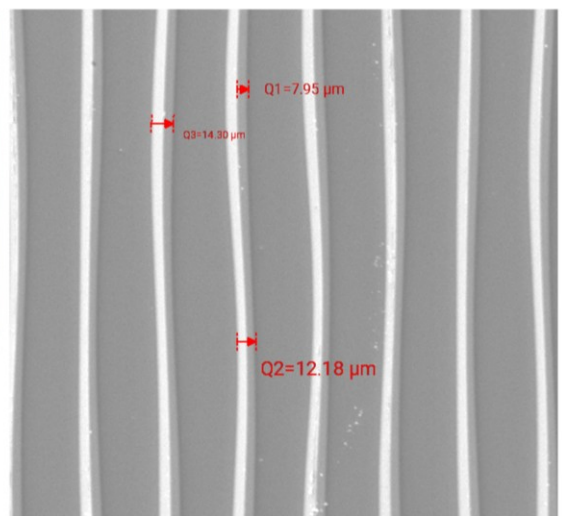
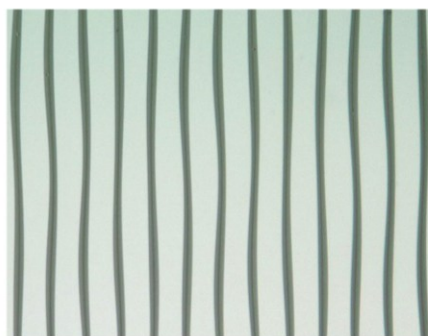
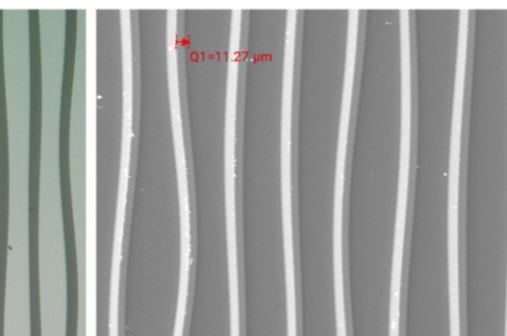
교차축 진동절삭 웨이브 패터닝(SCH 모델)

롤금형

6 7 8 9 10 R(5~10) Frequency(kHz) Y3 Y5.5 Y10 X4 X5 X5.5 X10 Y8/X6 Y5/X4 Y1/X(1~3) Y8/X(7~10)



Y축 단독구동 200rpm_10kHz_1Vpp



150rpm / Y: 8kHz_1V / X: 6kHz_1Vpp



<https://blog.naver.com/je-tec>

기술문의: je-tec@naver.com

<https://www.youtube.com/@je-tec>

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