

ZION PRECISION

SOLAR TRACKER / AGRICULTURAL MACHINERY
HEAVY EQUIPMENT PARTS / REBAR CUTTER REBAR BENDER







**A company that Customers' trust,
that makes return through technical quality,
that considers environment**



고객이 신뢰하는 기업, 기술 품질로써 보답하는 기업,
환경을 생각하는 기업

Introduction

Zion Precision designs and manufactures special gears, precision GEAR PUMP ASS'Y and all kinds of SHAFTS, transmission and power units in various industries based on new product development and quality improvement with continuous research and development, securement of technology, and endless endeavor after establishment in 1988. In particular, by integrating gear industry fields, not only do we manufacture in hydraulic, heavy equipment, construction equipment, industrial equipment but also manufacture products in solar-powered reducers, track car reducers, worm gears, drive shaft power units, defense industry, and aviation industry with improved quality and we are performing research and development and trying our best always considering the customers' point of view. Thorough quality management, steady environmental friendly technical development are being performed through self-research and development by certifying ISO9001 (Quality Management System) and ISO14001 (Environment Management System), and we will provide advanced processed rebar products to domestic and overseas construction market through new product development and focusing on product development and provision of rebar processing machinery which is the export item to Southeast Asia being processed since 2018, we are expanding the growth of export market such as rebar bending machine and cutting machine. In addition, Zion Precision will try our best with the entrepreneurship of "A corporation that thinks and helps people in the shades and hopes to give a good influence on the wide area" to acquire recognition from not only in domestic market but also in overseas market.

당사는 1988년 설립이후 지속적인 연구개발, 기술력확보, 끊임없는 노력으로 신제품개발과 품질향상을 토대로 각종 산업에 특수 기어, 정밀 GEAR PUMP ASS' Y와 각종 SHAFT, 변속기와 동력장치를 설계, 제작하고 있으며, 특히 기어 산업 분야를 통한, 유압, 중장비, 건설, 산업기계 뿐 아니라 태양열 감속기, 트랙터 감속기, 구동축 동력장치, 방위산업, 항공산업에도 향상된 품질로 제품을 만들고 항상 고객에 입장에서 생각하며 연구·노력하고 있습니다.

ISO9001(품질경영시스템)와 ISO14001(환경경영시스템)을 인증하여 자체 연구 개발을 통한 철저한 품질관리, 꾸준한 친환경 기술개발이 이루어지고 있으며 신제품 개발을 통해 선진화된 철근 가공 제품을 국내·외 건설시장에 공급하고 2018년부터 진행되고 있는 동남아시아 수출품목인 철근가공기계의 제품개발과 보급에 초점을 맞춰 철근 밴딩기 절단기 등 수출시장 성장이 크게 확장하고 있습니다. 시온정밀은 "그늘진 곳에 있는 사람들을 생각하며 돕고, 넓은 지역에 선한 영향력을 주게 될 기업"이라는 기업이 정신으로 국내시장 뿐 아니라 해외시장까지 인정 받을 수 있도록 최선을 다하겠습니다.

Company History

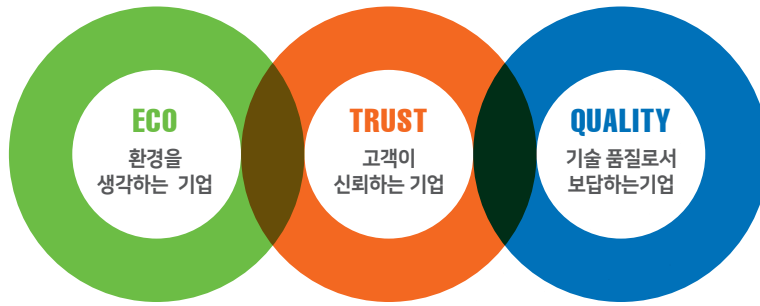
/ 회사연혁

- May. 1988 Established Gawoo Service Center
가우공업사설립
- Jun. 1989 Asia Machinery single tractor MISSION GEAR localization development
아세아중합기계 일류관리기 MISSION GEAR 국산화개발
- Sep. 2000 Hydraulic parts relevant to GEAR PUMP SHAFT, DRIVE SHAFT(K3V112,HPV116,A8V SERIES)
유압부품관련 GEAR PUMP SHAFT, DRIVE SHAFT (K3V112, HPV116, A8V SERIES)
- Mar. 2003 PUMP GEAR SHAFT for Japanese special ship export
일본특수선박용 PUMP GEAR SHAFT수출
- Sep. 2012 Change of Zion Precision company name and relocation due to company expansion
시온정밀 상호 변경 및 확장이전
- Jan. 2014 Paru Co., Ltd. SOLAR TRACKER SLEW DRIVE development (WORM,WORMSHAFT)
(주)파루 SOLAR TRACKER SLEW DRIVE개발(WORM,WORM SHAFT)
SOLAR TRACKER small reducer development
SOLAR TRACKER 소형 감속기 개발
- Mar. 2014 USA TEXAS San Antonio ARAM05-8 PROJECT SOLAR TRACKER SLEW DRIVE,
SOLAR TRACKER export of 30,000 small reducers
USA TEXAS San Antonio ARAM05-8 PROJECT SOLAR
TRACKER SLEW DRIVE, SOLAR TRACKER 소형 감속기 3만대 수출
- May. 2014 K-2 Tank Hub Drive-train System localization development
K-2전차 허브구동장치 국산화 개발
- Feb. 2016 Acquired Clean Business, Venture Company
클린사업체, 벤처기업 획득
- Jul. 2016 Established Singapore overseas corporation
싱가포르 해외 법인 설립
- May. 2017 Acquired ISO9001
ISO9001획득
- Nov. 2017 Implementation of manufacturing field core technology systematization construction
생산현장 핵심기술 체계화 사업구축
- Jan. 2018 Acquired ISO14001
ISO14001획득
- Jan. 2018 Export of rebar bending machine, cutting machine to Indonesia
철근밴딩기, 철근절단기 인도네시아 수출
- Mar. 2018 Overseas Export
해외수출



Vision

/ 비전

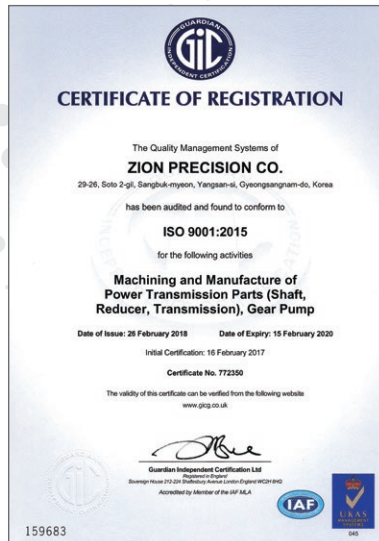


Authentication Certificate

/ 인증서



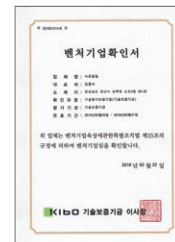
ISO14001



ISO 9001



CLEAN 사업장 인증서



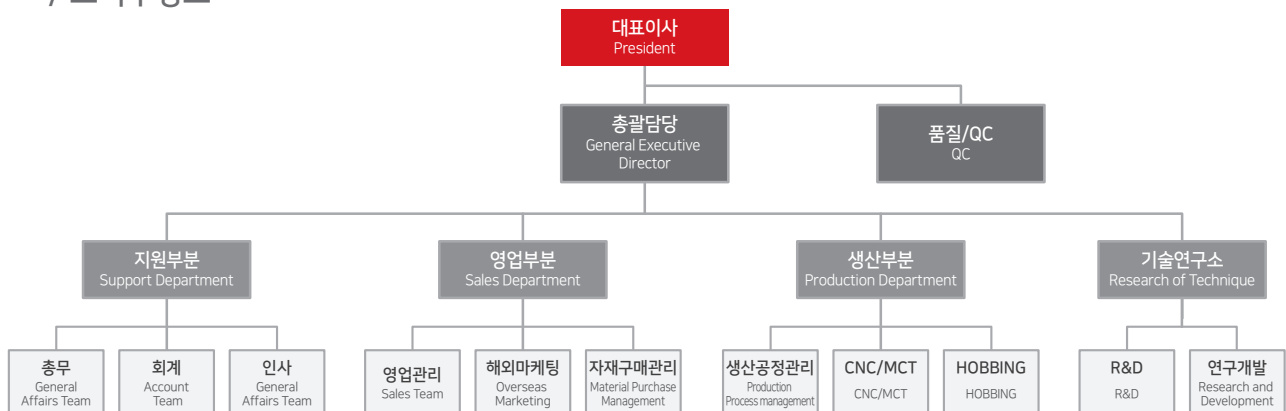
벤처기업확인서



일학습병행제
(산학일체형 도제학교)
사업 및 훈련실시 약정서

Organization Chart

/ 조직구성도



SOLAR TRACKER

SLEW DRIVE (WORM SHAFT,WORM WHEEL)

| 태양광 핵심부품 및 기어부품

- Manufacture precision gear parts which is core parts of both Solar Axis
- Worm reducer (SLEW DRIVE), small reducers act as a necessary role rotating with power of solar panels, controls right and left directions by reducing the power from the motor
- Worm Reducer (SLEW DRIVE), the most necessary gear parts of SOLAR TRACKER, realizes gear design, process, and management minimizing the process accuracy and assembly tolerance of worm wheels and worm shafts.

- 태양광 양축에 핵심부품인 정밀급 기어부품을 제작
- 웜감속기(SLEW DRIVE), 소형감속기는 태양열판을 동력으로 회전하는 필요한 역할을 하며, 모터에서 나온 동력을 감속하여 좌우방향조절
- SOLAR TRACKER에 가장 필요한 기어부품 웜감속기(SLEW DRIVE)는 웜휠, 웜샤프트의 가공정밀도와 조립공차를 최소화 할 수 있는 기어설계 및 가공, 관리를 실현

SLEW DRIVE (WORM WHEEL,WORM SHAFT)- Worm Reducer

| 웜감속기



- SLEW DRIVE is used in controlling right and left directions of SOLAR TRACKER, wind power generation, industrial facilities, medical devices, etc.
- Formed by key gear parts of WORM WHEEL.WORM SHAFT, and parts with improved gear quality
- 40,000EA based on automated processing facility experience and assembly Know-how, superb in high quality and power transmission.
- SLEW DRIVE 은 SOLAR TRACKER, 풍력발전, 산업시설, 의료기기 등 좌우상하방향 조절에 사용
- WORM WHEEL.WORM SHAFT 주요 기어부품으로 형성되며 기어품질도 향상된 부품
- 40,000EA 자동화 가공설비 경험과 조립 Know-how를 바탕으로 고품격 품질과 동력 전달에 탁월



SMALL SPEED REDUCER Small Reducer

| 소형감속기



- Reduces the power from the motor and transfers to SLEW DRIVE with a reducer ratio of 1:500
- Easy to design by efficiently selecting the reduction ratio as the reduction ratio can be adjusted by various types
- Enhanced durability by improving GEAR GRAD by Enhancing durability performing special heat treatment and lead crowning of tooth modification through self-manufacturing line to small module
- 감속기비 1:500 으로 모터에서 나오는 동력을 감속하여 SLEW DRIVE에 전달
- 여러 종류에 따라 감속비를 조절이 가능함으로 효과적으로 감속비율을 선택하여 설계용이
- 소형 모듈로 자체생산라인을 통해 내구성을 강화하여 특수열처리와 치형수정의 리드 크라운을 실시하여 GEAR GRADE를 향상시켜 내구성을 강화

AGRICULTURAL MACHINERY

Agricultural Machinery, Tractor

| 농기계, 트랙터

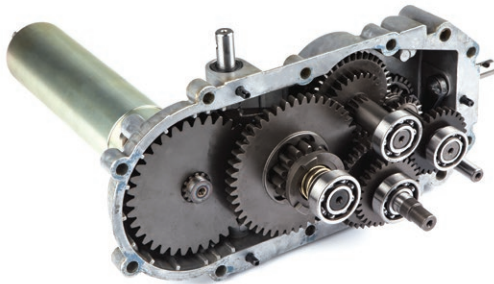


- Manufactures precise and strong gear parts necessary in power transfer unit of various agricultural machinery
- Mission ASS'Y is an important part as a transmission for agricultural machinery for transport
- The Reducer as a power transfer unit acts as transferring power in different directions, composed of gears and shafts.

- 각종 농업기계에 동력전달 장치에 필요한 정밀하고 강도 높은 기어부품 제작
- Mission ASS'Y는 농업기계가 운반하는데 변속장치역할로 운반차의 중요부품
- 감속기는 동력전달 장치로써 동력을 다른 방향으로 이동하는 역할을 하며 GEAR류와 SHAFT류로 구성

TRANSMISSION

| 변속기



- Generally used in cars, agricultural machinery, and transport vehicles, and a power transfer unit which can adjust speed, move forward and backward through car's shifting gears
- Core parts of the gears such as gears and bearings are verified through tests after assembly
- Realization of product quality enhancement and competitive price based on 20- year gear processing Know-how on agricultural machinery

- 자동차, 농기계, 운반차에 주로 쓰이며 차량의 변속을 통해 속도조절과 전, 후진을 할 수 있는 동력전달장치
- 기어류와 베어링 등 기어주요제품은 조립후 테스트로 검증
- 20년 이상의 농기계 기어가공 Know-how로 제품품질 향상과 경쟁력있는 가격 실현



HST SHAFT



- HST, a hydraulic power transfer unit (driving unit), is placed in Tractor, Combine harvester as all-in-one hydraulic motor and pump
- Acts as transferring power to each part of a pump in HST SHAFT driving axis and vertical axis.
- Research and development to enhance durability and improve self-processed quality through pre and post heat treatment

- HST는 Tractor, Combine harvester에 들어가는 유압모터와 펌프의 일체형으로 유압식동력전달장치(주행장치)
- HST SHAFT 구동축과 종동축으로 펌프의 중심 각 부품에 동력을 전달하는 역할
- 소재 전후열처리를 통해 내구성 향상과 자체 가공품질을 높이기 위해 연구개발

HEAVY EQUIPMENT PARTS

| 건설기계장비 및 중장비부품

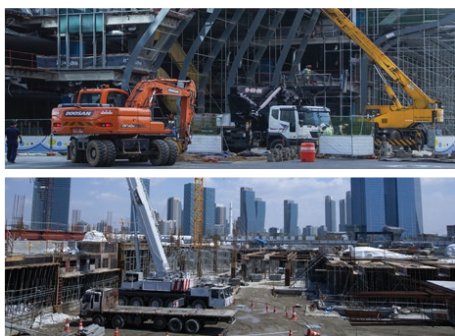
- Manufacture precision gear parts assembled in hydraulic core parts of construction machinery equipment (MAINPUMP)
- Easy to enhance hydraulic pumps efficiency by using constructional hydraulic pump and motor in construction machinery equipment such as Fork cranes, forklifts, and concrete pumps.
- GEAR PUMP ASS'Y for improving efficiency, DRIVE SHAFT is the CENTER axis, composition of efficient COUPLING of various connection parts, etc.
- Realized product quality enhancement and competitive price based on 20-year gear processing Know-how

- 건설장비의 유압핵심부품에 조립되는 정밀급 기어부품을 제작
- 건설장비인 포크레인, 지게차, 콘크리트펌프관련 등 건설 유압모터, 펌프에 사용으로 유압펌프의 효율을 높이는 데 용이
- 고효율 향상을 위한 GEAR PUMP ASS'Y, CENTER 중심축인 DRIVE SHAFT, 각종 연결부분의 효과적인 COUPLING 구성등
- 20년 이상의 기어가공의 Know-how로 제품품질향상과 경쟁력있는 가격 실현

GEAR PUMP ASS'Y

- As a core pump of the MAIN PUMP, it creates strong hydraulic pump oil pressure.
- Manufacturing products durable to high viscosity medium, high temperature, high pressure, and corrosion
- The gear pump with 2GEAR-1SET, 4GEAR-2SET obtained precise discharge quantity with high volumetric efficiency
- Obtained durability through parts material and appropriate heat treatment process

- MAIN PUMP의 핵심 기어펌프로 유압오일 펌프로 하여금 강력한 유압을 발생시킴.
- 고점도 매체, 높은 온도와 높은 압력, 부식성에 견딜 수 있는 내구성 있는 제품 생산
- 2GEAR-1SET, 4GEAR-2SET로 구성된 기어펌프는 높은 체적효율로 정밀한 토출정량확보 · 부품의 소재 및 적절한 열처리 가공으로 내구성 확보



DRIVE SHAFT

- Composed of 1 SET of MAIN PUMP driving axis and vertical axis, transfers power of the center axis
 - Possible High efficiency hydraulic discharge quantity through 0.02 concentricity of DRIVE SHAFT gear processing
 - Efficiently improved the SHAFT strength with material structure stabilization through material pre and post heat treatment
-
- MAIN PUMP 구동축과 중동축 1SET로 CENTER 중심의 동력을 전달
 - DRIVE SHAFT 기어가공의 동심도 0.02 관리로 고효율의 유압량 토출가능
 - 소재 전후열처리로 소재조각도 안정성으로 SHAFT 강도 효율적으로 개선



PLANETARY SPEED REDUCER

- Minimization of BACKLASH, high powered reduction is possible as distributed PLANETARY GEAR stress enhanced durability having the SUN GEAR not fixed
 - Realization of miniaturization and high reduction rate torque is possible and utilization in various applications is possible
 - Design using the gear program to manage durability and strength and enhance quality
-
- SUN GEAR가 고정되지 않아 PLANETARY GEAR에 부하가 분산되어 내구성이 향상되어 BACKLASH최소화, 고풍력 감속이 가능
 - 소형화, 높은 감속비, 토크 실현 가능하며 다양한 용도로 활용 가능
 - 내구성, 강도 관리와 품질 향상을 위해 기어프로그램으로 설계



COUPLING

- A standardized gear acting as linking SHAFTS, stable assembly is possible due to minimization of BACKLASH
- Efficiently improved the strength of COUPLING with material structure stabilization through material pre and post heat treatment
- Obtained efficient manufacture and quality, competitive price with the company's BROACHING process
- SHAFT 간의 연결 역할로 규격화된 기어, BACKLASH 최소화로 안정적인 조립 가능
- 소재 전후열처리로 소재 조직도 안정성으로 COUPLING의 강도를 효율적으로 개선
- 사내 BROACHING 공정으로 효율적인 생산과 품질, 가격 경쟁력 확보



PTO

- Installed in the transmission to assemble the power generated by the engine to the machine equipment.
- 엔진에서 발생되는 동력을 기계장비에 전달하기 위해 변속기에 설치하여 조립.



REBAR CUTTER REBAR BENDER

| 건설기계장비 및 중장비부품

As gear parts of Constructional rebar, bender, cutter requiring strength and durability- bending, cutting process suitable to rebar strength, high quality can be acquired by self-processing all processes from material to grinding. Helical gears satisfy low noise and low vibration requirements at high speed above 1500 RPM through SAVING process (DIN4 class) KS0 class processing

강도와 내구성을 요구하는 건설용 철근- 밴딩기, 절삭기 기어부품으로 철근 강도에 적합하게 밴딩, 절단을 가공할 수 있게 하는 기어부품으로 기어부품은 소재부터 연삭까지 모든 공정을 자체 처리 함으로 고도의 품질을 확립 할수 있음 헬리컬기어는 SAVING공정 (DIN4급)KS0급 가공으로 RPM1500 이상의 고속에서 저소음과 저진동의요구에 충족



General type Cutter(up to 32mm)

1. Oil bathed lubrication gears: being operated in smooth and less noise.
2. None sticking phenomenon of crank after a long period of non-use.

Heavy duty Cutter(up to 42mm)

1. Heavy duty cutting performance (bar diameter:up to 42mm)
2. Interior electric-motor :not to be exposed to rain.
3. Oil bathed lubrication gears: Being operated in smooth and less noise.

General Bender(up to 32mm)

1. The dual angle adjustment device : simultaneously bends in 2 different angles : saving work time.
2. The adoption of foot-switch guarantees safe operation of the machine.
3. Compatible with power supply at home.

Heavy duty Bender (up to 42mm)

1. Specially designed to be suitable for general constructions.
2. Dual angle adjustment device: simultaneously bends in 2 different angles: saving work time .
3. Simple& easy to use.



ZOB-HD42A



- Heavy duty bender

· Specification

Bending angle	180°/5 Seconds
Bending capacity	HD10-42(0.375~1.65inch)
Motor	5.5kW(7.5HP)
Power	3Phase AC 220~415V, 50/60Hz
Weight	710kg / 1,562 lb
Dimension(mm)	(L)880 (W)860 (H)750

· Bars to bend at a time

HD42,32,29	HD25,22	HD19,16	HD13	HD10
1	2	3	4	6

· Features

1. Specially designed to be suitable for general constructions
2. Dual angle adjustment device: simultaneously bends in 2 different angles: saving work time
3. The bending process of stirrup and hoop allows the minimum bend bar-end length 6~8cm (2.36~3.15inches)
4. The adoption of foot-switch guarantees safe operation of the machine
5. Simple & easy to use

ZOB-D35



- General bender

· Specification

Bending angle	180°/5 Seconds
Bending capacity	HD10~32(0.375~1.27inch)
Motor	2.1kW(2 motors)
Power	Single phase AC 110~220V, 50/60Hz
Weight	180kg / 396 lb
Dimension(mm)	(L)673 (W)500 (H)447

· Bars to bend at a time

HD32,25	HD22,19	HD16	HD13	HD10
1	2	3	4	6

· Features

1. The dual angle adjustment device: simultaneously bends in 2 different angles : saving work time
2. The adoption of foot-switch guarantees safe operation of the machine
3. In comparison to the size of the machine, it has excellent bending performance: bends up to D32mm
4. Lightly weighted: loadable into trunk of a passenger car (portable by 2 persons)
5. The bending process of stirrup and hoop allows the minimum bend bar-end length 4~6cm (1.57~2.36 inches)
6. Interior safety sensor installed
7. Compatible with power supply at home

ZOC-D35



- General type Cutter

· Specification

Cutting capacity	HD32(32mm/1.27inch)
Motor	Single Phase: 3kW(4HP) 3 Phase: 2.2kW(3HP)
Power	AC 220~415V, 50/60Hz
Weight	Weight 616kg / 1,355 lb
Dimension(mm)	(L)800 (W)520 (H)1,262

· Bars to cut at a time

HD32,25,22	HD19	HD16	HD13	HD10
1	2	3	4	6

· Features

1. Oil bathed lubrication gears: Being operated in smooth and less noise
2. None sticking phenomenon of crank after a long period of non-use
3. All 4 edges of the cutting blade are usable
4. Powerful cutting performance (bar diameter: up to 32mm)
5. Interior electric-motor: not to be exposed to rain
6. Back plate installed behind the cutting blade: preventing rebar to be stuck
7. Compatible with power supply at home.

ZOC-HD42A



- Heavy duty Cutter

· Specification

Cutting capacity	HD42(42mm/1.65inch)
Motor	AC 3.7kW/5hp(4p)
Power	3phase AC 220V~415V, 50/60Hz
Weight	836kg / 1,839 lb
Dimension(mm)	(L)838 (W)688 (H)1,313

· Bars to cut at a time

HD32~42	HD29	HD25	HD22
1	1	2	2
HD19	HD16	HD13	HD10
3	5	6	9

· Features

1. Heavy Duty cutting performance (bar diameter: up to 42mm)
2. Interior electric-motor: not to be exposed to rain
3. Oil bathed lubrication gears: Being operated in smooth and less noise
4. None sticking phenomenon of crank after a long period of non-use
5. All 4 edges of a cutting blade usable
6. Simple & easy to use: one-touch type

MANUFACTURING PROCESS

| 주요공정



Design
설계



Material input
원자재입고



Turning operations
선삭가공



Gear cutting
치절가공



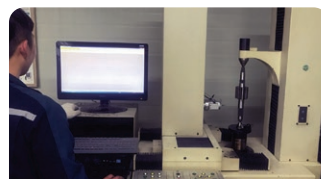
MCT operations
MCT가공



Heat treatment
열처리



Polishing
연마



Goods inspection
제품검사



Packing
포장



Shipping
출고

THE PRODUCTION FACILITIES

| 설비현황

EQUIPMENT NAME	STANDARD	SET	INSTALLATION YEAR	MANUFACTURING COMPANY	MANUFACTURING STANDARD
CNC HOBGING M/C	MS-150	2	2012.1	MITSUBISHI	M5 Ø200*250
HOBGING M/C	KS-300	1	2003.1	KASHIFUJI	M6 Ø310*250
HOBGING M/C	KS-150	1	2006.5	KASHIFUJI	M4 Ø150
HOBGING M/C	KS-14	2	2013.2	KASHIFUJI	M4 Ø151
HOBGING M/C	JDP-3	2	2001.5	JEIL M/C	M10 Ø700*300
HOBGING M/C	YML-25	1	1993.1	YUNIL M/C	M9 Ø800*300
HOBGING M/C	HB-600H	1		NACHI	M9 Ø600*400
HOBGING M/C	GH-630	1	2015.6.3	MITSUBISHI	M9 Ø630*400
GEAR SHAPING	4A-15	1	1988.5	FELLOWS	M6 Ø200*55
GEAR SHAPING	GS-550D	1	2001.1	TOKYO KIKAI	M7 Ø550*130
GEAR SHAPING	SH250	1	2017.1	MITSUBISHI	M4 Ø250
GEAR SHAPING	SD-3	1	2001.5	ROLENZ	M5 Ø150
SHAVING M/C	GSD400B	2	1990	KANZAKI	M8*360
SHAVING M/C	SV-310	1	1988.5	MITSUBISHI	M8*310
BROACHING M/C		1	2017.01	Korea Broach Manufacture	10TON*1500
BROACHING M/C	SANYANG 7.5	1	2000.3	SHINYANG M/C	7.5TON*1000
GEAR CHAMPERING M/C	TPG-INC	1	1996.1	SHINSEI	
GEAR CHAMPERING M/C	GTR-D	1	1995.1	OKAMOTO	
CENTERING MACHINE	NCR-500SS	1	1997	NITTOKU	
M.C.T.	VS3A	1	2012.1	mitsui SEIKI	1100*580*650
M.C.T.	VT3A	1	2015.4	mitsui SEIKI	
M.C.T.	TVT30	1	2014.6	TOYOSK	400*300*300
M.C.T.	YDC-96	1	1991.6	MORI SEIKI	1100*580*580
M.C.T.	VC500	1	2014.5	DOOSAN INFRACORE	2-860*570
CNC LATHE	LYNX200A	2	2014.2	DOOSAN INFRACORE	6 INCH
CNC AUTO LOADING SYSTEM		2	2015.4	JINSUNG M-TEK	
CNC LATHE	HI-TECH 200	2	2010.12	HWACHEON M/C	8 INCHI
CNC LATHE	PUMA240	1	2012.7	DOOSAN INFRACORE	8 INCHI
CNC AUTO LOADING SYSTEM		1	2016.5	JINSUNG M-TEK	
CNC LATHE	PUMA280	1		DOOSAN INFRACORE	10 INCHI
CNC LATHE	PUMA280	1	2015.6.11	DOOSAN INFRACORE	10 INCHI
V-CNC LATHE (verticality)	V-550	1	2015.1	DOOSAN INFRACORE	15 INCHI
V-CNC LATHE (verticality)	V-550	1	2015.1	DOOSAN INFRACORE	15 INCHI
WORM MILLING	SGT-1000 NC	1	2014.4	SEOUL GEAR-TECH	
WORM MILLING	SGT-1000 NC	1	2015.5.15	SEOUL GEAR-TECH	
PINION CUTTER GRINDER		1	1994.4	DOOSAN INFRACORE	
HOB GRINDING MACHINE	AS204GT	1	2009.5	KAPP(GERMANY)	Ø204
PRESS M/C		1	2014.12	JAPAN	
MARKING MACHINE	P-5000 PN/ d	1	2014.10.	PRO PEN	
GEAR TESTER M/C	GC-3H	1	2000.3	OSAKA SEIMITSU	
NC GEAR TESTER M/C	TTI300E	1	2011.1	TOKYO TECHNICAL	
Granite Surface Plate		3	2015. 7. 7.		
HARDNESS TESTER	SR-200	1	2014.3	SAMIL PRECISION CO	
SHAPE MEASURING MACHINE	SJ-310	1	2015.4	MITUTOYO	
BENCH CENTER		1			



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* 이 팸플렛은 양산시 기업디자인지원사업의 일환으로 제작되었습니다. | 디자인 : 동원과학기술대학교 아시아디자인연구소