

# SGO

## COMPANY PROFILE

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SHOP [www.oilless.net](http://www.oilless.net)



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- Press, Plastic Mold
- Hydropower plant
- Construction
- Industrial machinery

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# 01 Instruction



## Company outline

<b>Company name</b>	SGO CO., LTD
<b>CEO</b>	TAE SOO CHOI
<b>Established</b>	December 1st, 2000
<b>Address (main)</b>	28-10 Namdongseo-ro 113 beon-gil Namdong-gu, Incheon
<b>Address (2nd factory)</b>	28-13 Namdongseo-ro 113 beon-gil (THEDVELON production)
<b>Seoul branch</b>	
<b>ChangWon branch</b>	15, Gyeongin-ro 53-gil, Guro-gu, Seoul
<b>Employee</b>	21, 39-gil, Wollim-ro, Seongsan-gu, Changwon-si
<b>Capital</b>	59
<b>Main Products</b>	USD 1 Million
<b>Turnover</b>	Oilless Bearings / Extruded Bronze Rods 19,532,346 USD (2022)

\*1USD =1291.95 KRW





# History

**2000**

- Establishment of SGO CO.,LTD.

**2005**

- Established R&D Institute

**2006**

- Developed and installed THEDVELON bush & plates for mold
- Designated as a Promising Export Firm
- Acquired ISO14001
- Approved as venture company

**2008**

- Started to operate 2,750 Ton of Extruding Machine



## History

**2009**

- Registration of patent rights in Italy and Germany for THEDVELON

**2013**

- Received a citation from the Small and Medium Business Administration
- Received award for excellent SME business in Venture Contest Incheon in 2013
- Received award certificate of Korea Commission for Corporate Partnership (Industry Innovation Movement 3.0 POSCO)

**2016**

- Conclusion of agreement with –DAIDO (Japan) & VOLVO Korea

**2017**

- Received award for reaching USD 5 million export



# History

**2018**

- Designated as small global hidden champion(Ministry of SMEs and Startups)
- Korean Startup Market registered KSM
- Nominated by human resource development company
- Designated as a specialized company for the original technology
- Registration of patent rights in Korea, China and Japan for Oilless bearing plug manufacturing method

**2019**

- Designated as a Technology innovation company(INO-BIZ)
- Designated as a specialized company for components and materials(MTI)
- Receive award Minister prize from MSS
- Appearing on TV shows [KBS1]
- Youth-friendly small hidden company, Visionary company(MOEL), Excellent job-making company(Incheon city)

**2020**

- Youth smart job small-medium company (Korea Federation of Small and Medium Business)
- Registered KSM(Korea exchange)
- Established a welfare fund(Korea worker's compensation and welfare service)
- Small hidden champion (MOEL)
- Global IP star company(KIPA)
- Venture company (MSS)



# History

**2021**

- Obtained automotive quality management certification IATF 16949:2016 Certified
- Signed MOU with Incheon Polytech University
- Signed MOU with Inha University Graduate School of Manufacturing Innovation

**2022**

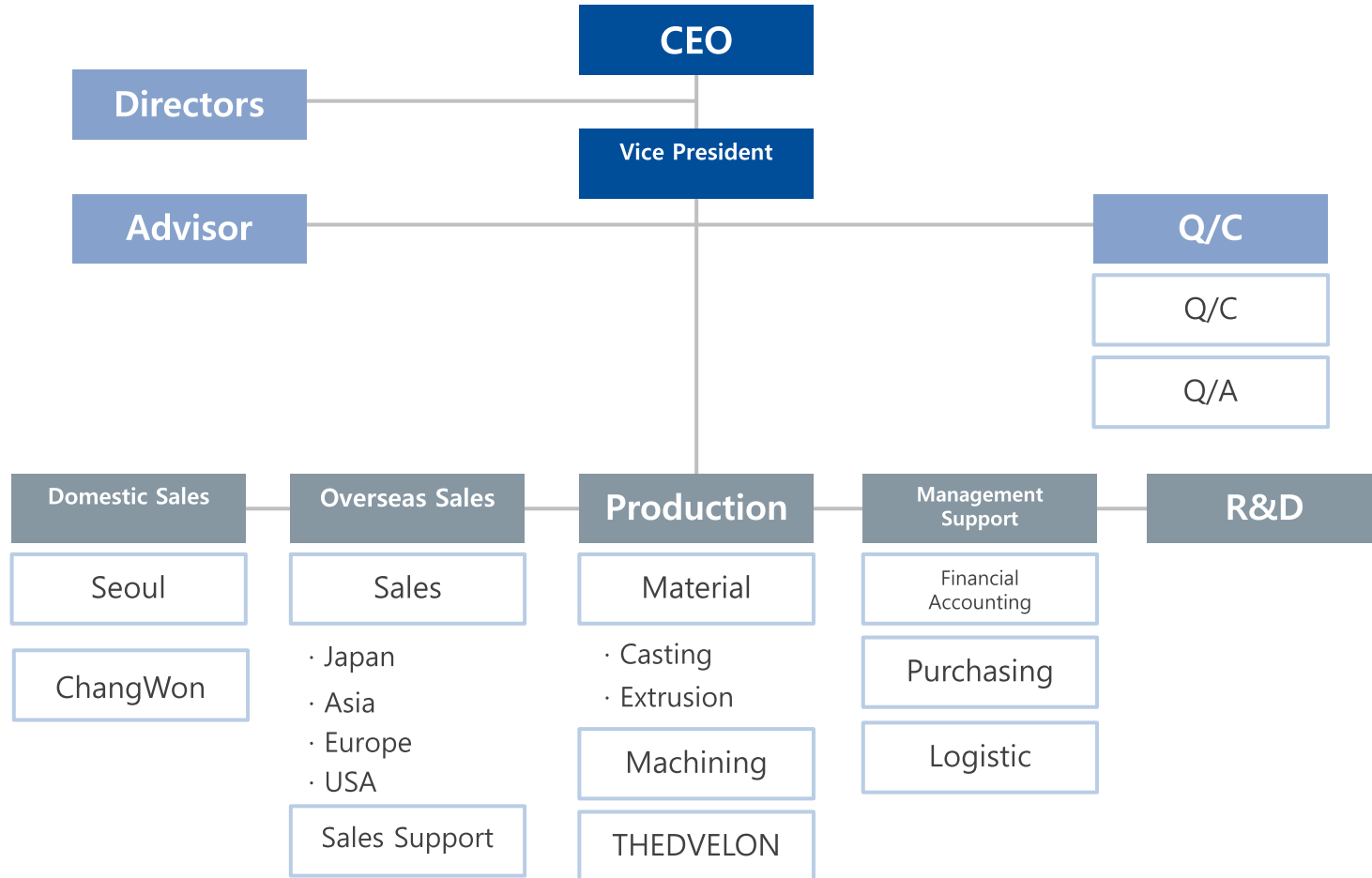
- Innobiz recertification (Ministry of Small and Medium Business)
- Appeared on TV KBS1 documentary broadcast
- Appeared on TV SBS Morning
- Scholarship Donation of KRW 5 million to Polytech University

**2023**

- Türkiye-Syria Earthquake Relief Donation of KRW 5 million



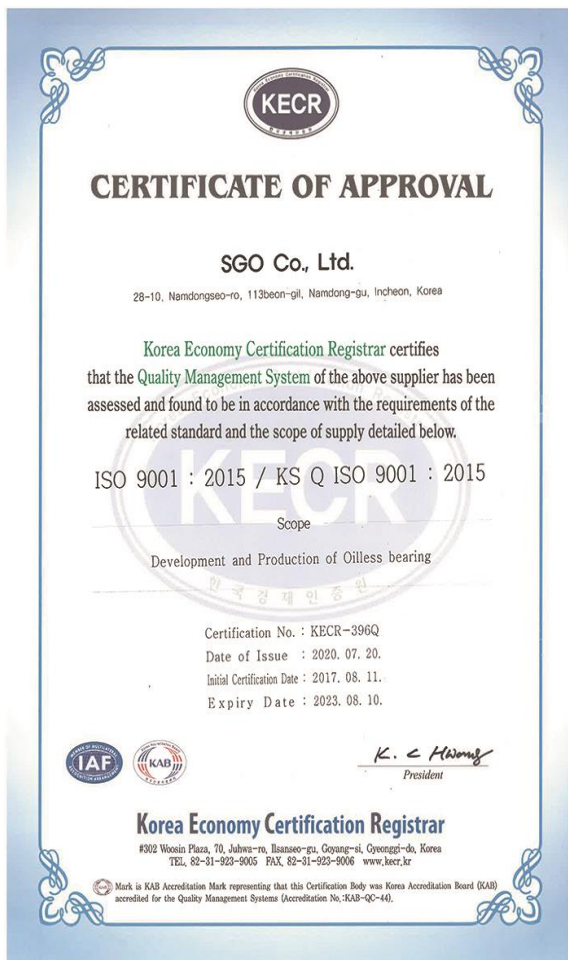
## Organization



## Business figure

Year	2019	2020	2021	2022
Turnover (Million Korean Won)	17,687	13,524	20,328	25,234
Export (Million USD)	6.14	3.79	5.91	5.1
Proportion of export(%)	40%	32%	34%	27%
Employee	75	59	59	59
Employee(R&D)	15	15	15	7
Corporate Credit rating	BBB-	BBB-	BBB-	BBB-

# Certificate



ISO 9001



IATF 16949



ISO 14001

## Patents

Division	Domestic	Overseas
Patent Registration	12	5
Trademark	2	
Design Registration	4	3
Total	18	8

# 02

## Manufacturing process



## Manufacturing Process – Oilless (SGO#500)

1

Prepare raw  
materials



Copper



Nickel



Aluminum



Manganese



Steel

2

Melting

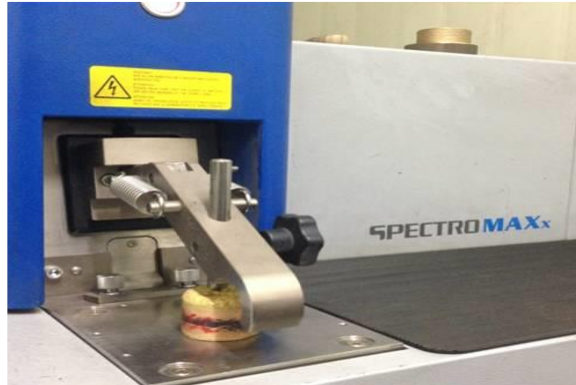




## Manufacturing Process – Oilless (SGO#500)

3

Analysis of  
ingredient  
and hardness



4

Continuous  
casting for  
Billets





## Manufacturing Process – Oilless (SGO#500)

5

Ready Billets  
to extrude



6

Extrusion  
Storing  
material

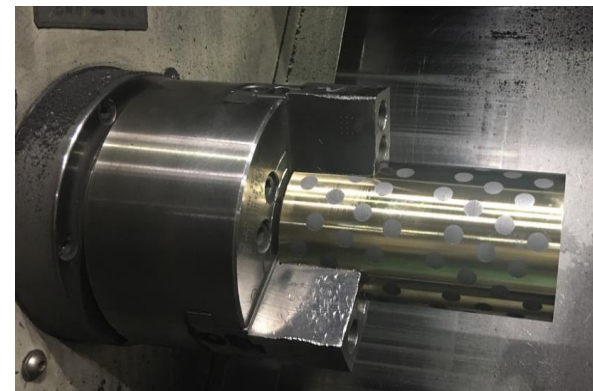


## Manufacturing Process – Oilless(SGO#500)

### 7 Cutting And Drilling



### 8 Inserting graphite plugs and Machining



## Manufacturing Process – Oilless(SGO#500)

9

Impregnation  
Inspection



10

Packing  
Storage





## Manufacturing Process – THEDVELON



1. Raw material



2. Compounding



3. Sintering Press



4. Machining

# 03 Facilities



## Facility - Material



Smelting Furnace



Continuous Casting Caster



Extruding Machine(2,750ton)



Press machine for Graphite plugs

# Facility – Machine List

Process	Management No.	Machines	Specification	Process	Management No.	Machines	Specification
Cutting	SOB-PM-01-01	Circular Cutter	OK3-1100L	THEDVELON	SOB-PM-03-17	Universal Lathe	HL460-1000
	SOB-PM-01-02	Band Saw	HFA-500		SOB-PM-01-04	Cutter	DT-500
	SOB-PM-01-03	Cutter	DSS-100		SOB-PM-07-01	4 Sides Processing Machine	DSM-500R
Drilling	SOB-PM-04-01	Drilling Machine	SPT-T30		SOB-PM-07-02	Forming Press	
	SOB-PM-04-05	Drilling Machine	개조1호		SOB-PM-07-03	Straightening Press	
	SOB-PM-04-09	Drilling Machine	개조2호		SOB-PM-07-04	Forming Press	200TON
	SOB-PM-04-10	Drilling Machine	MC-5101		SOB-PM-07-05	Hot Press	100TON
	SOB-PM-04-11	Drilling Machine	MC-5101-3D		SOB-PM-07-06	Hot Press	100TON
	SOB-PM-03-30	Drilling Machine	MAC-V3		SOB-PM-07-08	Hot Press	200TON
	SOB-PM-04-15	Machining Center	AJV-18(MCT)		SOB-PM-07-09	Hot Press	100TON
	SOB-PM-02-01	Vertical Milling Machine	ETHMC-30		SOB-PM-07-10	Forming Press	Graphite plugs
	SOB-PM-02-02	Vertical Milling Machine	ETHMC-402		SOB-PM-07-11	Hydraulic Press	Bushing
Rough-Machining	SOB-PM-03-19	Universal Lathe	HL 460-1000		SOB-PM-07-12	Leveller	
	SOB-PM-03-12	Universal Lathe	HL 580-1500		SOB-PM-07-13	Powder Mixer	
	SOB-PM-03-14	Universal Lathe	HL 460-1000		SOB-PM-07-14	Mixer	
	SOB-PM-03-20	CNC Lathe	SKT15		SOB-PM-07-15	Graphite Grinder	
	SOB-PM-03-21	CNC Lathe	SKT15		SOB-PM-07-16	Cooling Press	
	SOB-PM-03-08	CNC Lathe	PUMA200A		SOB-PM-02-07	5 Axis CNC Machine	MV55-50
	SOB-PM-03-01	CNC Lathe	PUMA 200A	THEDVELON Wear Plates	SOB-PM-02-13	TAPPING M/C	A04B-0057
Final-Machining	SOB-PM-03-02	CNC Lathe	PUMA 200A		SOB-PM-02-15	Grinding Machine	YGS-96A
	SOB-PM-03-03	CNC Lathe	PUMA CT300		SOB-PM-02-15	Grinding Machine	YGS-116A
	SOB-PM-03-04	CNC Lathe	LINX 200A		SOB-PM-02-03	TAPPING M/C	TC-360
	SOB-PM-03-05	CNC Lathe	SKT15		SOB-PM-02-04	TAPPING M/C	TC-360
	SOB-PM-03-06	CNC Lathe	SKT15	THEDVELON Wear Plates Bushings	SOB-PM-02-05	TAPPING M/C	TC-380
	SOB-PM-03-07	CNC Lathe	SKT15		SOB-PM-02-06	Machining Center	MYNX500
	SOB-PM-03-09	CNC Lathe	CUTEX-160		SOB-PM-02-10	Machining Center	VX650
	SOB-PM-03-10	CNC Lathe	CUTEX-160		SOB-PM-02-14	TAPPING M/C	A04B-0057
	SOB-PM-03-24	Vertical Lathe	VT-550		SOB-PM-03-13	CNC Lathe	PUMA-240
	SOB-PM-03-31	CNC Lathe	PUMA-280		SOB-PM-03-25	Bench Lathe	SD-32
	SOB-PM-03-27	Turning Machine	PUMA-VTS1620	ETC	SOB-PM-05-02	AIR Compressor (EQ37)	50HP
	SOB-PM-03-37	Universal Lathe	HL460-1000		SOB-PM-05-11	Oil Impregnator	
	SOB-PM-03-38	Universal Lathe	HL460-1000		SOB-PM-05-12	Heating Furnace	Graphite
					SOB-PM-05-13	Pallet Warpping Machine	HK-2415



## Facilities - Machining



Drill Line



CNC Line



Grinding Line



MCT Line



THEDVELON Sintering  
Line



Twin-spindle milling  
machine



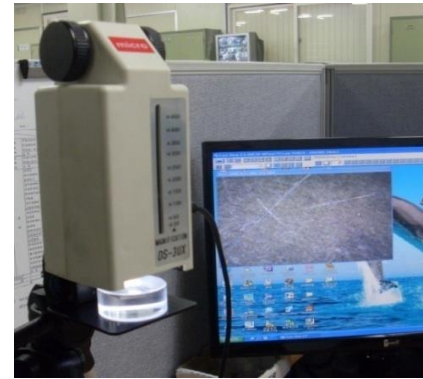
# Facilities - Inspection



OES Metal Analyzer  
& Hardness Machine



Tensile Strength  
Machine



Microscope



Concentricity



Flatness Measuring



3 Dimension Coordinate  
Measuring Machine



Ultrasonic Detector



Shape Measuring  
Machine

## Facilities - Test



Bush test machine 1

◆Scope

Load : 1 ~ 30,000 kgf  
 Velocity : 1 ~ 40 RPM  
 Angle : 0 ~ 360 °  
 Dimension : Ø60 x Ø75 x 60 L

◆ Digital Monitoring

Load  
 Inner Temperature  
 Coefficient of Friction  
 Torque  
 Degree of rotation  
 Cycle time/ Elapsed time



Plate test machine 1

◆Scope

Load : 1 ~ 500 kgf  
 Velocity : 1 ~ 200 RPM  
 Distance: 150mm (1 Cycle)

◆ Digital Monitoring

Load  
 Coefficient of Friction  
 Push/Full Load  
 Speed  
 Cycle time/ Elapsed time



Plate test machine 2(For high tem.)

◆Scope

Load : 1 ~ 1,000 kgf  
 Velocity : 1 ~ 60 m/min  
 Distance: 100mm (1 Cycle)  
 Temperature : Room tem. ~ 300°C

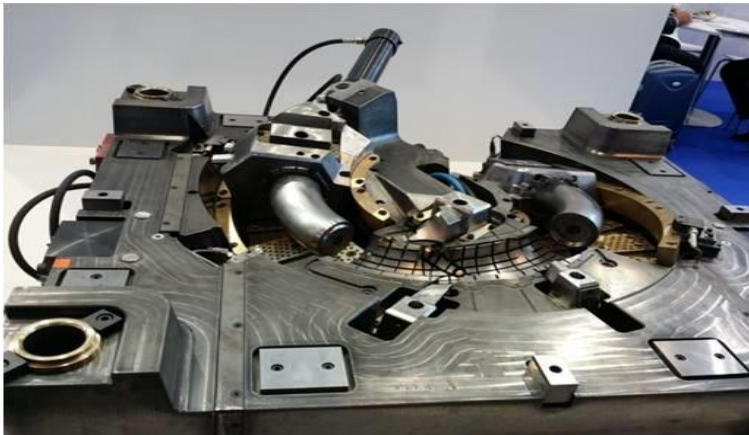
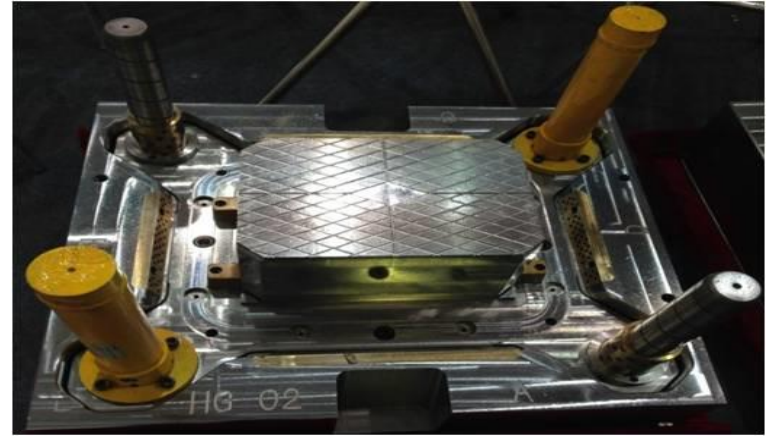
◆ Digital Monitoring

Load  
 Coefficient of Friction  
 Push/Full Load  
 Speed  
 Cycle time/ Elapsed time

# 04 Applications

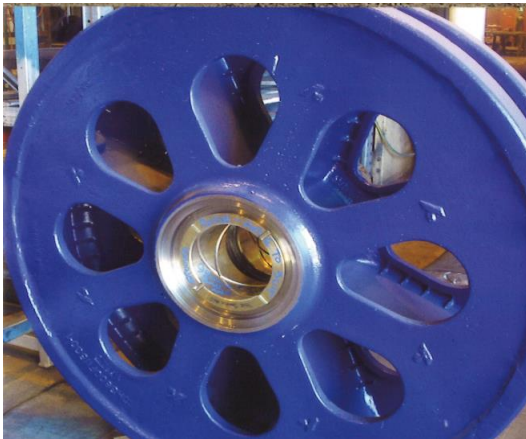
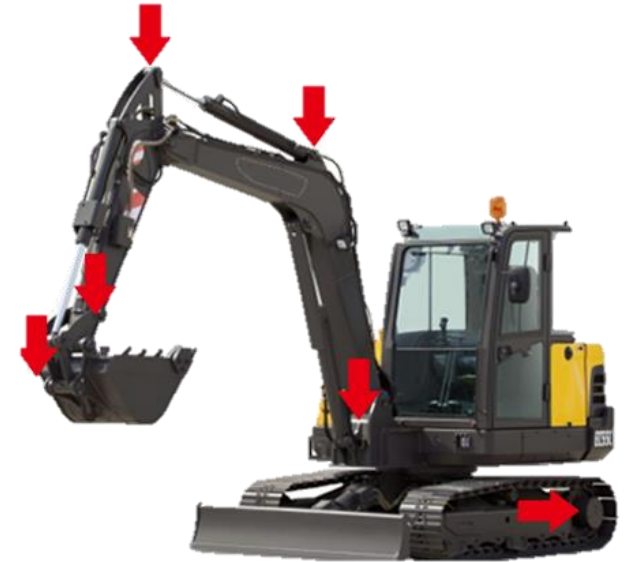


## Application - Mold

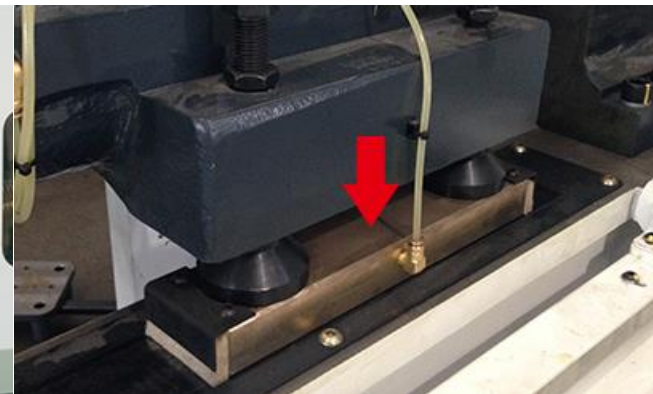
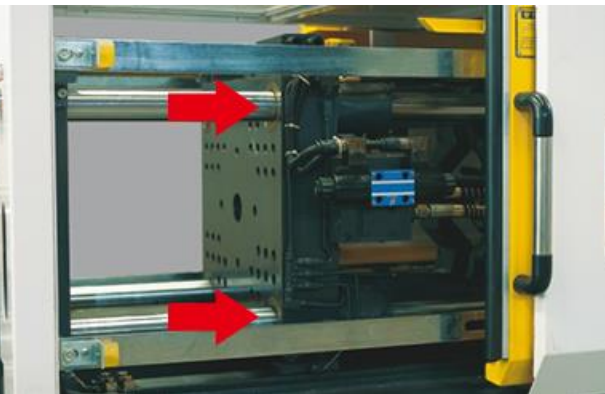
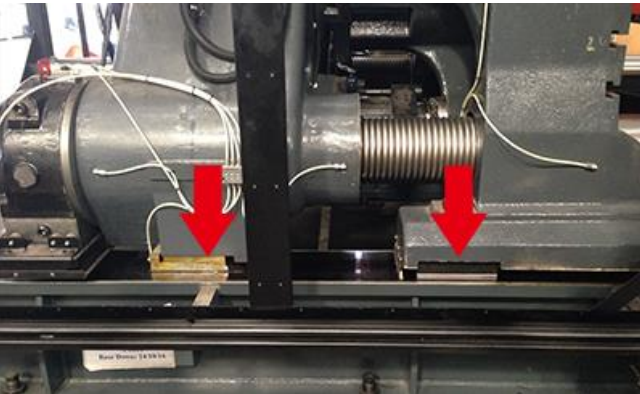
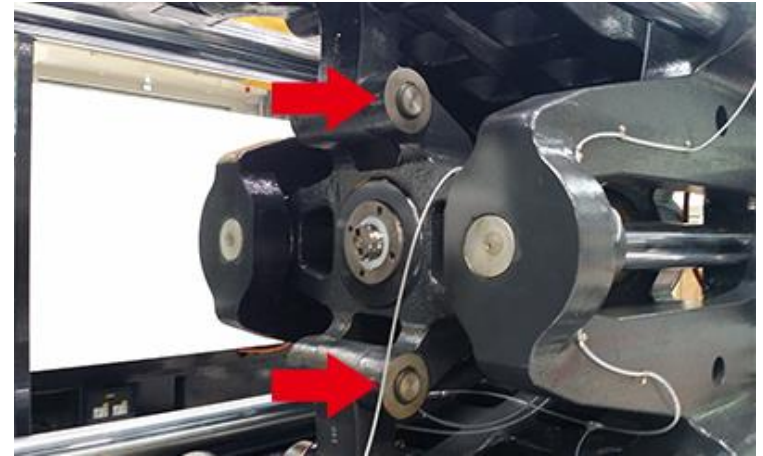




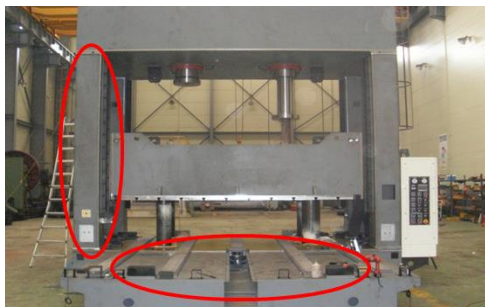
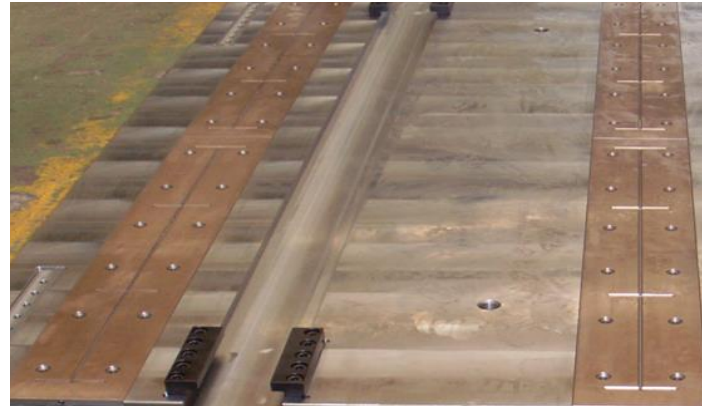
## Application - Construction



## Application – Plastic injection molding machine

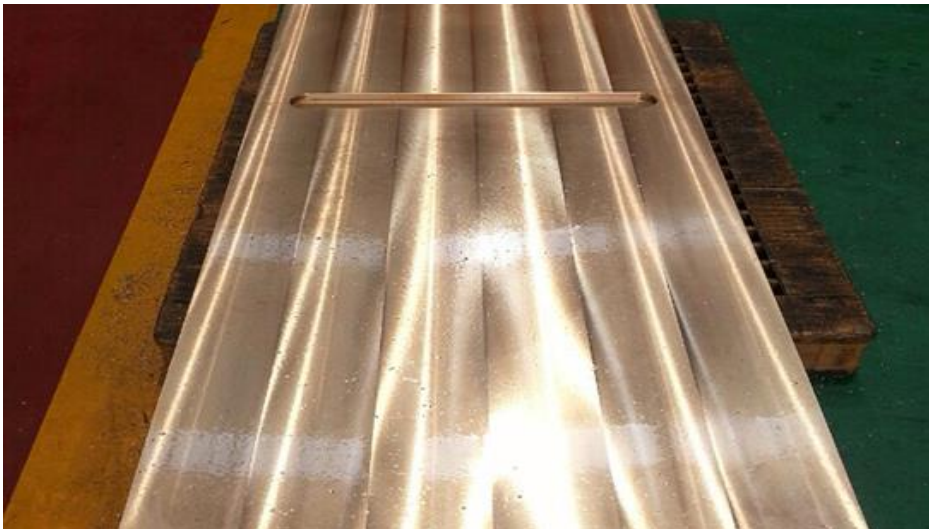


## Application – Hydraulic press



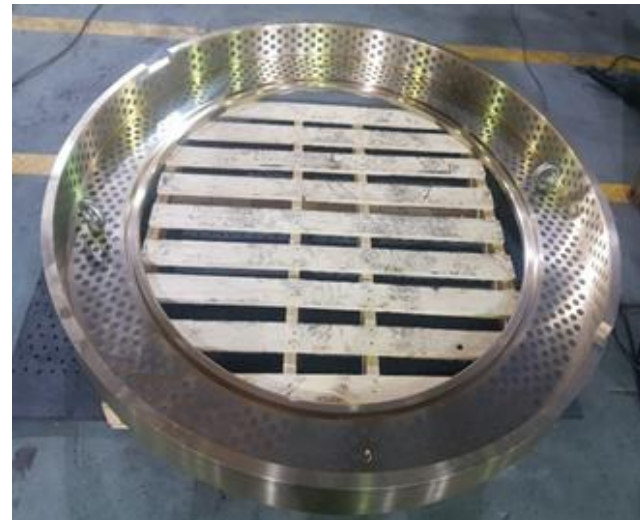
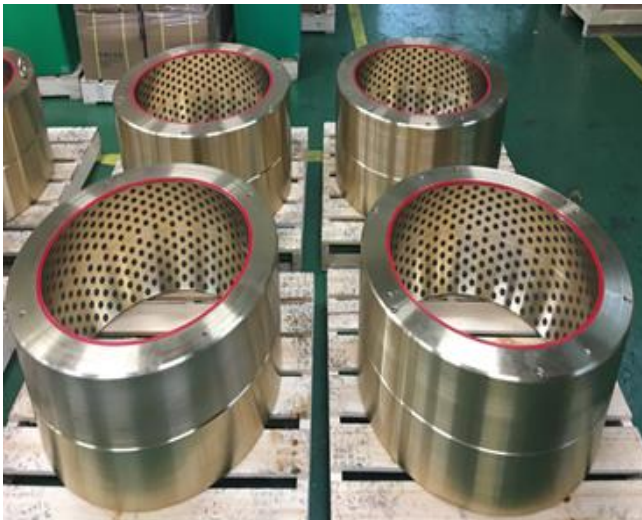
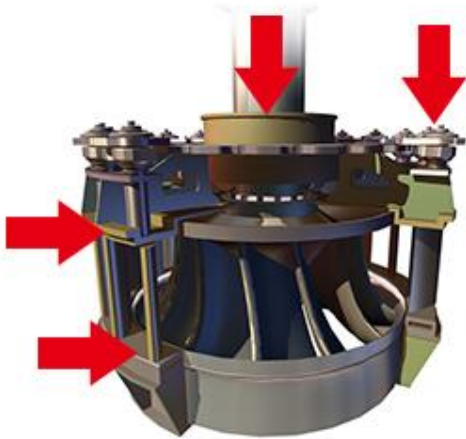


## Application – Steel

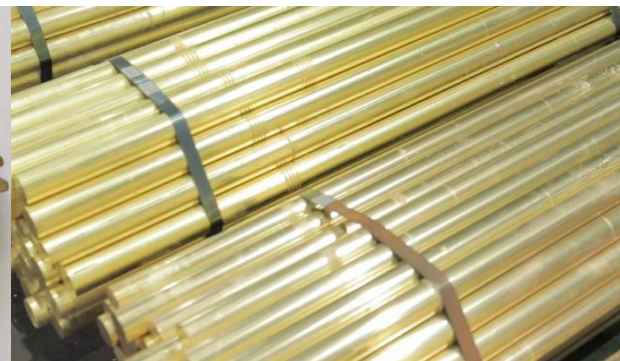
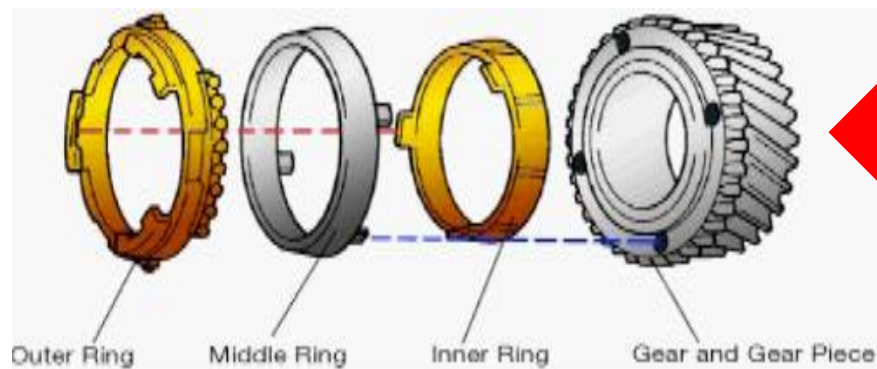




## Application – Construction



## Application – Automotive



# 05 Supply List



# Main Customer

## Mold

- GM (Sungameng)
- Misumi Korea
- VW (STRACK Norma GmbH)
- FIAT (SYNDAL)
- HASCO Normalien

## Construction

- Volvo Korea
- BRADKEN ® (Hitachi)
- DY Power
- SUMITOMO
- SH PAC

## Steel

- POSCT
- Hyundai Steel
- Hyundai Rotem

## Plastic injection molding machine

- Woojin Plaimm
- LS mtron, Dongshin Hydraulic
- Engel Korea
- The Japan Steel Works(JSW)
- UBE MACHINERY CO.,LTD
- Ferromatik Milacron Pvt Ltd

## Dam & Power plant

- K-water
- Korea Hydro & Nuclear Power Co.,Ltd
- Mitsubishi Heavy Industries Ltd Shipyard

## Hydraulic press

- SIMPAC
- Hwail PRESS
- Hwall Plus

# 06

## Characteristics of SGO products





## Characteristic and strength of SGO products

Material	Characteristic and strength of SGO products	Note
#500	One-stop process (Alloy -> Continuous casting -> Extrusion)	
	Solid Lubricant Plugs Production - British Graphite Powder (JAMES DURRANS & SONS)	
	Improvement of Plug Shape Conical-shaped plugs for Wear Plates.	Design application(10-2018-0055859) (#8)
	Strengthen adhesion of lubrication plugs for BUSH. (Heat treatment → press into metal and heat treatment) - Improvement of strengthen adhesion : 85.7kgf/cm <sup>2</sup> → 184.1kgf/cm <sup>2</sup>	patent application(10-2018-0068884) (#9)
#200	Improvement of velocity comparing to SGO #500	
	Price Competitiveness comparing to SGO #500	
	Excellent Sliding and improved life time for #500 PLATE	Test report of Volkswagen (#3)

Thank you!

