



DKS

INNOVATIVE TECHNOLOGY
FOR POWDER METALLURGY

| Greetings |



Greetings

Realize customer value
with confidence and
technology.

Established in 1997, Daekwang Sinter Metal is a sintered parts manufacturer that mainly produces automotive products as well as home appliances and machinery products.

The company obtained the Hyundai-Kia Motors' SQ-MARK (Supplier-Quality mark) and IATF-16949 certification to build an effective management system under management philosophy of quality competitiveness.

In 2014, DKS relocated to a new building in Hyeonpung, Daegu, and established a head office and two plants for a new leap forward. The company strive to build an automated manufacturing system and a quality assurance system to manufacture the parts reliably.

Daekwang Sinter Metal will exert its efforts to develop into the 21st century as an eco-friendly company that discovers talented people based on the management philosophy of human respect and care about the environment.



History

Create a
better future.

- 1997. 05. DKS was established.
- 2003. 09. Firstly certified with ISO/TS 1649:2002 within the PM industry
- 2005. 07. Obtained approval for R&D center
- 2005. 08. Start production in chinese joint factory (capital: USD 600,000)
- 2005. 10. Selected as a specialized enterprise for materials and components by the Ministry of Trade, Industry and Energy
- 2006. 03. Obtained the Hyundai-Kia Motors' SQ-mark - Goryeong plant
- 2007. 02. Relocated the company (Goryeong, Gyeongbuk / 6,942 m²)
- 2014. 04. Established a new plant (Hyeonpung, Daegu / 13,848 m²)
- 2014. 09. Obtained the Hyundai-Kia Motors' SQ-mark - Hyeonpung plant
- 2015. 10. Selected as a Daegu STAR company
- 2018. 05. Obtained the IATF 16949:2016 certification

| Company Profile |



● Head Office (Hyeonpung Plant)



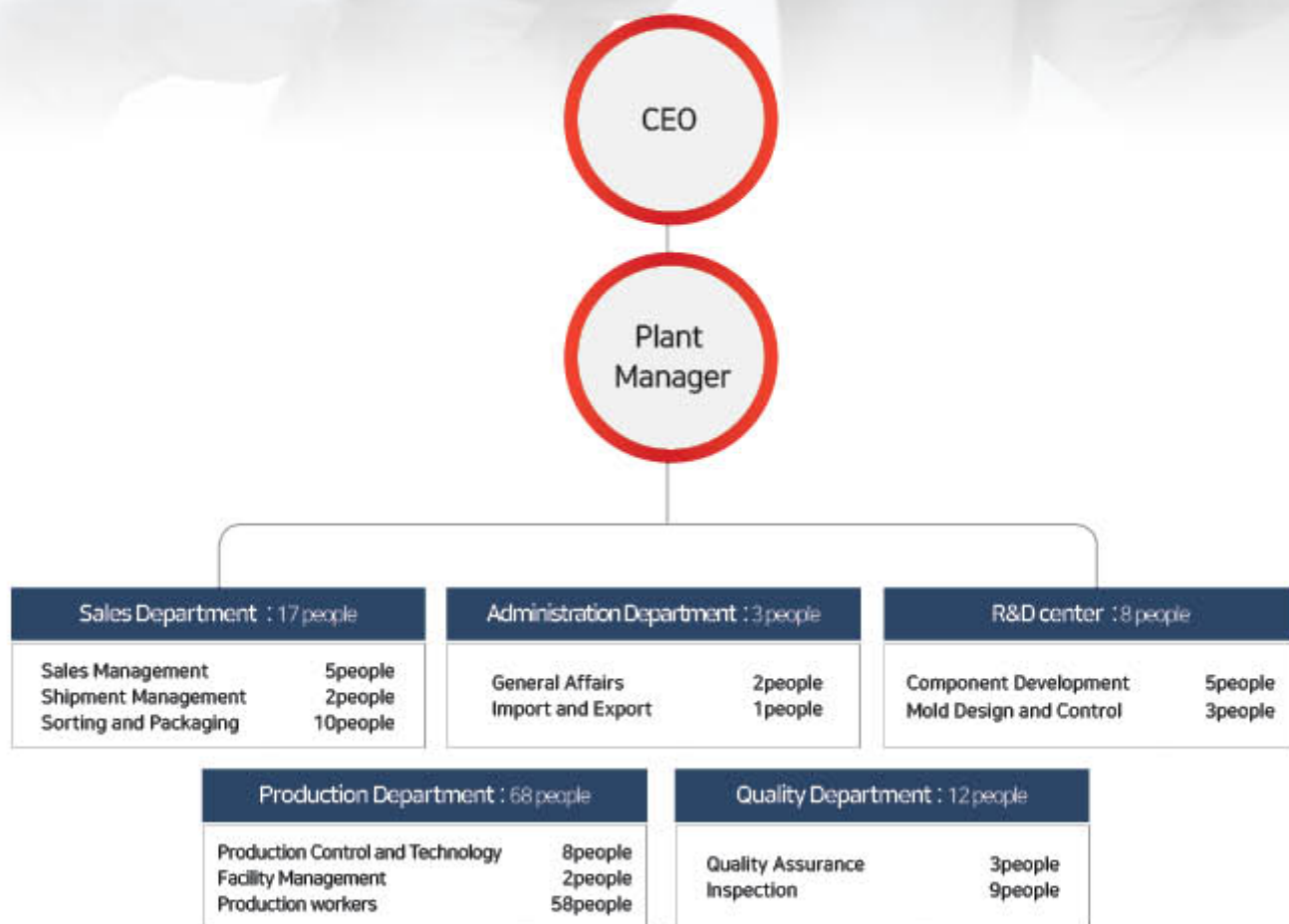
- Year of Establishment: 2014
- Address: 49, Techno sunhwan-ro 3-gil Yuga-myeon, Dalseong-gun, Daegu
- Factory Site: 13,848 m²
- Factory Floor Space: 7,244 m²
- Number of Employees: 77 people

● Goryeong Plant



- Year of Establishment: 2007
- Address: 248-9 Beolji-ro, Dasan-myeon, Goryeong, Gyeongsangbuk-do
- Factory Site: 7,052m²
- Factory Floor Space: 2,586m²
- Number of Employees: 33 people

Organization



Executive | 2 people

manager | 41 people

Production workers | 67 people

Total Number of Employees | 110people

[Head office(Hyeonpung plant) : 77people, Goryeong Plant: 33people]

| Main Customers |

Domestic Customers

		
		
		
		
 제트앤프삭스코리아		
		



●● Global Customers



India



Thailand



Canada



China



Mexico



The United States



Certification and Patent

Quality Certification (Head office)



IATF 16949



ISO 9001



SQ-MARK

Quality Certification (Goryeong Plant)



IATF 16949



ISO 9001



SQ-MARK



Certification



IBK Small Grant in Technology



INNO-BIZ



Star Company

Patent



Patent Certificate 1



Patent Certificate 2



Patent Certificate 3

Multistep Powder Feeding / Pressing Device and Manufacturing Method of Product by Using the Same

Powder Metallurgy Compact Aligning Distributor

Oil Pump with Helical Gear Structure

Process



- | | | |
|---|------------------|---|
| 1 | Raw Material | Uses many kinds of highly purified powders such as iron-base, bronze-base, stainless-base, etc. |
| 2 | Mixing | Mixes raw materials evenly to customer needs and characteristics. |
| 3 | Compacting | Fills mixed powder into a mold and applies optimal pressure to shape a product. |
| 4 | Sintering | Applies heat lower than the melting point to metal particles diffuse and bond. |
| 5 | Post Processing | An additional processes for when properties such as higher precision, higher strength, wear resistance is required. |
| 6 | Inspection | Check the dimensions and material properties to meet customer's requirements. |
| 7 | Finished Product | |



Manufacturing Facilities



Automatic unloader



Automatic Sizing Machine



Vision Inspection Machine

Process	Facility	By Plants		Total
		Hyeonpung Plant	Goryeong Plant	
Mixing	1000Kg Mixer	2	1	3
	350Kg Mixer	-	1	1
	Total	2	2	4
Compacting	300Ton Press	2	-	2
	250Ton Press	1	-	1
	200Ton Press	1	-	1
	130Ton Press	1	-	1
	100Ton Press	8	1	9
	60Ton Press	5	-	5
	40Ton Press	1	-	1
	30Ton Press	2	2	4
	20Ton Press	5	8	13
	10Ton Press	-	1	1
	5Ton Press	-	2	2
	Total	26	14	40
Sintering	24inch Furnace	4	-	4
	18inch Furnace	1	2	3
	12inch Furnace	-	1	1
	8inch Furnace	-	1	1
	Tempering Furnace	1	-	1
	High Temp. Furnace	1	-	1
	Total	7	4	11
Sizing	300Ton Press	1	-	1
	200Ton Press	2	-	2
	110Ton Press	1	-	1
	60Ton Press	3	1	4
	30Ton Press	-	2	2
	15Ton Press	-	9	9
	10Ton Press	-	2	2
	Total	7	14	21
Others	Oil Impregnator	2	6	8
	Deburring Machine	2	3	5
	Steam Treatment Furnace	1	1	2
	Shot Peening	1	-	1
	Total	6	10	16

Inspection Equipments



Three-Dimension
Coordinate Measuring Machine



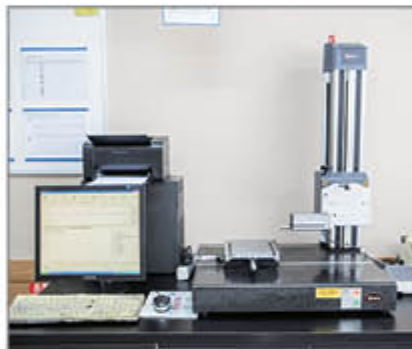
U.T.M



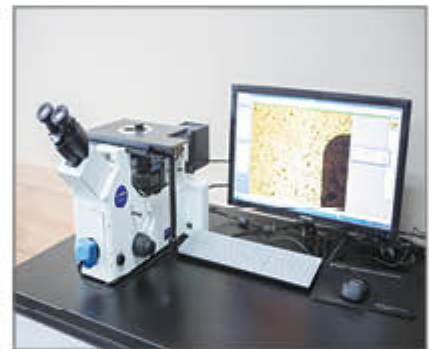
Roundness Tester



Shape Measuring Machine



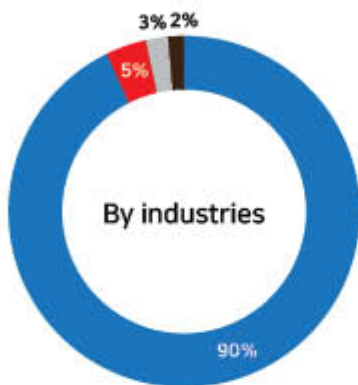
Surface Roughness Tester



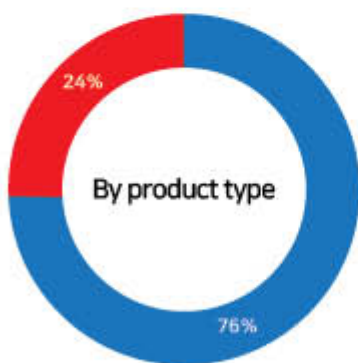
Microscope

Equipment	Manufacturer	Measuring Range	Measuring Object	Total
Three-Dimension Coordinate Measuring Machine	CARL ZEISS	-	Shape and Dimension	2
Shape Measuring Machine	MITUTOYO	$\pm 2 \mu\text{m}$	Shape	1
Surface Roughness Tester	CV-INSTRUMENTS	$\pm 2 \mu\text{m}$	Roughness	1
Profile Projector	S-T	$\times 10, \times 20, \times 50$	Shape and Dimension	1
U.T.M	DAEKYUNG TECH	10 Ton	Strength	1
Height Master	Mahr	600 mm MAX.	Height	1
Rockwell Hardness Tester	MITUTOYO	HRA, HRB, HRC	Hardness	2
Vickers Hardness Tester	MATSUZAWASEIKI	Hv	Hardness	1
Roundness Tester	MITUTOYO	$\pm 2 \mu\text{m}$	Shape and Roundness	1
Gear Tester	G&G	-	Gear Accuracy	1
Microscope	OLYMPUS	-	Metallic Structure	1

Products



Automotive Products	90%
Home Appliance Products	5%
Industrial Machinery Products	3%
Others	2%



Machine Products	76%
Oilless Bearings	24%

Automotive Products

Oil pump parts



Start motor parts



VCT parts



Transmission parts



Actuator motor



Steering Parts



Shock absorber parts



EGR Valve parts



MOC parts



Seat Parts



Window, Wiper, Sunroof, Fan motor parts



or parts



Oilless Bearings

Features

Oilless bearing does not require periodic lubrication using a pore, which is the biggest feature of a sintered part. It reduces friction force during a slide. The oil contained in the pores flow out during shaft rotation to form an oil film and reduce the frictional force. When the shaft stops, the discharged oil is sucked back into the pores due to capillarity.



Industrial Machinery Products

Application

1. Home Appliance Products
2. Heavy Equipment Products
3. Power Tool Products
4. Agricultural Machinery Products
5. Motorcycle Products



Special Process

Warm Compaction

Features

It is a compacting procedure that increases compact density by about 4% compared to general compacting (cold compacting) at the same compacting pressure by heating metal mold and powder to a temperature of the lowest yield point of iron (Fe). It is suitable for manufacturing high-strength products.

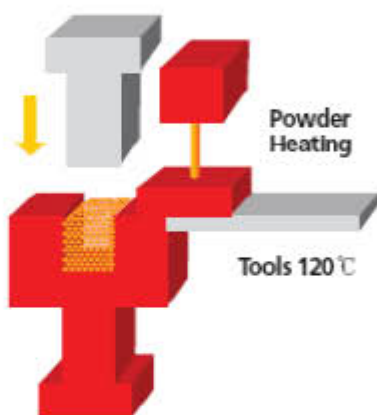
DKS

High Density

High Strength

Cost Reduction

CUSTOMER



Sinter Hardening

Features

Sinter hardening is a manufacturing technology combining sintering and heat treatment processes into a single process by developing materials with excellent hardening ability and increasing cooling rate of cooling zone during sintering. The benefits of this process are as follows:

- Eliminates the need for extra heat treatment.
- Minimizes the distortion of parts due to air cooling instead of oil quenching.

DKS

Process Simplification

Dimensional Accuracy Improvement

Cost Reduction

CUSTOMER

