

# WELLFAR – Leading Supplier of Engine Parts

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# History and Achievements

# 01



# History of Company Development

Founded in 2003

2003  
i WELLFAR HK Ltd

2006  
i WELLFAR ENGINE PARTS LTD.

2009  
i First OE-deliveries HONEYWELL

2010  
i Wuxi Weiyifa Sealing Ring

2014  
i FONATEC Wuxi Turbo Parts

2015  
i OE-Deliveries WEIFU TIANLI, BORGWARNE R, IHI, GREATWALL

2017  
i NOVOTEC Electric Actuator

2018  
i Wuxi Wellfar listed on the stock exchange (stock code: 872893)

2019  
i Sales office in Brazil

2020  
i Acquisition of Dongfeng Piston Ring Company

2023  
• Merger and acquisition of Dongfeng Investment Casting

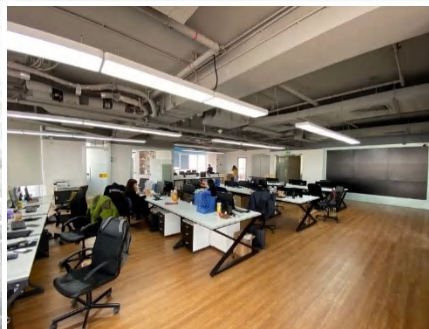


# Company Structure

## 5 main divisions

WELLFAR

WELLFAR  
ENGINE PARTS



FONATEC Wuxi  
Turbo parts



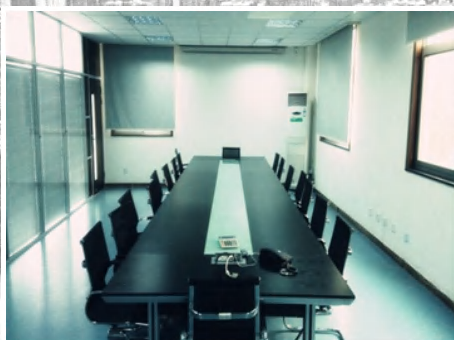
NOVOTEC Electric  
Actuator



WUXI WELLFAR PRECISION  
MACHINERY



DONGFENG Investment  
Casting





# Company Structure

DONGFENG Investment Casting

WELLFAR

Dongfeng Motor Corporation (DFM)

Dongfeng Wellang  
Dongfeng Yulong  
Dongfeng Yueda Kia

Dongfeng Automotive Group Shareholding Co., Ltd

CV VOLVO  
PSA  
HONDA  
RENAULT

Dongfeng Motor Co., Ltd.

Nissan Motor Co.

DONGFENG Investment  
Casting





# Company Structure

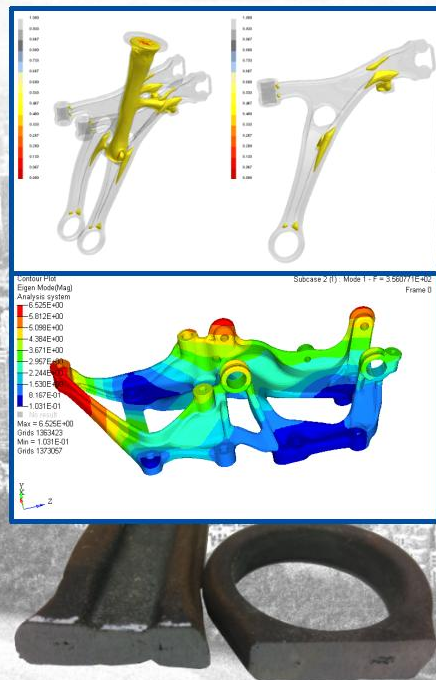
## DONGFENG Investment Casting

WELLFAR

Manufacturing



Engineering and Testing



Improvement of OE-parts



3D Printing



DONGFENG Investment Casting





# Company Structure

## Joint Ventures

WELLFAR

CYLINDER LINERS & BEARINGS

PISTONS

- > 50 years experience
- Leading supplier of parts for OE
- > 15% international market share
- > 45% internal market share
- National standards developer
- Quality standards ISO9002, ISO / TS16949, ISO14001, OHS18000, IATF16949:2016
- **Performance: 2 cylinder liners per second and 1 piston per two seconds**



# Company Structure

## Production geography

### COUNTRY:

- CHINA

### CITIES:

- HONG KONG
- GUANGZHOU
- SHANGHAI
- WUXI

3 OWN PLANTS

2 MAIN COMPANIES

WELLFAR Engine Parts

WUXI WELLFAR PRECISION MACHINERY

FONATEC Wuxi Turbo Parts

NOVOTEC Electric Actuator

WELLFAR HK



# Certificates of Conformity

ISO 9001 certificate obtained in September 2021





# Developer of Systems and Components

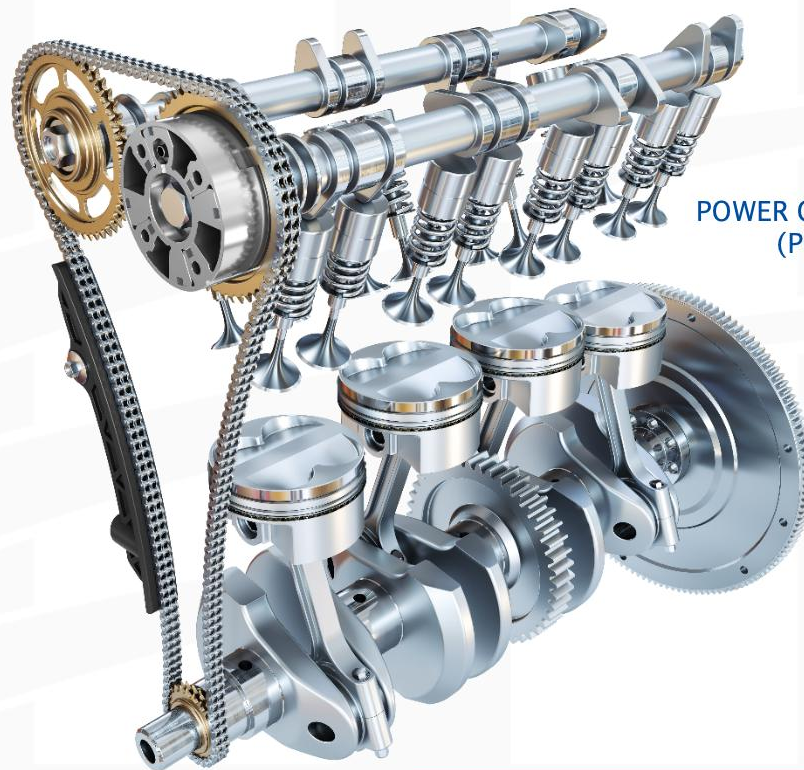
GASKETS AND SEALS

VALVE SYSTEMS

BEARINGS

POWER CELL UNIT  
(PCU)

TURBOCHARGER COMPONENTS



**WELLFAR is an international developer of automotive systems and components**



# Partner of International Automobile Concerns

## Car and Truck Manufacturers

- 
- FAW
  - DONGFENG
  - JAC
  - SHAANXI
  - SINOTRUK
  - FOTON MOTOR
  - SANY
  - PSA
  - NISSAN
  - HONDA
  - WEICHAI
  - RENAULT
  - RVI
  - SCANIA
  - VOLVO
  - IVECO
  - MAN
  - CATERPILLAR
  - CUMMINS
  - DEUTZ
  - BMW
  - DAIMLER
  - GENERAL MOTORS
  - MITSUBISHI
  - NISSAN
  - TOYOTA
  - VW/AUDI
  - POLARIS
  - CFMOTO
  - AION
  - BAIC
  - BAW
  - BRILLIANCE
  - BYD
  - CHANGAN
  - CHANGFENG MOTOR[EN]
  - CHERY
  - CHTC[EN]
  - EXEED
  - GAC
  - GEELY
  - GEELY GALAXY
  - GEELY GEOMETRY
  - GOLDEN DRAGON
  - GREAT WALL
  - HAIMA
  - HAVAL
  - HIGER
  - HIPHI
  - JETOUR
  - LIFAN
  - SKYWELL
  - TANK
  - VOYAH
  - YUTONG
  - ZEEKR



# Achievements [2023]

> 30 000 M<sup>2</sup>

PRODUCTION FACILITIES



> 3 000

SPARE PARTS RANGE

> 100

OE&OES MANUFACTURERS



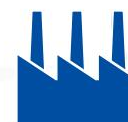
> € 1 billion

TURNOVER



3

OWN PLANTS



> 500

ENGINEERS



> 6000

EMPLOYEES



> 150

BUSINESS PARTNERS



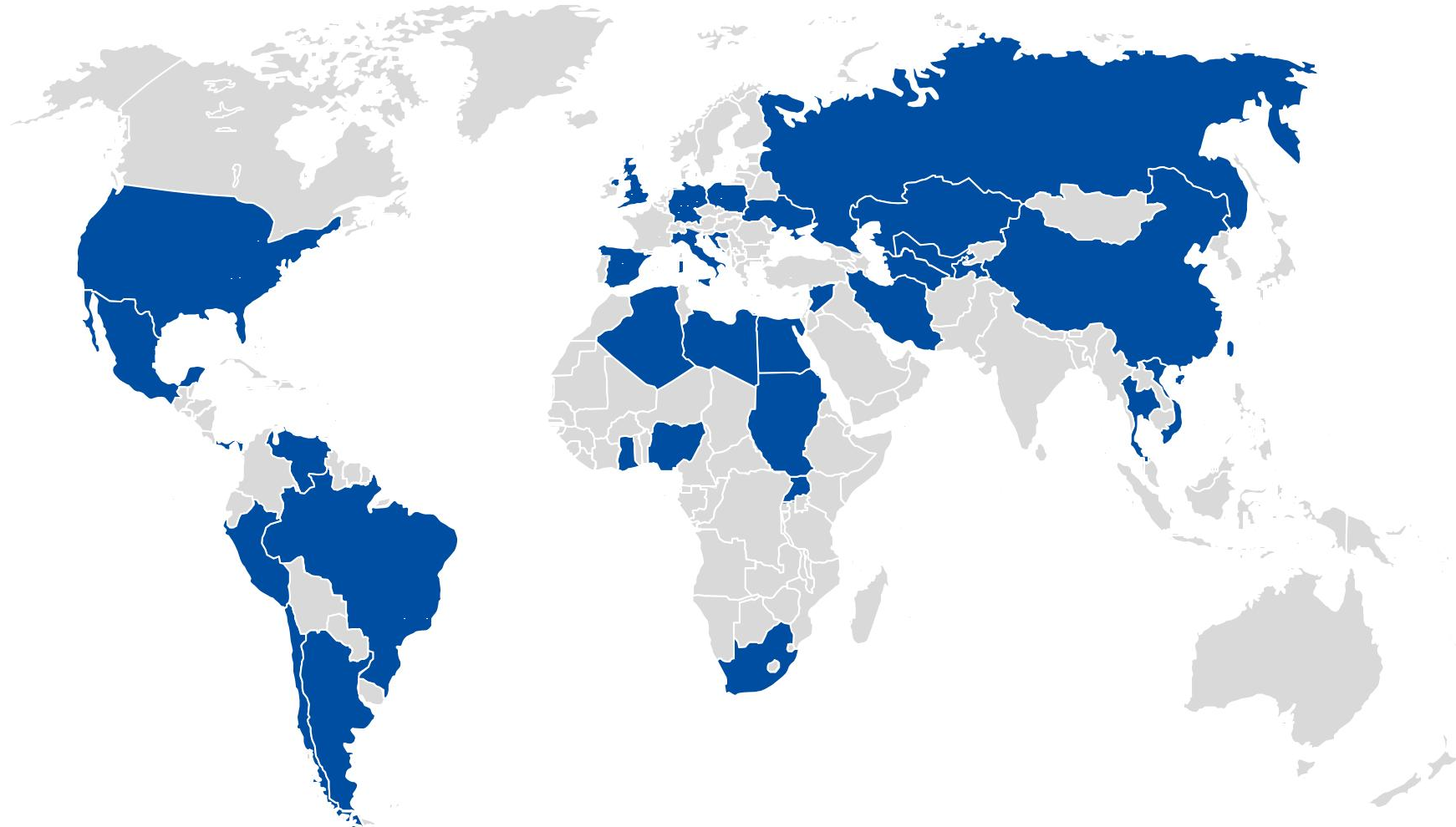
# Geography of Market Presence

# 02



# Geography of Market Presence

Over 30 countries on 5 continents



# Portfolio

# 03



# Portfolio

POWER CELL UNIT	CRANK PARTS	GASKETS AND SEALS	MOUNTING PARTS	TURBOCHARGER COMPONENTS	ELECTRIC ACTUATORS	THERMOSTATS
Pistons	Crankshafts	Oil pan	Cylinder head bolts	Drive units	Actuators and switches	Map-controlled
Piston rings	Camshafts	Cylinder head	Cylinder block studs	Seals	High performance electronics	Insert
Cylinder liners	Bearings	Seals	Nuts	Variable geometry turbo (VTG)	Electric drive system	Heavy duty
Valves and valves guides	Connecting rods		Washers			Housing
Power cell units						

# Portfolio





# Packaging Design



# Product Advantages

# 04



# Pistons



# PISTONS

## Advantages

- > 500 SKUs
- Supplied as OE&OES parts
- Best practices of global manufacturers
- Individual approach for each customer
- High precision manufacturing
- Optimal oil and fuel consumption
- High reliability and long service life
- Cast, forged, light-alloy and steel
- Diameters 50 mm to 158 mm
- Automated manufacturing lines
- Quality Guarantee





# Labeling

## Piston packaging

LOGO

Product line

Branded packaging



QR code to the company website

Information sticker:

- Part number
- Production month
- Country of origin

# Labeling

## Piston crown





# Piston types

History of the light alloy piston development



# Piston types

History of steel piston development





# Coating types

GRAPHITE



TINNING



SPECIAL COATINGS



GALVANIZING



WITHOUT COATING



PHOSPHATING



# Manufacturing of light alloy pistons

Technological process

## CAST PISTONS



CASTING



TESTING



MECHANICAL  
PROCESSING



COATING



QUALITY CONTROL



KITTING, PACKING,  
SHIPMENT

## FORGED PISTONS



BLANK CASTING



FORGING



MECHANICAL  
PROCESSING



COATING



QUALITY CONTROL



KITTING, PACKING,  
SHIPMENT



# Manufacturing of steel pistons

Technological process

## CAST PISTONS



CASTING



PRE-PROCESSING



MECHANICAL  
PROCESSING



COATING



QUALITY CONTROL



KITTING, PACKING,  
SHIPMENT

## FORGED PISTONS



BLANK CASTING



FORGING/FRICTION  
WELDING



MECHANICAL  
PROCESSING



COATING



QUALITY CONTROL



KITTING, PACKING,  
SHIPMENT

# Manufacturing

## Piston plant

- > 15 000 000 pieces per year (30 pcs/minute)
- Location Shandong, Binzhou
- Area 5000 m<sup>2</sup>
- Founded 1984
- Certificate of Conformity ISO/TS16949
- 90% of the piston machining production line is CNC machines from world-class brands



**WELLFAR**



# Manufacturing





# Piston rings





# PISTON RINGS

## Advantages

- > 1200 SKUs
- Supplied as OE&OES parts
- Individual approach for each customer
- High precision manufacturing
- High pressure casting
- Special protective coatings
- Molybdenum, chromium and nitriding coatings for improved tribological performance and wear reduction
- DLC technology
- Diameters 47 mm to 158 mm



# Labeling

## Piston rings packaging

LOGO

Product line

Branded packaging



QR code to the company website

Information sticker:

- Part number
- Production month
- Country of origin



# Labeling

## Piston rings



# Parts design, terminology

## Coating design

- Cr (Chrome)
- CrC
- CrK (Chromoceramic coating)
- Fe (Iron oxide)
- Mo (Molybdenum)
- P (Phosphate)
- N (Nitrated)
- DLC Coating
- PVD (physical vapor deposition)

## Manufacturing material

- Cast iron
- Forged iron
- Hardened cast iron
- GNS
- Steel SAE 9254



# Piston ring manufacturing

Die casting, rolling of steel rings

## Technological process



RAW MATERIAL  
TEST



CASTING



MECHANICAL  
PROCESSING



COATING



FINISHING,  
LAPPING



QUALITY  
CONTROL



KITTING,  
PACKING,  
SHIPMENT

# WELLFAR Nanjing Piston Ring Plant

## Piston ring plant

- 120 000 000 pieces per year (230 rings per minute)
- 95 000 000 diesel engines
- 25 000 000 gasoline engines
- Location Nanjing, Jiangsu
- Area 200 000 m<sup>2</sup>
- Certificate of Conformity ISO/TS16949





# WELLFAR Nanjing Piston Ring Plant

## Piston ring plant





# Cylinder liners





# CYLINDER LINERS

## Advantages

- > 300 SKUs
- Supplied as OE&OES parts
- Individual approach for each customer
- High precision manufacturing
- Centrifugal casting
- Special protective coatings
- Diameters 5 cm to 215 cm
- Ideal combination of hone performance with piston and rings



# Labeling

## Cylinder liner packaging

LOGO

Product line

Branded packaging



QR code to the company website

Information sticker:

- Part number
- Production month
- Country of origin



# Labeling

## Cylinder liner

LOGO



Production month

### Part number

series	№	repair size
003	000001	000

003 - with seals

103 - without seals

# Types of cylinder liners

Dry cylinder liners



Wet cylinder liners



Finned cylinder liners





# Coating types

Without coating



Phosphating



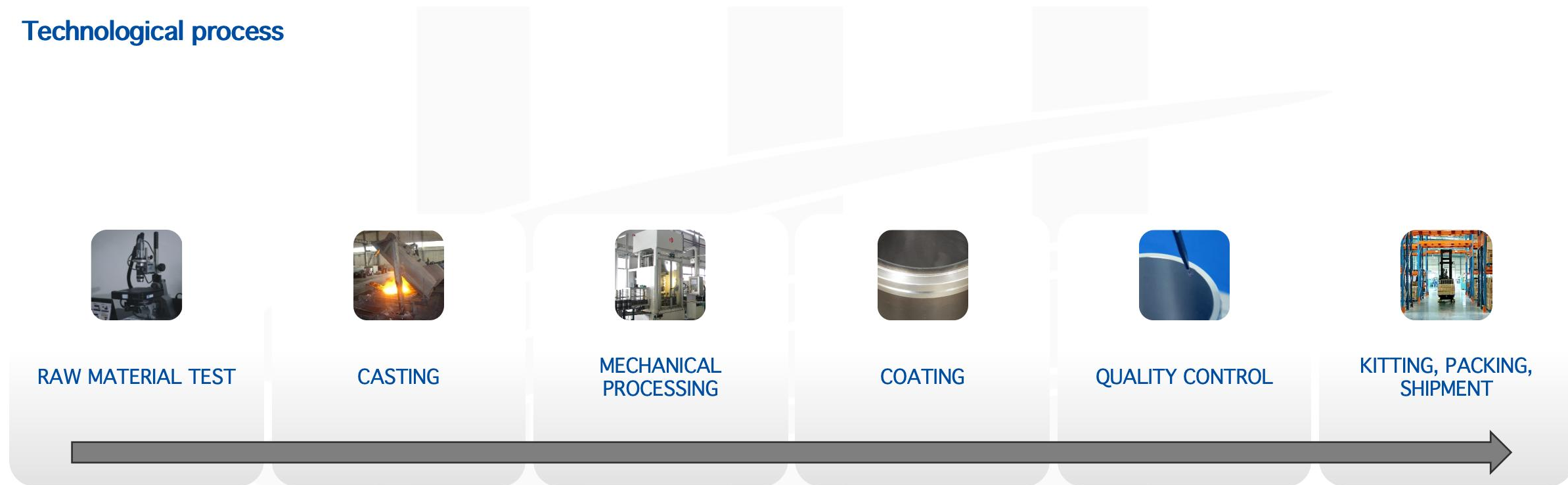
Quenching



# Cylinder liners manufacturing

High pressure centrifugal casting

## Technological process





# Manufacturing

## Cylinder liners plant

- > 65 000 000 a year (123 cylinder liners per minute):
  - PC - 35 000 000
  - CV - 25 000 000
  - Other vehicles - 5 000 000
- Location
- Area
- Founded
- Certificate of Conformity
- Automated manufacturing lines

Henan, Jiaozuo

5 000 m<sup>2</sup>

2005

ISO/TS16949



# Manufacturing

## Automated manufacturing line





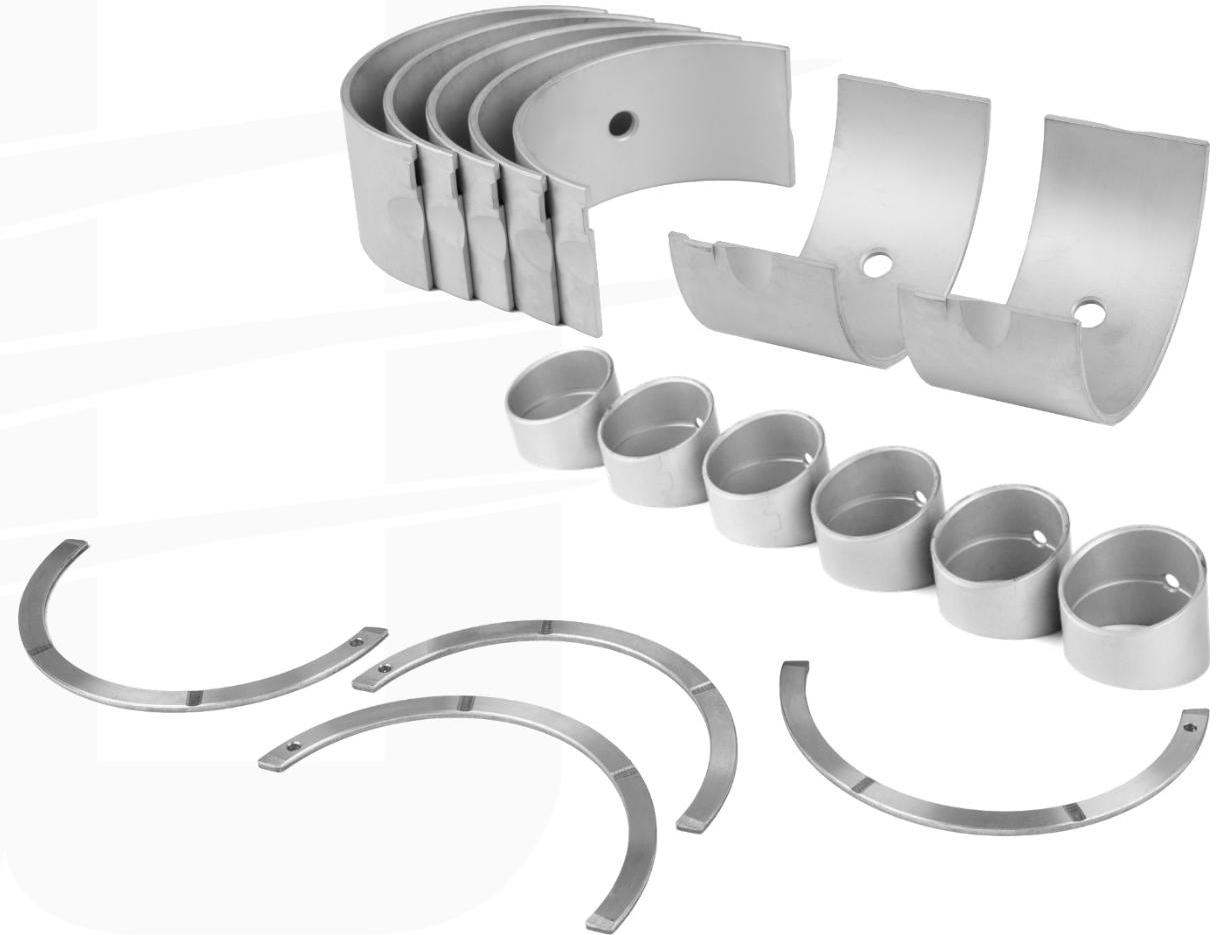
# Bearings



# BEARINGS

## Advantages

- > 200 SKUs
- Supplied as OE&OES parts
- Individual approach for each customer
- High precision manufacturing
- High quality aluminum and bronze based alloys
- Radial, thrust washers, main bearings, connecting rod bearings and camshaft bearings (bushes)
- Diameters 4 cm to 150 cm
- Up to 3 repair sizes
- Produced over 40 000 000 pieces per year
- Vacuum Magnetron Coating





# Labeling

## Bearings packaging

LOGO

Product line

QR code to the company website

Information sticker:

- Part number
- Production month
- Country of origin

Branded packaging



# Labeling

## Bearing



Logo and lot number

Repair size

### Part number

series	№	repair size
002	000001	000

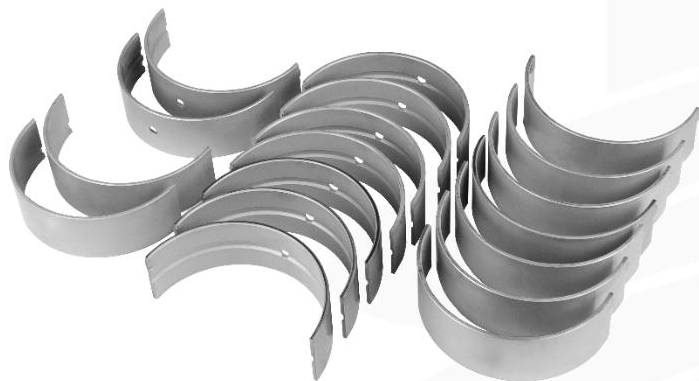
002 – bearing set for the engine

103 – bearing set for 1 crankpin



# Types of bearings

Main bearings



Connecting rod bearings



Camshaft bearings  
(bushes)



Thrust washers



# Coating types

## Bearing structure

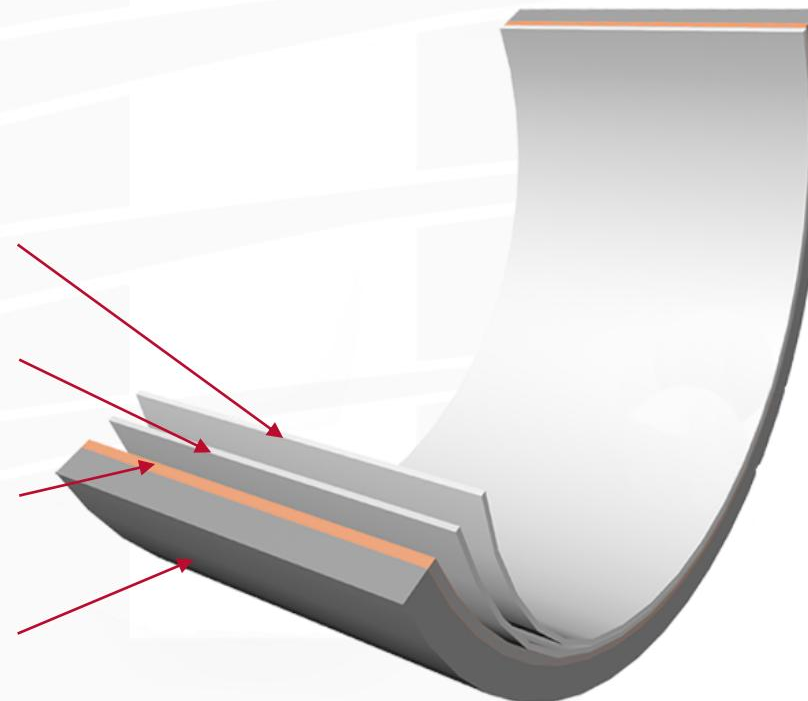
- Bimetallic
- Trimetallic
- Sputter bearings

Pre-work layer (Al, Sn)  
Sputter

Isolation layer (Ni, CrNi)

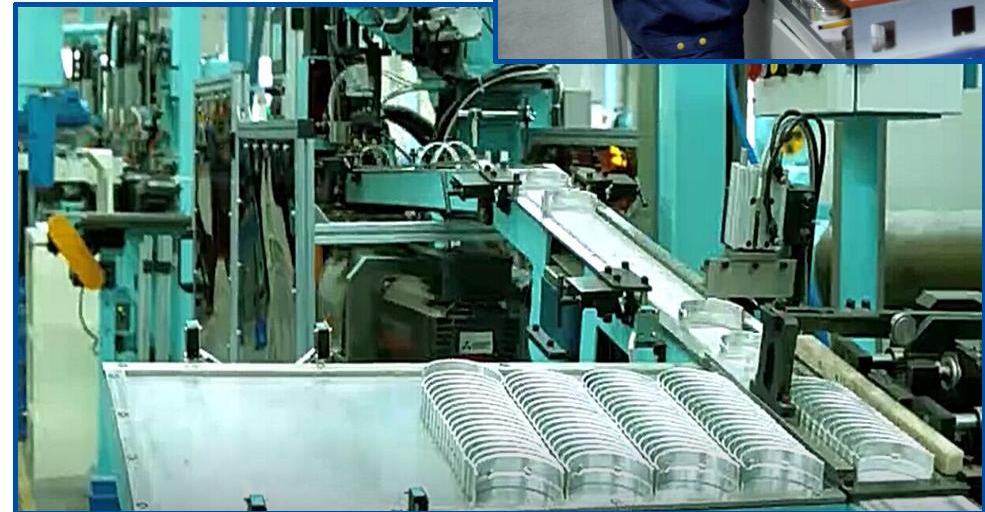
Antifriction alloy (Cu, Al)

Steel plate





# Manufacturing





# VALVES AND GUIDES





# VALVE SYSTEMS

## Advantages

- > 200 SKUs
- Supplied as OE&OES parts
- Individual approach for each customer
- High precision manufacturing
- High quality materials
- Intake and exhaust valves
- Valve guides in various materials
- Height 4 cm to 150 cm
- Sodium core valves



# Labeling

## Valves and guides packaging

LOGO

Product line

Branded packaging



QR code to the company website

Information sticker:

- Part number
- Production month
- Country of origin



# Labeling

## Valves



Logo and lot number

Valve type

Part number

series	№	repair size
001	-000001	-000

101 – 2 pcs set (price per 1 piece)

## Guides



Part number

series	№	repair size
122	-000001	-000

122 – 4 pcs set (price per 1 piece)

# Manufacturing

## Automated manufacturing line





# Electronic catalog WELLFAR

# 05

# Part numbers WELLFAR

## Part number

series      №      repair size  
**001-000001-000**

## Series name

- 101 – 2 pcs valves set (price per 1 piece)
- 122 - 4 pcs guides set (price per 1 piece)
- 002 – bearing set for the engine
- 102 – bearing set for 1 crankpin and bushes
- 003 – cylinder liner with seals set
- 103 – cylinder liner without seals set
- 005 – piston rings set for 1 piston
- 007 – piston kit with rings, pin and retainers





# Marketing and technical support

# 06

# Loyalty program

Creating loyalty to the WELLFAR brand



## Bonuses

For purchases



## Service station

TECHNICAL MESSENGER, SERVICE EQUIPMENT AND TOOLS



## Promo and POS

ONLINE CATALOG FOR SALES PROMOTION



## Technical trainings

VIDEOS, TESTS, CERTIFICATES



## Promotional Activities

SPECIAL PROGRAMS TO SALES PROMOTION



## Communication

E-MAIL NEWSLETTERS, CUSTOMER SUPPORT

Increased sales at all levels



# Technical support



# After sales support

## Warranty policy

- 12 (twelve) months for all types of vehicles
- 100 thousand kilometers of mileage - up to 3,5 tons
- 300 thousand kilometers of mileage - over 3,5 tons
- whichever comes first

## Technical support

- Technical consultation 24/7 (phone, e-mail)
- Product trainings
- Workshop trainings
- Webinars
- Trainings for students of higher education institutions
- Participation in forums and exhibitions





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WELLFAR GUANGZHOU

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Thank you for your attention!