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Global Major, SH PAC!

With dedication and innovation, SH PAC - now proudly a Global Major - is executing its highest effort for customer satisfaction.

SH PAC continues to grow as a hydraulic cylinder company from the efficiency built over its 40 years of technical knowledge and hands on experience.

Challenge of SH PAC, Since 1973

SH PAC is modeled after the concept of a quality first policy that is constantly challenging SH PAC to ensure our world class competitiveness. With the belief of "The Customer is always first," we strive to be the world's highest quality cylinder manufacturer.



1970's

- 1973 · Established Shin Hung Hard Chromium Plating
 76 Industry Co A partner company of Dongwoo precision machinery and affiliate of Kia Motors
 - Manufactured Chromed Piston Rods for Kia's two wheeled vehicles
- 1978 · Re-named Shin Hung Precision Machinery

1980's

- 1980 · Began production of brake pistons, piston rod shock absorbers, brake calipers and cylinder rods for heavy duty equipment
- 1985 · Expanded capacity up to 400K per month
 Became an approved vendor of Kia Group Automobile Parts
- 1987 · Introduced Total Quality Control (TQC)
- 1988 · Implemented automated plating lines in the mid -80s while maintaining first class quality control · The Kia Group presented SH PM with 2 awards
 - The Kia Group presented SH PM with 2 awards during the 80s - one for outstanding QC and the other for exceptional team work



1990's

- 1990 · Began production of Hydraulic Cylinders
 - Moved our manufacturing facility to JANG-LIM (1991)
- 1995 · Split our Chrome plating and Cylinder assembly line into two separate plants
 - Began production of a specialized Vehicle hydraulic cylinder
- 1997 · Acquired ISO 9002 certification
 Clark industries designated SH PM as Best Supplier of the year

2000's

- 2000 · Volvo Construction Equipment designated SH PM as Best Supplier of the year
 - · Moved the cylinder manufacturing plant to a new location
 - Acquired ISO 9001 and 14001 certification
 - Increased monthly production capacity to 15,000
- 2006 · Split chrome plating and cylinder manufacturing into two separate entities
- 2007 · Incorporated a new in-house R&D center
- 2009 · Established a new North American entity, SH PAC USA Inc.
 - Hitachi Construction Equipment certified SH PAC as a Technical Cylinder Manufacturer

2010's

- 2010 · Increased cylinder assembly capacity to 25,000 per month
 - Designed and constructed a new high tech cylinder manufacturing plant located in HWA-JOEN Busan
 - plant located in HWA-JOEN Busan
 Caterpillar certified SH PAC's Paint and Chrome plating lines
- 2013 · Increased export sales by \$30 ~14 million in 2013 and \$50 million in 2014
- 2014 · Established a new Asia entity SH PAC Japan
 - Busan, South Korea awarded SH PAC with a Leading Company Certificate



SH PAC, The First & The Best

PRODUCTS

Customer oriented and is known as a World Class leading High Tech company

advance

uality

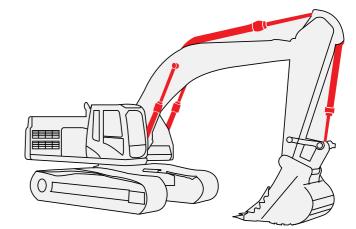
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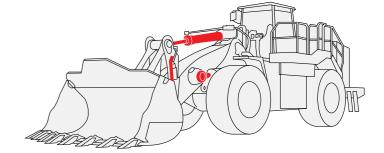
Excavator (2.5t~120t Class)





Wheel Loader (2.5t~45t Class)

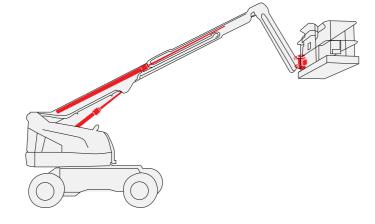




Delivering out **Trust** to Customers

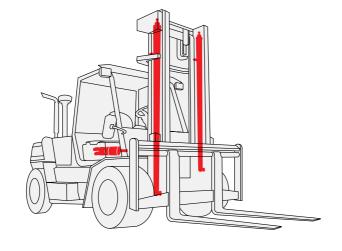
Aerial Work Platform (2.5t~45t Class)





Fork Lift (1t~25t Class)

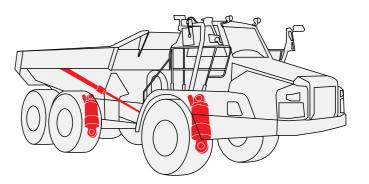




Providing the Superlative Quality and Value

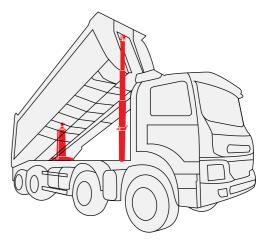
Articulating Dump Truck (30t~40t Class)





Commercial Vehicle & Dump Truck (2.5t~24t Class)





Production Equipment _____

Hydraulic Cylinder Production Facilities













SH PAC

- Friction Welding
 Friction Welding
 Tube Cutting
- 4. Auto Assembly Machine5. Auto Assembly Machine6. Performance Test

Hydraulic Cylinder Rod Production Facilities







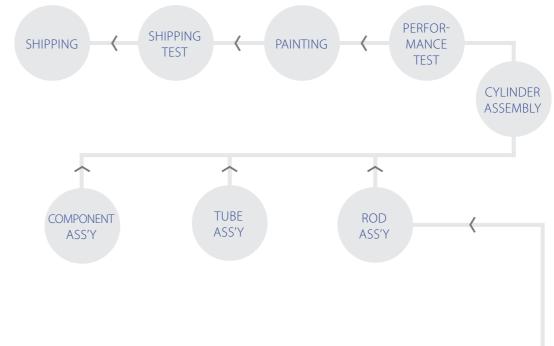


Shinhung Precision Machinery

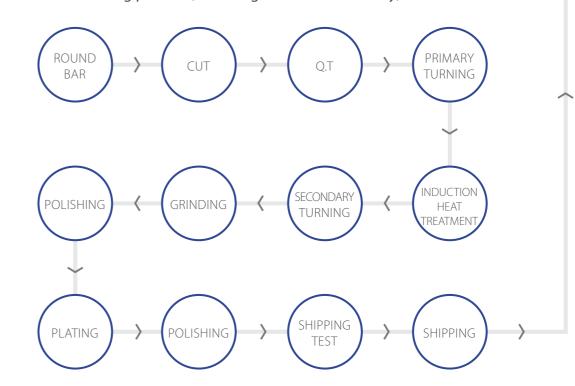
- 1. Machining Line
- Grinding Line
 Buffing Line
- 4. Hard Cr Plating Line

Manufacturing Process _____

• Cylinder manufacturing process (SH PAC)

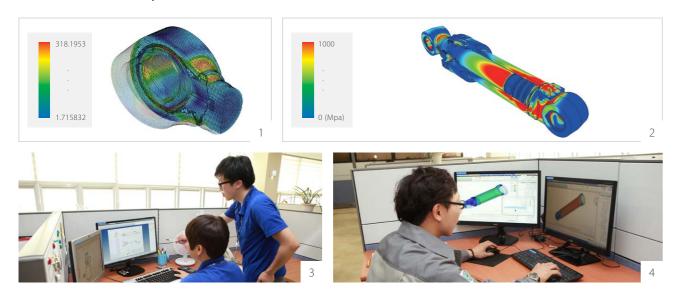


• ROD manufacturing process (Shinhung Precision Machinery)



Research & Development _____

FEA Stress Analysis



- 1. FEA on Components
- 2. FEA on Components Assemblies
- 3. 2D CAD Drawing
- 4. 3D Solid Modeling

Inspection Equipment









- 1. Sliding Test
- 2. Structure Test
- 3. Impulse Test
- 4. Performance Testing

Design Concept _____







Material

· Replacement of hexavalent chrome

· High strength material

Design & Fabrication

- · Coating process · New material machining process
- · Connect in technics between different materials

Evaluation

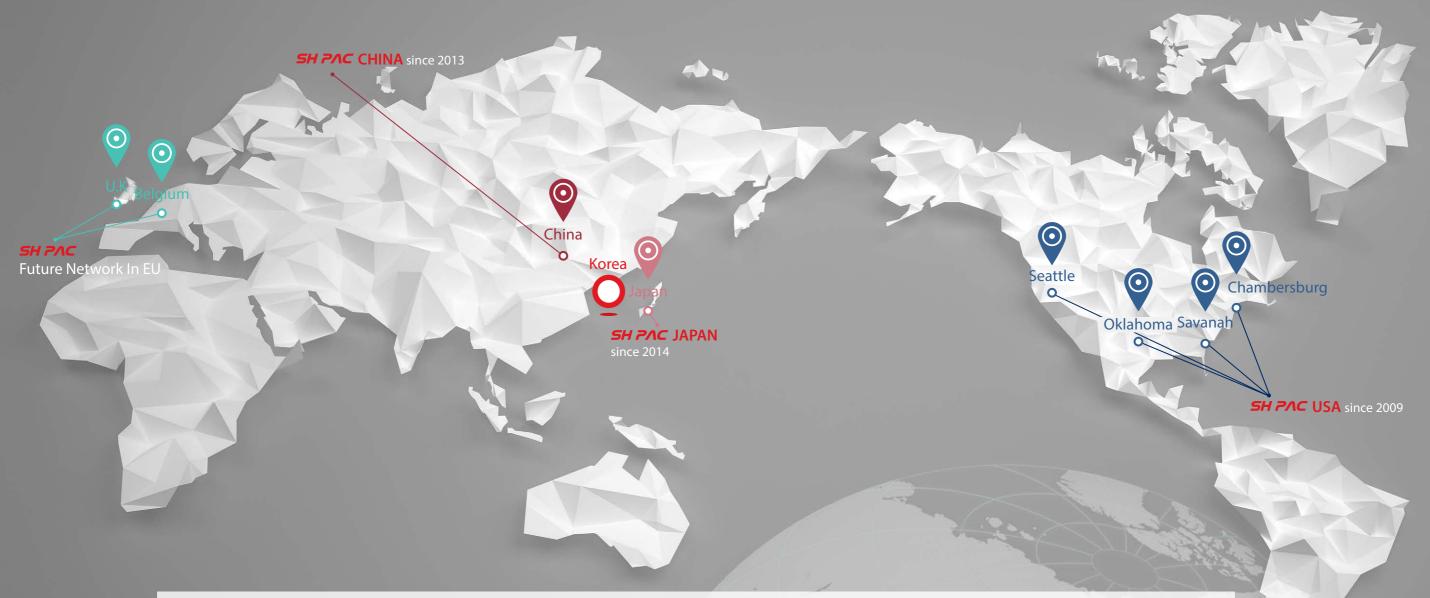
- . Evaluation of corrosion
- · Simulation of suitability & compatibility
- · Performance test



- ROD : replacement of hexavalent chrome, high strength, weight reduction, long rod
- To reduce the weight of rod, lighter weight, high corrosion resistance, high fuel efficiency by using the new materials (EP, CFRP, high strength steel)
- To achieve the higher fuel efficiency, the weight reduction with advanced materials and higher corrosion resistance are being investigated

SH PAC'S **GLOBAL NETWORK**

The world's Leading Company in Hydraulic Cylinders



Europe

GERMANY

CATERPILLAR

BELGIUM

- · OSHKOSH
- · JLG EU

UNITED KINGDOM

- · JCB
- · TEREX

China

- · VOLVO
- · HYUNDAI
- · OSHKOSH
- · JLG Tianjin
- · GENIE
- · HAULOTTE

Korea

- · VOLVO
- · HYUNDAI
- · CLARK

Japan

- · CATERPILLAR
- · KOMATSU
- · HITACHI
- · SUMITOMO
- · KOBELCO

North America

Guelph CANADA

Chambersburg PA Pooler GA OSHKOSH/JLG US JCB

St. Joseph MO

Creedmoor SC SKYJACK ALTEC

Seattle WA

GENIE

Global

ng Global Success through Leading Innovation





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