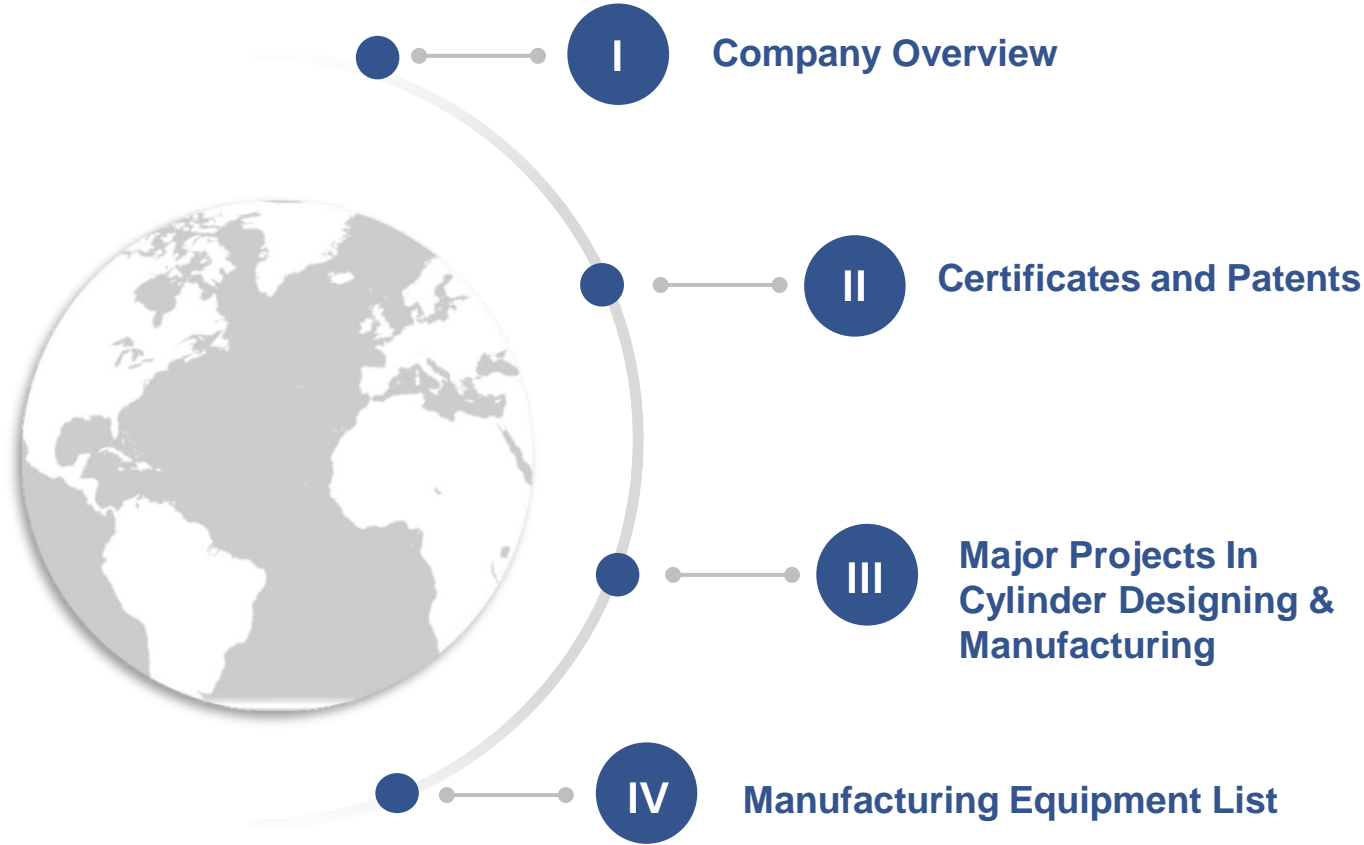




# Hydraulic and Pneumatic Cylinders for Mills and Press Manufacturers

# Contents



# I. Company Overview



## Production Facility

**Gimhae City,  
Gyeongsang Province,  
South Korea**



**Founded  
2014**

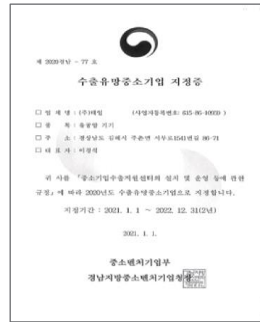
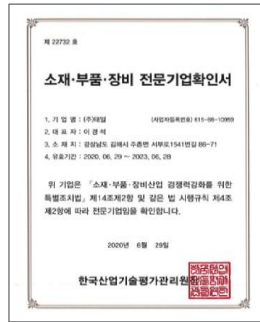
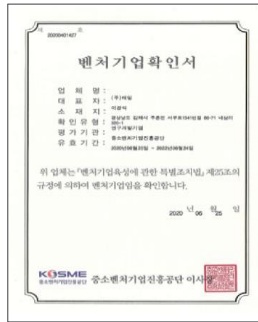
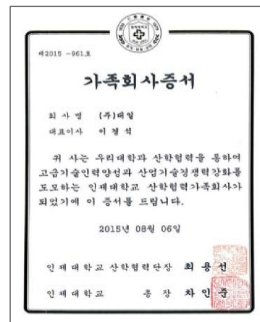
## Production Facilities

**ISO 9001 // ISO14001  
51,774 sq. ft. Site  
38,150 sq. ft. Plant**

## Main Business & Applications

- **Design and Manufacturing of Hydraulic and Pneumatic Cylinders**
- **Design and Manufacturing of Hydraulic Units**

# II. Certificates & Patents



# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing



### Boom Cylinder

|                  |                                |
|------------------|--------------------------------|
| Bore Size        | 27.6 in                        |
| Rod Diameter     | 14.2 in                        |
| Stroke Length    | 163.6 in                       |
| Working Pressure | 4,640 PSI                      |
| Client           | Korea East-West Power Company  |
| Equipment        | Continuous Ship Unloader (CSU) |
| Industry         | <b>Coal Power Plant</b>        |

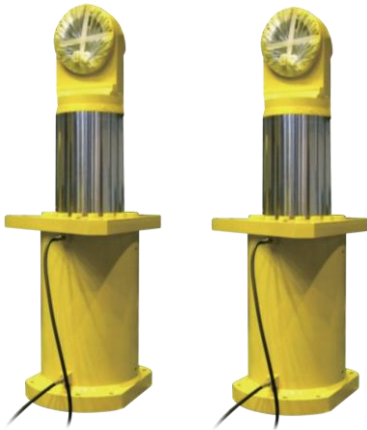
### Welded Cylinder

|                  |                   |
|------------------|-------------------|
| Bore Size        | 9.8 in            |
| Rod Diameter     | 5.5 in            |
| Stroke Length    | 16.1 in           |
| Working Pressure | 3,045 PSI         |
| Client           | POSCO Steel       |
| Equipment        | Coil Car          |
| Industry         | <b>Steel Mill</b> |



# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing



### 800-Ton Jack Cylinder

|                  |   |
|------------------|---|
| Bore Size        | 25.6 in   |
| Rod Diameter     | 23.2 in   |
| Stroke Length    | 31.5 in   |
| Working Pressure | 3,480 PSI   |
| Client           | Busan-Geoje FixedLink                                 |
| Industry         | <b>Civil Infrastructure<br/>Offshore Construction</b> |

### Clamp Cylinder

|                  |                   |
|------------------|-------------------|
| Bore Size        | 13.8 in           |
| Rod Diameter     | 7.9 in            |
| Stroke Length    | 9.1 in            |
| Working Pressure | 2,900 PSI         |
| Client           | POSCO Steel       |
| Industry         | <b>Steel Mill</b> |



### 3-Stage Telescopic Cylinder

|                  |                              |
|------------------|------------------------------|
| Bore Size        | 11.8 in                      |
| Rod Diameter     | 10.6, 7.1, 3.9 in            |
| Stroke Length    | $39.4 \times 3 = 118.1$ in   |
| Working Pressure | 2,030 PSI                    |
| Client           | Zhangjiagang Plant           |
| Industry         | <b>Coal Power Generation</b> |





# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing



### Counterbalance Pneumatic Cylinder

|                  |   |
|------------------|---|
| Bore Size        | 44.0 in   |
| Rod Diameter     | 4.7 in  |
| Stroke Length    | 50.3 in   |
| Working Pressure | 115 PSI   |
| Client           | IHI Corporation   |
| Equipment        | Press Machine   |
| Industry         | <b>Heavy Equipment for Energy, Offshore, Aerospace, Defense</b> |

### Counterbalance Pneumatic Cylinder

|                  |  |
|------------------|--|
| Bore Size        | 25.6 in                                      |
| Rod Diameter     | 3.9 in                                       |
| Stroke Length    | 98.4 in                                      |
| Working Pressure | 100 PSI                                      |
| Client           | Hyundai Heavy Industries                     |
| Equipment        | Press Machine                                |
| Industry         | <b>Shipbuilding &amp; Marine Engineering</b> |



# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing

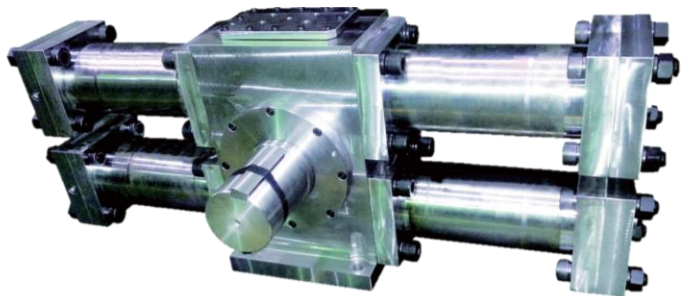


### Hydraulic Rotary Actuator

|                  |                       |
|------------------|-----------------------|
| Bore Size        | 11.8 in               |
| Rod Diameter     | 4.4 in                |
| Stroke Length    | 6.9 in                |
| Line Speed       | 984 ft per minute     |
| Rotation Speed   | 852 RPM               |
| Working Pressure | 1,450 PSI             |
| Client           | POSCO Steel           |
| Equipment        | Uncoilers & Recoilers |
| Industry         | <b>Steel Mill</b>     |

### Rack-and-Pinion Hydraulic Rotary Actuator

|                  |                   |
|------------------|-------------------|
| Bore Size        | 15.0 in           |
| Rod Diameter     | 7.5 in            |
| Stroke Length    | 31.1 in           |
| Rotation         | 180°              |
| Working Pressure | 3,045 PSI         |
| Client           | POSCO Steel       |
| Industry         | <b>Steel Mill</b> |





# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing



### Mold Oscillating Cylinder (Pusher Cylinder)

|                  |                                  |
|------------------|----------------------------------|
| Bore Size        | 15.0 in                          |
| Rod Diameter     | 11.0 in                          |
| Stroke Length    | 29.3 in                          |
| Working Pressure | 2,030 PSI                        |
| Client           | Khouzestan Steel Company         |
| Equipment        | Continuous Casting Machine (CCM) |
| Industry         | <b>Steel Mill</b>                |

### Ladle Turret Cylinder

|                  |                    |
|------------------|--------------------|
| Bore Size        | 34.1 in            |
| Rod Diameter     | 31.5 in            |
| Stroke Length    | 33.1 in            |
| Working Pressure | 2,900 PSI          |
| Client           | POSCO Steel        |
| Equipment        | Molten Steel Ladle |
| Industry         | <b>Steel Mill</b>  |



# III. Cylinder Manufacturing and Design

## Industrial Cylinders – Design and Manufacturing

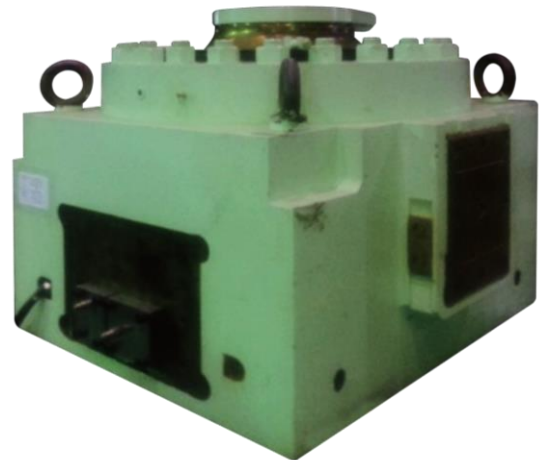


### Temper Mill Push-Up Cylinder

|                  |                          |
|------------------|--------------------------|
| Bore Size        | 25.2 in                  |
| Rod Diameter     | 20.9 in                  |
| Stroke Length    | 8.9 in                   |
| Working Pressure | 3,550 PSI                |
| Client           | JFE Steel Corporation    |
| Equipment        | Temper Mill Rolling Line |
| Industry         | <b>Steel Mill</b>        |

### Automatic Gauge Control (AGC) Cylinder

|                  |                   |
|------------------|-------------------|
| Bore Size        | 41.3 in           |
| Rod Diameter     | 35.4 in           |
| Stroke Length    | 12.2 in           |
| Working Pressure | 4,500 PSI         |
| Client           | Hyundai Steel     |
| Equipment        | Hot Rolling Line  |
| Industry         | <b>Steel Mill</b> |



# III. Cylinder Manufacturing and Design

## Cylinder Manufacturing Sample Projects 2014-2020

| No | Equipment / Specification                           | Qty     |
|----|---|---------|
| 1  | GUILLOTINE PRESS MAIN CYLINDER                      | 28 Sets |
| 2  | SCRAP PRESS CYLINDER                                | 19 Sets |
| 3  | VARIOUS PROJECTS for POSCO, KOREA                   | 8 Sets  |
|    | CGL POT LIFTING CYLINDER (31.5" bore, 80" stroke)   |         |
|    | CGL TEMPER MILL CYLINDER (9.8" bore, 236.2" stroke) |         |
|    | CGL ROLL FORCE CYLINDER (25.6" bore, 9.5" stroke)   |         |
|    | FURNACE HYDRAULIC SYSTEM                            |         |
|    | CGL SPM ROLL FORCE CYLINDER                         |         |
|    | CGL DPM CYLINDER                                    |         |
|    | SEGMENT CYLINDERS                                   |         |
|    | GAPLESS CYLINDER                                    |         |
| 4  | HYDRAULIC PRESS MAIN CYLINDERS                      | 5 Sets  |
|    | 600T PRESS MAIN CYLINDER for NEAGARI SHIBUYA        |         |
|    | 300T PRESS MAIN CYLINDER                            |         |
|    | 60T PRESS MAIN CYLINDER                             |         |
|    | 40T PRESS MAIN CYLINDER for NEAGARI SHIBUYA         |         |
| 5  | VARIOUS PROJECTS for CISCO/SPCO                     | 4 Sets  |
|    | PUSH UP CYLINDER for FUKUYAMA PLANT                 |         |
|    | PUSH UP CYLINDER for KASHIMA PLANT                  |         |
|    | CSC COLD LEVELLER MAIN CYLINDER for TAIWAN          |         |
|    | CSC COLD LEVELLER CROWNING CYLINDER for TAIWAN      |         |
| 4  | LIFTING CYLINDERS                                   | 4 Sets  |
|    | GC LIFT SPRING PRESS CYLINDER for NIPPON STEEL      |         |
|    | HYD. CYL. for GC LIFTING SPRING for CHIYOTA JAPAN   |         |

# III. Cylinder Manufacturing and Design

## Cylinder Manufacturing Sample Projects 2014-2020

| No | Equipment / Specification  | Qty    |
|----|--|--------|
| 5  | FORGING PRESS CYLINDERS  | 4 Sets |
|    | 4000KN CYLINDER FOR FORGING PRESS                                    |        |
|    | 1500KN CYLINDER FOR FORGING PRESS                                    |        |
|    | 300KN CYLINDER FOR FORGING PRESS                                     |        |
|    | FORGING PRESS DIE SHIFT CYLINDER                                     |        |
| 6  | PLANT HYD CYLINDER (IRAN)  | 3 Sets |
| 7  | CUTTING CYLINDERS  | 2 Sets |
|    | 1250T CUTTING CYLINDER   |        |
|    | 800T CUTTING CYLINDER  |        |
| 8  | 1000KN CYLINDER FOR CAULKING PRESS                                   | 2 Sets |
| 9  | BALANCE CYLINDERS  | 2 Sets |
|    | 39.4" BORE for IHI / TAIYO SHOJI                                     |        |
|    | 47.2" BORE for IHI / TAIYO SHOJI                                     |        |
|    | BALANCE CYLINDER TUBE for NIPPON STEEL                               |        |
| 10 | OSCILLATOR CYLINDER  | 2 Sets |
| 11 | CYLINDER MAINTENANCE for SEAH and HYUNDAI                            | 2 Sets |
| 12 | CHOKE CYLINDER FOR ROCK CRUSHER for BUSUNG TECH, HONGKONG, SINGAPORE | 2 Sets |
| 13 | HAGC CYLINDER for DONGUK   |        |
| 14 | PLANT WATER TEST HIGH PRESSURE CYL for HYUNDAI ROTEM                 |        |
| 15 | NUCLEAR REACTOR STEAM GENERATOR GRIPPER for DOOSAN                   |        |
| 16 | JACK CYLINDER for FLOATING DEVICE for DSME CHINA                     |        |
| 17 | SHIP LIFT CYL for SAMHO / UNEX                                       |        |
| 18 | 4-STAGE TELESCOPIC CYLINDER  |        |

## IV. Manufacturing Equipment and Tester List

| EQUIPMENT                    | SPECIFICATIONS    | Q'TY | MAKER                          |
|------------------------------|-------------------|------|--------------------------------|
| LATHE                        | Φ1200mm * 8000L   | 1    | TAKISAWA                       |
| LATHE                        | Φ900mm * 6000L    | 1    | HANKOOK MACHINE TOOLS CO., LTD |
| LATHE                        | Φ750mm * 4000L    | 1    | HANKOOK MACHINE TOOLS CO., LTD |
| LATHE                        | Φ580mm * 1500L    | 1    | Hwacheon                       |
| MILLING M/C                  | 5 호기              | 1    | DOOSAN                         |
| RADIAL M/C                   | DRD – 1500.2500   | 2    | PAKA, BONGSHIN                 |
| TIG WELDER                   | WS-ADT (500S)     | 5    | TAESHIN                        |
| CO2 & MAG WELDER             | HIC - 500 S       | 10   | SANGSHIN                       |
| OVER HEAD CRAIN              | 50T, 20T, 10T, 5T | 10   | DAEHEUNG                       |
| PAINT M/C                    | -                 | 1    | HASCO                          |
| MACHINE CENTER               | 1000L *1205L      | 1    | KURAKI                         |
| CNC MILLING                  | 7호기               | 1    | MAKINO                         |
| HYD' CYL TEST                | 5 - 300 bar       | 1    | SELF-PRODUCED                  |
| HYD' CYL TEST (WATER GLYCOL) | 5 - 350 bar       | 1    | SELF-PRODUCED                  |
| HYD' CYL TEST                | 5 - 600 bar       | 1    | SELF-PRODUCED                  |
| LOAD TEST JIG                | -                 | 1    | SELF-PRODUCED                  |

## IV. Manufacturing Equipment and Tester List

| TESTER                   | SPECIFICATION | Q'TY | MAKER    |
|--------------------------|---------------|------|----------|
| MICROMETER               | 0 - 2000      | 16   | MITUTOYO |
| MICROMETER               | 0 - 1500      | 1    | MITUTOYO |
| CYLINDER GAUGE           | 10 - 1000     | 7    | MITUTOYO |
| VERNIER CALIPERS         | 0 - 2000      | 10   | MITUTOYO |
| DIGITAL VERNIER CALIPERS | 0 - 250       | 1    | MITUTOYO |
| DEPTH VERNIER CALIPERS   | 0 - 150       | 1    | MITUTOYO |
| DIAL INDICATER           | 0 - 100       | 2    | MITUTOYO |
| PRECISION SQUARE         |               | 1    | MITUTOYO |
| PITCH GAUGE              | 0.5P – 8.0P   | 2    | MITUTOYO |
| ROUND GAUGE              | R1 – R20      | 1    | GERMANY  |
| PIN GAUGE                | mm, inch      | 1    |          |
| SCREW GAUGE              |               | 1    |          |
| THICKNESS GAUGE          |               | 1    |          |
| CENTER GAUGE             |               | 1    |          |
| V - BLOCK                | BM1-103-0     | 1    | JAPAN    |
| GAUGE                    | 0 – 500mm     | 1    | MITUTOYO |
| HEIGHT GAUGE             | HNL – 11A     | 1    | TIME     |
|                          | 0 – 1000      | 3    | MITUTOYO |





LPR GLOBAL

344 Bloor Street W, Suite 607, Toronto, ON Canada M5S 3A7

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Tel.: +1 416-423-5590

E-Mail: [info@lprglobal.com](mailto:info@lprglobal.com)

