Grinding MILLS
Experience & Know How

CITIC HIC commenced business in 1956. After more than 50 years of evolution and development it has become a significant global supplier of mining machinery equipment in the World. The works of CITIC HIC are located in Luoyang city, China. The factory at Luoyang covers more than 1.7 million square meters, of which 724 thousand square meters is under cover. It has a total workforce of approximately 9000 of which more than 1,500 are technicians. Within CITIC HIC works there are 10 manufacturing departments including the Engineering and Design facility. These manufacturing departments produce quality products ranging a broad spectrum of disciplines including casting, forging, heat treatment, machining, fabrication, unit assembly, electric controls and hydraulic control systems.

CITIC HIC produces over 200 thousand tons of quality equipment annually. Over the years CITIC has manufactured hundreds of grinding mills operating around the globe.

GRINDING PRODUCT LINE

- AG MILLS
- SAG MILLS
- BALL MILLS
- ROD MILLS
- CEMENT MILLS
- TUBE MILLS
- SCRUBBERS
- TROMMELS

Ability

second to none

CITIC HIC Grinding Mill designs range from Φ1.2m 55kW Ball Mills to Φ12.2m 28,000kW AG Mills. CITIC HIC manufacture every component of the rotating element, trunnion bearings and drive (excluding electric motors) all in-house for any mill size in the range. Further, CITIC HIC also has the capability and facilities to trial assemble the full range of mills inside the works prior to dispatch.

These are abilities unprecedented in the industry.
Manufacturing Works

Melting and Casting

Casting capacity of 65,000 tonnes per year producing carbon steels, alloy steels, SG Iron, structural steels, non-ferrous and when specifically ordered heat resistance steels and stainless steels. CITIC HIC has a Single Casting capacity of 600 tons of steel in a 9500m² pouring area.

CITIC’s casting capacity for:
- Carbon steel - 600t
- SG Iron - 200t
- Non-ferrous - 20t
- Steel Ingot - 600t

Foundry equipment includes:
- 80t, 50t, 30t Electric arc furnaces
- 2x150t, 1x160t, 1x40t Ladle refining furnace
- 150t, 60t VD/VOD furnace

Machinery & Fabrication

CITIC HIC is extremely well equipped in relation to fabrication work. CITIC HIC is also a designated Training Base of the National Welding Institute. Over recent years CITIC has further expanded its machine base to include some of the largest machines in China, and in some instances the world.

Facilities include:
- More than 80 CNC based machines
- 100,000t annual fabrication capacity
- NDT and mechanical testing Laboratory with UT and RT equipment manned by certified technicians
- More than 3000 machines (incl. >80 CNC machines) including:
  - 160/250mmx4000mm & 105/200mmx4000mm Hydraulic Plate Rolls
  - Automatic welders (14x10m, 10x10m, 7x7m, 6x6m, 5x5m...)
  - Narrow Gap welding units
  - Unionmelt welding, gas shield and arc welding units
  - A 7mx9mx45m shot blasting chamber
  - Multiple heat treating furnaces ranging from Ø2mx30m shaft furnace to 9mx9mx15m furnaces as well as carburizing furnaces
    - Ø16m, 13m, 12m, 10m, 5m, 4m, 2.8m, 1.6m Gear Cutting Machines
    - Ø5m, 4m, 2.8m, 1.25m, 9m CNC Gear Grinding Machines
  - 600t Overhead crane (height of 26m)
  - Other cranes include 300t, 250t, 200t, 150t, 82t, 75t, 32t and others
  - Fabrication straddle 36m x 135m
  - Three Roll Straighteners
  - Ø16m CNC Vertical Borer
  - Also available to CITIC HIC are four external Fabrication and Machining works capable of producing large sized cement kilns up to 6m diameter and 95m long
  - 6mx20m CNC Cutting Machine

Forgings

CITIC HIC possess hydraulic presses of 18500t (the largest in the world), 8400t, 3150t, 1600t using Open die forging technique, 5000t Die Forging Press & High Precision Ring Roll Mill. It can produce free forgings up to 400t, ring roll forgings up to a maximum diameter of 7.8m and shaft forgings up to a maximum length of 25m.
Mill Design

YOUR NEEDS ARE OUR BUSINESS

CITIC HIC's Technology Centre, Luoyang Mining Machinery Engineering Design Institute (LMMEDI), is the largest organisation for comprehensive technology development and research in mining, metallurgy, coal, non-ferrous metals, electric power chemical, environmental protection and building materials in China. LMMEDI employs approximately 800 staff of which more than 600 are engineers (with approximately 206 masters and doctors) involved in research and development of machinery design, manufacturing, automation, hydraulics, construction, cement, active lime, pellets plants, plant design, water supply and drainage, heating and ventilation, electrical supply and testing technology, etc.

Design Institute Departments

- Grinding Mills
- Hoists
- Kilns & Furnaces
- Crushing & Screening
- Excavation
- Process Washing
- Power Generation
- Hydraulics
- Metallurgical
- Gearing
- Automation
- Turnkey Systems
- Process Research
- Cement
- Civil Construction

World Leaders

At the time of print CITIC HIC was manufacturing grinding mills for the Sino Iron Project in WA. There are six(6)grinding lines for this project. Each line has the Largest AG Mill & Ball Mill in the world with delivery starting 2009. The CITIC HIC AG mill package for Sino Iron includes the supply of the 28MW Gearless Mill Drives.

6 AG mill 12.2 m Ø x 11m LG – 28MW Gearless Drive
6 Ball Mill 7.9m Ø x 13.6m LG – 2x7800kW Gear Drive

The full design of these mills was undertaken by CITIC’s LMMEDI and has been successfully audited and approved by industry leading third party auditors.
Using the latest in design methods and tools CITIC HIC prides itself in designing, manufacturing and delivering Grinding Mills that exceed all expectations. CITIC HIC designs, manufactures and delivers the complete rotating element at its' own works at a single location (Luoyang, China) to the highest design and manufacturing standards.

Furthermore we offer you the opportunity to have your mill fully assembly and test run at our works prior to dispatch. These capabilities are unprecedented in the industry!
LAB EQUIPMENT

- JKMRC DROP WEIGHT TESTER
- BALL MILL
- VIBRATING MILL
- V-TYPE SEPARATOR
- LAZER SIZE ANALYSER
- RIFFLE SAMPLER
- DRY GRINDING
- HPGR
- DRY CLASSIFIER
- OTHERS

Laboratory

CITIC HIC also has a fully equipped laboratory on site for material testing and reporting. Through material testing and analysis we can accurately select the right equipment to meet your requirements.

Testing Available

- Specific Gravity
- Hardness
- Compressive Strength
- Crushing Work Index
- Rod Mill Work Index
- Ball Mill Work Index
- HPGR Testing
- Particle Size Analysis
- Lime Calcining Test
- Flotation Testing
- Drying
- Others

Simulation

Further, at CITIC HIC we also run various software packages in order to simulate process circuits thereby optimizing equipment selection and operation. These software packages include:

- J K SimMet
- J K SimPlant
- MillTraj
- Various in-house programs
CITIC HIC is ISO9001 accredited. With all the necessary qualified personnel, equipment and experience to ensure your equipment exceeds your quality expectations.

CITIC HIC works with leading mining equipment manufactures as well as EPCM’s and End Users around the globe to achieve international quality standards working to industry accepted specifications. Our experience and expertise are there for you to rely on.

**Quality Matters!**

ISO 9001:2000 Certificate  
ISO 14001:2004 Certificate  
GB/T28001-2001 Certificate

Total customer satisfaction is our everlasting pursuit!
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