

CHEMICAL PROCESSING EQUIPMENT

METALLURGICAL EQUIPMENT

RAILWAY/TRANSIT MAINTENANCE EQUIPMENT

MATERIALS HANDLING EQUIPMENT

# CHEMICAL PROCESSING EQUIPMENT

Whiting Equipment provides the internationally recognized and accepted line of Swenson equipment and systems for the chemical processing industry.

Related services from its Welland facility cover all aspects of the requirement including design, engineering, fabrication and "start-up" assistance to ensure the efficient and reliable operation of the equipment provided.

Continuous, close involvement with customers both in Canada and abroad allows Whiting's engineers to continually update their designs and integrate them with newly evolved processes and technologies.

## SWENSON CHEMICAL PROCESSING EQUIPMENT/SERVICES AVAILABLE FROM WHITING

### CONDENSERS

- Direct Contact Type
- Surface Type

### CRYSTALLIZERS

- Batch
- Decomposition
- Direct Contact Refrigeration
- Draft Tube
- Draft Tube Baffle
- Forced Circulation
- Reaction
- Recompression
- Surface-Cooled
- Teflon Tube

### DRYERS: FLUIDIZED BED

- Closed Cycle
- Direct Fired
- Indirect Heated

### DRYERS: ROTARY

- Direct Fired
- Indirect Heated
- Steam Tube

### DRYERS: SPRAY

- Closed Cycle
- Counter Current
- Mixed Flow
- Parallel Flow
- Reverse Flow

### EVAPORATORS

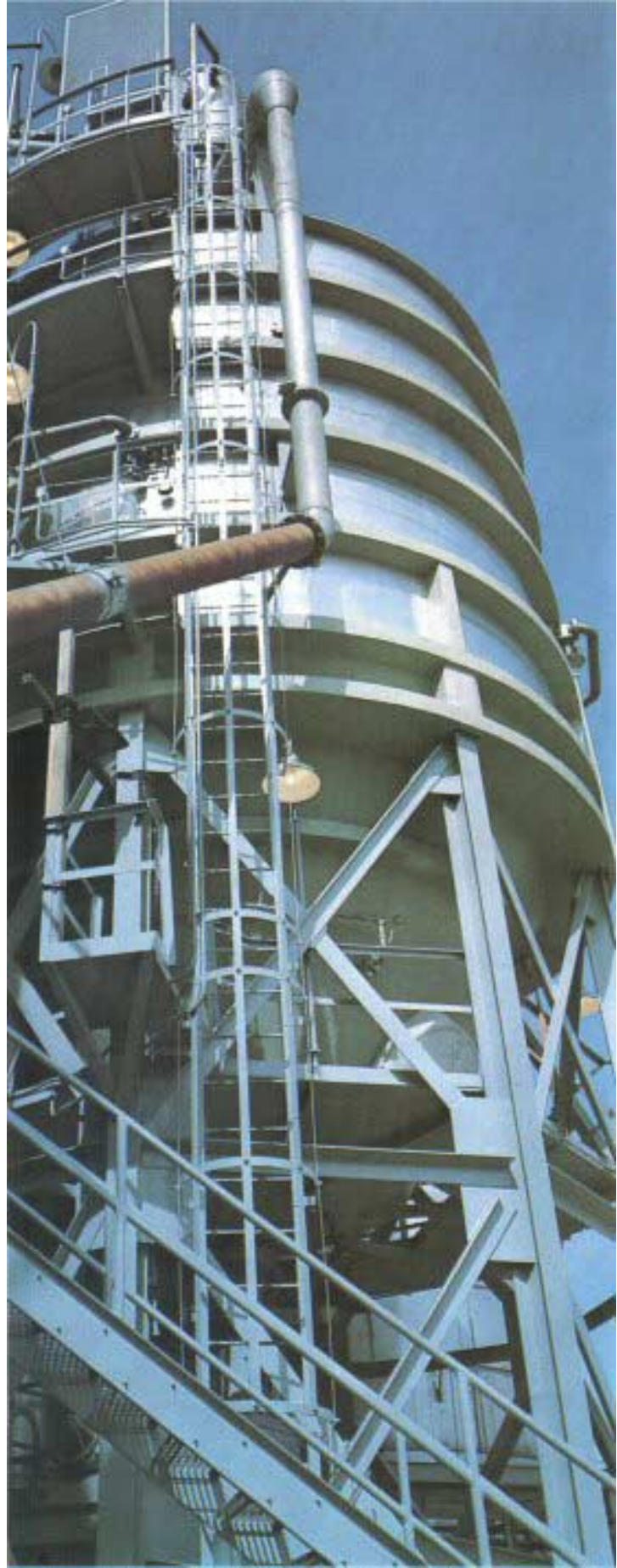
- Calandria
- Forced-Circulation
- Long-Tube Vertical Falling Film
- Natural Circulation
- Recompression

### FILTERS

- Top Feed Drying-Type Filter

### PROCESSES AND PROJECT ENGINEERING

- |   |  |
|---|--|
| Ammonium Sulfate Crystallization & Drying | Salt Crystallization & Drying                |
| Caustic Soda Systems                      | Soda Ash Calcining, Crystallization & Drying |
| Continuous Sugar Crystallization          | Sodium Sulfate Recovery & Drying             |
| Fluorine Recovery                         | Wet Process Phosphoric Acid                  |
| Potash Crystallization & Drying           |  |



Above: 22 ft. diameter Swenson ammonium sulfate crystallizer.



At left: Five effect LTV rising film evaporator with falling film concentrator, concentrating hydrolysate liquor.

Right: Lower portion of a 110 ft. high Swenson parallel flow spray dryer.



Left: Swenson Draft Tube Baffle crystallizer system for production of potassium chloride from Dead Sea brine.

## METALLURGICAL EQUIPMENT

Whiting Corporation has manufactured equipment for the heavy metal industry for well over a century.

Today, the company, and Whiting Equipment Canada provide the industry in North America and abroad with a source of virtually all metallurgical equipment and systems involved in melting, holding and transporting of both ferrous and non-ferrous metals.

Engineering and manufacturing services have been extended to also include equipment for mineral fusion industries and for other special applications needs.

### WHITING METALLURGICAL EQUIPMENT CAPABILITIES

#### A.O.D. TREATMENT VESSELS

##### BUCKETS

- Charging, various types.

##### CARS

- Bucket Transfer, Mold Transfer Scale Cars for Charge Make-Up.

##### CRANES

- Yard, Hot Metal, Make-Up and Charge, etc.

##### FURNACES

- ELECTRIC ARC
- **Whiting Hydro-Arc:** 250 lb. to 300 ton capacity, hydraulic drive.
- **Volta Furnaces:** foundry, steel mill, alloy and miscellaneous material. Winch type drives and Hydraulic Servo Valves.
- RESISTANCE ROD: iron duplexing and pouring.
- CHANNEL INDUCTION FURNACES

##### CUPOLAS

##### LADLES

types,

- **Melting Systems** and related services
- 250 lb. to 300 ton capacity, various

Manual or motorized.

##### LADLE HEATERS

- Gas or oil-fired

##### SECONDARY FURNACE COMPONENTS

- **Water Cooled Cables:** Delta Closures, electrode arm bus tubes.
- **Solid State Controls:** for electric arc furnaces, regenerative or hydraulic drive.
- **Process Computer Control/Monitoring Systems** for electric arc furnaces.
- **Replacement Shells** for electric arc furnaces of any make.
- **Retrofits:** design/fabrication for modifications to any component of most arc furnaces.



Above – 70 Ton Capacity Whiting-Volta Electric Arc Furnace shown during tapping in a specialty steel mill.

Below – Furnace components after disassembly in Whiting plant ready for shipment to installation site.



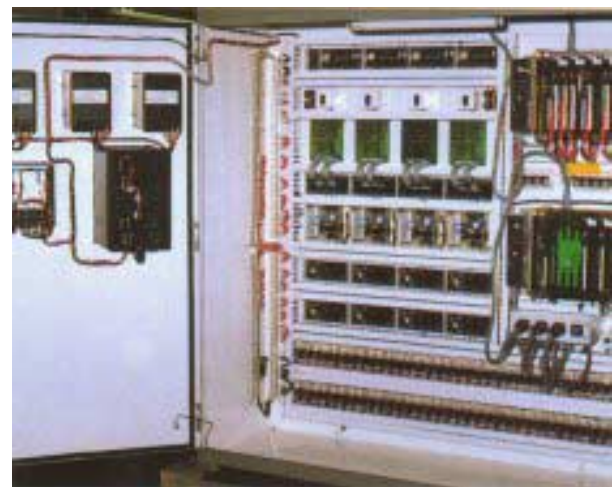


Left – Molten metal Handling vessel for special, non-ferrous applications.



Left – 1200 cu.ft. capacity electric arc charging furnace buckets used in specialty steel making operations.

Whiting's plant location allows shipment by rail, water or highway.  
Above – Large ladle en route to steel mill.  
Right – Furnace parts being shipped by barge on nearby Welland Canal.



Whiting capabilities and services include the manufacture/supply of the complete line of secondary components such as the Low Voltage, High Current Electric Arc furnace water cooled equipment at left, computer monitored controls systems (above) and Solid State Electric Arc Furnace electrode Regulator (right) for hydraulic style electrode arm movement complete with integrated PLC equipment.

# RAILWAY/TRANSIT MAINTENANCE EQUIPMENT

Whiting has, for many years, been heavily committed to the design and manufacture of equipment and systems used throughout the transportation industry to increase the efficiency and lower the cost of locomotive and rail car maintenance.

Current capabilities cover the "total" requirement...each unit and system reflecting the most advanced design concepts and highest levels of quality and performance.

## WHITING RAIL/TRANSIT MAINTENANCE EQUIPMENT CAPABILITIES

### CAR PROGRESSION SYSTEMS

Mobile and Cable Type

### CAR AND LOCOMOTIVE JACKING

Portable and electric –  
10 to 15 ton capacity.

### TRAIN WASHING

Indoor and Outdoor Systems

### DROPTABLES

For Truck Removal

### RAILCAR REPAIR SYSTEMS

### TRANSFER AND TURNABLES

### LOCOMOTIVE SANDING

Push Button Controlled

### MULTIPLE CAR HOISTS

Variety of equipment/  
arrangements.



Top Photo – Whiting "Robot" progression system automatically moves cars through work stations in repair shop.

Above – Locomotive being turned 180° on Whiting 250 ton turntable.

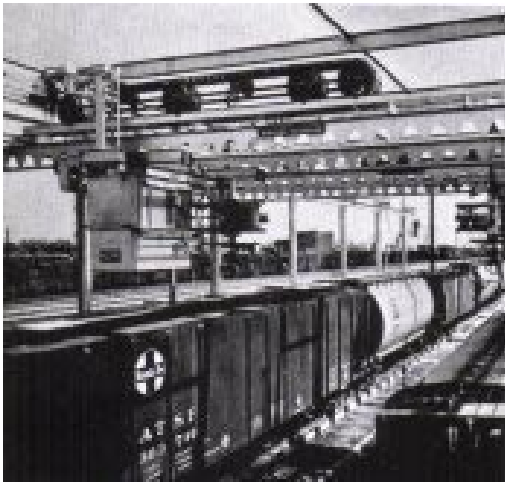


Above – Covered hopper car being positioned on Whiting Transfer Table for transfer to one of four paint system tracks.

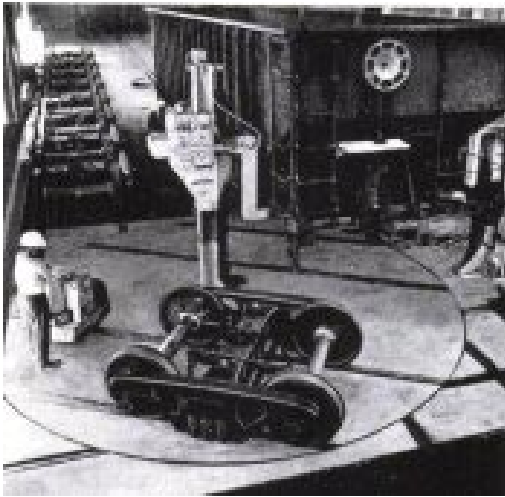
Right – 50 ft. long, 30 ton capacity Transfer Table in final stages of production in Whiting's Welland, Ontario plant.



## MATERIALS HANDLING EQUIPMENT



Above – Cars move through high efficiency Whiting Train Washing system.



Above – Bogie truck on Whiting Truck Turntable revolves 90° to release track in maintenance shop.

Below – A Whiting portable electric jack that can meet the requirements of dozens of unique lifting operations. Jack capacities range from 15 to 60 tons.



Whiting Corporation has long been a leading, highly respected source for the design and manufacture of cranes and crane systems. The Material Handling group at Whiting Equipment makes their expertise and very diverse range of crane equipment available in Canada. It is also staffed and equipped to provide complete design/engineering services relative to a wide variety of materials handling application requirements.

### From Whiting

Whiting Industrial Overhead Cranes  
Single and Double Girder Underslung Cranes  
Monorail Systems  
Crane Components  
Materials Handling Design/Engineering Services



Above – Whiting 30/10 ton, centre mounted cab crane in melt shop of major farm equipment manufacturer.



Left – Whiting Trambeam double girder cranes on craneway serving outdoor structural steel storage area.

Below – Cab-operated 25 ton capacity industrial crane, custom designed by Whiting to efficiently handle long loads.



## Our Company....

Whiting Equipment Canada Inc. is a diversified designer and manufacturer of Heavy Industrial Equipment. Whiting Equipment Canada Inc. is a subsidiary of Whiting Corporation, Monee, Illinois.

The parent company traces its beginning to the year 1884, when it was a relatively small firm that manufactured high quality metallurgical equipment.

Since then, Whiting's product line has increased and expanded into the chemical processing, material handling and transportation maintenance equipment fields. Today, Whiting is an acknowledged leader in these specialized fields...and its facility in Monee occupies 23 acres.

Whiting formally arrived on the Canadian scene in 1930 as Whiting Corporation (Canada) Limited, a wholly owned subsidiary with a sales office in Toronto, Ontario.

For the next twenty-five years, the company operated primarily as a source for sales/service related to Whiting products manufactured in the United States. Over the years, more of this equipment was produced in Canada through sub-contract arrangements with other manufacturers using Whiting designs and technology.

Demand for Whiting equipment increased and by 1955, it became clear that the company required manufacturing facilities in Canada. That year, Whiting acquired the assets of Volta Manufacturing Ltd.; a furnace manufacturer, since 1914, with plant and office facilities in Welland, Ontario.

Several Customers in the USA and Asia prevailed upon the company to manufacture in PR China, in 1997 after several years of searching for the right Chinese partner, Zhejiang NAMAG Equipment Manufacturing Co., Ltd. a foreign controlled equity joint venture was founded, Zhejiang Tongxiang Coal Mine Machinery Plant was its partner who have about 1,100 employees and 2.6 million square feet of heavy fabricating and machining facilities near Shanghai.

Since then, the company has expanded its global manufacturing facilities several times and has developed the expertise to design engineer and service its Whiting, Swenson, Volta, Trambeam and Trackmobile products in Canada and PR China.

Whiting Equipment Canada Inc. is today, a well established and reliable source for its products and services, which are supplied to both the Canadian and overseas markets.



[www.whiting.ca](http://www.whiting.ca)

P.O. BOX 217 • ALEXANDER ST. • WELLAND • ONTARIO • CANADA • L3P 5P4  
TELEPHONE: (905) 732-7585 • FAX: (905) 732-2366