



## EAFF SHAFT

# MORE THAN 25 YEARS OF EXPERIENCE IN SCRAP PREHEATING

**Shaft furnace technology was pioneered by our company in the late 1980s in response to the market challenge for minimum conversion costs, maximized output, and environmental compliance.**

Through the utilization of the furnace off-gas during the heat cycle, scrap can be preheated to approximately 600 °C, on average, prior to final melting in the furnace vessel. This means considerable energy and cost savings with a substantial reduction in tap-to-tap times. Furnaces are available as either single-shaft or double-shaft types. The most efficient design is the so-called fingershaft furnace, which employs a unique scrap retaining system with fingers to preheat 100% of the charge. Thanks to EAF Shaft and EAF Fingershaft, any existing EAF with a heat size of over 60 tons can be upgraded to a high-performance shaft furnace with only minor modifications to the existing equipment.

### FEATURES

- Up to 100% scrap preheating
- Ideal conditions for maximum energy recovery and application of postcombustion
- Flexible charging of DRI, HBI, hot metal, and pig iron
- Highest output, even with weak power grids
- Efficient off-gas treatment that satisfies all regulations
- Shaft moves laterally for easy maintenance



80-t fingershaft furnace in Zhangjiagang, China

### SELECTED REFERENCES

- Severstal AG, Russia
- Diler Iron & Steel Co., Turkey
- Stahl Gerlafingen – Beltrame Group, Switzerland
- Fushun Special Steel, China
- Nervacero S.A. – Celsa Group, Spain
- NatSteel – Tata Group, Singapore
- Zhangjiagang Steel – Shagang Group, China

### MAIN BENEFITS

- Low EAF conversion costs
- Tap-to-tap time of only about 35 minutes
- Up to 100 kWh/t electrical energy savings
- Approximately 40% reduction in flicker factor
- Up to 30% lower electrode consumption
- Up to 1% increase in metallic yield
- Up to 25% less dust emissions
- Up to 40% increase in productivity
- Short ROI

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