



Chengdu **Duolin Electric** Co. Ltd

Comparison of IGBT & SCR Technology based Induction heating machine

↪ Induction Heating Technology History

1st generation: Vacuum Electronic Tube

2nd generation: **SCR** (Silicon Controlled Rectify):

3rd generation: **IGBT** (Insulated Gate Bipolar Transistor)

↪ Our Induction Heating machine is always IGBT technology based

↪ Induction Heating machine for Pipe Bending consists of four parts:

1. Converter
2. Output Transformer
3. Induction Coil
4. Cooling system for Converter and Transformer

Feature Difference

Technology

IGBT is **latest/newest** technology in Induction Heating

SCR is **a little old** technology in Induction Heating

Power factor

IGBT based Induction Heating with **high power factor** 0.95-0.98

SCR based Induction Heating with **low power factor** ≤ 0.80

Efficiency

IGBT Induction Heating : **Higher efficiency**

SCR Induction Heating : **Lower efficiency**

Easy operation

SCR Induction Heating : output capacitors install near transformer, must **to be changed** when bending different size of pipe

IGBT Induction Heating: output capacitors inside generator, **no need** to make any change when bending different size of pipe

Energy saving

Parts Difference

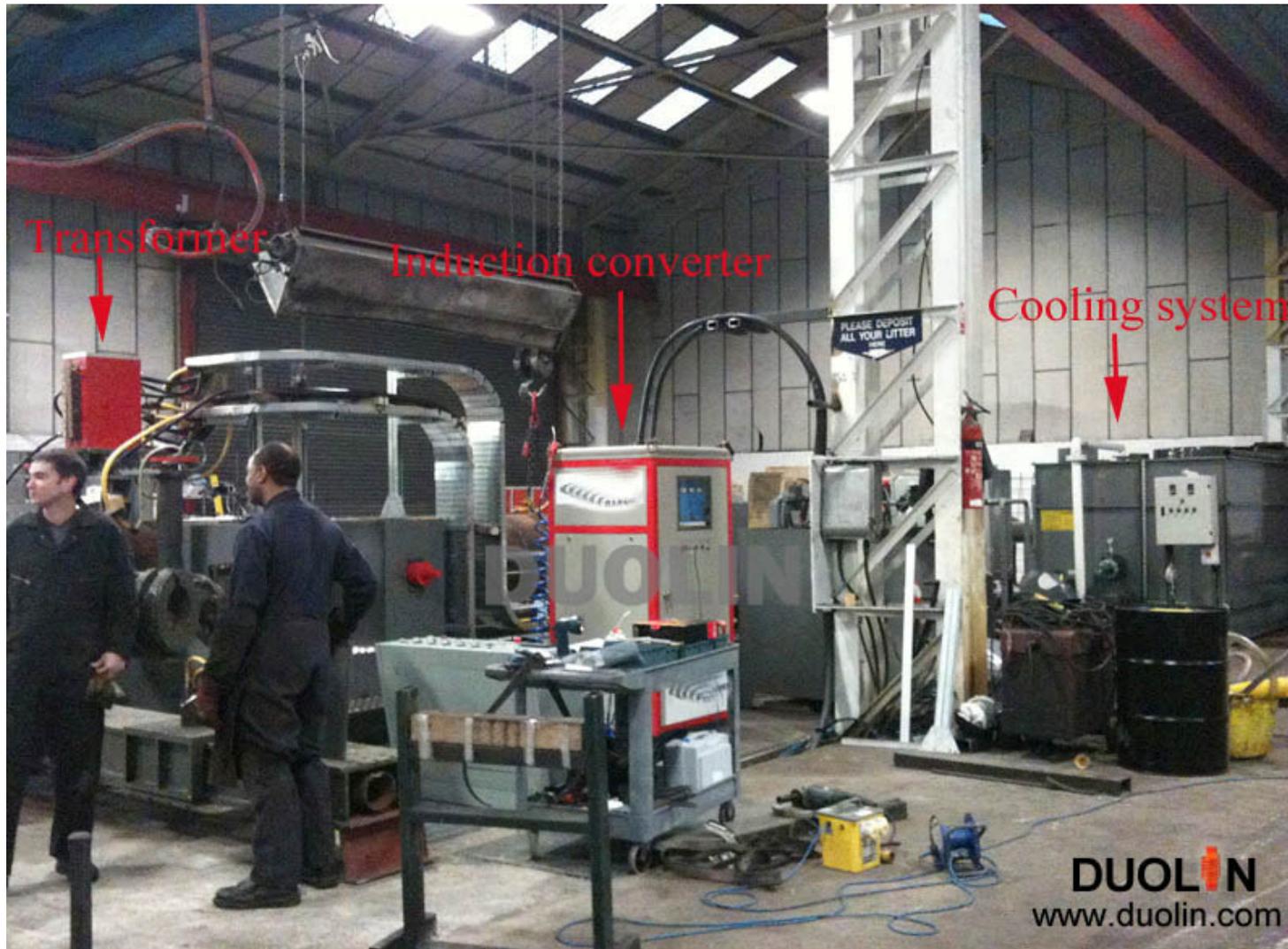
- Parts different is mainly from **converter** and **Output Transformer**

SCR based Induction converter and output transformer



Note: Compensation Capacitor chamber is necessary for SCR based Induction converter due to low power factor

DUOLIN IGBT induction converter



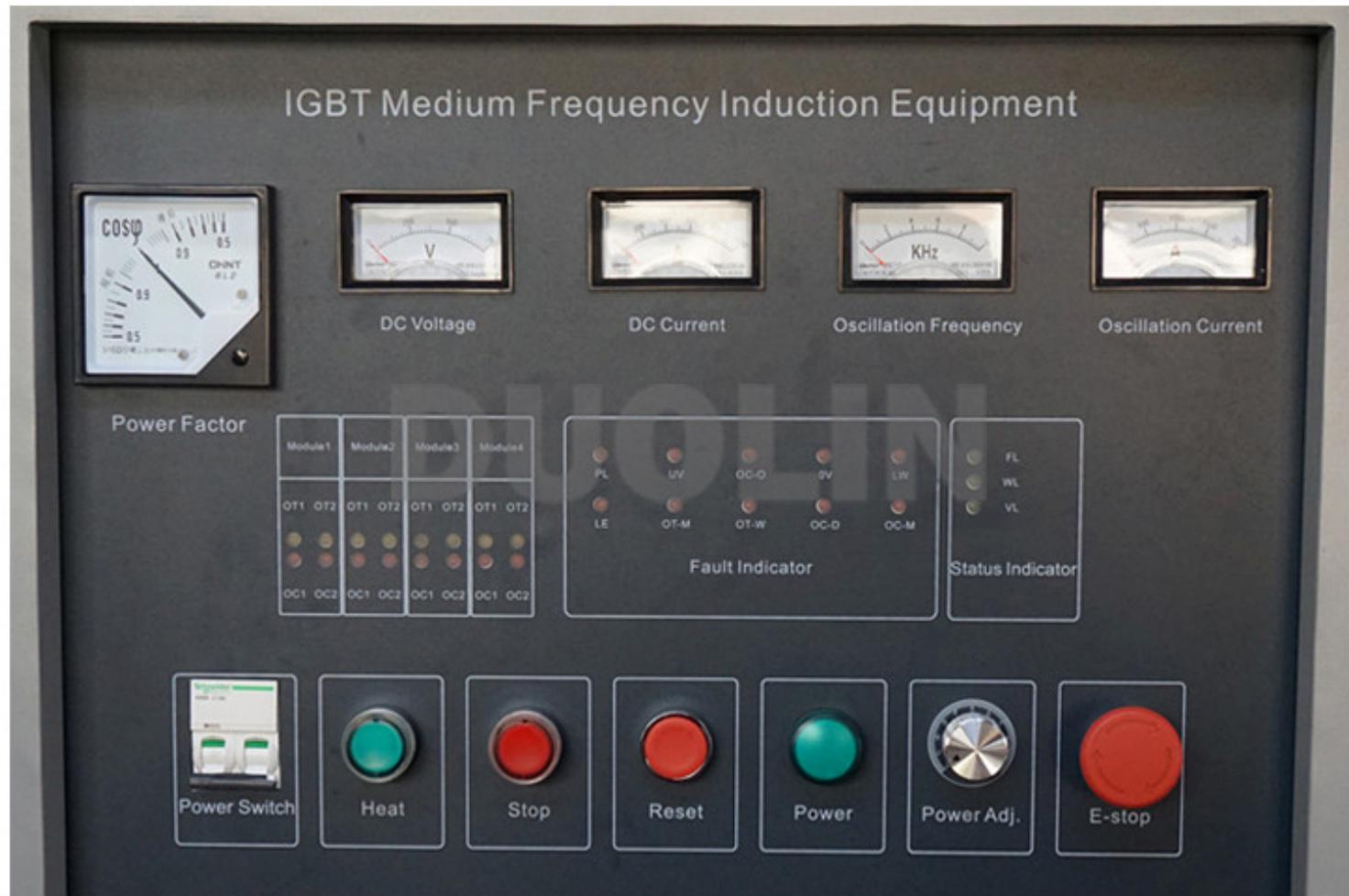
Note: DUOLIN IGBT Induction converter **is high** power factor (0.95-0.98), so there is **no** Compensation Capacitor chamber

IGBT based Induction Converter from **Duolin Electric**



Module design, easy for repair

Control panel



Output Transformer from our competitors



Output Transformer from Duolin Electric

