

# Medium Frequency Parallel Tank Circuit Converter Type TIC



**RICHELIN**  
GRUPPE



**for the Induction Heating with  
Direct Current Intermediate Circuit**

# Medium Frequency Parallel Tank Circuit Converter Type TIC

for the Induction Heating with Direct Current Intermediate Circuit

## Medium Parallel Tank Circuit Converter

The EMA Indutec parallel tank circuit converter type **TIC** is provided with an universal applicable plate. There is an option for 6- or 12-pulse rectifier control. In addition it is possible to consider all specific requirements of the individual customer.

The efficiency of the PLC integrated memory-programmable control extends from simple switching processes to complex measuring, controlling and regulating tasks of the respective application. This includes e.g. temperature regulations (software PID control), recoler controls and machine controls.

An operation terminal is provided for operation and process visualization. The coupling of this operation terminal with the PLC take place via bus system. It is also possible without problems to extend this circuit, to connect further operation terminals. All important process data are indicated on the operation terminal: operation status, start-up procedures, warnings and error messages, actual values of the process.

## Technical features:

- controlled thyristor rectifier
- inductive current intermediate circuit
- IGBT transistor DC-AC inverter bridge, short circuit-proof
- potentially insulated load parallel tank circuit
- PLC for the regulation and visualization
- Bus coupling (e.g. Profibus-DP or Interbus)
- design and safety according to VDE/DIN/IEC/EMVG/EN standards
- output power, current or voltage regulation

## Applications:

### Induction heating for industrial applications:

- forging/forming
- melting
- surface hardening
- soldering
- annealing/hardening and tempering
- coating

## Design: (standard types from 20 kW up to 5 MW)

Technical Data (summary)

Types	TIC	K100	K120	K150	K200	K250	K300	K350	K400	K500	K750	K1400
Output power*	kW	100	120	150	200	250	300	350	400	500	750	1400
Nominal frequencies*	kHz	from 100 Hz to 100 kHz										
Output voltage*	V	Standard: 500 V, 600 V, 800 V										
Input power**	kVA	132	150	197	248	313	395	461	526	620	929	1752
Input voltage***	V	3 AC 400 V +/- 10 % / 50 Hz up to 400 kW and up to 20 kHz for all output voltages										
Cooling water requirements (without MF user)	l/min.	49	51	52	55	65	70	75	77	83	110	160
Dimensions (mm)	width	1400	1400	1600	2400	2400	2400	3200	3200	3200	4000	4800
	depth	600	600	800	800	800	800	800	800	800	800	800
Weight incl. compensation field	kg	950	1000	1200	1700	2000	2150	2300	2400	2500	2800	4800

Subject to technological changes or modifications

\* Intermediate sizes, other ratings and other voltages possible on request

\*\* Mains input power in the nominal case; with faulty adjustment, higher current consumption possible

\*\*\* Above 400 kW output power or above 20 kHz nominal frequency – input voltage usually via three-phase inlet transformer

Certified according to DIN EN ISO 9001:2000 and VDA 6.4

### EMA Indutec GmbH

Petersbergstraße 9  
 D-74909 Meckesheim  
 Phone +49(0)62 26 788-0  
 Fax +49(0)62 26 788-100  
 info@ema-indutec.de  
 www.ema-indutec.de  
 www.aichelin.com