Power ranges

HF miniature systems
- 100 kHz to 450 kHz
- Ratings 1.5 kW and 3 kW

HF systems
- 80 kHz to 420 kHz
- Ratings 5 kW to currently 500 kW

eldec high-frequency generators (HF)

HF generators are designed in IGBT transistor technology with pulse package control. This ensures high efficiency across the entire frequency range with automatic adaptation. The generator is equipped with a choice of PLC or timer. With the PLC, a maximum of eight programmable times with freely selectable power characteristics can be input. A pyrometer can optionally be connected.

In addition to the general applications, HF generators are particularly suitable for surface-layer hardening at low hardening depths (approx. 0.2 to 2.5 mm) and for brazing smaller workpiece structures.

Microprocessor-controlled converter

HF generators above 5 kW are operated via a digital input unit. This unit is used to input operating modes and parameters and to display nominal and actual values. Among other things, the display also serves to show the cooling water quantities as well as error states, such as low cooling water or incorrect adaptation. The generator equipment optionally includes a temperature measurement and control device, which is integrated into the PLC. Localized overheating of the component, for example at the edges, can be avoided by means of non-contact measurement at the hottest place on the workpiece.

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Type	Continuous output power	Power consumption at full load	Mains connection +/– 10 %, 50/60 Hz		Cooling water consumption without inductor coil	Cable length from generator to coaxial transformer box	Dimensions of coaxial transformer box*		Dimensions of generator	
	kW	≈ kVA	V	A	l/min	≈ m	⌀ × L mm	kg	W × H × D mm	kg
HFG 1.5 without PLC	1.5	1.8	230	10	2.5	1 (2)	36 × 114	0.6	240 × 180 × 440	13
HFG 1.5 igbt with PLC	1.5	1.8	3 x 400	4	4	1 (2)	36 × 114	0.6	450 × 315 × 495	35
HFG 3 without PLC	3	3.6	230	16	2.5	1 (2)	36 × 114	0.6	240 × 180 × 440	13
HFG 3 igbt with PLC	3	3.6	3 x 400	6	4	1 (2)	36 × 114	0.6	450 × 315 × 495	35
HFG 5 igbt	5	6	3 × 400	16	5	2 (5)	45 × 200	2.0	450 × 315 × 495	40
HFG 10 igbt	10	12	3 × 400	20	6	2 (5)	45 × 200	2.0	450 × 315 × 495	40
HFG 15 igbt	15	18	3 × 400	35	8	2 (5)	70 × 190	5.0	450 × 315 × 495	45
HFG 20 igbt	20	24	3 × 400	40	12	2 (5)	70 × 190	5.0	550 × 600 × 600	75
HFG 25 igbt	25	30	3 × 400	63	14	2 (5)	70 × 190	5.0	550 × 600 × 600	80
HFG 50 igbt	50	60	3 × 400	100	25	2 (5)	120 × 300	28	550 × 970 × 780	135
							Oscillating circuit box			
							W × H × D mm	kg		
HFG 75 igbt	75	90	3 × 400	160	33	2 (5)	295 × 230 × 410	35	800 × 2,100 × 600	165
HFG 100 igbt	100	120	3 × 400	200	42	2 (5)	295 × 230 × 410	35	800 × 2,100 × 600	195

Housing dimensions without projections and without chassis (optional).
Housing dimensions may deviate from the standard dimensions depending on the system.

* Multiple power outputs also possible.

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Power ranges

MF systems
- 6 kHz to 40 kHz
- Ratings 5 kW to currently 500 kW

MF systems
- 2 kHz to 5 kHz on request

eldec medium-frequency generators (MF)

MF generators achieve high efficiency across the entire frequency range thanks to their pulse width modulation with automatic adaptation. The generator is controlled via a PLC. With up to 8 programmable times with freely selectable power levels, even complex heating tasks can be solved with the PLC. A pyrometer can optionally be connected for temperature control.

In addition to general applications, MF generators are particularly suitable for surface-layer hardening at higher hardening depths (approx. 1.5 to 5.5 mm) and for brazing larger workpiece structures.

Microprocessor-controlled converter

MF generators above 5 kW are operated via a digital input unit. This unit is used to input operating modes and parameters and to display nominal and actual values. Among other things, the display also serves to show the cooling water quantities as well as error states, such as low cooling water or incorrect adaptation. The generator equipment optionally includes a temperature measurement and control device, which is integrated into the PLC. Localized overheating of the component, for example at the edges, can be avoided by means of non-contact measurement at the hottest place on the workpiece.

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Type	Continuous output power	Power consumption at full load	Mains connection +/– 10%, 50/60 Hz		Cooling water consumption without inductor coil	Cable length from generator to coaxial transformer box	Dimensions of coaxial transformer box*		Dimensions of generator	
	kW	≈ kVA	V	A	l/min	≈ m	ØØ × L mm	kg	W × H × D mm	kg
MFG 5	5	5.8	3 × 400	10	5	5 (10)	54 × 140	2.5	470 × 280 × 515	40
MFG 10	10	11.5	3 × 400	20	6	5 (10)	54 × 140	2.5	470 × 280 × 515	40
MFG 15	15	17	3 × 400	32	8	5 (10)	54 × 140	2.5	470 × 280 × 515	45
MFG 20	20	23	3 × 400	35	10	5 (10)	79 × 150	5.5	550 × 600 × 780	80
MFG 30	30	34.5	3 × 400	63	12	5 (10)	79 × 150	5.5	550 × 600 × 780	80
MFG 50	50	57.5	3 × 400	100	27	5 (10)	79 × 200	6.5	550 × 790 × 780	90
MFG 70	70	80.5	3 × 400	160	32	5 (10)	79 × 200	6.5	550 × 790 × 780	100
MFG 100	100	115	3 × 400	200	37	5 (10)	120 × 230	20	550 × 970 × 780	135
MFG 150	150	172	3 × 400	315	50	5 (10)	120 × 340	25	550 × 1,150 × 780	180
MFG 200	200	230	3 × 400	400	70	5 (10)	160 × 400	40	1,000 × 2,100 × 600	310
MFG 250	250	287	3 × 400	500	80	5 (10)	160 × 400	40	1,400 × 2,100 × 600	450

Housing dimensions without projections and without chassis (optional).
Housing dimensions may deviate from the standard dimensions depending on the system.

* Multiple power outputs also possible.

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Power ranges

SDF® systems
- 10 kHz to 25 kHz and 150 kHz to 350 kHz
- Ratings 15 kW to currently 3,000 kW

eldec Simultaneous Dual Frequency generators (SDF®)

With SDF® generators, it is also possible for the first time to use two different frequencies (HF and MF) on an inductor coil at the same time in addition to the normal use of HF or MF energy. For this purpose, the SDF® generators include one HF and one MF converter each with a common power output, with a high-frequency oscillation superimposed on the medium-frequency basic oscillation. The HF and MF power components can be continuously adjusted from 2 to 100%. With up to 8 programmable times with freely selectable power levels, even complex heating tasks involving workpiece zones with numerous contours can be solved using the integrated PLC. A pyrometer can optionally be connected for temperature regulation.

Microprocessor-controlled converter

The SDF® generators are controlled via a digital operator unit. It is equipped with a backlit, graphics-capable LCD screen and serves for input of operating modes and parameters and for displaying nominal and actual values. It also shows the individual values of the MF and HF power components in curve form as well as displaying the current water flow rates and settings for limit values.

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Type	Continuous output power	Power consumption at full load	Mains connection +/– 10%, 50/60 Hz		Cooling water consumption with inductor coil	Cable length from generator to coaxial transformer box	Dimensions of output transformer box*		Dimensions of generator	
	kW	≈ kVA	V	A	l/min	≈ m	W × H × D mm	kg	W × H × D mm	kg
SDF® 50 igbt	25 25 MF/25 HF	60	3 × 400	100	40	2 (5)	⌀ × L mm 125 × 480	35	800 × 2,200 × 600	450
SDF® 150 igbt	150 100 MF/50 HF 50 MF/100 HF 75 MF/75 HF	180	3 × 400	315	80	2 (5)	380 × 370 × 500	100	1,000 × 2,100 × 600	700
SDF® 300 igbt	300 200 MF/100 HF	360	3 × 400	630	170	2 (5)	380 × 370 × 500	100	2,000 × 2,000 × 600	800
SDF® 450 igbt	450 300 MF/150 HF	540	3 × 400	1,000	180	2 (5)	380 × 420 × 500	120	1,200 × 2,300 × 1,800	1,800
SDF® 600 igbt	600 400 MF/200 HF	720	3 × 400	1,250	220	2 (5)	380 × 420 × 500	120	1,200 × 2,300 × 1,800	2,000
SDF® 1000 igbt	1,000 500 MF/500 HF	1200	3 × 400	2,000	350	2 (5)	380 × 420 × 500	160	1,200 × 2,300 × 1,800	2,500
SDF® 3000 igbt	2,000 (30 % DC 3,000) 1,000 HF/ 2,000 MF	3600	3 × 400	4,000	600	2 (4)	350 × 400 × 550	160	1,200 × 2,300 × 4,200	5,000

Housing dimensions without projections and without chassis (optional).
Housing dimensions may deviate from the standard dimensions depending on the system.

* Multiple power outputs also possible.

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