

# VaryDisk FEMTO

performance meets versatility....



## FEMTO

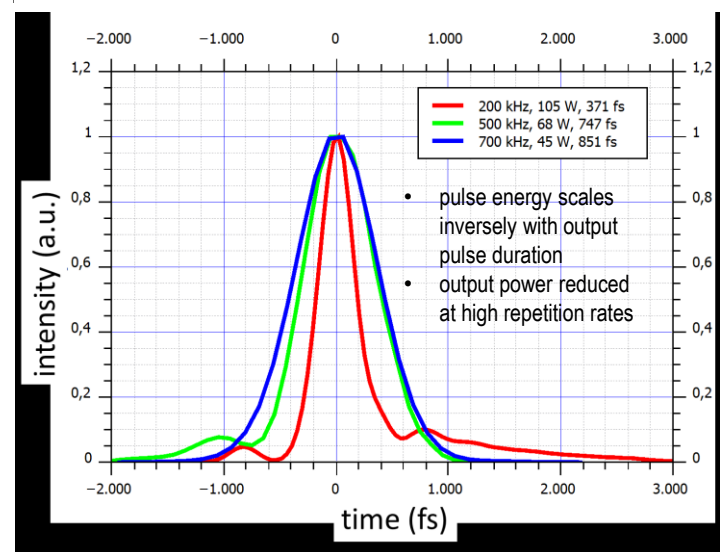
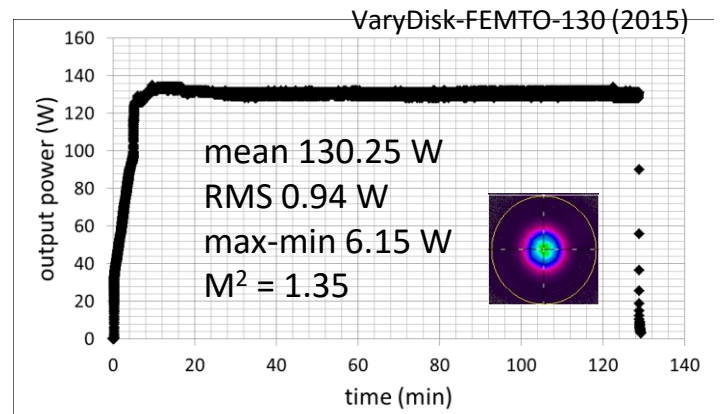
pulse durations in the femtosecond regime  
< 500 fs

## FEATURES

- up to **150 W** average power @ 1030 nm<sup>a)</sup>
- pulse duration < **500 fs**<sup>b)</sup>
- pulse energy **0.75 mJ**<sup>c)</sup>  
at 200 kHz repetition rate
- high beam quality ( $M^2 < 1.4$ )
- energy stability < 3 % RMS
- power stability < 1 % RMS

## ADDITIONAL OPTIONS

- power upgrade (**240 W**)
- motorized compressor (**MC**) for an adjustable pulse duration adjustable 2 ps ... 500 fs
- shorter pulse durations < **350 fs**
- multiple seed lasers (e.g. **fs, ps, ns**):  
for mixed pulse trains (**MPT**)
- higher repetition rates of up to **1 MHz**
- pulse picker (**PP-6, PP-9, PP-12**)
- active stabilizer (**RMS+**) for improved RMS
- high speed warm up routine (**HS**)
- customizable network Interface
- **515 nm**



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VaryDisk <sup>1)</sup>	NANO-150	PICO-150	FEMTO-150	ENERGY-15
average power <sup>2)</sup>	150 W	150 W	150 W	15 W
optional power upgrade		400 W	240 W	150 W
max. pulse energy	150 mJ	1 mJ	1000 µJ	15 mJ
optional energy upgrade		4 mJ		150 mJ
min. pulse duration	≈ 40 ns	6 ps <sup>5)</sup>	< 500 fs	2 .. 3 ps
min. rep. rate <sup>3,4)</sup>	1 kHz	100 kHz	100 kHz	1 kHz
max. rep. rate	20 kHz	1 MHz	1 MHz	20 kHz
M <sup>2</sup>	< 1.3	< 1.3	< 1.4	< 1.3

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- pulse energy **0.75 mJ<sup>c)</sup>**  
at 200 kHz repetition rate
- high beam quality (**M<sup>2</sup> < 1.4**)
- energy stability < 3 % RMS
- power stability < **1 % RMS**

## ADDITIONAL OPTIONS

- power upgrade (**240 W**)
- motorized compressor (**MC**) for an adjustable pulse duration adjustable 2 ps ... 500 fs
- shorter pulse durations < **350 fs**
- multiple seed lasers (e.g. **fs, ps, ns**):  
switchable pulse durations from pulse to pulse
- higher repetition rates of up to **1 MHz**
- pulse picker (**PP-6, PP-9, PP-12**)
- active stabilizer (**RMS+**) for improved RMS
- high speed warm up routine (**HS**)
- customizable network Interface
- **515 nm**

## DIMENSIONS/WEIGHT

All data given here are approximate, since nearly every laser is unique with respect to our customers requests (including the specifications given here):

- laser head approx. 200 kg  
(78 x 40 x 120) cm<sup>3</sup>
- rack approx. 200 kg, (100 x 80 x 56) cm<sup>3</sup>
- connection rack - laser head: 4 m
- chiller up to 250 kg, (60 x 58 x 155) cm<sup>3</sup>

## OPERATING CONDITIONS

- power supply 3 phases 380 V, 50 Hz + N + ground, CEE 32 A plug
- power consumption < 4 ... 6 kW
- water connection barbed fittings for tubing  
13 or 16 mm inner diameter
- water flow 15 l/min @ 12 °C – 25 °C
- water quality filtered 80 µm recommended,  
low chlorine concentration (< 200 mg/l)
- 20 – 25 °C operating temperature, low humidity



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