

# PX-Series

## Ultrashort Pulse InnoSlab Lasers

EDGEWAVE

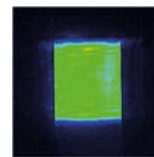
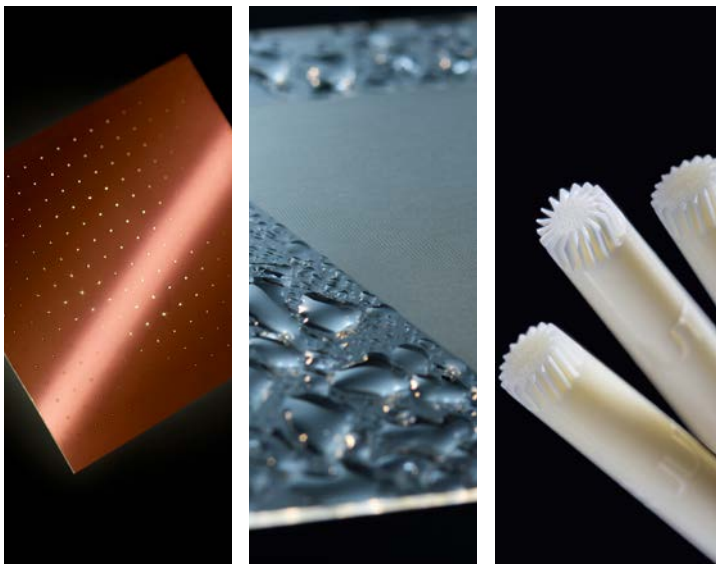


### Favourable Applications

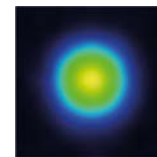
- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving/milling
- drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

### Unique Features

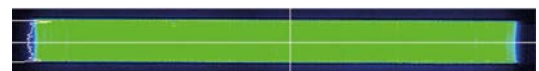
- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



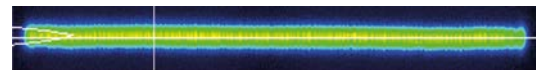
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of PX-Series

Model	PXxxx-1	PXxxx-2	PXxxx-3	PXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	400	200	90	15
Max. repetition rate [MHz]	100	100	100	100
Max. pulse energy [μJ]	1400	700	340	170
Pulse width [ps]	12	12	12	12
Energy stability [%] rms	1	2	2	3
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	226	226
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

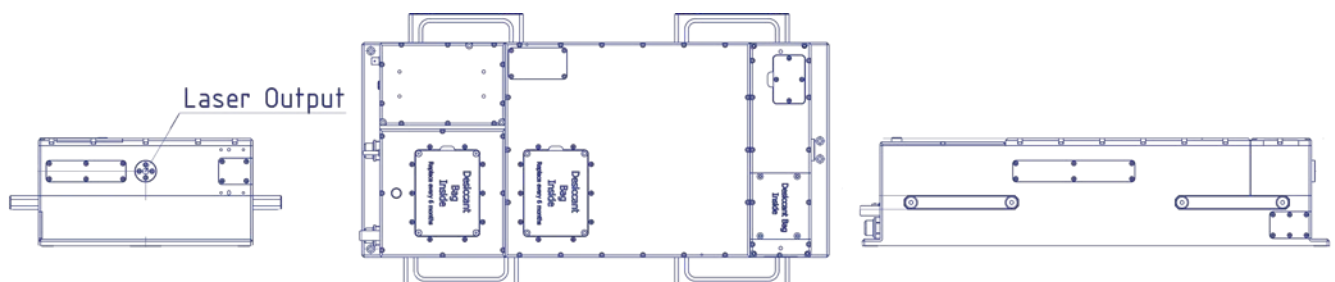
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	1.2 kW-3.6 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	0.8 kW-3.6 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 298 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	< 50 kg
Supply incl. chiller	62 kg-110 kg

EdgeWave follows a policy of continuous product improvement. Specifications are subject to change without notice.



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# PX600-Series

Ultrashort Pulse InnoSlab Lasers

EDGEWAVE

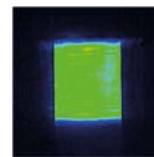
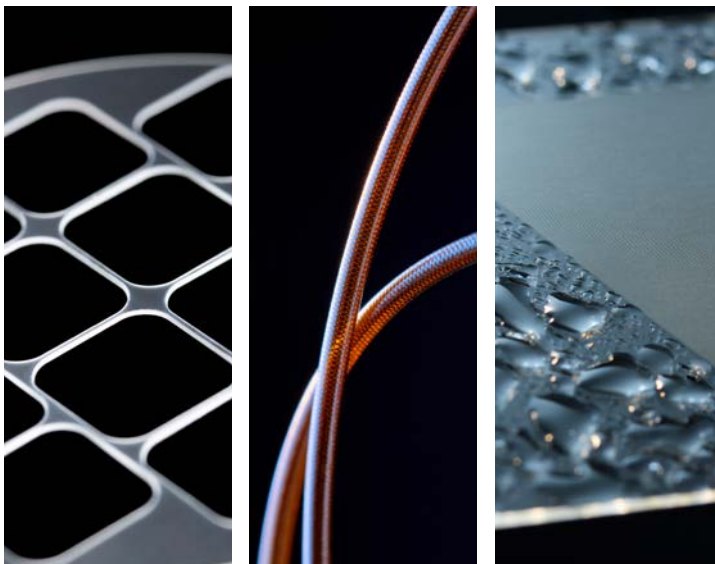


## Favourable Applications

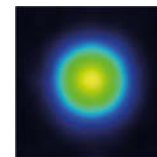
- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving
- milling, drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

## Unique Features

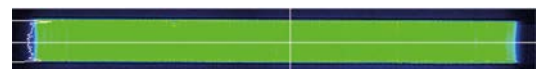
- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



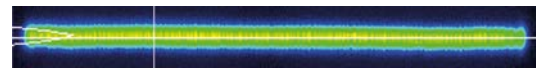
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of PX600-Series

Model	PXxxx-1	PXxxx-2	PXxxx-3	PXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	600	250	120	20
Max. repetition rate [MHz]	100	100	100	100
Max. pulse energy [μJ]	2000	1000	500	250
Pulse width [ps]	12	12	12	12
Energy stability [%] rms	1	2	2	3
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	226	226
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

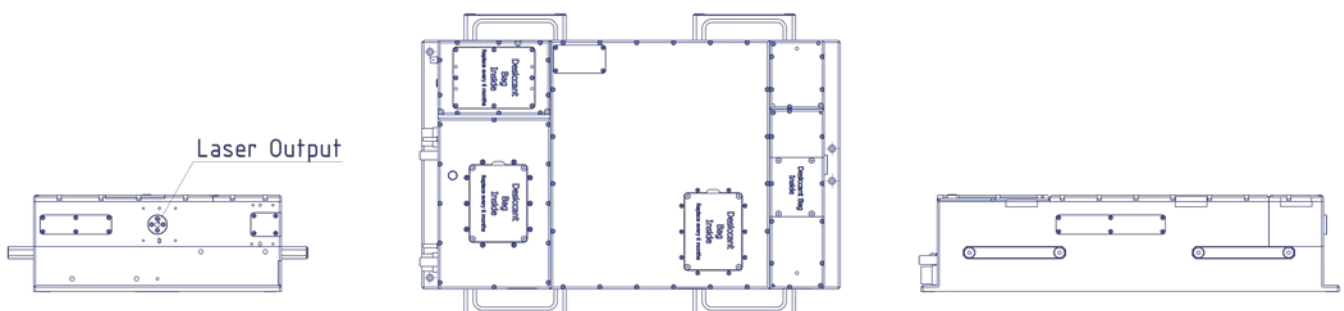
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	3.6 kW-7 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	1 kW-7 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 385 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	63 kg
Supply incl. chiller	62 kg-110 kg

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# PXz-Series

Short Pulse InnoSlab Lasers

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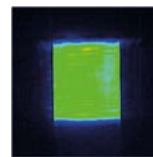
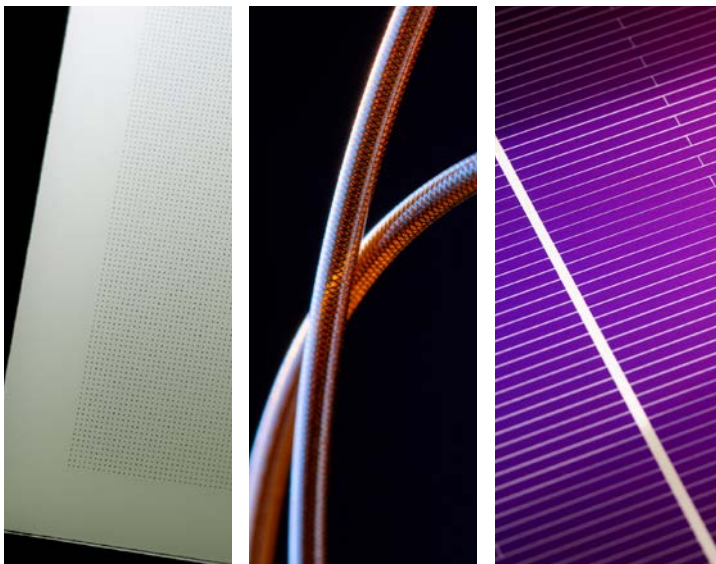


## Favourable Applications

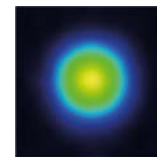
- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving/milling
- drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

## Unique Features

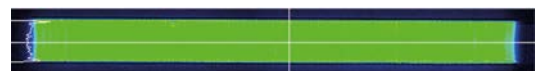
- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



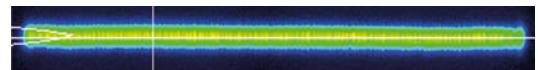
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of PXz-Series

Model	PXxxx-1	PXxxx-2	PXxxx-3	PXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	100	50	30	3
Max. repetition rate [MHz]	100	100	100	100
Max. pulse energy [μJ]	500	250	150	100
Pulse width [ps]	12-80	12-80	12-80	12-80
Energy stability [%] rms	1	2	2	3
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	226	226
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

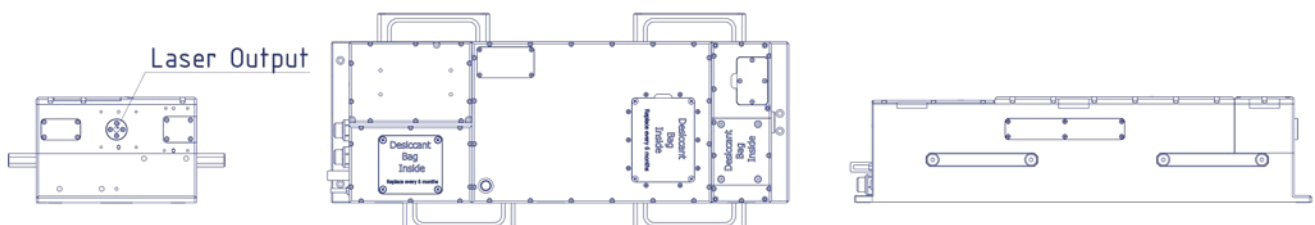
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	600W W-1.2 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	0.8 kW-1.6 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 228 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	< 42 kg
Supply incl. chiller	40 kg-45 kg

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# FX-Series

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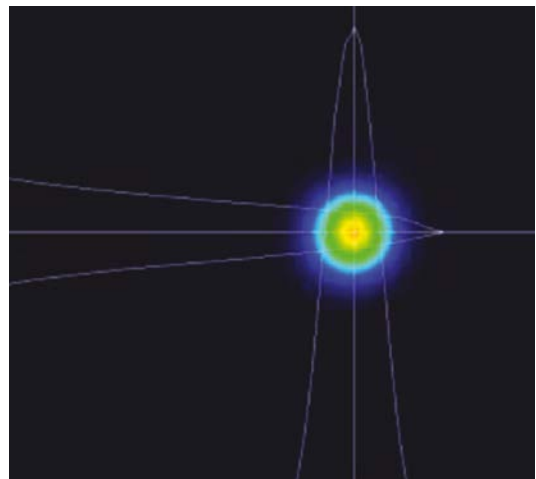
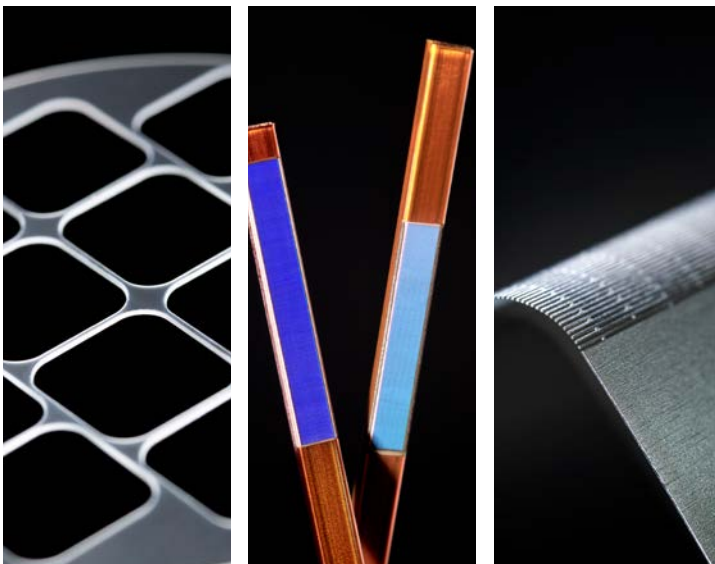


## Favourable Applications

- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving/milling
- milling, drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

## Unique Features

- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



## Overview of FX-Series

Model	FXxxx-1	FXxxx-2	FXxxx-3	FXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	400	200	90	15
Max. repetition rate [MHz]	50	50	50	50
Max. pulse energy [μJ]	2000	900	400	200
Min. pulse width [fs]	400	300	300	300
Energy stability [%] rms	1	2	2	3
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	226	226
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

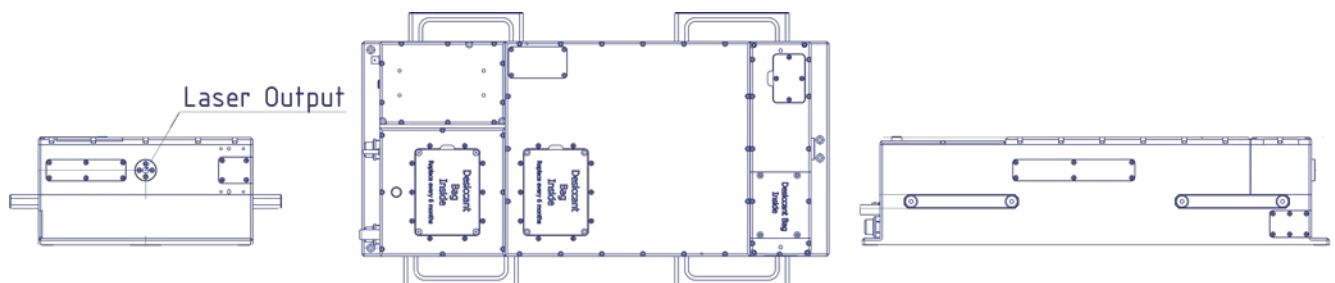
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	1.2 kW-3.6 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	0.8 kW-3.6 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 298 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	< 50 kg
Supply incl. chiller	62 kg-110 kg

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# FX600-Series

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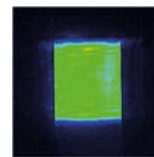
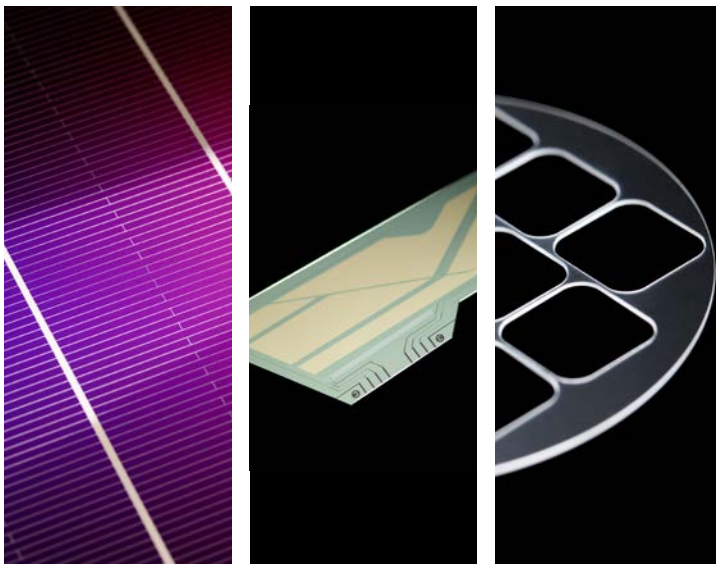


## Favourable Applications

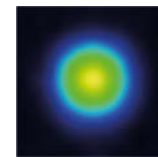
- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving
- milling, drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

## Unique Features

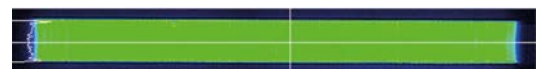
- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



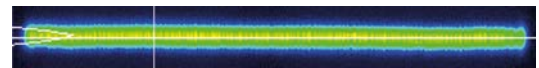
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of FX600-Series

Model	FXxxx-1	FXxxx-2	FXxxx-3	FXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	600	250	120	20
Max. repetition rate [MHz]	100	100	100	100
Max. pulse energy [μJ]	3000	1200	600	250
Min. pulse width [fs]	400	300	300	300
Energy stability [%] rms	1	2	2	2
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	226	226
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

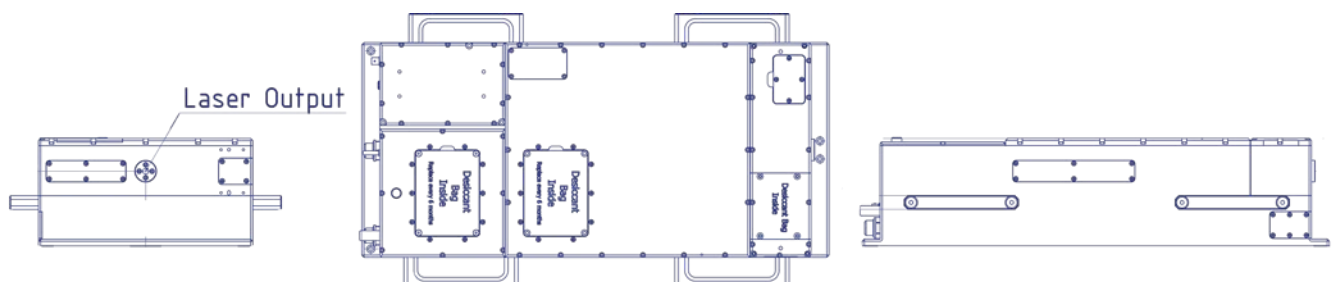
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	3.6 kW-7 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	1 kW-7 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 385 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	63 kg
Supply incl. chiller	62 kg-110 kg

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# FXz-Series

Short Pulse InnoSlab Lasers

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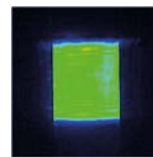
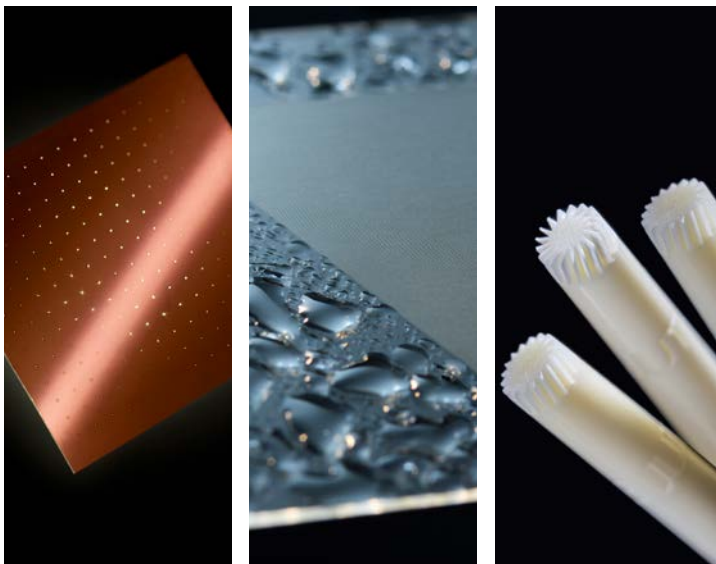


## Favourable Applications

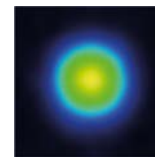
- milling, cutting and drilling of display-glass, sapphire, ceramic, etc.
- ablation and structuring of thin layer
- precision 3D engraving/milling
- drilling and cutting of CFP
- laser induced selective etching
- rapid prototyping

## Unique Features

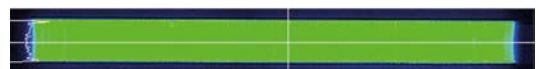
- ultrashort pulse
- high pulse energy
- high peak power
- high repetition rate
- burst mode
- compact setup
- tailored beam profile



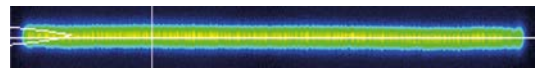
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of FXz-Series

Model	FXxxx-1	FXxxx-2	FXxxx-3	FXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M2	1.1	1.1	1.1	1.1
Max. average power [W]	100	60	30	3
Max. repetition rate [MHz]	100	100	100	100
Max. pulse energy [ $\mu$ J]	1400	700	340	170
Min. pulse width [fs]	500	400	400	400
Energy stability [%] rms	1	2	2	2
Timing stability [ns]	20	20	20	20
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [ $\mu$ rad]	500	250	226	226
Point stability [ $\mu$ rad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	20	30	30
Warm-up time from standby [min]	10	15	30	30

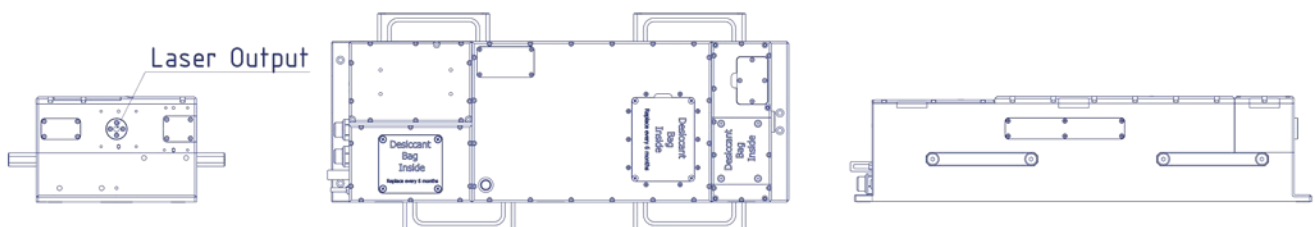
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180 V-264 V, 50/60 Hz
Power	600 W-2 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	0.8 kW-2 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 228 mm x 150 mm
Supply incl. chiller	19" x (10 HU-15 HU) x 700 mm
Laser head	< 42 kg
Supply incl. chiller	40 kg-45 kg

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# BX-Series

## Short Pulse InnoSlab Lasers

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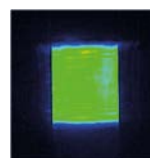
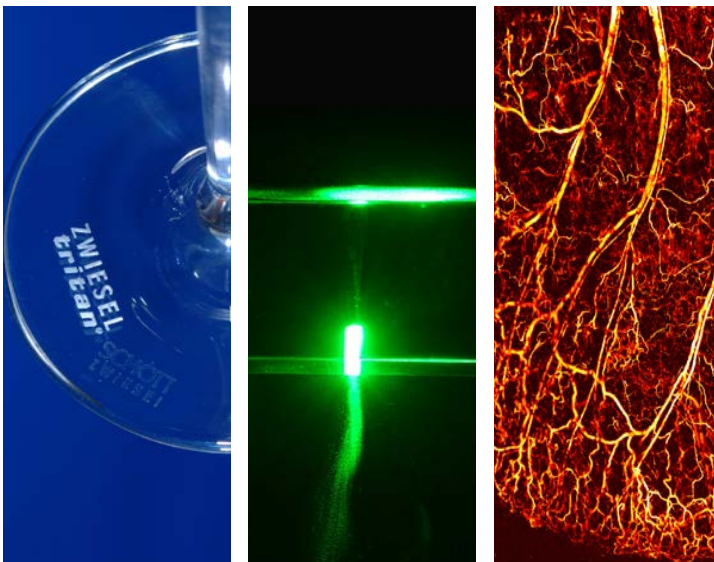


### Favourable Applications

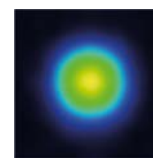
- glass milling, drilling and cutting
- ablation, structuring and scribing
- high speed subsurface marking
- tool making and rapid prototyping
- pumping of dye laser
- solar cell processing
- high resolution marking

### Unique Features

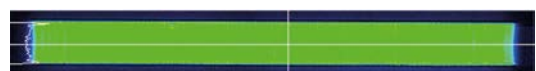
- short pulse
- high pulse energy
- high peak power
- high repetition rate
- compact setup
- flexibility on crystal choice
- tailored beam profile



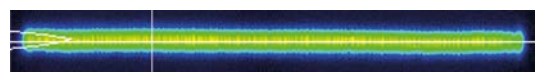
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of BX-Series

Model	BXxx-1	BXxx-2
Wavelength [nm]	IR	Green
Highest beam quality $M^2$	1.1	1.1
Max. average power [W]	80	40
Max. repetition rate [kHz]	100	100
Max. pulse energy [mJ]	7	3
Min. pulse width [ns]	6	5
Energy stability [%] rms	< 1	< 2
Timing stability [ns]	< 2	< 2
Polarisation	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10
Diameter at window [mm]	3	3
Full divergence angle [ $\mu$ rad]	500	250
Point stability [ $\mu$ rad]	< 50	< 50
Warm-up time from cold start [min]	15	20
Warm-up time from standby [min]	10	15

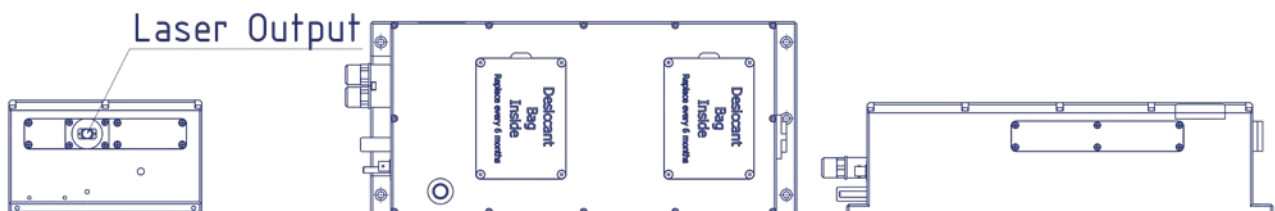
## Utility & Ambient Requirements

Power supply	90 V-264 V, 50/60 Hz
Power, maximum	1.4 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power, maximum	1.4 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	420 mm x 190 mm x 110 mm
Supply incl. chiller	19" x 8 HU x 650 mm
Laser head	17 kg
Supply incl. chiller	56 kg

EdgeWave follows a policy of continuous product improvement. Specifications are subject to change without notice.



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# GX-Series

## Short Pulse InnoSlab Lasers

EDGEWAVE

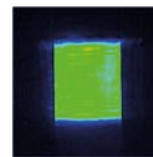
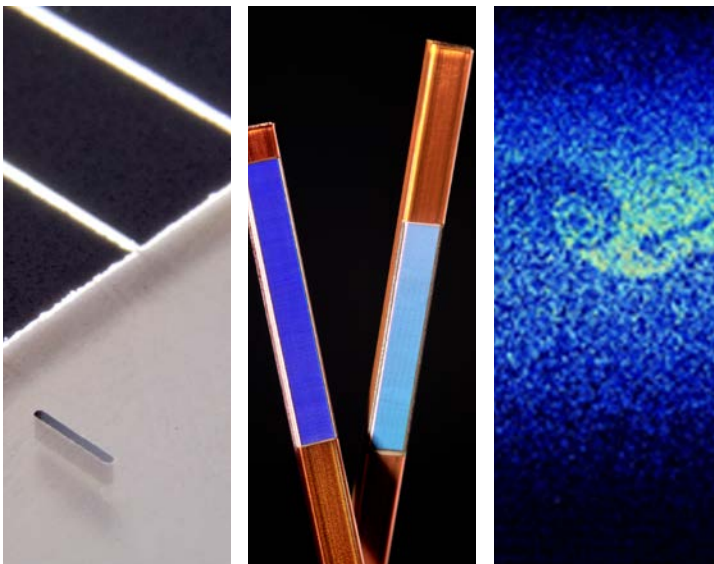


### Favourable Applications

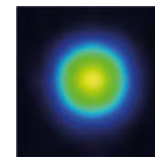
- laser lift-off
- annealing
- ablation, structuring and scribing
- solar cell processing
- glass processing
- pumping of dye laser, OPA, OPO
- PIV and LIF

### Unique Features

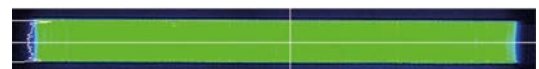
- short pulse
- high pulse energy
- high peak power
- high repetition rate
- compact setup
- flexibility on crystal choice
- tailored beam profile



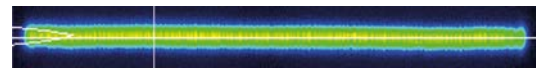
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of GX-Series

Model	GXxxx-1	GXxxx-2	GXxxx-3	GXxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.5	2
Max. average power [W]	800	400	200	30
Max. repetition rate [kHz]	100	100	100	20
Max. pulse energy [mJ]	120	60	30	5
Min. pulse width [ns]	6	5	5	5
Energy stability [%] rms	< 2	< 4	< 4	< 4
Timing stability [ns]	< 2	< 2	< 2	< 2
Polarisation	> 1:100	> 1:100	> 1:100	> 1:100
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	250	225
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	< 15	< 30	< 30	< 30
Warm-up time from standby [min]	< 10	< 15	< 30	< 30

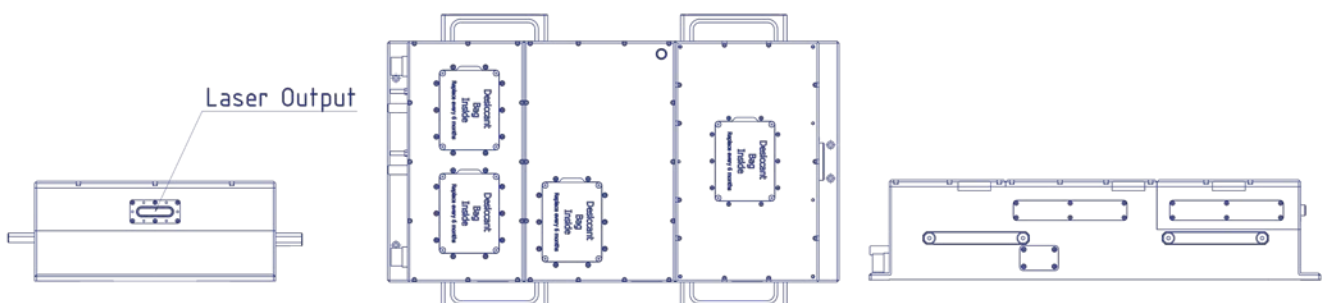
## Utility & Ambient Requirements

Power supply	180-264 V, 50/60 Hz
Power	4 kW-8 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz or 460/280 V, 50/60 Hz
Power	4 kW-8 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	675 mm x 360 mm x 150 mm
Supply incl. chiller	19" x 18 RU x 700 mm
Laser head	70 kg
Supply incl. chiller	100 kg

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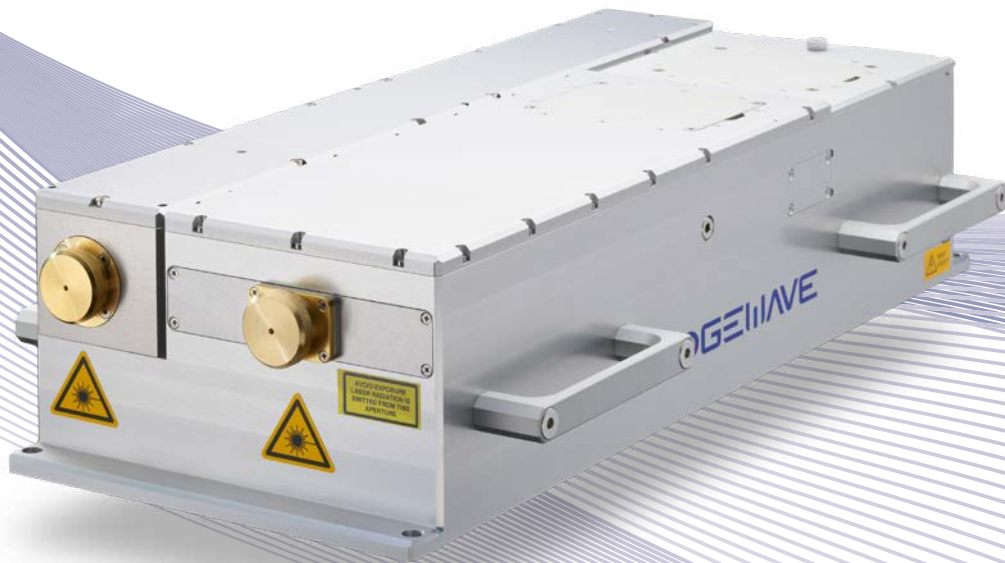
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# IS-Series

Short Pulse InnoSlab Lasers

EDGEWAVE

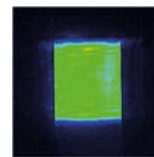
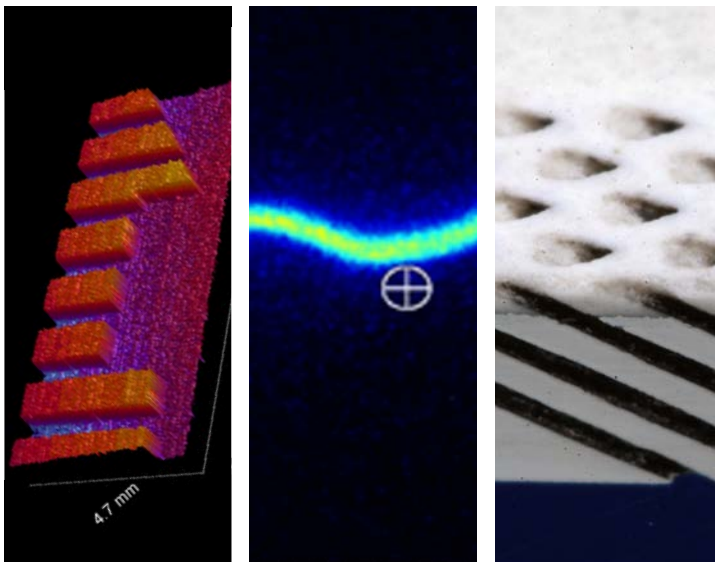


## Favourable Applications

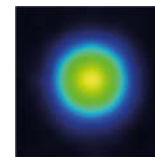
- plasma generation
- ablation, structuring and scribing
- glass milling, drilling and cutting
- tool making
- solar cell processing
- pumping of dye laser, OPA, OPO
- PIV and LIF

## Unique Features

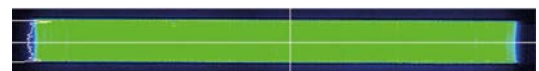
- short pulse
- high pulse energy
- high peak power
- high repetition rate
- compact setup
- flexibility on crystal choice
- tailored beam profile



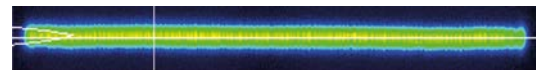
square top-hat



circular gaussian



rectangular top-hat



line shaped top-hat

## Overview of IS-Series

Model	ISxxx-1	ISxxx-2	ISxxx-3	ISxxx-4
Wavelength [nm]	IR	Green	UV	DUV
Highest beam quality M <sup>2</sup>	1.1	1.1	1.1	1.1
Max. average power [W]	400	200	70	20
Max. repetition rate [kHz]	100	100	15	15
Max. pulse energy [mJ]	60	30	15	4
Min. pulse width [ns]	6	5	5	5
Energy stability [%] rms	< 2	< 4	< 4	< 4
Timing stability [ns]	< 2	< 2	< 2	< 2
Polarisation	> 100:1	> 100:1	> 100:1	> 100:1
Beam ellipticity (far field) [%]	< 10	< 10	< 10	< 10
Diameter at window [mm]	3	3	3	3
Full divergence angle [μrad]	500	250	250	225
Point stability [μrad]	< 50	< 50	< 50	< 50
Warm-up time from cold start [min]	15	30	30	30
Warm-up time from standby [min]	10	15	30	30

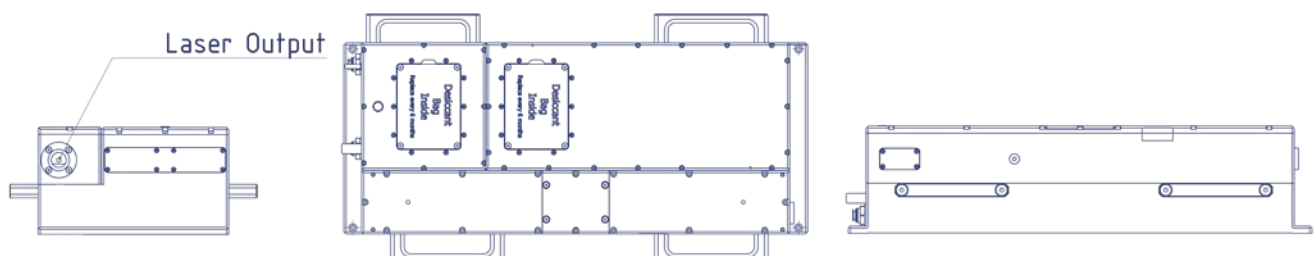
## Utility & Ambient Requirements

Power supply	90 V-264 V or 180-264 V, 50/60 Hz
Power	1 kW-4 kW
Chiller	230, 208, 115, 100 V, 50/60 Hz
Power	1 kW-4 kW
Operation ambient temperature	15 °C-35 °C
Relative humidity, non-condensing	10 %-80 %

## Dimensions & Weights

Laser head	650 mm x 178 mm x 150 mm
Supply incl. chiller	19" x 11 HU x 700 mm
Laser head	20 kg-45 kg
Supply incl. chiller	< 68 kg

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