# *BeamPro*

BeamPro is the **most comprehensive range** of laser beam profilers available on the market. All the cameras have been carefully **qualified and selected by laser experts** to successfully address any beam profiling requirement, based on decisive criteria like pixel size, detection area, wavelength range, compactness or budget. Powered by a dedicated **full-featured beam profiling software**, BeamPro is a high-performance, user-friendly and tailored solution, delivering **reliable and reproducible measurements** for any application.
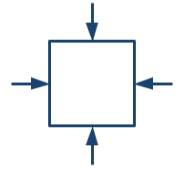
∿ BeamPro
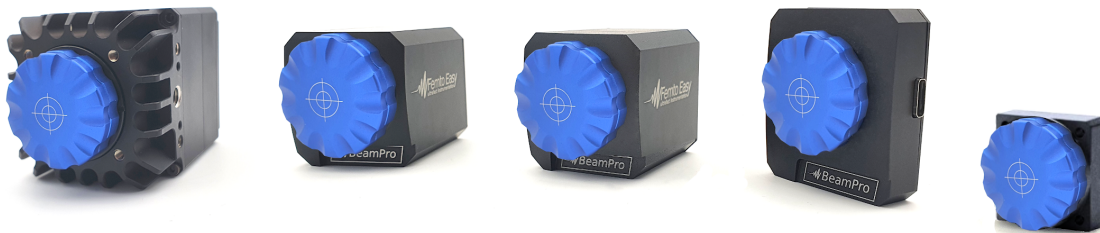
Models :
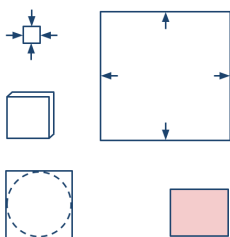
- ◆ **Small pixels** : down to 1.45 µm
- ◆ **Large area** : beams up to 25 mm in diameter
- ◆ **Compact footprint** : less than 15 mm thickness
- ◆ **Square format** : natural format for circular beams
- ◆ **SWIR range** : 400 to 1700 nm wavelengths

Options

- • Windowless
- • UV extension (down to 190 nm)
- • Additional ND filters
- • High Dynamic Range

- • Vacuum compatible versions (not available for all models)
- • Trigger

BeamPro small pixels

Pixel size from 1.45 µm up to 3.5 µm

Models	LP6.3	BP7.6	µ-BP8.4	µ-BP4.2	µ-BP6.4	BP13.9	µ-BP7.6	BP12.12+	µ-BP7.4	BP7.5	BP8.7	BP14.10
Pixel size (µm) ↗	1.45	1.85	2.00	2.20	2.20	2.40	2.74	2.74	3.45	3.45	3.45	3.45
Spectral range (nm)	375 – 1100 190 – 1100 with UV option											
Sensor size (mm)	5.6 x 3.1	7.4 x 5.5	7.7 x 4.3	4.2 x 2.4	5.7 x 4.3	13.1 x 8.7	6.8 x 5.7	12.3 x 12.3	6.6 x 4.2	7.1 x 5.3	8.7 x 7.1	13.8 x 10.3
Sensor format	S 1/3"	M 1/1.7"	M 1/1.8"	S 1/3.7"	M 1/2.5"	L 1"	M 1/1.8"	L 1.1"	M 1/2.3"	M 2/3"	L 2/3"	L 1.1"
Resolution	3864 x 2176 8.4 Mpx	4000 x 3000 12 Mpx	3840 x 2160 8.3 Mpx	1920 x 1080 2.0 Mpx	2592 x 1944 5.0 Mpx	5472 x 3648 20.0 Mpx	2472 x 2064 5.1 Mpx	4504 x 4504 20.2 Mpx	1920 x 1200 2.3 Mpx	2056 x 1542 3.2 Mpx	2456 x 2054 5.0 Mpx	4096 x 3000 12.3 Mpx
Shutter type	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Global	Global	Global	Global	Global	Global
Minimum beam diameter (Ø FWHM, µm)[1]	7	9	10	11	11	12	14	14	17	17	17	17
Maximum acquisition frame rate (fps)[2]	24	31	45	15	14	60	30	18	160	57	36	36
Exposure time — min (µs)	31[3]	10[3]	80[3]	31[3]	52[3]	20[3]	16	20	17	55	27	27
Exposure time — max (s)	1	1	1	1	1	1	1	1	1	1	1	1
Dynamic (dB)	70	70	71	58	58	72	70	71	71	72	73	73
Price	■■	■■	■■	■	■■	■■	■■	■■■	■	■■	■■	■■■
Sensor type	CMOS											
Bit depth	12 / 16 (with HDR option)											
PC Interface	USB 3.1											
Synchronization	Yes (with the Trigger option)											
Dimensions (mm)	40 x 45 x 12	36 x 39 x 46	33 x 29 x 10	33 x 29 x 10	33 x 29 x 10	36 x 39 x 46	33 x 29 x 10	37 x 30 x 23	33 x 29 x 10	31 x 37 x 25	36 x 39 x 46	36 x 39 x 46

[1] The minimum beam diameters are specified for a precision of measurement better than 1%. Smaller beam diameter can be measured but the error will progressively increase

[2] Depending on the type of calculation, frame rate may vary

[3] Due to rolling shutter, the actual minimum exposure time to capture the whole beam will be limited by the beam size. The larger the beam, the longer the required minimum exposure time
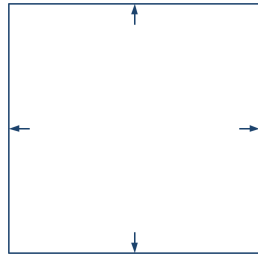
BeamPro large area

Beam diameters from 7 mm up to 25 mm

| Models	BP8.7	BP11.7	SWIR 10.8	BP13.9	SWIR 13.10	BP14.10	BP11.11	BP11.11+	BP12.12	BP12.12+	BP25.16	SWIR 21.17	BPΦ25
Sensor size (mm) ↗	8.7 x 7.1	11.2 x 7.0	9.6 x 7.7	13.1 x 8.7	12.8 x 10.2	13.8 x 10.3	11.2 x 11.2	11.2 x 11.2	12.3 x 12.3	12.3 x 12.3	25.0 x 16.1	21.0 x 17.0	Φ 25.0
Sensor format	L 2/3"	L 1/1.2"	L 1"	L 1"	L 1"	L 1.1"	L 1"	L 1"	L 1.1"	L 1.1"	L+ 4/3"	L+ APS-C	L+ Φ
Spectral range (nm)	375 – 1100 / 190 – 1100 with UV option		900 - 1700	375 - 1100 / 190 - 1100 with UV option	900 - 1700	375 - 1100 / 190 - 1100 with UV option						900 - 1700	375 - 1100 / 190 - 1100 with UV option
Resolution	2456 x 2054 5.0 Mpx	1920 x 1200 2.3 Mpx	640 x 512 0.3 Mpx	5472 x 3648 20.0 Mpx	1280 x 1024 1.3 Mpx	4096 x 3000 12.3 Mpx	2048 x 2048 4.2 Mpx	2056 x 2056 4.2 Mpx	2256 x 2256 5.1 Mpx	4512 x 4512 20.3 Mpx	1920 x 1200 2.3 Mpx	640 x 512 0.3 Mpx	2048 x 2048 4.2 Mpx
Pixel size (µm)	3.45	5.86	15.0	2.40	10.0	3.45	5.50	5.48	5.48	2.74	13.48	33.00	12.65
Shutter type	Global	Global	Global	Rolling	Global	Global	Global	Global	Global	Global	Global	Global	Global
Minimum beam diameter (Ø FWHM, µm)[1]	17	29	75	12	50	17	29	28	28	14	68	23	63
Maximum acquisition frame rate (fps)[2]	36	47	230	18	60	36	80	18	18	18	47	230	80
Exposure time — min (µs)	27	20	10	67[3]	10	27	40	20	20	20	20	10	40
Exposure time — max (s)	1	1	0.5	1	0.5	1	1	1	1	1	1	0.5	1
Dynamic (dB)	73	70	63	72	61	73	58	71	71	71	70	63	58
Price	■ ■	■ ■	■ ■ ■ ■	■ ■	■ ■ ■ ■	■ ■ ■	■ ■	■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■ ■	■ ■ ■
Sensor type	CMOS		InGaAs	CMOS	InGaAs	CMOS						InGaAs	CMOS
Bit depth	12 / 16 (with HDR option)		14	12 / 16 (with HDR option)	14	12 / 16 (with HDR option)						14	12 / 16 (with HDR option)
PC Interface	USB 3.1												
Synchronization	Yes (with the Trigger option)												
Dimensions (mm)	36 x 39 x 46	36 x 39 x 46	46 x 46 x 57	36 x 39 x 46	58 x 58 x 70	36 x 39 x 46	36 x 39 x 46	37 x 30 x 23	37 x 30 x 23	37 x 30 x 23	37 x 40 x 55	46 x 46 x 57	37 x 40 x 55

[1] The minimum beam diameters are specified for a precision of measurement better than 1%. Smaller beam diameter can be measured but the error will progressively increase
[2] Depending on the type of calculation, frame rate may vary
[3] Due to rolling shutter, the actual minimum exposure time to capture the whole beam will be limited by the beam size. The larger the beam, the longer the required minimum exposure time
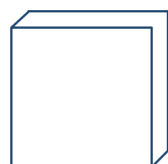
BeamPro compact footprint

Less than 15 mm thickness

Models	LP6.3	μ-BP8.4	μ-BP4.2	μ-BP6.4	μ-BP7.6	μ-BP7.4	μ-BP5.4
Pixel size (μm) ↗	1.45	2.00	2.20	2.20	2.74	3.45	3.75
Spectral range (nm)	375 – 1100 190 – 1100 with UV option						
Sensor size (mm)	5.6 x 3.1	7.7 x 4.3	4.2 x 2.4	5.7 x 4.3	6.8 x 5.7	6.6 x 4.2	4.8 x 3.7
Sensor format	S 1/3"	M 1/1.8"	S 1/3.7"	M 1/2.5"	M 1/1.8"	M 1/2.3"	S 1/3"
Resolution	3864 x 2176 8.4 Mpx	3840 x 2160 8.3 Mpx	1920 x 1080 2.0 Mpx	2592 x 1944 5.0 Mpx	2472 x 2064 5.1 Mpx	1920 x 1200 2.3 Mpx	1280 x 960 1.2 Mpx
Shutter type	Rolling	Rolling	Rolling	Rolling	Global	Global	Global
Minimum beam diameter (Ø FWHM, μm)[1]	7	10	11	11	14	17	19
Maximum acquisition frame rate (fps)[2]	24	45	15	14	30	160	54
Exposure time min (μs)	31[3]	80[3]	31[3]	52[3]	16	17	30
Exposure time max (s)	1	1	1	1	1	1	1
Dynamic (dB)	70	71	58	58	70	71	58
Price	■ ■	■ ■	■	■ ■	■ ■	■	■
Sensor type	CMOS						
Bit depth	12 / 16 (with HDR option)						
PC Interface	USB 3.1						
Synchronization	Yes (with the Trigger option)						
Dimensions (mm)	40 x 45 x 12	33 x 29 x 10	33 x 29 x 10	33 x 29 x 10	33 x 29 x 10	33 x 29 x 10	33 x 29 x 10

[1] The minimum beam diameters are specified for a precision of measurement better than 1%. Smaller beam diameter can be measured but the error will progressively increase

[2] Depending on the type of calculation, frame rate may vary

[3] Due to rolling shutter, the actual minimum exposure time to capture the whole beam will be limited by the beam size. The larger the beam, the longer the required minimum exposure time

BeamPro square format
The most natural shape for circular beams

Models	BP11.11	BP11.11+	BP12.12	BP12.12+
Sensor size (mm) ↗	11.2 x 11.2	11.2 x 11.2	12.3 x 12.3	12.3 x 12.3
Sensor format	L 1"	L 1"	L 1.1"	L 1.1"
Spectral range (nm)	375 – 1100 190 – 1100 with UV option			
Resolution	2048 x 2048 4.2 Mpx	2056 x 2056 4.2 Mpx	2256 x 2256 5.1 Mpx	4512 x 4512 20.3 Mpx
Pixel size (µm)	5.50	5.48	5.48	2.74
Shutter type	Global	Global	Global	Global
Minimum beam diameter (Ø FWHM, µm)[1]	29	28	28	14
Maximum acquisition frame rate (fps)[2]	80	18	18	18
Exposure time — min (µs)	40	20	20	20
Exposure time — max (s)	1	1	1	1
Dynamic (dB)	58	71	71	71
Price	■ ■	■ ■	■ ■ ■	■ ■ ■
Sensor type	CMOS			
Bit depth	12 / 16 (HDR option)			
PC Interface	USB 3.1			
Synchronization	Yes (with the Trigger option)			
Dimensions (mm)	36 x 39 x 46	37 x 30 x 23	37 x 30 x 23	37 x 30 x 23

[1] The minimum beam diameters are specified for a precision of measurement better than 1%. Smaller beam diameter can be measured but the error will progressively increase
[2] Depending on the type of calculation, frame rate may vary

BeamPro SWIR range

Wavelength from 400 to 1700 nm

Models	VSWIR 3.2	SWIR 5.4	VSWIR 6.5	SWIR 10.8	SWIR 13.10	SWIR 21.17
Sensor size (mm) ↗	3.3 x 2.6	4.8 x 3.8	6.5 x 5.2	9.6 x 7.7	12.8 x 10.2	21.0 x 17.0
Sensor format	S 1/4"	S 1/2"	M 1/2"	L 1"	L 1"	L+ APS-C
Spectral range (nm)	400 - 1700	900 - 1700	400 - 1700	900 - 1700	900 - 1700	900 - 1700
Resolution	656 x 520 0.3 Mpx	320 x 256 0.08 Mpx	1296 x 1032 1.3 Mpx	640 x 512 0.3 Mpx	1280 x 1024 1.3 Mpx	640 x 512 0.3 Mpx
Pixel size (µm)	5.0	15.0	5.0	15.0	10.0	33.0
Shutter type	Global	Global	Global	Global	Global	Global
Minimum beam diameter (Ø FWHM, µm)[1]	25	75	25	75	50	270
Maximum acquisition frame rate (fps)[2]	240	1000	128	230	60	230
Exposure time min (µs) / max (s)	20 0.5	10 0.5	20 0.5	10 0.5	10 0.5	10 0.5
Dynamic (dB)	56	63	56	63	61	63
Price	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■
Sensor type	InGaAs					
Bit depth	12	14	12	14	14	14
PC Interface	USB 3.1					
Synchronization	Yes (with the Trigger option)					
Dimensions (mm)	31 x 37 x 25	46 x 46 x 57	31 x 37 x 25	46 x 46 x 57	58 x 58 x 70	46 x 46 x 57

[1] The minimum beam diameters are specified for a precision of measurement better than 1%. Smaller beam diameter can be measured but the error will progressively increase
[2] Depending on the type of calculation, frame rate may vary

STAR Software

Thanks to a highly optimized C++ and Java architecture, the STAR software is fast, touchscreen-enabled, intuitive and user-friendly.
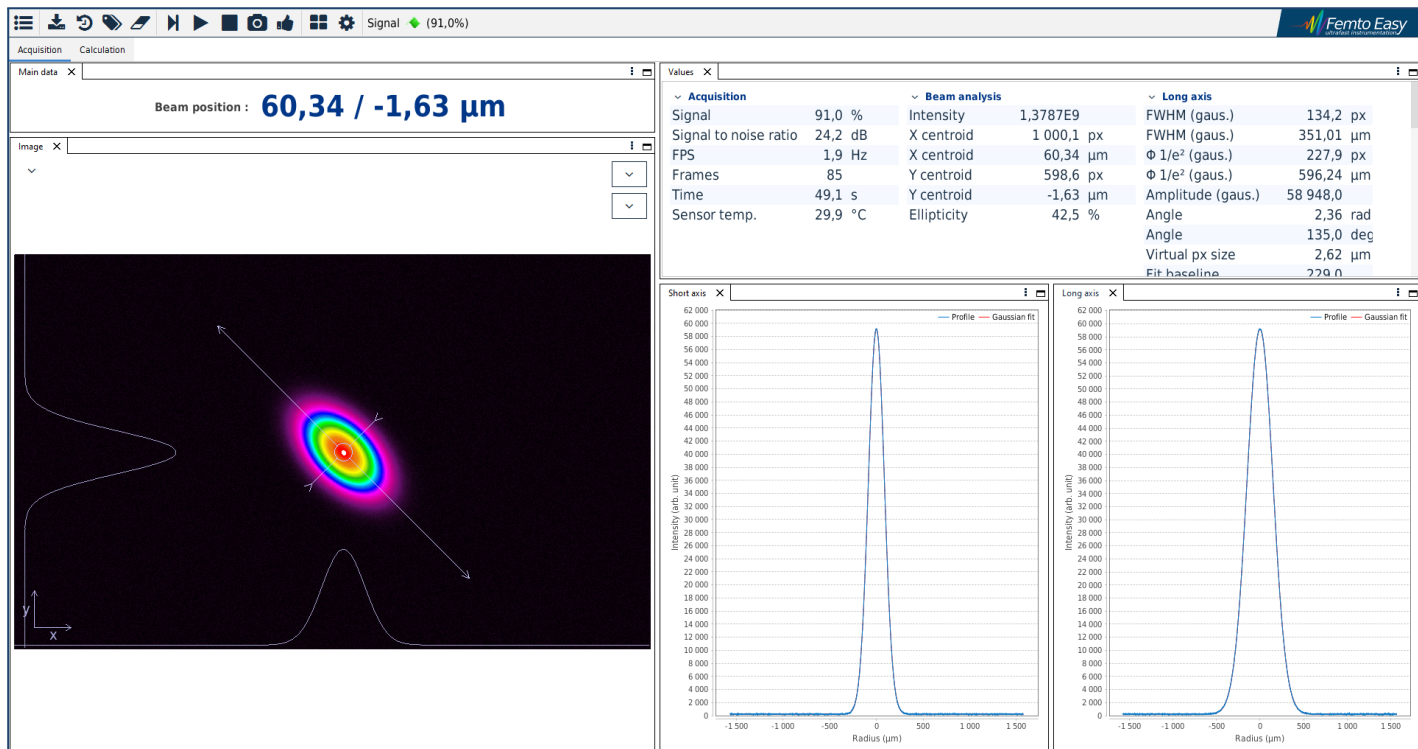
Live extraction of beam properties, even with resolutions larger than 20 Mpix

Several parameters and methods supported (ISO calculation included)

Enhanced background & hot pixels treatment, for optimum dynamic and signal to noise ratio

Client / Server interface, allowing remote control through network

Advanced logging and permanent access to 10 last acquisitions

Live comparison with up to 10 different reference acquisitions

1-click, completely configurable, export assistant