



# Programmable focusing optics

Technical data

**PFO 14****PFO 20****PFO 33-2****LASER PARAMETERS**

WAVELENGTH	-	-	-
POWER	up to 2000 W (cw)	up to 2000 W (cw)	up to 8000 W (cw)
NUMERICAL APERTURE	typ. 0.11 / max. 0.12	typ. 0.11 / max. 0.12	typ. 0.11 / max. 0.12
LASER LIGHT CABLE TYPE	LLK-D, LLK-B, LLK-A	LLK-D, LLK-B, LLK-A	LLK-D, LLK-B

**OPTICS CONFIGURATION <sup>2</sup>**

COLLIMATION	35 / 56 mm	35 / 56 / 80 / 90 / 100 mm	60 / 90 / 150 mm
FOCAL LENGTH	100 / 160 / 163 / 254 / 330 / 420 mm	90 / 100 / 135 / 160 / 163 / 200 / 254 / 264 / 280 / 330 / 395 / 420 / 560 / 740 mm	160 / 255 / 265 / 345 / 450 / 600 / 900 mm
Z STROKE FOR FOCAL LENGTH OF LENS	-	-	-
FIELD SIZE (ELLIPSE Y X X) FOR FOCAL LENGTH OF LENS	f100: 47 mm x 18 mm f160: 110 mm x 75 mm f163: 110 mm x 70 mm f254: 170 mm x 120 mm f330: 220 mm x 178 mm f420: 286 mm x 230 mm	f264: 180 mm (examples for TruDisk IR/TruFiber/TruMicro)	-

**STRUCTURAL DESIGN**

DIMENSIONS (W X H X D)	278 mm x 391 mm x 202 mm (configuration example with fc56 and f160)	278 mm x 296 mm x 202 mm (configuration example with fc90 and f264)	379 mm x 421 mm x 202 mm (Example configuration with fc150 and f450)
WEIGHT	15 kg	15 kg	25 kg

**COMPATIBILITY**

AVAILABLE LASERS	TruDiode, TruDisk, TruMicro	TruDiode, TruDisk, TruFiber, TruMicro, TruPulse	TruDisk, TruFiber, TruMicro, TruPulse
AVAILABLE SENSOR SYSTEM	-	VisionLine, CalibrationLine, temperature control for plastic welding and curing	VisionLine, CalibrationLine

**OPTIONS**

AVAILABLE OPTIONS	Crossjet, camera monitoring	Crossjet, sensor interface, lighting	Crossjet, MVE nozzle, smoke bell, sensor interface, lighting
AVAILABLE SOFTWARE OPTIONS	TruTops PFO, PFO Smart Teach App	TruTops PFO, PFO Smart Teach App	TruTops PFO, PFO Smart Teach App

**PFO 1D****PFO 3D****LASER PARAMETERS**

WAVELENGTH	-	-
POWER	up to 80000 W (cw)	up to 8000 W (cw)
NUMERICAL APERTURE	typ. 0.11 / max. 0.12	typ. 0.11 / max. 0.12
LASER LIGHT CABLE TYPE	LLK-D, LLK-B	LLK-D

**OPTICS CONFIGURATION <sup>2</sup>**

COLLIMATION	150 mm	138 mm
FOCAL LENGTH	150 / 200 / 300 mm	255 / 345 / 450 / 600 / 900 mm
Z STROKE FOR FOCAL LENGTH OF LENS	-	f255: ± 22 mm f345: ± 40 mm f450: ± 70 mm f600: ± 100 mm f900: ± 220 mm

## PFO 1D

## PFO 3D

FIELD SIZE (ELLIPSE Y X X) FOR  
FOCAL LENGTH OF LENS

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f255: 174 mm x 102 mm (z=0)  
f345: 240 mm x 140 mm (z=0)  
f450: 320 mm x 190 mm (z=0)  
f600: 376 mm x 230 mm (z=0)  
f900: 525 mm x 340 mm (z=0)

### STRUCTURAL DESIGN

DIMENSIONS (W X H X D)

227 mm x 562 mm x 229 mm

412 mm x 266 mm x 366 mm

WEIGHT

12.5 kg

35 kg

### COMPATIBILITY

AVAILABLE LASERS

TruDiode, TruDisk

TruDisk

AVAILABLE SENSOR SYSTEM

-

VisionLine, CalibrationLine,  
SeamLine Remote, OCT seam  
position control

### OPTIONS

AVAILABLE OPTIONS

Crossjet, MVE nozzle, shielding gas  
supply, camera monitoring, sensor  
interface, lighting, cartridge  
module, protective glass  
monitoring unit

I-PFO, crossjet, MVE nozzle, smoke  
bell, lighting version

AVAILABLE SOFTWARE OPTIONS

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TruTops I-PFO and TruTops PFO,  
PFO Smart Teach App

## Footnotes

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1 — Other wavelengths are available on request.

2 — Other optics configurations are available on request.