

FEMTOKITS FOR THIRD HARMONIC GENERATION OF FEMTOSECOND Ti:Sapphire LASER

Kits consist of set of components required for efficient third harmonic generation of femtosecond Ti:Sapphire laser. The schemes of the third harmonic generation in basic and extended Femtokits are presented below.

Basic Femtokit FK Series

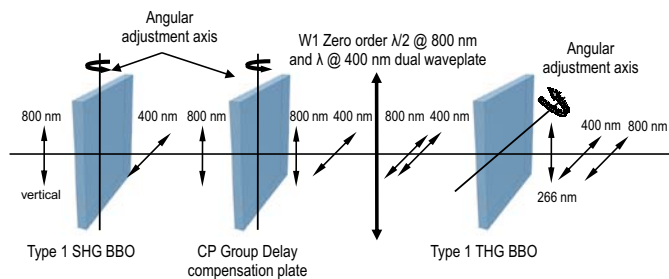


Mounted Femtokit FK Series

Basic Femtokit FK series includes:

- ▶ Type 1 SHG BBO crystal with 6×6 mm aperture, P-coated @ 400-800 nm,
- ▶ Type 1 THG BBO crystal with 6×6 mm aperture, P-coated @ 400-800/266 nm,
- ▶ Calcite plate for group velocity delay compensation CP, AR coated @ 800+400 nm,
- ▶ Zero order dual waveplate W1, optically contacted, AR coated @ 800+400 nm,
- ▶ All above four components are mounted in to 1 inch ring holders for convenient handling.

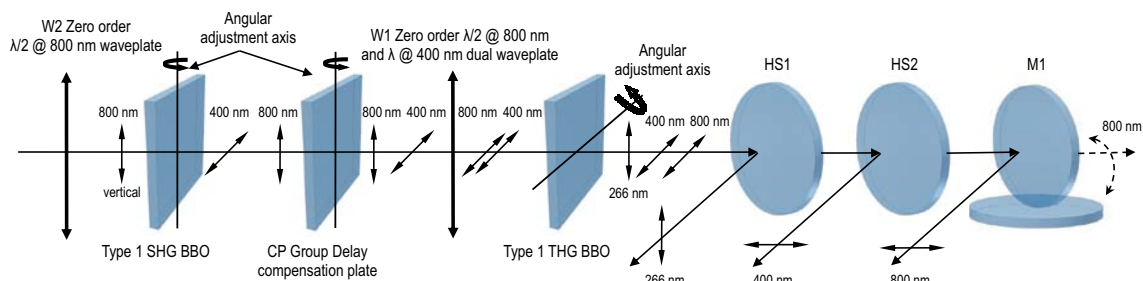
The thickness of SHG BBO crystal, THG BBO crystal and group delay compensation plate is different in each kit and is optimal for certain pulse duration of fundamental harmonic to avoid harmonic pulses broadening.



Fundamental pulse duration	Basic FemtoKit FK Series		Basic Mounted FemtoKit FK Series	
	Code	Price, EUR	Code	Price, EUR
200 fsec	FK-800-200	1510	FK-800-200-M	2458
100 fsec	FK-800-100	1610	FK-800-100-M	2558
50 fsec	FK-800-050	1975	FK-800-050-M	2923
20 fsec	FK-800-020	2040	FK-800-020-M	2988

Non-standard kits with larger apertures of BBO crystals and thicknesses optimal for other pulse durations are available on request.

Extended FemtoKit FKE Series



Extended Femtokit FKE series includes:

- ▶ All components from basic kit,
- ▶ Additional zero order waveplate W2, optically contacted, AR coated @ 800 nm,
- ▶ Harmonic Separator HS1 HR @ 266 nm and HT @ 800+400 nm at AOI=45 deg,
- ▶ Harmonic Separator HS2 HR @ 400 nm and HT @ 800 nm at AOI=45 deg,
- ▶ Laser mirror M1, HR at 800 nm at AOI=45 deg.

Fundamental pulse duration	Extended FemtoKit FKE Series		Extended Mounted FemtoKit FKE Series	
	Code	Price, EUR	Code	Price, EUR
200 fsec	FKE-800-200	2190	FKE-800-200-M	3910
100 fsec	FKE-800-100	2290	FKE-800-100-M	4010
50 fsec	FKE-800-050	2655	FKE-800-050-M	4375
20 fsec	FKE-800-020	2720	FKE-800-020-M	4440

Non-standard kits with larger apertures of BBO crystals and thicknesses optimal for other pulse durations are available on request.

Up to 50% SHG conversion efficiency which was achieved in 0.5 mm SHG BBO crystal with Ti:Sapphire Super Spitfire laser operating at 1 kHz, 130 fs, 20-100 μJ @ 800 nm and effective beam diameter 0.9 mm. THG efficiency was reached up to 8% from fundamental using **FKE-800-100 Femtokit**.



Extended Mounted Femtokit FKE Series