Insertion Device Projects

With 20 insertion devices installed at customers sites Danfysik has proved its capability in this highly specialized field of instrumentation for Synchrotron Light Sources.

The insertion devices profit from our long standing experience in electromagnetic systems, together with our specialized technology used in the design, manufacture, and performance field mapping of analyzing and spectrometer magnets.

The table shows a list of insertion device projects made by Danfysik as of August 2009.

Overview over the technical parameters and applications of the insertion device projects at Danfysik

	User	Period	Length	Peak Field	Type*)	Status	
In-vacuum Undulator	Swiss Light Source, PSI	19 mm	2.3 m	0.92 T	HPM	in operation	
	SOLEIL, France	20 mm	2.0 m	0.97 T	HPM	in operation	
Cryogenic in-vacuum undulator	DLS, UK	17.7 mm	2.0 m	1.05 T	HPM	Under construction	
Apple-II Undulator	ASP, Melbourne, Australia	75 mm	2.0 m	0.70 T	PPM	in operation	
Undulator	DESY, Germany	29 mm	2.0 m		HPM	delivered	
	ESRF, Grenoble, France	42 mm	1.7 m		PPM	in operation	
	SRRC, Hsinchu, Taiwan	50 mm	3.9 m	0.68 T	HPM	in operation	
	ISA, Aarhus, Denmark	55 mm	2.0 m	0.56 T	HPM	in operation	
	FOM, The Netherlands	60 mm	2.8 m	0.46 T	PPM	in operation	
	NSRC, Thailand	60 mm	2.5 m	0.55 T	PPM	delivered	
	SRC, Univ. of Wisconsin, Madison, USA	68.5 mm	3.5 m	0.71 T	PPM	in operation	
	FZ-Rossendorf, Germany	100 mm	3.9 m	0.43 T	HPM	in operation	
	LURE, Saclay, France	100 mm	2.2 m	0.48 T	HPM	in operation	
Wiggler	Swiss Light Source, PSI	61 mm	1.9 m	1.9 T	HPM	in operation	
	SSRL, Stanford, USA	175 mm	2.3 m	2.0 T	HPM	in operation	
	SSRL, Stanford, USA	230 mm	2.3 m	2.0 T	HPM	in operation	
S.C. coils	MAX-lab, Sweden	61 mm	1.51 m	3.54 T	SC	in operation	
Helical Undulator	ESRF, Grenoble, France	80 mm	1.6 m	0.19 T	EMPM	in operation	
Elliptical Wiggler	ELETTRA, Trieste, Italy	212 mm	3.3 m	0.5 T	EM	in operation	
EM-Wiggler	DAΦNE, Frascati, Italy	640 mm	2.1 m	1.8 T	EM	in operation	
EM-Undulator	SOLEIL, France	640 mm	10.4 m	0.09-0.11 T	EM	in operation	

*) Notation for device type :
HPM = hybrid permanent magnet
PPM = pure permanent magnet
EMPM = combined electromagnetic and permanent magnet
EM = electromagnetic
SC = superconducting