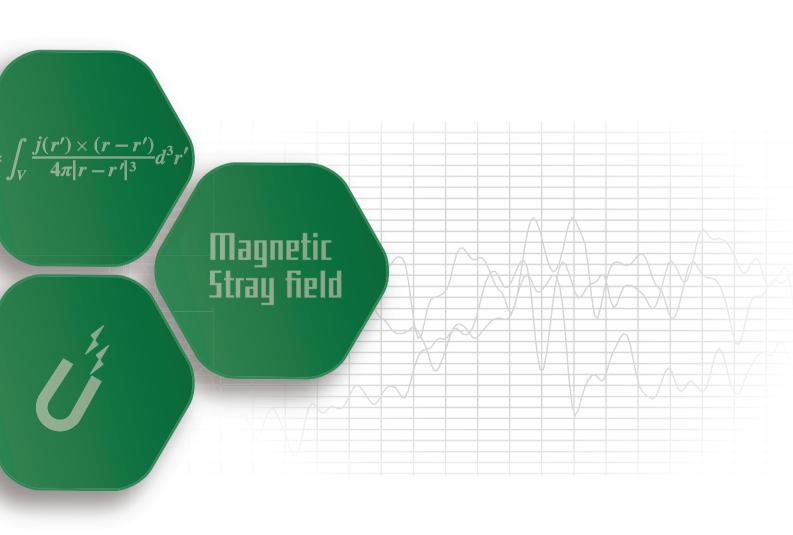


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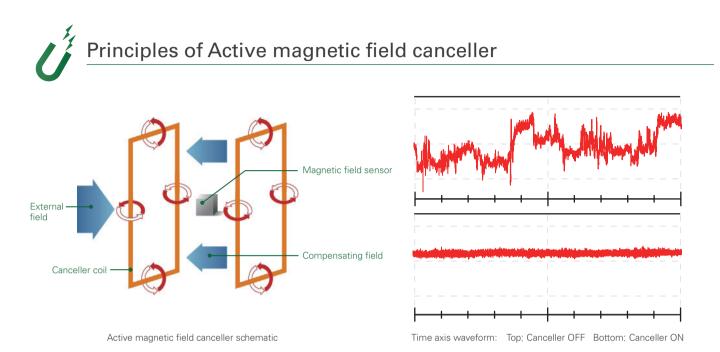
Magnetic Field Countermeasure

- Magnetic Field Canceller System
- Magnetic Shielding Room



Countermeasure for Magnetic Field

There is a growing need for countermeasures to stray magnetic fields, which are gener adverse affect on the performance of scientific instruments. JEOL offers an extensiv originally to match the special characteristics of high-end scientific instruments.



The fluctuating magnetic fields are detected by sensors installed near the instrument, triggering the canceller coils to output compensating magnetic fields in the opposite direction to cancel the magnetic fields around the sensors. Compared to passive shielding methods, the cost is significantly reduced, while still being able to effectively suppress stray magnetic fields. The optimal sensors and canceller coils are selected to match the unique conditions of each instrument and installation site to fully exploit the performance of the active magnetic field canceller.

Active magnetic field canceller effect JEM-ARM200F image Sample:SI110 Magnification: × 25M



Active OFF The effects of the fluctuating DC magnetic field disturb the electron beam, which can be seen as irregular distortion and noise on the observed image.



Active ON The active magnetic field canceller reduces the effect of the fluctuating DC magnetic field, providing sharp, clear images.

Active magnetic field canceller

ated by sources like railways, elevators and electrical power lines, causing /e lineup of active magnetic field cancellers which have been developed

Magnetic Stray Field



Active magnetic field canceller configuration





Canceller coil cage





3-axis, separate type sensor

3-axis integrated sensor



Installation example (JSM-IT300 cage)

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(EM-78230FEELS)

It is possible to enhance stability for atomic resolution TEM equipped with EELS.

Option



Magnetic field waveform monitoring system (EM-78220FWMS)

Real-time magnetic field waveforms are output from the controller to the tablet screen, allowing confirmation of the current state of the magnetic field fluctuation and the cancellation effect.



Magnetic field canceller Compatibility table

	Applicable	Magnetic field	Canceller coil gauge/duct	Applicable Options
EM	JEM-ARM300F	EM-78210DAMC	Cage:60 mm square aluminum cage • Compatible with the wall-mounted duct	EM-78230FEELS
	JEM-ARM200F			EM-78220FWMS
	JEM-F200			
	JEM-2100F			EM-78220FWMS
	JEM-2200FS			
	JEM-2800			
	JEM-2100Plus	EM-78300DAMC		
	JEM-1400Plus			
SM	JSM-7100F	SM-78210DAMC SM-78300DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JSM-7200F			
	JSM-7610F			
	JSM-7800F			
	JSM-7800FPRIME			
XM	JXA-8530F	XM-78210DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JXA-8230	XM-78300DAMC	Cage.30 mm square auminum	
AP	JAMP-9510F	AP-78210DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JAIVIE-33101	AP-78300DAMC	Cage.so min square aluminum	
MP	JSM-6010Plus	MP-68020DAMC MP-68030DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JSM-6510			
	JSM-IT100			
	JSM-IT300			
IB	JIB-4000	IB-78210DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JIB-4610F	IB-78300DAMC		
NMR	JNM series	NM-78500DAMC	Cage:30 mm square aluminum	EM-78220FWMS
MS	JMS-700	MS-78210DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JMS-800D			
EB	JBX-6300FS	EB-78210DAMC	Cage:30 mm square aluminum	EM-78220FWMS
	JBX-9500FS			

Notes

· When planning to purchase environment countermeasure products an installation site survey will be required in advance.

· For instruments that are not listed in the compatibility table, please inquire directly to determine what options are available.

· In principle, there will be a fluctuating magnetic field generated in the outer portion of the canceller coils during the operation of the active magnetic field canceller.

· In some cases it may not be possible to install the wall-mounted canceller coil duct, depending on the building structure and instrument layout.

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3-1-2 Musashino Akishima Tokyo 196-8558 Japan Sales Division Tel. +81-3-6262-3560 Fax. +81-3-6262-3577 www.jeol.com ISO 9001 · ISO 14001 Certified

AUSTRALIA & NEW ZEALAND /JEOL (AUSTRALASIA) Pty.Ltd. Suite 1, L2 18 Aquatic Drive - Franchs Forest NSW 2086 Australia • BELGIUM /JEOL (EUROPE) B.V. Planet II, Gebouw B Leuvensesteenweg 542, B-1930 Zaventem Belgium • BRAZIL /JEOL Brasil Instrumentos Cientificos Ltda, Av. Jabaquara, 2958 5° andar conjunto 52 ; 0404-6500 gao Paulo, SP Brazil • CANADA /JEOL CANADA, INC. 3275 1re Rue, Local #8 St-Hubert, OC J3Y-8Y6, Canada • CHINA /JEOL(BEJJING) CO., LTD. Zhongkeziyuan Buling South Tower 2F, Zhongguancum Nansanjie Street No. 6, Haidian District, Beijing, P.R. Ahina • ECYPT /JEOL SERVICE BURRAU 3rd FI. Nile Center Bidg., Nawal Street, Dokil, Canada • CHINA /JEOL (BEHANY) GmOH Gute Aenger 30 8536 Freising, Germany • GRAX BITIAIN & IRELAND /JEOL (U.K.), LTD. JEOL House, Silver Court, Watchmead, Welwyn Garden City, Herts AL7 1LT, U.K. • ITALY /JEOL (TALIA) S, p.A. Platzzo Pacinotti - Milano 3 City, Va Ludovico II Moro, 6/A 2008 Basigiio(M)) Italy • KOREA /JEOL KOREA LTD. Dongwoo Bidg, TF. 1443, Najae Daero, Gangdong-Gu, Seoul, 134-814, Mayria Lawar 1700 / JEOL MALAYSIA) SIOLANALAYSIA /JEOL MALAYSIA /JEOL (MALAYSIA) SIOLA (LUCU), Kelana Busina S 7/2, Kelana Busina S 7/2, Kelana Busina S 7/2, Kelana Busina S 7/2, Kelana Java, 4730 Petaling Java, Selangor, Malaysia • MEXICO /JEOL DE NEXICO SA. DE C.V. Arkanasa 11 Piso 2 Colonia Napoles Delegacion Benito Juarez, C.P. 03810 Mexico D.F., Mexico • RUSSIA /JEOL (CRISHL), Caroprotein Place Singapore 618494 • TAWKA /JEO NGCO, LTD. 7, F. 112, Chung Hsiao East Road, Section 1, Taipei, Taiwa 100-23 Republic of China • 11420 RUCO SA. DE SINGAPORE /JEOL KING • RUSSIA /JEOL (RUS) LLC, Krasnopoteiarskaya Street, 16, Bld. 2, 127473, Moscow, Russian Federation • SCANDINAVIA /SWEDEN JEOL (Skandinaviska)A Hammarbacken 6A, Box 716, 1912 7 Sollentuna Sweden # SingApore JEOL King Hzell, Dava # 401-12 Corporation Road # 401-12 C