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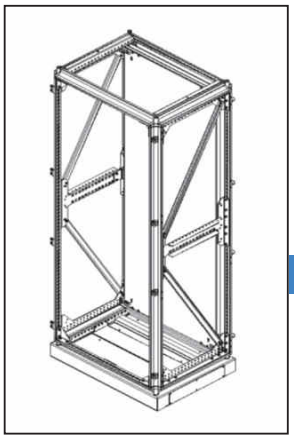
EARTHQUAKE SYSTEM



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SAFETY INSTRUCTION

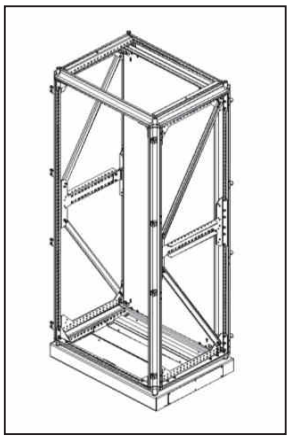
IP66 EN60529 - EN66208
IK10 EN62262 - EN62208
CE 2014-33-UE

c UL us LISTED
FILE N° E237618

TYPE NEMA 4X, 4, 12, 1

EX3 ZONA 2-22

	IT	EN	FR	DE	HU
	Prestare attenzione alla chiusura delle parti meccaniche di una macchina o di un dispositivo	Warning against closing movements for mechanical parts of a machine / device	Danger dû à la fermeture de pièces mécaniques d'une machine / installation	Warnung vor der Schießbewegung von mechanischen Teilen einer Maschine / Einrichtung	Gèp / berendezès mechanikai rèszeinek zárómozgásáara történo figyelmeztetés
	Prestare attenzione alle parti meccaniche in movimento	Warning against independently moving parts	Danger dû à des pièces mécaniques mobiles	Warnung vor sich bewegenden mechanischen Teilen	Mozgó mechanikai részekre történo figyelmeztetés
	Pericolo cadute tramite lo spostamento del baricentro	Risk of tipping due to displacement of centre of gravity	Attention au basculement lors du déplacement du centre de gravité	Warnung vor Umkippen durch Schwerpunktverlag e rung	Figyelmeztetés a feldőnés veszélyére a súlypont eltolódása miatt
	Leggere attentamente le istruzioni	The instructions must be read	La notice doit être lue	Die Anleitung ist zu lesen	Az utasítást el kell olvasni
	Divieto di salire sulla superficie	Climbing on surfaces is prohibited	Il est interdit de marcher sur toute surface	Aufsteigen auf eine Fläche ist verboten	A felületre lépni tilos
	L'istallazione deve essere eseguita da un elettricista qualificato	Installation by qualified electrician	Installation par un électricien qualifié	Installation durch Elektro-Fachkraft	A szerelést elektromos szakembernek kell elvégeznie
	L'istallazione deve essere eseguita da un meccanico qualificato	Installation by qualified mechanic	Installation par un mécanicien qualifié	Installation durch Mechanik-Fachkraft	A szerelést mechanikus szakembernek kell elvégeznie



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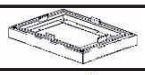
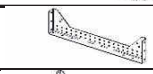
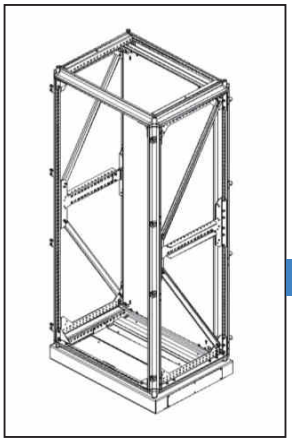
EARTHQUAKE KIT COMPONENTS

POS.		DESCRIZIONE	DESCRIPTION	Q.TY	MATERIAL
1		ZOCCOLO ANTISISMICO	ANTI SEISMIC PLINTH	1	1,4307
2		VITE PIASTRA ARMADI	SCREW PLATE CABINETS	4	FE SZ
3		BOCCOLA ESAGONALE M10	HEX BUSH M10	4	FE SZ
4		RONDELLA Di.6 De.12	WHASHER Id.6 Od.12	160	INOX
5		DADO MEDIO AUTOBLOCCANTE M6	SELF-LOCKING MEDIUM NUT M6	32	INOX
6		DADO A GABBIA M6 INS. FRONT.	CAGE NUT M6 FRONT INSERTION	108	FE SZ
7		VITE TESTA CIL. ESAG. INC. M14x20	HEX SOCKET CYLINDRICAL SCREW M14x20	4	FE SZ
8		VITE TESTA SVAS IMP CROCE M5x16	COUNTERSUNK HEAD SCREW M5X16	8	INOX
9		DADO GABBIA M5	CAGE NUT M5	8	FE SZ
10		VITE TESTA CIL ESAGONO INC M6x16	HEX SOCKET CYLINDRICAL SCREW M6x16	128	INOX
11		RONDELLA 8x17	PLAIN WASHER 8x17	4	INOX
12		VITE T. ESAGONALE M8 x 20	HEX HEAD SCREW M8x20	2	1,4307
13		DADO MEDIO AUTOBLOCC. M8	SELF-LOCKING MEDIUM NUT M8	2	INOX
14		SQUADRETTO A "L"	SUPPORT BRACKET "L" SHAPED	4	1,4307
15		SUPPORTO INFERIORE PI	INTERNAL PLATE LOWER SUPPORT	1	1,4307
16		SUPPORTO SUPERIORE PI	INTERNAL PLATE UPPER SUPPORT	1	1,4307
17		RINFORZO SUPERIORE/INFERIORE	UPPER / LOWER REINFORCEMENT	4	1,4307
18		RINFORZO CENTRALE	CENTRAL REINFORCEMENT	2	1,4307
19		FISSAGGIO AL FIANCO PIASTRA INTERNA	SIDE FIXING FOR INTERNAL PLATE	2	1,4307
20		TIRANTE LATERALE	SIDE TIE ROD	4	1,4307
21		STAFFA FISSAGGIO A MURO	WALL FIXING BRACKET	2	1,4307
22		RONDELLA PIANA 15x28	FLAT WASHER 15x28	4	INOX
23		VITE T. ESAGONALE M14 x 25	HEX HEAD SCREW M14x25	4	INOX



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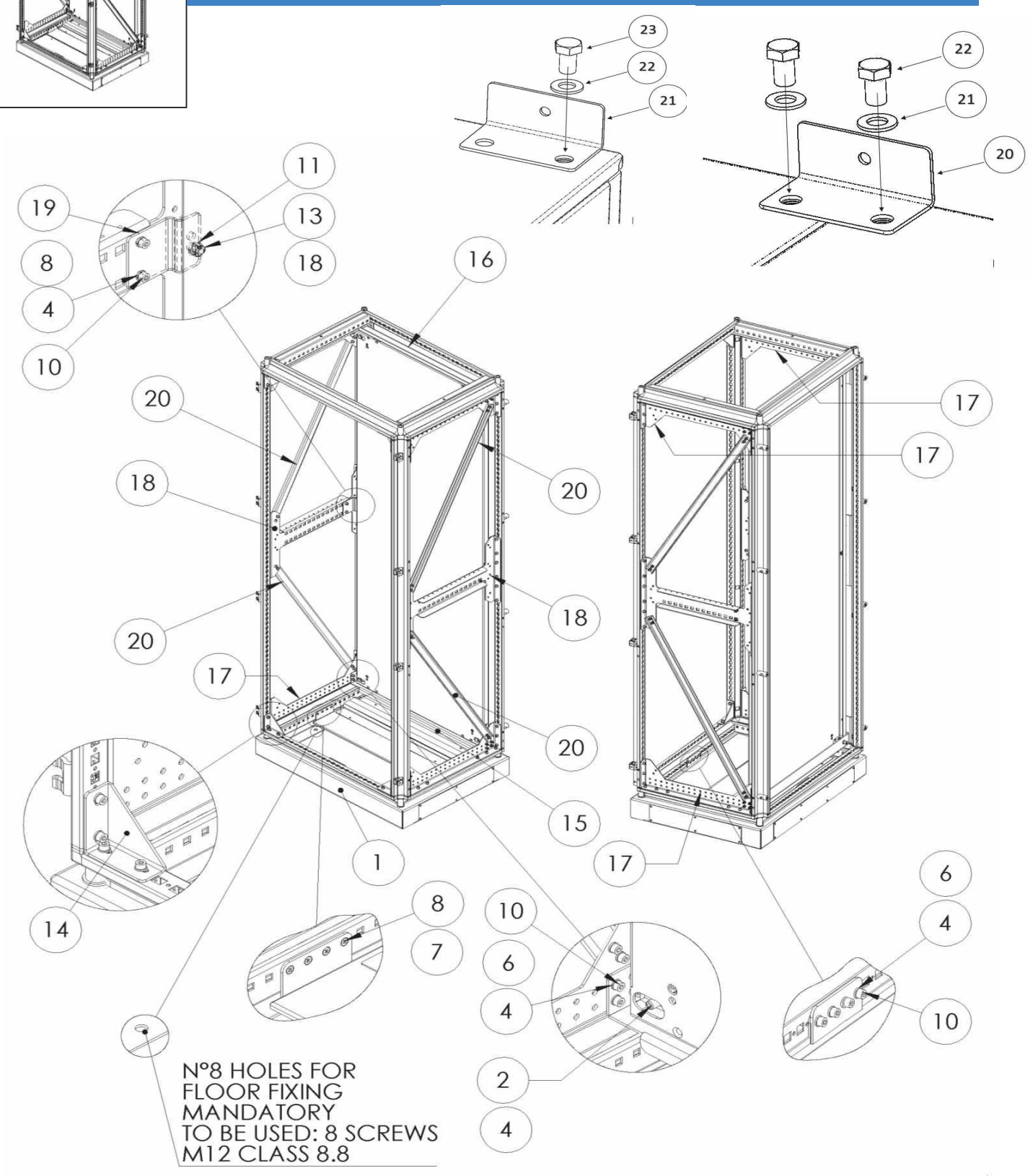
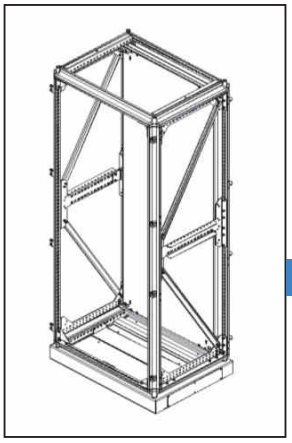
EARTHQUAKE KIT OVERVIEW





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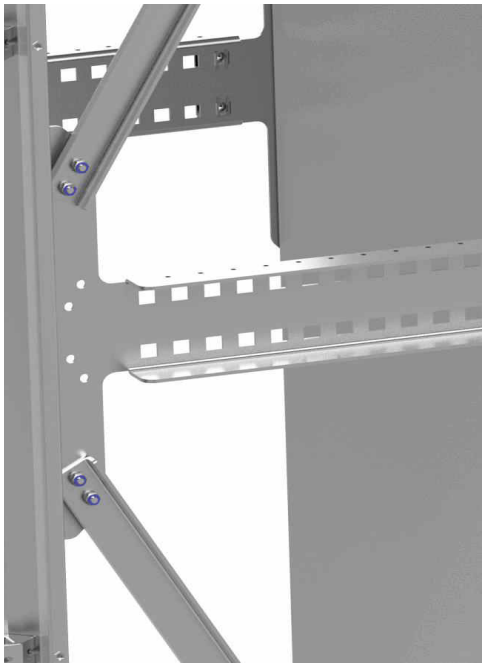
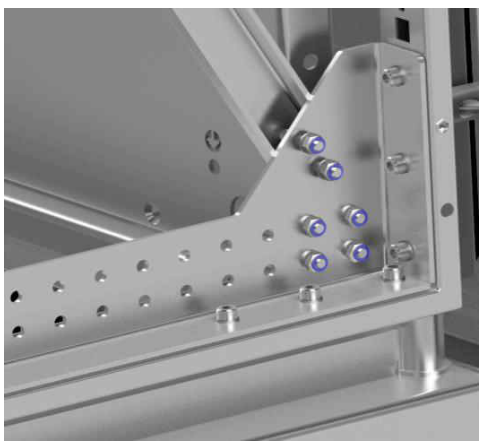
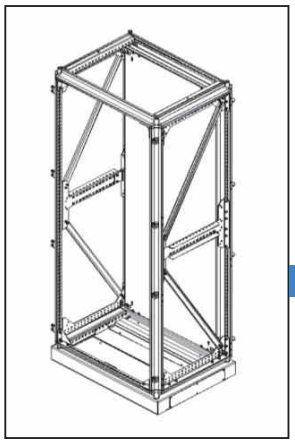
EARTHQUAKE SYSTEM KIT DETAIL







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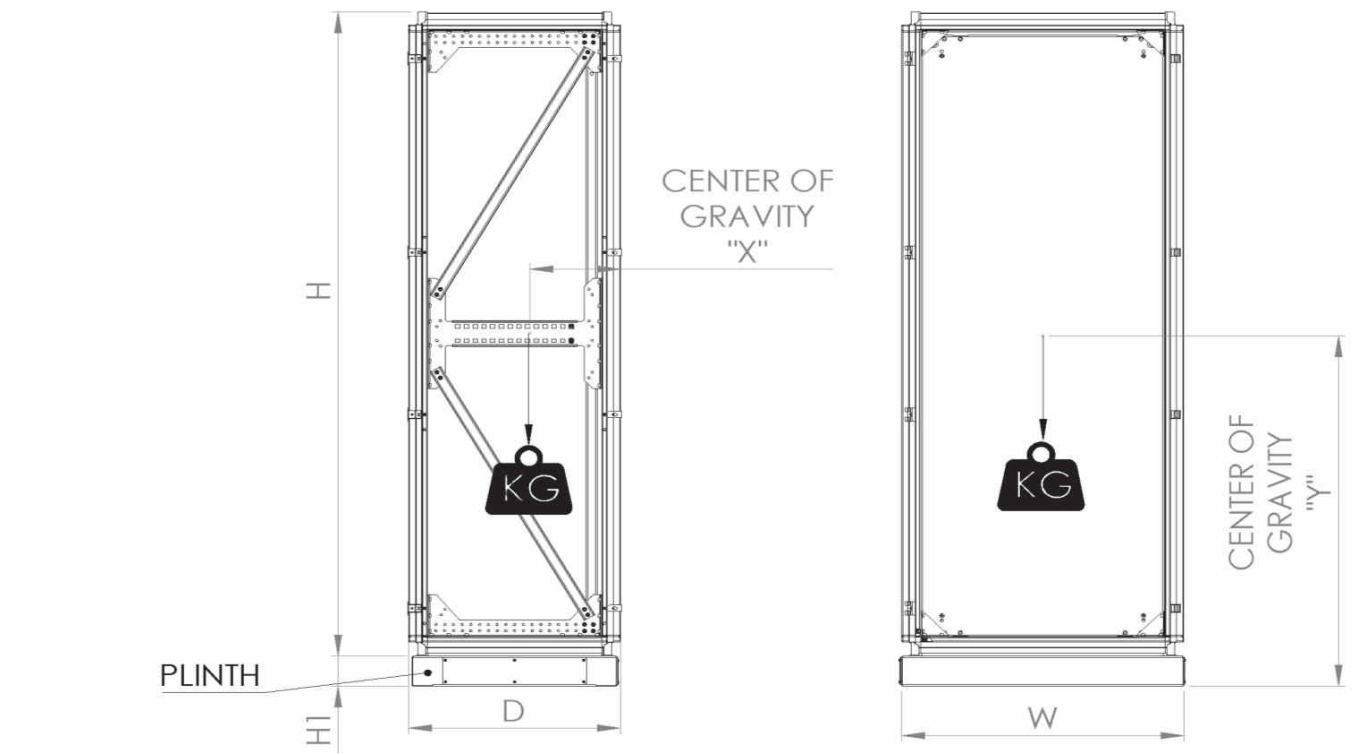
MX MODELS EARTHQUAKE TESTED

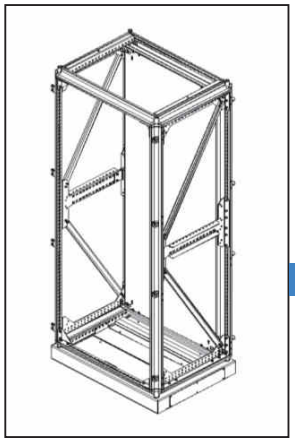


MODEL	DIMENSIONS (WxHxD) mm	COMPONENTS	MAX INSTALLED WEIGHT (kg)	STANDARD LEVEL IT	STANDARD LEVEL EU	PGA TESTED (Horizzontal / Vertical) g	CENTER OF GRAVITY for APPLIED WEIGHT (X/Y) mm	PLINTH (H1) mm
MX0886	800x1800x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0888	800x1800x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1086	1000x1800x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1088	1000x1800x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0806	800x2000x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0808	800x2000x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1006	1000x2000x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1008	1000x2000x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0886-10EQ	800x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX0886-20EQ	800x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX0888-10EQ	800x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX0888-20EQ	800x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX1086-10EQ	1000x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1086-20EQ	1000x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX1088-10EQ	1000x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1088-20EQ	1000x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX0806-10EQ	800x2000x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX0808-10EQ	800x2000x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1006-10EQ	1000x2000x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1008-10EQ	1000x2000x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100

NOTE:.

Not Permitted: Double Door, Window Door, Inner Door, Heat Conditioner, Sliding Guides

Side Panels and Inner Plates should be required separately.



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SEISMIC CERTIFICATION TEST PROCEDURE

TEST OVERVIEW

The performed test procedure includes, as specified by IEEE-693 (2018), both resonance search test and seismic simulation test. The following paragraph give information on the signals used for these tests, their characteristics and their generation.
The seismic tests were performed referring to 3 seismicicty levels.

IEEE-693

A common standard within the Seismic Certification realm is IEEE 693, standard issued by th Institute of Electrical and Electronics Engineers. Recommended Practice for Seismic Design of Substations. IEEE 693 covers seismic qualification of battery racks, transformers, switchgear and other products and equipment for substations. The standard details the requirements for qualification by analysis and shake table testing.

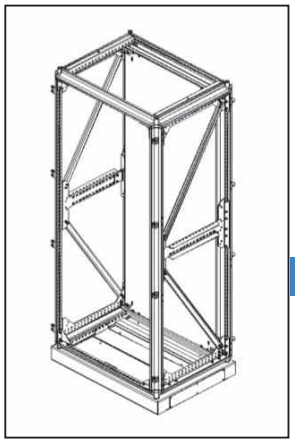
IEEE 693 specifies three different seismic levels for qualification: High Seismic Level, Moderate Seismic Level, and Low Seismic Level. Qualification to the high and moderate levels requires analysis and/or physical testing.
Qualification to the low level just requires good construction and installation practices, but doesn't require special consideration of seismic performance. Additionally, equipment can be qualified to the Moderate or High Performance Level by physical testing only.
[IEEE Recommended Pratice for Seismic Design of Substations, 2018]

SEISMIC SIMULATION TESTS

The seismic qualification tests performed as part of this test sequence were designed to conform to the Required Response Spectrum (RRS) specified by IEEE-693 (2018).
Test was conducted simultaneously in the logitudinal, traversal and vertical displacement degrees of freedom (dof), with each dof excited by an independently generated table motion profile.
Response spectrum in the vertical axis shall have an acceleration of 80% of that in the horizontal axis.
Table 6 shows the RRS design specifications for the 3 originally selected spectral accelaeration level.

Tabel 6 Spectral accelerations for seismic tests

LEVEL	REFERENCE	PGA (g)		DAMP (%)
1	IEEE693 Moderate	0,5	0,4	5
2	IEEE693 Intermediate	0,75	0,6	5
3	IEEE693 High	1	0,8	5



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SEISMIC TEST PROCEDURE

RRS for Performed Tests

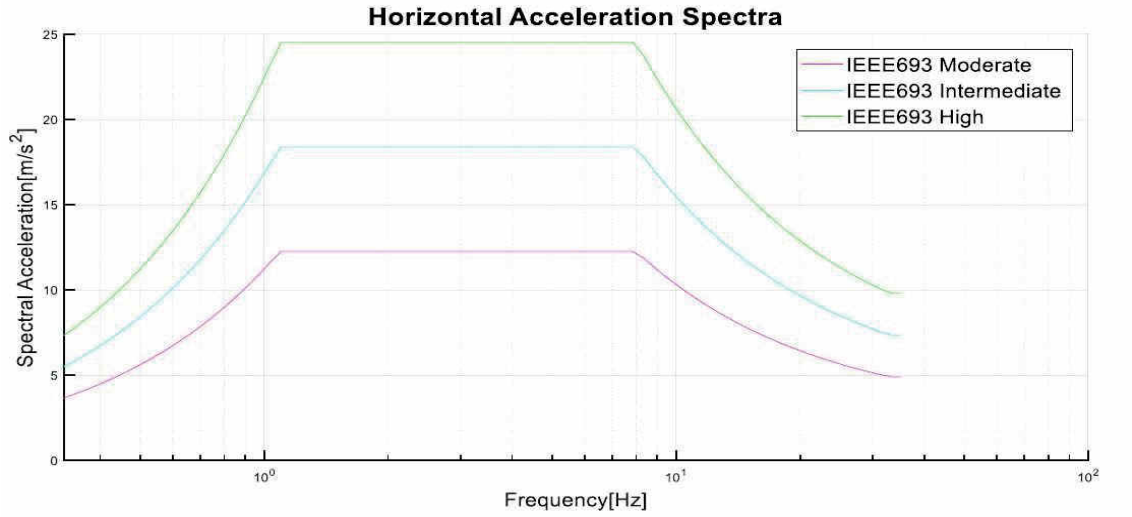


Figure 38 RRS for Horizontal Acceleration Level

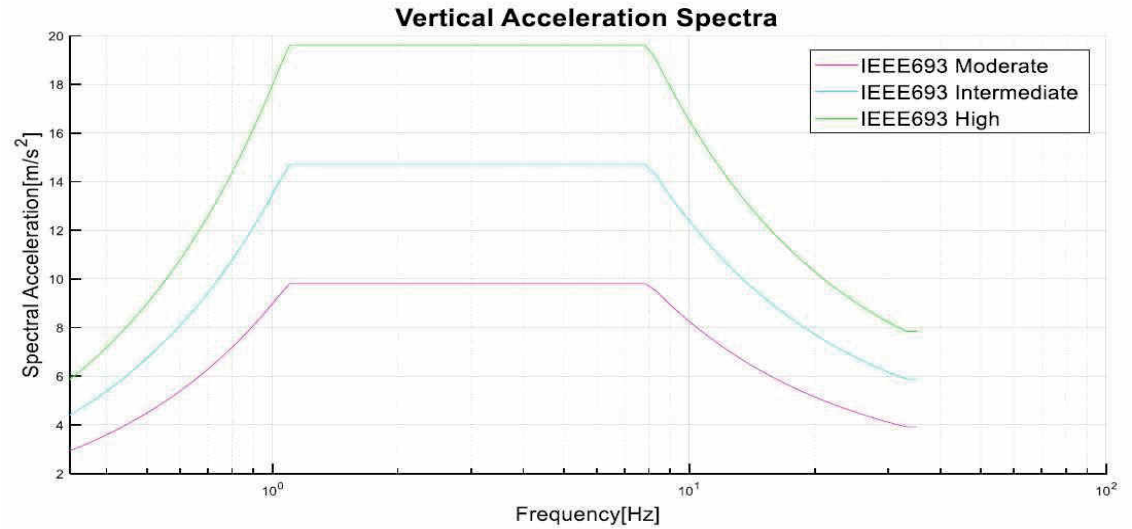
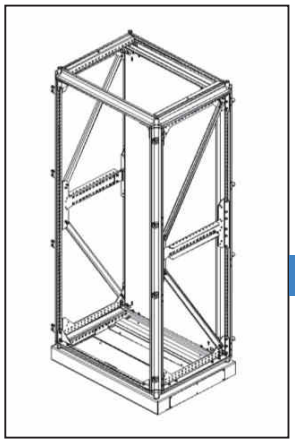


Figure 39 RRS for Vertical Acceleration Level



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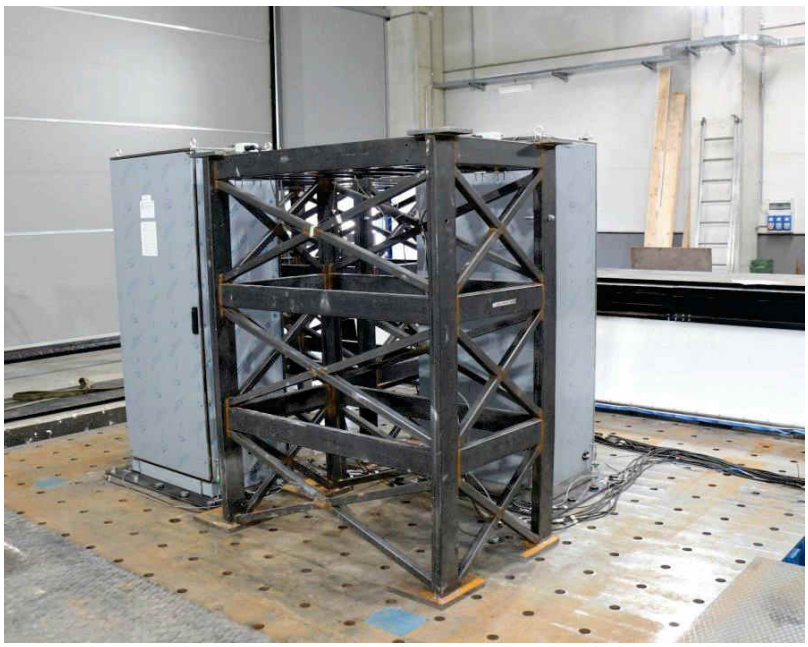
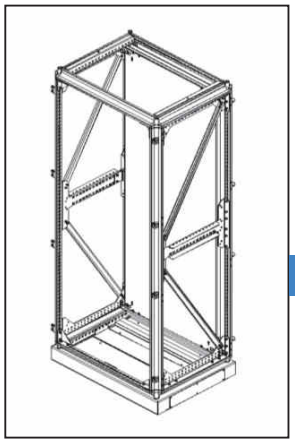
SEISMIC TEST PROCEDURE

Lab Performed Tests

Test Specimen mounted on shake platform





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SEISMIC TEST PROCEDURE

Lab Performed Tests

Detail of Weights mounted on internal plate

Lab test monitoring

Dichiarazione antisismica
Earthquake declaration

Produttore ***Manufacturer***	ilinox®
Indirizzo ***Address***	Strada Asolana n° 4/6 – 43056 S. Polo di Torrile (PR) Italy
Armadi - Serie ***Enclosures - Series***	**"MX"** – Armadi modulari ***"MX"*** *– Modular Enclosures*
Test effettuato ***Test carried out***	Test di qualifica sismica *Seismic qualification test*
Norma **Standard**	IEEE Std 693-2018 "IEEE Recommended Practice for Seismic Design of Substations"

ILINOX S.r.l.

dichiara sotto la propria responsabilità che i prodotti della serie:

declares on its own responsibility, that the products of the series:

MX

Sono idonei per zone sismiche come da tabella seguente

Are suitable for seismic areas as per the following table

La serie di prodotti oggetto della presente dichiarazione, sono da considerarsi tali esclusivamente alle condizioni di utilizzo riportate nel manuale di uso e manutenzione redatto: lo stesso è da considerarsi quale parte integrante del presente documento.

The series of product covered by this declaration are to be considered as such only under the conditions of use set out in the use and maintenance manual drawn up: the same to be considered as an integral part of this document.

ilinox S.r.l. Strada Asolana n°4/6 - 4356 San Polo di Torrile (PR) - *tel.*: +39 0521 813629 *fax*: +39 0521 813570 *e-mail* : info@ilinox.com - www.ilinox.com

MODEL	DIMENTIONS (WxHxD) mm	COMPONENTS	MAX INSTALLED WEIGHT (kg)	STANDARD LEVEL IT	STANDARD LEVEL EU	PGA TESTED (Horizzontal / Vertical) g	CENTER OF GRAVITY for APPLIED WEIGHT (X/Y) mm	PLINTH (H1) mm
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MX1086	1000x1800x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1088	1000x1800x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0806	800x2000x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX0808	800x2000x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1006	1000x2000x600	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
MX1008	1000x2000x800	STANDARD	100	ZONA 2	ZONE 3	0,25	200 / 1100	100
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MX1086-10EQ	1000x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1086-20EQ	1000x1800x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX1088-10EQ	1000x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1088-20EQ	1000x1800x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	200
MX0806-10EQ	800x2000x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX0808-10EQ	800x2000x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1006-10EQ	1000x2000x600	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100
MX1008-10EQ	1000x2000x800	WITH EARTHQUAKE KIT	500	ZONA 1	ZONE 4	1 / 0.8	260 / 1100	100

Note: Not Permitted: Double Door, Window Door, Inner Door, Heat Conditioner.

San Polo di Torrile: 28/02/2020

Carlo Monteverdi - Q.A. Manager

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