

CONSTANT FORCE SHAKERS



YOUR VIBRATION SOLUTION



EX 520 C50 Long stroke shaker
(550 N)

During structural analysis, forces are imposed on the structure and the measured resulting movement functions allow calculation of the structure's mathematical model.

As it is the basis for all the analysis, modal shakers must be able to provide the requested force for an adapted frequency range, without disturbing the characteristics of the structure under test.

PRODERA modal electro-dynamics shakers are based on the Laplace Law. A coil is mounted inside the thin air gap of a magnetic field, providing a sine, random or shock force.

UNIQUE FEATURES

- ◇ Current controlled shakers
- ◇ Nominal forces from 3 to 5 000 N (0.67 to 1124 lbf)
- ◇ Light, linear and robust moving assembly
- ◇ None or low stiffness
- ◇ Display of the position of the moving system
(as from the EX 220 SC)

The following list gives a glance at the different shaker types available in our catalogue. Each year brings new models which are adapted to our customers' particular tests, so please do not hesitate to contact us.



EX 24 shaker (20 N)

SHAKER	Sine Nominal Force (peak value)		Force Factor		Stroke		Moving Assembly Mass		Associated Amplifier
	N	lbf	N/A	lbf/A	mm	inch	grams	lbs	
EX 6/3.2	3	0.67	1.5	0.33	± 1.5	± 0.06	8.5	0.01	A 732
EX 6/4.4	4	0.90	1	0.22	± 1.5	± 0.06	10.5	0.02	A 732
EX 6/4.2	4	0.90	2	0.45	± 3	± 0.11	11	0.02	A 732
EX 6/6.4	6	1.35	1.5	0.33	± 3	± 0.11	13.5	0.03	A 732
EX 8/4.2	4	0.90	2	0.45	± 1.5	± 0.06	8.5	0.01	A 732
EX 8/5.4	5	1.12	1.25	0.28	± 1.5	± 0.06	10.5	0.02	A 732
EX 8/5.2	5	1.12	2.5	0.56	± 3	± 0.11	11	0.02	A 732
EX 8/8.4	8	1.80	2	0.45	± 3	± 0.11	13.5	0.03	A 732
EX 12	10	2.25	5	1.12	± 5	± 0.19	30	0.06	A 732
EX 20	20	4.50	5	1.12	± 5	± 0.19	35	0.07	A 732
EX 24	20	4.50	5	1.12	± 5	± 0.19	61	0.13	A 732 / A 735
EX 58	50	11.24	6.25	1.40	± 6	± 0.23	110	0.24	A 735
EX 58 C40	75	16.87	9.6	2.16	± 20	± 0.78	235	0.51	A 735
EX 220 SC	200	44.96	10	2.24	± 10	± 0.39	195	0.43	A 648 S
EX 220 C40	280	63.00	14.2	3.19	± 20	± 0.78	375	0.82	A 648 S
EX 320 C50	300	67.44	15	3.37	± 25	± 0.98	500	1.10	A 649 HV
EX 520 C50	550	123.64	27.5	6.18	± 25	± 0.98	680	1.50	A 649 HV
EX 1070 C50	1000	224.81	20	4.49	± 25	± 0.98	2200	4.85	A 651/S2
EX 1060	1200	269.77	20	4.49	± 12.5	± 0.49	1000	2.20	A 651/S1
EX 2060	2040	458.61	34	7.64	± 12.5	± 0.49	1000	2.20	A 651/S2
EX 2060 C50	2040	458.61	34	7.64	± 25	± 0.98	1000	2.20	A 651/S2
EX 5080	5000	1124.04	63	14.16	± 20	± 0.78	5300	11.68	A 709
EX 5080 C50	5000	1124.04	63	14.16	± 25	± 0.98	5300	11.68	A 709



AMPLIFIERS



A 649 HV amplifier

During complex structural modal analysis, force control is critical. The forces must be independent of the movements. **PRODERA's** current controlled amplifiers are your solution.

Specially developed for the **PRODERA's** modal electrodynamics shakers, the power amplifiers are designed for optimum results during modal analysis.

UNIQUE FEATURES

- ◇ From 30 to 4000 Watts
- ◇ Accurately controlled output current
- ◇ High output impedance in order not to impede the movement of the structure
- ◇ Constant force of shaker independent of the movement of the structure
- ◇ Display of the position of the moving assembly (as from the model A 648 S)
- ◇ Remote controlled (as from the model A 648 S)
- ◇ Accurate measurement of introduced force Newton / Volt
- ◇ No need for force transducer on the amplifier



A large range of power amplifiers.

The following list gives a glance at the different types of amplifiers available in our catalogue. Each year brings new models which are adapted to our customers' particular problems; therefore do not hesitate to contact us.

ACCESSORIES



Remote control panels

Amplifier (*: Airborne)	Continuous RMS output (Watts)	Max output current (Amperes)	Max output Voltage (Volts)	Input voltage (Volts)	Power supply*	Associated Shaker
A 732	60 or 30	± 4 or ± 2	± 30	± 5	220 V ±10%	EX 6 / EX 8 / EX 12 / EX 20 / EX 24
A 735	120 or 60	± 8 or ± 4	± 30	± 5	220 V ±10%	EX 58 / EX 58 C40 / EI 20
A 648 S	400	± 20	± 40	± 5	3 x 380 V ±10%	EX 220 SC / EX 220 C40
A 649 HV	800	± 20	± 80	± 5	3 x 380 V ±10%	EX 320 C50 / EX 520 C50
A 651/S1	1200	± 60	± 40	± 5	3 x 380 V ±10%	EX 1060
A 651/S2	2400	± 60	± 80	± 5	3 x 380 V ±10%	EX 1070 C50 / EX 2060 / EX 2060 C50
A 709	4000	± 80	± 100	± 5	3 x 380 V ±10%	EX 5080 / EX 5080 C50
A 735*	120 or 60	± 8 or ± 4	± 30	± 5	115 V - 400 Hz ±10%	EI 20
A 520*	400	± 20	± 40	± 5	3 x 115 V - 400 Hz ±10%	EI 799 (horizontal) EI 797 (vertical)

* For export other power supply voltages are available

