Calibration shakers from 100 N to 400 N

In all fields of industry, in aviation, the automotive industry and in power stations, vibration analyses and measurements for determining the vibration transmission are increasingly carried out. A large variety of measuring sensors is necessary to realize such investigations. These measuring sensors have to be checked for their accuracy and calibrated in defined time intervals. As most of the measuring sensors have a large measuring range and large frequency ranges, special shakers for calibrating these sensors are required.

TIRA has risen to this challenge and designed a unique shaker which meets these requirements. This newly developed shaker is equipped with a special guide system and a vibration system made of ceramic material. It is characterized by a very high utilizable frequency range up to 20 kHz and with the appropriate measuring equipment it is optimally suitable for professional calibration applications. The "AC" calibration shaker has additionally a special air bearing with the advantage of being frictionless, wear-free and damping spurious oscillations.

Calibration Shaker S 51140-C

System		TV 51110-C	TV 51110-AC	TV 51120-C	TV 51140-C
Shaker		S 51110-C	S 51110-AC	S 51120-C	S 51140-C
Amplifier		BAA 120	BAA 500-T	BAA 500	BAA 1000
Blower		-	-	TB 0080	TB 0140
Rated peak force (N)	$Sine_{pk}$ / $Random_{RMS}$	100/50	100/50	200/100	400/200
Frequency range (Hz)		40 - 20000	DC - 20000	40-20000	40 - 20000
Max. displacement (mm)	Pk - Pk	4	25.4	4	4
Max. velocity (m/s)	Sine/Random	1.2/1.2	1.2/1.2	1.2/1.2	1.2/1.2
Max. acceleration (g)	Sine/Random	25/12	17/8	51/25	68/34
Effective moving mass (kg)		0.40	0.53	0.40	0.60
Main resonance frequency (Hz)		>25000	>19000	>25000	>19000
Weight with trunnion (kg)		33	18	42	21
Armature (ø/mm)		54	50	54	54
Compressed air (bar)			3 (ca. 2.5 l/min)		
Max. power consumption at 230 V (kVA)	Amplifier/Blower	0.08	0.35	0.35/0.46	1.22/1.4