TIRA Vibration Test Systems – Vibration Systems

Vibration systems from 1000 N to 2700 N

- Long-time operation
- Minimum maintenance effort
- High cross-axial stiffness
- Supported by rugged frame with vibration isolators
- Automatic centering of the armature
- Pneumatic or electronic load compensation for heavy test loads
- LS-shakers with up to 45 mm displacement and electronic zero-point regulation with adjustable stiffness
- Optional degauss kit to reduce stray magnetic field
- Multiple safety devices
- Coarse filter unit
- Squeak&Rattle Option (Low noise operation without blower)
- Wheels&Rails Option (Shaker is displaceable on rails)

Shaker S 50350-120

System	TV 5220-120	TV 5220/LS-120	TV 50303-120	TV 50303/LS-120	TV 50350-120	TV 50350/LS-120
Shaker	S 5220-120	S 5220/LS-120	S 50303-120	S 50303/LS-120	S 50350-120	S 50350/LS-120
Amplifier	BAA 1000-E	BAA 1000-ET	A 1 01 1 003	A 1 01 1 003 T	A 1 01 1 004	A 1 01 1 004 T
Blower	TB 0140	TB 0140	TB 0200	TB 0200	TB 0310	TB 0310
Rated peak force (N) $Sine_{pk}$ / $Random_{RMS}$ / $Shock_{pk}$ [1]	1000/650/1300	1000/650/1300	2000/1000/4000	2000/1000/4000	2700/2000/6000	2700/2000/6000
Frequency range (Hz)	2 - 7000	2 - 7000	2 - 4000	2 - 4000	2 - 4000	2 - 4000
Max. displacement (mm) Pk - Pk	25.4	45.0	25.4	45.0	25.4	45.0
Max. velocity (m/s) Sine/Random/Shock	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.5	1.5/1.5/2.5
Max. acceleration (g) Sine/Random/Shock [1]	60/40/79	60/40/79	80/40/160	72/36/144	110/81/163	98/73/148
Suspension stiffness (N/mm)	22	[2]	22	[2]	22	[2]
Effective moving mass (kg)	1.7	1.7	2.8	3.0	2.8	3.0
Max. weight tested (kg)	20	20	25	25	25	25
Main resonance frequency (Hz)	>5000	>5000	>4000	>3700	>4000	>3700
Weight with trunnion (kg)	122	122	280	280	280	280
Stray magnetic field (mT) without/with degauss kit	<8.5/<1	<8.5/<1	<8.5/<1	<8.5/<1	<8.5/<1	<8.5/<1
Armature (ø/mm)	120	120	120	120	120	120
Max. power consumption at 230/400 V (kVA) incl. blower	4.4	4.5	5	5	6	6
Interlocks	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent

[1] Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width

[2] Electronic 0 – point regulation with adjustable stiffness

Vibration systems from 4 kN to 8 kN

- Clamping table ø180 mm with 21 threaded inserts or ø340 mm with 25 threaded inserts
- Long-time operation
- Minimum maintenance effort
- High cross-axial stiffness
- Supported by rugged frame with combined rubber/air isolators
- Automatic centering of the armature
- Fully automatic pneumatic load compensation for heavy test loads
- 50.8 mm (2 inch) displacement
- Optional degauss kit to reduce stray magnetic field
- Multiple safety devices
- Coarse filter unit
- Squeak&Rattle Option (Low noise operation without blower)
- Wheels&Rails Option (Shaker is displaceable on rails)

Shaker S 56263/LS-180

System	TV 55240/LS-180	TV 55240/LS-340	TV 56263/LS-180	TV 56263/LS-340	TV 56280/LS-180	TV 56280/LS-340
Shaker	S 55240/LS-180	S 55240/LS-340	S 56263/LS-180	S 56263/LS-340	S 56280/LS-180	S 56280/LS-340
Amplifier	A 1 01 1 011	A 1 01 1 011	A 1 02 1 011	A 1 02 1 011	A 1 02 1 016	A 1 02 1 016
Blower	TB 0310	TB 0310	TB 9	TB 9	TB 9	TB 9
Rated peak force (N) $Sine_{pk}$ / $Random_{RMS}$ / $Shock_{pk}$ [1]	4000/3600/12000	4000/3600/12000	6300/5600/18900	6300/5600/18900	8000/7200/24000	8000/7200/24000
Frequency range (Hz)	2 - 3000	2 - 3000	2 - 3000	2 - 3000	2 - 3000	2 - 3000
Max. displacement (mm) Pk - Pk	50.8	50.8	50.8	50.8	50.8	50.8
Max. velocity (m/s) Sine/Random/Shock	2.0/2.0/2.0	2.0/2.0/2.0	2.0/2.0/2.5	2.0/2.0/2.5	2.0/2.0/2.5	2.0/2.0/2.5
Max. acceleration (g) Sine/Random/Shock[1]	59/50/119	49/40/98	80/55/160	75/52/151	93/72/186	88/65/175
Suspension stiffness (N/mm)	50	50	50	50	50	50
Effective moving mass (kg)	7.1	8.3	8	8.5	8.5	9.6
Max. weight tested (kg)	100	100	150	150	150	150
Main resonance frequency (Hz)	>3000	>2700	>3000	>2500	>2900	>2600
Weight with trunnion (kg)	700	780	765	780	765	780
Stray magnetic field (mT) Std./Low degaussing	<1.5/<0,8	<1.5/<0.8	<1.5/<0.8	<1.5/<0.8	<1.5/<0.8	<1.5/<0.8
Armature (ø/mm)	180	340	180	340	180	340
Max. power consumption at 400 V (kVA) incl. Blower	7.7	7.7	14.6	14.6	16	16
Interlocks	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air

[1] Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width

TIRA Vibration Test Systems – Vibration Systems

Vibration systems from 11 kN to 15 kN

- Long-time operation
- Minimum maintenance effort
- High cross-axial stiffness
- Supported by rugged frame with vibration isolators
- Fully automatic pneumatic load compensation for heavy test loads
- Coarse filter unit
- 50.8 mm (2 inch) displacement
- Wheels&Rails Option (Shaker is displaceable on rails)

Shaker S 57315/LS-340

System	TV 51010/LS-230	TV 51010/LS-340	TV 57315/LS-230	TV 57315/LS-340
Shaker	S 51010/LS-230	S 51010/LS-340	S 57315/LS-230	S 57315/LS-340
Amplifier	A 1 01 3 023	A 1 01 3 023	A 3 01 3 034	A 3 01 3 034
Blower	TB 120	TB 120	TB 120	TB 120
Rated peak force (N) $Sine_{pk}$ / $Random_{RMS}$ / $Shock_{pk}$ [1]	11000/11000/33000	11000/11000/33000	15000/13000/45000	15000/13000/45000
Frequency range (Hz)	2 - 3000	2 - 3000	2 - 3000	2 - 3000
Max. displacement (mm) Pk - Pk	50.8	50.8	50.8	50.8
Max. velocity (m/s) Sine/Random/Shock	2.0/2.0/2.5	2.0/2.0/2.5	2.0/2.0/2.5	2.0/2.0/2.5
Max. acceleration (g) Sine/Random/Shock[1]	85/65/200	82/75/167	115/80/230	110/80/200
Suspension stiffness (N/mm)	75	75	75	75
Effective moving mass (kg)	13	14	13	14
Max. weight tested (kg)	150	150	250	250
Main resonance frequency (Hz)	>2300	>2400	>2300	>2400
Weight with trunnion (kg)	1100	1100	1100	1100
Stray magnetic field (mT) Std./Low degaussing	<1.5/<0.8	<1.5/<0.8	<1.5/<0.8	<1.5/<0.8
Armature (ø/mm)	230	340	230	340
Max. power consumption at 400 V (kVA) incl. Blower	22	22	27	27
Interlocks	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air	Temperature, overtravel, airflow, overcurrent, compressed air

[1] Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width