TIRA Vibration Test Systems – Vibration Systems

Vibration systems from 27 kN to 35 kN

- Power save function (Field power reduction)
- Optional Dual Bearing-System for enhancement of cross axial stiffness and reduction of wear
- Airglide option (Shaker is displaceable on air cushions)
- Multiple safety devices
- Clamping table ø340 mm, ø440 mm or ø640 mm
- Long-time operation
- Minimum maintenance effort
- High cross-axial stiffness
- Supported by rugged frame with vibration isolators
- Automatic centering of the AIT-System and the armature
- AIT-System fixable to use the full displacement also at low frequencies and heavy loads
- Fully automatic pneumatic load compensation for heavy test loads
- Air-cooling blower with optional fan speed control
- Available as RIT, AIT or LB trunnion system
- Displacement of up to 76.2 mm (3 inch)
- Degauss kit to reduce stray magnetic field

Shaker S 59327/AIT-440

System		TV 59327/*-340	TV 59327/*-440	TV 59327/*-640	TV 59335/*-340	TV 59335/*-440	TV 59335/*-640
Shaker		S 59327/*-340	S 59327/*-440	S 59327/*-640	S 59335/*-340	S 59335/*-440	S 59335/*-640
Amplifier		A 3 08 3 045	A 3 08 3 045	A 3 08 3 057	A 3 08 3 057	A 3 08 3 057	A 3 08 3 057
Blower		TB 7/FU/11	TB 7/FU/11	TB 7/FU/11	TB 7/FU/11	TB 7/FU/11	TB 7/FU/11
Rated peak force (N)	$Sine_{pk}$ / $Random_{RMS}$ / $Shock_{pk}$ [1]	27000/27000/80000	27000/27000/80000	27000/27000/80000	35000/32000/105000	35000/32000/105000	35000/32000/105000
Frequency range (Hz)		5 - 3000	5 - 3000	5 - 2000	5 - 3000	5 - 3000	5 - 2000
Max. displacement Pk-Pk (mm)	Sine/Random/Shock	50.8/50.8/50.8	50.8/50.8/50.8 [2]	50.8/50.8/50.8	50.8/50.8/50.8	50.8/50.8/50.8 [2]	50.8/50.8/50.8
Max. velocity (m/s)	Sine/Random/Shock	2.0/1.8/2.5	2.0/1.8/2.5	2.0/1.8/2.5	2.0/1.8/2.5	2.0/1.8/2.5	2.0/1.8/2.5
Max. acceleration (g)	Sine/Random/Shock [1]	84/65/167	79/50/158	66/50/131	100/88/220	100/67/207	70/63/160
Suspension stiffness (N/mm)		150	150	150	150	150	200
Effective moving mass (kg)		29.0	38.0	40.5	29.0	38.0	40.5
Max. weight tested (kg)		610	610	610	610	610	610
Main resonance frequency (Hz)		>2400	>2400	>1900	>2400	>2400	2000
Weight with trunnion (kg)	RIT/AIT/LB	2350/2700/2250	2350/2700/2250	2350/2700/2250	2350/2700/2250	2350/2700/2250	2350/2700/2250
Stray magnetic field (mT)	Std./Low degaussing	<1.5/<0.8	<1.5/<0.8	<2/<1	<1.5/<0.8	<1.5/<0.8	<2/<1
Armature (ø/mm)		340	440	640	340	440	640
Max. power consumption at 400 V (kVA) Amplifier/Blower		25/17.5	25/17.5	28/17.5	35/17.5	38/17.5	38/17.5
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
* RIT, AIT or LB

[2] Optionally displacement of 76.2 mm (3 inch), impact by moving to static mass and frequency is possible

Vibration systems from 49.5 kN to 55 kN

- Clamping table ø340 mm, ø440 mm or ø640 mm
- Long-time operation
- Minimum maintenance effort
- High cross-axial stiffness
- Supported by rugged frame with vibration isolators
- Automatic centering of the AIT-System and the armature
- AIT-System fixable to use the full displacement also at low frequencies and heavy loads
- Fully automatic pneumatic load compensation for heavy test loads
- Air-cooling blower with optional fan speed control
- Up to 76.2 mm (3") displacement
- Degauss kit to reduce stray magnetic field
- Power save function (Field power reduction)
- Optional Dual Bearing-System for enhancement of cross axial stiffness and reduction of wear
- Airglide option (Shaker is displaceable on air cushions)
- Multiple safety devices

Shaker S 59349/AIT-440

System	TV 59349/AIT-340	TV 59349/AIT-440	TV 59349/AIT-640	TV 59355/AIT-340	TV 59355/AIT-440	TV 59355/AIT-640
Shaker	S 59349/AIT-340	S 59349/AIT-440	S 59349/AIT-640	S 59355/AIT-340	S 59355/AIT-440	S 59355/AIT-640
Amplifier	A 2 11 3 090	A 2 11 3 090	A 2 11 3 090	A 4 11 3 113	A 4 11 3 113	A 4 11 3 113
Blower	TB 7/FU/20	TB 7/FU/20	TB 7/FU/20	TB 7/FU/20	TB 7/FU/20	TB 7/FU/20
Rated peak force (N) $Sine_{pk}$ / $Random_{RMS}$ / $Shock_{pk}$ [1]	49500/48000/148500	49500/48000/148500	49500/48000/148500	55000/51000/165000	55000/51000/165000	55000/51000/165000
Frequency range (Hz)	5-3000	5-2500	5 - 2000	5-3000	5 - 2500	5 - 2000
Max. displacement Pk-Pk (mm) Sine/Random/Shock	50.8/50.8/50.8	50.8/50.8/50.8 [2]	50.8/50.8/50.8	50.8/50.8/50.8	50.8/50.8/50.8 [2]	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	2.0/2.0/2.5	2.0/2.0/2.5
Max. acceleration (g) Sine/Random/Shock [1]	100/95/264	100/90/224	70/70/160	100/100/264	100/100/224	70/70/160
Suspension stiffness (N/mm)	200	200	200	200	200	200
Effective moving mass (kg)	43.0	45.5	55.0	43.0	45.5	55.0
Max. weight tested (kg)	910	910	910	910	910	910
Main resonance frequency (Hz)	>2100	2000	2000	>2100	2000	2000
Weight with trunnion (kg)	4550	4550	4550	4550	4550	4550
Stray magnetic field (mT) Std./Low degaussing	<1.5/<0.8	<1.5/<0.8	<2/<1	<1.5/<0.8	<1.5/<0.8	<2/<1.5
Armature (ø/mm)	340	440	640	340	440	640
Max. power consumption at 400 V (kVA) Amplifier/Blower	56/27	56/27	56/27	62/27	62/27	62/27
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	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

[2] Optionally displacement of 76.2 mm (3 inch) , impact by moving to static mass and frequency is possible