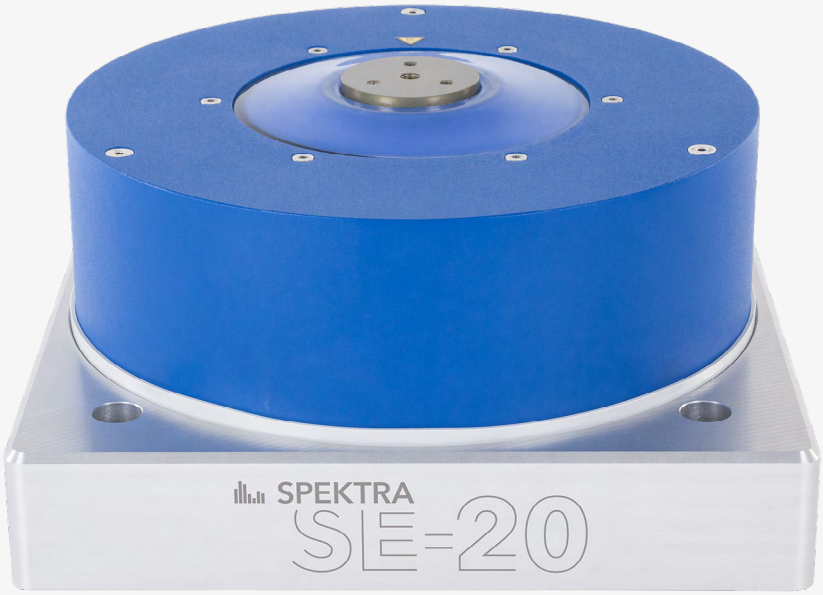
SE-20 / SE-20T

Vibration exciter



Applications

- vibration tests of small-scale devices
- modal and structural testing
- calibration of vibration sensors according to ISO 16063-21
- industry, research, education and training

Selected Data

- high frequency range DC … 20 kHz
- acceleration up to 600 m/s² (61 g_n)
- low transverse motion typical < 5 %
- payload, max.: 2 kg (vert.) / 1 kg (horiz.)
- temperature range, max.: -40 °C … +120 °C

Features

- highly scratch-resistant hard-coated armature made from aluminum
- first axial resonance frequency > 22 kHz
- high payload capability for large sensors or geophones
- easy operation in climate chambers
- efficient electrodynamic drive
- internal reference accelerometer
- no compressed air supply or zero position controller required
- optional trunnion base for operation at a wide tilt angle range

Technical data

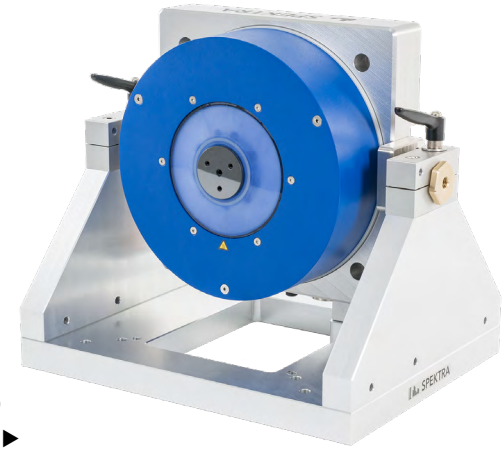
	SE-20	SE-20T
Force rating, max. (sine-peak)	95 N (21 lbf) [1]	
Frequency range	DC … 20 kHz 3 Hz … 20 kHz with internal reference accelerometer 3 Hz … 10 kHz recommended for calibration of vibration sensors	
Acceleration, max. (sine peak)	600 m/s² (61 g_n) [1]	
Displacement, max. (peak-peak)	10 mm (0.39 in)	
Transverse motion	typical < 5 % [2]	
Payload, max.	2 kg (4.4 lbs) vertical 1 kg (2.2 lbs) horizontal	
Temperature range (in operation)	-20 °C…+80 °C (-4 °F…+176 °F)	-40 °C…+120 °C (-40 °F…+248 °F)
DUT mounting	• 50 mm (1.97 in) coupling surface diameter • hard coated surface • ¼-28 UNF thread hole • 3 plcs 10-32 UNF thread holes • other thread patterns on request	
Stray magnetic field on table	< 3 mT	
Armature weight	160 g (0.36 lbs)	
Weight (total)	17 kg (37.5 lbs)	
Dimensions (H × W × L)	138 mm × 270 mm × 270 mm (5.4 in × 10.6 in × 10.6 in)	

All specifications are at room temperature unless otherwise specified. Technical data achieved with power amplifier PA 500 DM.

1) interval mode of operation
2) single peaks up to 15 % / better than ISO 16063-11/21

Options and accessories

- ✓ suitable power amplifiers (PA 180 DM, PA 500 DM)
- ✓ internal reference accelerometer including BNC cable
- ✓ set for active cooling
- ✓ readout set for the internal temperature sensor
- ✓ trunnion base for operation of the vibration exciter at a wide tilt angle range
- ✓ adapter sets

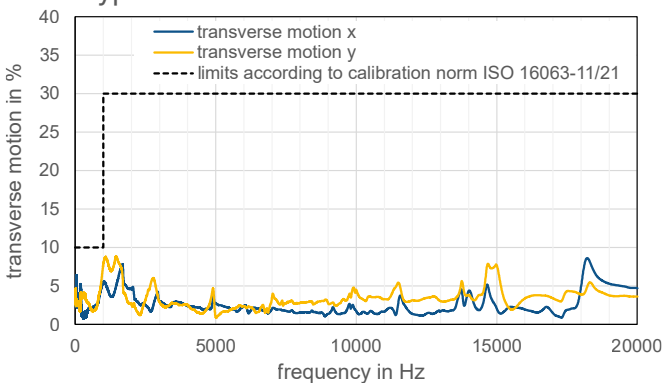


Trunnion base to tilt the SE-20 at any angle between 0°... 90° ▶

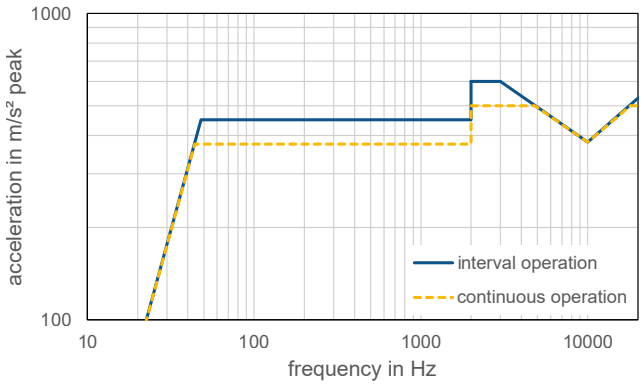
Performance

The diagrams below show the performance of the SE-20 and SE-20T for operation alternating between 10 minutes at full load and 10 minute breaks (blue graph). Performance may vary for different cycles. The yellow graph shows acceleration values that can be safely used during continuous operation.
At 2 kHz and above, there is a boost in acceleration amplitude. This is due to a new bearing design which minimizes transverse motion over the whole frequency range and reduces the moving mass above 2 kHz, thereby allowing for increased acceleration at equal force.

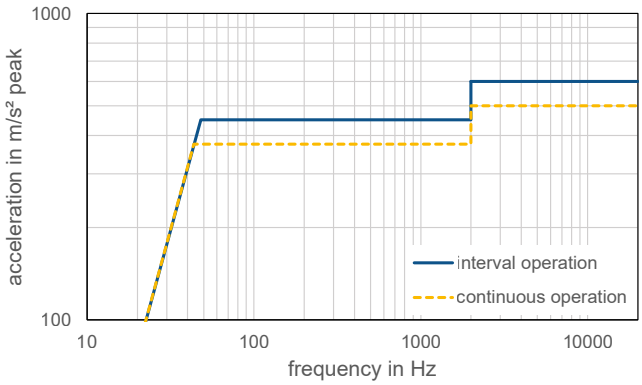
Typical transverse motion SE-20 / SE-20T



SE-20 / SE-20T with PA 180 DM



SE-20 / SE-20T with PA 500 DM



System integration







The SE-20 exciters can be easily integrated into a system solution. With our suitable controllers, power amplifiers and a software with extensive functions, we guarantee an efficient workflow for your individual test and calibration tasks.

