Application
Type CS18 TRANS is the practical implementation of a system for determining the transversal transfer coefficient as a function of operating angle according to ISO 16063-31. In this system, the angular actuator is remote-controlled by a step motor. Thus the measurement of \( S_t(\phi, f) \) as a function of angle and frequency can be carried out all-automatically.

The system is offered under the trade name CS18 TRANS as an optional extra to a type CS18 VLF Calibration system. It is intended for operation in conjunction with an APS 129 or APS 500 air bearing long-stroke vibration exciter in the frequency range between 2 Hz and 50 Hz.

Features
Excitation in transversal direction is accomplished by means of an air bearing slide table. As a result, both frequency and vibration amplitude (acceleration or displacement) can be set at will or varied continuously within certain limits.

- Due to its step motor, rotation can be controlled precisely in steps, but also continuously.
- Extremely low interferences, e.g. transverse vibrations due to the minor mass of construction.
CS18 Optional Extra
TRANS for CS18 VLF (primary and secondary)

Components
- Precision board to mount the angular actuator
- Angular actuator with sensor-mounting board
- Position control for the angular actuator
- Operation mode „Measurement of transverse sensitivity“ for CS18 Software
- Reference standard ATS-7 for installation and periodic verification of angular actuator

Specifications
Measuring device for determining the transverse sensitivity according to ISO 16063-31
Given that the transverse sensitivity of exciter is < 0.1 % in direction of main sensitivity of DUT, the following measurement uncertainties apply:

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Weight of DUT 3)</th>
<th>Expanded Measurement Uncertainty 1) Relative Transverse Sensitivity 2)</th>
<th>PEAK-Acceleration in m/s²</th>
</tr>
</thead>
<tbody>
<tr>
<td>from</td>
<td>to</td>
<td>up to</td>
<td>min.</td>
</tr>
<tr>
<td>2 Hz</td>
<td>25 Hz</td>
<td>200 gram</td>
<td>0.3 %</td>
</tr>
<tr>
<td>&gt; 25 Hz</td>
<td>50 Hz</td>
<td>50 gram</td>
<td>0.5 %</td>
</tr>
</tbody>
</table>

1) Determined according to GUM (ISO Guide to the expression of uncertainty in measurement) with k = 2 (coverage factor)
2) Reference value for interval width of given relative Measurement Uncertainty (e.g. 0.3%) is not the measurement value, as usual (in this case the relative transverse sensitivity), but the dynamic sensitivity of the DUT in direction of main sensitivity at same frequency.
3) Higher weight of DUT possible on demand

The following figures show different illustrations of the relative transverse sensitivity.

All data are subject to change without notice