



Torsional vibration

Parameters	Standard, admissible limits
<ul style="list-style-type: none"> • <i>Stresses</i> <ul style="list-style-type: none"> - Crankshaft..... - Intermediate and Propellershaft - Generatorshaft PTO-Generator Auxiliary Genset (*) Stationary power plant 	<p>IACS - WCH (M53, 1986)</p> <p>requested Classifications Society</p>
<ul style="list-style-type: none"> • <i>Torque variation</i> <ul style="list-style-type: none"> - Generatorshaft - Gear - Damper: Damping-, Elastic torque - Elastic coupling: Damping-, elast. torque - Hydraulic coupling 	<p>requested Classification Society (BS 5000 [1980])</p> <p>acc. to supplier prescriptions</p>
<ul style="list-style-type: none"> • <i>Thermal load</i> <ul style="list-style-type: none"> - Damper \ - Coupling / 	<p>acc. to supplier prescriptions</p>
<ul style="list-style-type: none"> • <i>Amplitude</i> <ul style="list-style-type: none"> - At the rotor (*) - Cyclic irregularities (Lamp flickering)..... 	<p>requested Classification Society</p> <p>acc. Simons-WCH Limit / EN 50006</p>
<ul style="list-style-type: none"> • <i>Speed variation at the rotor</i>..... 	<p>requested Classification Society or VDMA 6280</p>
<ul style="list-style-type: none"> • <i>Full load speed range</i> <ul style="list-style-type: none"> - For PTO-Generator - For Auxilliary Genset (*) - For stationary power plant 	<p>requested Classification Society: $\pm 10\%$ of nominal speed</p> <p>acc. to Grid-frequency variation prescribed by customer (contract)</p>
<ul style="list-style-type: none"> • <i>Electrical quantities</i> <ul style="list-style-type: none"> (*) - Frequency variation (*) - Voltage swing (*) - Power swing 	<p>Marine: requested Classification Societies</p> <p>Stationary: VDMA 6280</p> <p>WCH ($\pm 10\%$)</p>

(*) only for stationary power plant



Axial vibration

Parameters	Standard, admissible limits
<ul style="list-style-type: none">• <i>Amplitude</i><ul style="list-style-type: none">- At the free end of the crankshaft	2T. Mot.: WCH, 25.4.00 4T. Mot.: not relevant
<ul style="list-style-type: none">• <i>Force</i><ul style="list-style-type: none">- At the thrust bearing(*) - Between rim and rotor shaft (web) ---> Umbrella effect.....	No Rule / (Recommend.: F<60% of Prop Thrust) acc. to Prescription of Generator-Supplier
<ul style="list-style-type: none">• <i>Axial detuner</i>.....	Integrated detuner to be installed for all Sulzer RTA-Engines as standard.

(*) only for stationary power plants



Linear vibration

Parameters	Standard, admissible limits
<ul style="list-style-type: none"> • <i>Engine</i> - Turbocharger 	VDI 2063 / ISO 10816-6, respectively ac. to Classification Society, if required ABB, 92-10-01 / MET 33 SC / SD
<ul style="list-style-type: none"> • <i>Generator</i> <ul style="list-style-type: none"> - PTO-Generator - Auxilliary genset (*) - Stationary power plant 	ISO 8528-9
•(*) <i>Foundation</i>	BS CP 2012
<ul style="list-style-type: none"> • <i>Ship</i> <ul style="list-style-type: none"> - Superstructure - Human response 	ISO 6954 BS 6472
<ul style="list-style-type: none"> • <i>Building</i> <ul style="list-style-type: none"> (*) - Structure (*) - Human response 	DIN 4150 BS 6472

(*) only for stationary power plants