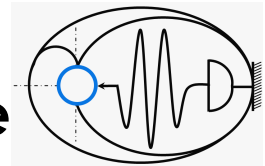


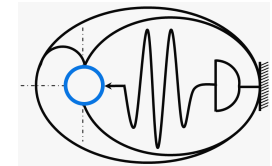
# Vibration Evaluation Standard – Rotating Machine



								18	<b>VIBRATION :</b> <b>Velocity in mm/sec RMS</b> Guideline as per ISO 10816
		D				D		11	
								7.1	
		C				C		4.5	
								3.5	
		B				B		2.8	
								2.3	
								1.4	
		A				A		0.71	
Rigid	Flexible	Rigid	Flexible	Rigid	Flexible	Rigid	Flexible	Foundation Support	
Pumps > 15 kW radial, axial, mixed flow				Medium sized machines 15kW < Power ≤ 300 kW		Large machines 300 kW < Power < 50 MW		Machine Type	
Integrated Driver		External Driver		Motor 160 mm ≤ H ≤ 315		Motor 315 mm ≤ H			
GROUP 4		GROUP 3		GROUP 2		GROUP 1		GROUP	
Machinery Evaluation as per ISO 10816 Guide line: <b>Zone A:</b> Vibration of newly commissioned machines; <b>Zone B:</b> Machines considered acceptable for unrestricted long-term operation <b>Zone C:</b> Machines considered unsatisfactory for long-term continuous operation <b>Zone D:</b> Vibration values normally considered to be sufficient severity to cause damage to the machine							Measurement Frequency range: 10 Hz to 1000 Hz > 600 RPM* 2 Hz to 1000 Hz > 120 RPM* * Operating speed of machine		

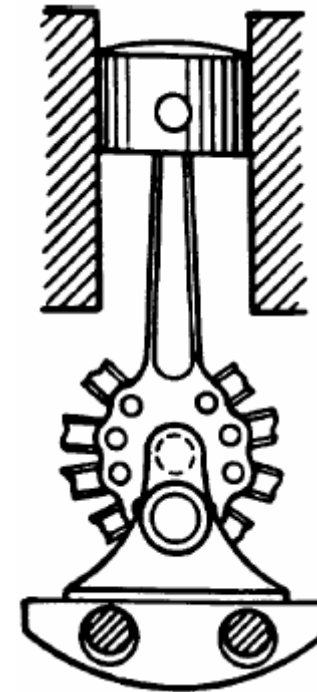
# Refer ISO 10816-1:1995 Standard on Mechanical vibration -- Evaluation of machine vibration by measurements on non-rotating parts. Visit: [www.iso.ch](http://www.iso.ch)  
 # Refer ISO 13373-1:2002 for General Procedures for vibration measurement. Note ISO 10816 precedes standards ISO 2372 and ISO 3945

# Vibration Evaluation Standard – Reciprocating machine



Vibration Severity Grade	Overall vibration measurement measured on the machine structure			Machine Class*						
	Displacement in $\mu\text{m}$ – micron (rms)	Velocity In mm/sec (rms)	Acceleration meter / $\text{sec}^2$ (rms)	1	2	3	4	5	6	7
1,1	$\leq 17,8$	$\leq 1,12$	$\leq 1,76$	A / B	A / B	A / B	A / B	A / B	A / B	A / B
1,8	$\leq 28,3$	$\leq 1,78$	$\leq 2,79$							
2,8	$\leq 44,8$	$\leq 2,82$	$\leq 4,42$	C	C	C	C	C	C	C
4,5	$\leq 71,0$	$\leq 4,46$	$\leq 7,01$							
7,1	$\leq 113$	$\leq 7,07$	$\leq 11,1$	D	D	D	D	D	D	D
11	$\leq 178$	$\leq 11,2$	$\leq 17,6$							
18	$\leq 283$	$\leq 17,8$	$\leq 27,9$	D	D	D	D	D	D	D
28	$\leq 448$	$\leq 28,2$	$\leq 44,2$							
45	$\leq 710$	$\leq 44,6$	$\leq 70,1$	D	D	D	D	D	D	D
71	$\leq 1125$	$\leq 70,7$	$\leq 111$							
112	$\leq 1784$	$\leq 112$	$\leq 176$	D	D	D	D	D	D	D
180	$> 1784$	$> 112$	$> 176$							

ISO 10816 – 6: 1995



**Zone A:** Vibration of newly commissioned machines;  
**Zone B:** Machines considered acceptable for unrestricted long-term operation  
**Zone C:** Machines considered unsatisfactory for long-term continuous operation  
**Zone D:** Vibration values normally considered to be sufficient severity to cause damage to the machine

\* depends on size, construction, assembly and speed. Refer ISO 10816-6 for details

Machinery Evaluation as per ISO 10816 Guide line: