ball bearing life expectancy calculation

calculation number: 14719
date: 13.12.2016
type: R3G 630-RB32-71
motor: M3G 150-IF
customer: CRAC

note: Data and temperature of bearings based on reference measurements. Calculated for 12000 m³/h @ 500 Pa.

motor date

voltage[V]:	380
frequency[Hz]:	50
capacitor[µF]:	0
power[W]:	2770
speed[1/min]:	1300

general data

lubricant:	Klübersynth BHP 72-102
rs ball bearing type:	6005
ss ball bearing type:	6005
amb. temperature[°C]:	40
probability a1:	1

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operating pos: rotor above	bearing:	stator side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	244807
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	191108
lubricant life expectancy		t_f	60981

The life expectancy is limited to 60981 hours by the lubricant life expectancy.

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operating pos: rotor below	bearing:	stator side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	67627
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	52793
lubricant life expectancy		t_f	60981

The life expectancy is limited to 52793 hours by the modified nominal life expectancy.

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operating pos: horizontal shaft	bearing:	stator side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	277940
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	216974
lubricant life expectancy		t_f	60981

The life expectancy is limited to 60981 hours by the lubricant life expectancy.

This calculation only takes influences into account, which occur within the scope of optimal application of the above motor and ventilator type.

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