ball bearing life expectancy calculation

calculation number: 14235
date: 08.03.2016
type: R4E 355-AL02-06
motor: M4E 074-GA -
customer: BIOX

note: Data and temperature of bearings based on reference measurements, Calculated for 2000 m³/h @ 230 Pa.

motor date		general data	
voltage[V]:	230	lubricant:	Asonic GHY 72
frequency[Hz]:	50	rs ball bearing type:	6001
capacitor[µF]:	8	ss ball bearing type:	6001
power[W]:	300	amb. temperature[°C]:	30
speed[1/min]:	1390	probability a1:	1

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operating pos: rotor above	bearing:	rotor side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	89673
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	74525
lubricant life expectancy		t_f	120402

The life expectancy is limited to 74525 hours by the modified nominal life expectancy.

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operating pos: rotor below	bearing:	stator side	coeff. of grease a_{23} : 0,9
nominal life expectancy		L_{nh}	89673
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	79199
lubricant life expectancy		t_f	135147

The life expectancy is limited to 79199 hours by the modified nominal life expectancy.

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operating pos: horizontal shaft	bearing:	rotor side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	125338
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	104166
lubricant life expectancy		t_f	120402

The life expectancy is limited to 104166 hours by the modified nominal life expectancy.

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