ball bearing life expectancy calculation

calculation number:	13576	**note:**	Data and temperature of bearings based on reference measurements. Calculated for 9440 m³/h @ 700 Pa. TBD for 50.000 hours => max. 50 °C ambient temperature
date:	28.10.2015		
type:	R3G 560-RB33-78		
motor:	M3G 150-IF		
customer:	ABB - Drives		

motor date

voltage[V]:	480
frequency[Hz]:	50
capacitor[µF]:	0
power[W]:	2940
speed[1/min]:	1660

general data

lubricant:	Klübersynth BHP 72-102
rs ball bearing type:	6005
ss ball bearing type:	6005
amb. temperature[°C]:	50
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}	64749
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	52630
lubricant life expectancy		t_f	53618

The life expectancy is limited to 52630 hours by the modified nominal life expectancy.

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operating pos: rotor below	bearing:	rotor side	coeff. of grease a_{23} : 0,8
nominal life expectancy		L_{nh}	214247
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	174147
lubricant life expectancy		t_f	53618

The life expectancy is limited to 53618 hours by the lubricant 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}	183384
modified nominal life expectancy		$L_{nah}=a1*a23*L_{nh}$	149060
lubricant life expectancy		t_f	53618

The life expectancy is limited to 53618 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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