

**FAG****HS7009-E-T-P4S-UL**

High speed spindle bearing

High speed spindle bearing HS70...-E,
adjusted, in pairs or sets, contact angle $\alpha = 25^\circ$, restricted tolerances

Technical information



Your current product variant

Contact angle	E	Contact angle 25°
Sealing	Without	Not sealed
Cage	T	Laminated fabric cage
Tolerance class	P4S	Tolerance class P4S, FAG standard better than P4 to ISO 492:2023
Arrangement bearing set	U	Single bearing
Preload	L	Preload light

Main Dimensions & Performance Data

d	45 mm	Bore diameter
D	75 mm	Outside diameter
B	16 mm	Width
C_r	11.600 N	Basic dynamic load rating, radial
C_{0r}	7.100 N	Basic static load rating, radial
C_{ur}	750 N	Fatigue load limit, radial
$n_{G \text{ Grease}}$	24.000 1/min	Limiting speed for grease lubrication
$n_{G \text{ Oil}}$	36.000 1/min	Limiting speed for oil lubrication
n_G	36.000 1/min	Limiting speed
$\approx m$	0,249 kg	Weight





Mounting dimensions

d_a	51 mm	Diameter shaft shoulder
d_a	h12	Diameter shaft shoulder clearance
D_a	69 mm	Shoulder diameter outer ring
D_a	H12	Shoulder diameter outer ring clearance
$r_{a \max}$	1 mm	Maximum recess radius
$r_{a1 \max}$	0,3 mm	Maximum recess radius
$E_{tk \min}$	56,7 mm	Minimum diameter injection pitch
$E_{tk \max}$	58,2 mm	Maximum diameter injection pitch
$E_{tk1 \min}$	54,6 mm	Minimum diameter injection pitch
$E_{tk1 \max}$	58,2 mm	Maximum diameter injection pitch
a	22 mm	Distance between the apexes of the pressure cones

Dimensions

r_{\min}	1 mm	Minimum chamfer dimension
$r_{1 \min}$	1 mm	Minimum chamfer dimension
α	25 °	Contact angle

Temperature range

T_{\min}	-30 °C	Operating temperature min.
T_{\max}	100 °C	Operating temperature max.



Additional information

F_{VL}	70 N	Preload force light
F_{VM}	210 N	Preload force medium
F_{VH}	421 N	Preload force heavy
K_{aEL}	203 N	Lift-off force light
K_{aEM}	621 N	Lift-off force medium
K_{aEH}	1.269 N	Lift-off force heavy
c_{aL}	85 N/ μ m	Axial rigidity light
c_{aM}	128 N/ μ m	Axial rigidity medium
c_{aH}	167 N/ μ m	Axial rigidity heavy

Characteristics

-  Radial load
-  Axial load in one direction
-  Grease Lubrication
-  Oil Lubrication
-  Not sealed