

Thordon Bearing Sizing Calculation Program

No: 165960DS99

V2017 Release 10

Thordon Bearings Inc.

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General Information

Thordon Distributor: Troymarine
Customer:
Project Reference: HDS Hydraulic Crane Bearing
Calculated By:
Checked By:
Comments:
Drawing Number:
MRP Number:

Data Sheet

-= ATTENTION -=

Method of axial retention must be considered.

	Designed at 21 °C	Machined at 21 °C
Machined Bearing Outside Diameter:	178.28	178.28 mm +0.05, -0.05
Machined Bearing Inside Diameter:	161.72	161.72 mm (For reference only)
Calculated Machined Bearing Length:	70.92	70.92 mm +0.00, -0.25
Bearing Wall Thickness:	8.28	8.28 mm +0.00, -0.05
Amount of Interference:	0.85 mm	
Bore Closure Factor:	1.100	
Bore Closure Amount:	0.93 mm	
Minimum Installed Diametrical Clearance (MIC):	0.19 mm	
Diametric Running Clearance:	0.16 mm	
Diametric Thermal Expansion:	0.03 mm	
Axial Thermal Expansion:	0.08 mm	
Pressure on Bearing:	43.881 MPa	
Outside Diameter after dry ice cooling:	177.66 mm	
Note: Forced press required after dry ice cooling; Never immerse a ThorPlas-Blue bearing in liquid nitrogen		

Input Data

Dimension Scale:	Metric (mm)
Temperature Scale:	Celsius
Maximum Operating Temperature:	45 °C
Minimum Operating Temperature:	-20 °C
Machine Shop Ambient Temperature:	21 °C
Maximum Shaft Diameter:	160.60 mm
Maximum Housing Diameter:	177.43 mm
Minimum Housing Diameter:	177.43 mm
Housing Length:	71.00 mm
Type of Lubrication:	Dry
Grade of Thordon Used:	ThorPlas-Blue
Type of Service:	Ind. Oscillating Rotation
Type of Installation:	Interference Freeze Fit
Load on Bearing:	51000 kg
Shaft RPM:	0