

need a seal...we have the solution



CASE HARDENED STEEL BUSHINGS



Key Features

- ★ Suited for high impact applications
- ★ Require grease lubrication
- ★ Made with central, spiral or custom grease grooves
- ★ High wear and deformation resistance
- ★ Higher ultimate tensile strength than SAE 1045

Options

- Chemical test certificate
- Physical test certificates

Common Applications

- + Attachments
- + Earth moving equipment
- + Excavators
- + Farm machinery
- + Hydraulic cylinders
- + Mining equipment

Operating Performance

Dry	● ○ ○ ○ ○ ○	Not Recommended
Oil Lubricated	● ● ● ● ○ ○ ○	Fair
Grease Lubricated	● ● ● ● ● ○ ○	Good
Fresh Water	● ○ ○ ○ ○ ○	Not Recommended
Salt Water	● ○ ○ ○ ○ ○	Not Recommended

Bearing Properties

Physical Properties	Condition	Metric Values	Imperial Values
Maximum Contact Pressure	Sliding	50 N/mm ²	7300 psi
Operating temperature	Min	-50 °C	-58 °F
Operating temperature	Max	150 °C	302 °F
Maximum sliding speed	Lubricated	0.1 m/s	20 fpm
Maximum PV factor	Lubricated	1.5 N/mm ² x m/s	43000 psi x fpm
Coefficient of friction	Lubricated		0.2 F

Mating Material Recommendations

Physical Properties	Unit	Value
Surface roughness	µm	<0.8
Surface Hardness	HB	>600



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HARDENED STEEL BUSHING

Bushings Imperial Dimensions

Internal Central Grease Grooves
External Central Grease Grooves

ID Tolerance : +0.0040" to +0.0059"
OD Tolerance : +0.0000" to +0.0020"
Length : -0.0020" to +0.0000"

Ref.Number	ID Pin Size	OD	Long
HSB0100001375-1000/KMAX	1.000	1.375	1.000
HSB0100001375-1250/KMAX	1.000	1.375	1.250
HSB0125001750-1500/KMAX	1.250	1.750	1.500
HSB0125001750-2000/KMAX	1.250	1.750	2.000
HSB0150001750-1250/KMAX	1.500	1.750	1.250
HSB0150001750-2000/KMAX	1.500	1.750	2.000
HSB0150002000-1000/KMAX	1.500	2.000	1.000
HSB0150002000-1500/KMAX	1.500	2.000	1.500
HSB0150002000-1750/KMAX	1.500	2.000	1.750
HSB0150002000-2000/KMAX	1.500	2.000	2.000
HSB0175002250-1500/KMAX	1.750	2.250	1.500
HSB0175002250-2000/KMAX	1.750	2.250	2.000
HSB0200002500-1750/KMAX	2.000	2.500	1.750
HSB0200002500-2000/KMAX	2.000	2.500	2.000
HSB0200002500-2500/KMAX	2.000	2.500	2.500

Ref.Number	ID Pin Size	OD	Long
HSB0200002500-3000/KMAX	2.000	2.500	3.000
HSB0200002500-3500/KMAX	2.000	2.500	3.500
HSB0200003000-3000/KMAX	2.000	3.000	3.000
HSB0225002750-2000/KMAX	2.250	2.750	2.000
HSB0225002750-2750/KMAX	2.250	2.750	2.750
HSB0225002750-3000/KMAX	2.250	2.750	3.000
HSB0250003000-2000/KMAX	2.500	3.000	2.000
HSB0250003000-2500/KMAX	2.500	3.000	2.500
HSB0250003000-3000/KMAX	2.500	3.000	3.000
HSB0250003000-3500/KMAX	2.500	3.000	3.500
HSB0275003250-3000/KMAX	2.750	3.250	3.000
HSB0300003500-2000/KMAX	3.000	3.500	2.000
HSB0300003500-3000/KMAX	3.000	3.500	3.000
HSB0300003500-3500/KMAX	3.000	3.500	3.500
HSB0350004000-3500/KMAX	3.500	4.000	3.500

Bushings Metric Dimensions

Internal Central Grease Grooves
External Central Grease Grooves

ID Tolerance : +0.10 mm to +0.15 mm
OD Tolerance : +0.00 mm to +0.05 mm
Length : -0.50 mm to +0.00 mm

Ref.Number	ID Pin Size	OD	Long
MHSB025033032/KMAX	25.00	33.00	32.00
MHSB025035025/KMAX	25.00	35.00	25.00
MHSB025035032/KMAX	25.00	35.00	32.00
MHSB025035038/KMAX	25.00	35.00	38.00
MHSB028036040/KMAX	28.00	36.00	40.00
MHSB030038040/KMAX	30.00	38.00	40.00
MHSB030038050/KMAX	30.00	38.00	50.00
MHSB030040030/KMAX	30.00	40.00	30.00
MHSB030040035/KMAX	30.00	40.00	35.00

Ref.Number	ID Pin Size	OD	Long
MHSB030040040/KMAX	30.00	40.00	40.00
MHSB030040045/KMAX	30.00	40.00	45.00
MHSB030045030/KMAX	30.00	45.00	30.00
MHSB030045040/KMAX	30.00	45.00	40.00
MHSB032038025/KMAX	32.00	38.00	25.00
MHSB035045030/KMAX	35.00	45.00	30.00
MHSB035045035/KMAX	35.00	45.00	35.00
MHSB035045040/KMAX	35.00	45.00	40.00
MHSB035045045/KMAX	35.00	45.00	45.00



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Bushings Metric Dimensions

Internal Central Grease Grooves
External Central Grease Grooves

ID Tolerance :
OD Tolerance
Length :

+0.10 mm to +0.15 mm
+0.00 mm to +0.05 mm
-0.50 mm to +0.00 mm

Ref.Number	ID Pin Size	OD	Long
MHSB035045050/KMAX	35.00	45.00	50.00
MHSB035045060/KMAX	35.00	45.00	60.00
MHSB035050050/KMAX	35.00	50.00	50.00
MHSB038048035/KMAX	38.00	48.00	35.00
MHSB038048040/KMAX	38.00	48.00	40.00
MHSB038048045/KMAX	38.00	48.00	45.00
MHSB038048055/KMAX	38.00	48.00	55.00
MHSB040048040/KMAX	40.00	48.00	40.00
MHSB040050025/KMAX	40.00	50.00	25.00
MHSB040050030/KMAX	40.00	50.00	30.00
MHSB040050035/KMAX	40.00	50.00	35.00
MHSB040050040/KMAX	40.00	50.00	40.00
MHSB040050045/KMAX	40.00	50.00	45.00
MHSB040050050/KMAX	40.00	50.00	50.00
MHSB040050063/KMAX	40.00	50.00	63.00
MHSB040050080/KMAX	40.00	50.00	80.00
MHSB040055060/KMAX	40.00	55.00	60.00
MHSB045055025/KMAX	45.00	55.00	25.00
MHSB045055030/KMAX	45.00	55.00	30.00
MHSB045055035/KMAX	45.00	55.00	35.00
MHSB045055040/KMAX	45.00	55.00	40.00
MHSB045055045/KMAX	45.00	55.00	45.00
MHSB045055050/KMAX	45.00	55.00	50.00
MHSB045055055/KMAX	45.00	55.00	55.00
MHSB045060040/KMAX	45.00	60.00	40.00
MHSB045060050/KMAX	45.00	60.00	50.00
MHSB045060060/KMAX	45.00	60.00	60.00
MHSB045062040/KMAX	45.00	62.00	40.00
MHSB050060030/KMAX	50.00	60.00	30.00
MHSB050060032/KMAX	50.00	60.00	32.00
MHSB050060035/KMAX	50.00	60.00	35.00
MHSB050060040/KMAX	50.00	60.00	40.00
MHSB050060045/KMAX	50.00	60.00	45.00
MHSB050060050/KMAX	50.00	60.00	50.00

Ref.Number	ID Pin Size	OD	Long
MHSB050060055/KMAX	50.00	60.00	55.00
MHSB050060060/KMAX	50.00	60.00	60.00
MHSB050060070/KMAX	50.00	60.00	70.00
MHSB050060080/KMAX	50.00	60.00	80.00
MHSB050060090/KMAX	50.00	60.00	90.00
MHSB050065050/KMAX	50.00	65.00	50.00
MHSB050065060/KMAX	50.00	65.00	60.00
MHSB050065070/KMAX	50.00	65.00	70.00
MHSB055065045/KMAX	55.00	65.00	45.00
MHSB055065050/KMAX	55.00	65.00	50.00
MHSB055065055/KMAX	55.00	65.00	55.00
MHSB055065060/KMAX	55.00	65.00	60.00
MHSB055065070/KMAX	55.00	65.00	70.00
MHSB055068045/KMAX	55.00	68.00	45.00
MHSB055070060/KMAX	55.00	70.00	60.00
MHSB055070070/KMAX	55.00	70.00	70.00
MHSB060070050/KMAX	60.00	70.00	50.00
MHSB060070060/KMAX	60.00	70.00	60.00
MHSB060070070/KMAX	60.00	70.00	70.00
MHSB060070080/KMAX	60.00	70.00	80.00
MHSB060075050/KMAX	60.00	75.00	50.00
MHSB060075060/KMAX	60.00	75.00	60.00
MHSB060075065/KMAX	60.00	75.00	65.00
MHSB060075070/KMAX	60.00	75.00	70.00
MHSB060075075/KMAX	60.00	75.00	75.00
MHSB060075080/KMAX	60.00	75.00	80.00
MHSB060080050/KMAX	60.00	80.00	50.00
MHSB060080065/KMAX	60.00	80.00	65.00
MHSB060080080/KMAX	60.00	80.00	80.00
MHSB065075050/KMAX	65.00	75.00	50.00
MHSB065075065/KMAX	65.00	75.00	65.00
MHSB065075075/KMAX	65.00	75.00	75.00
MHSB065080050/KMAX	65.00	80.00	50.00
MHSB065080060/KMAX	65.00	80.00	60.00

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Bushings Metric Dimensions

Internal Central Grease Grooves
External Central Grease Grooves

ID Tolerance : +0.10 mm to +0.15 mm
OD Tolerance : +0.00 mm to +0.05 mm
Length : -0.50 mm to +0.00 mm

Ref.Number	ID Pin Size	OD	Long
MHSB065080065/KMAX	65.00	80.00	65.00
MHSB065080080/KMAX	65.00	80.00	80.00
MHSB070080050/KMAX	70.00	80.00	50.00
MHSB070080080/KMAX	70.00	80.00	80.00
MHSB070085050/KMAX	70.00	85.00	50.00
MHSB070085060/KMAX	70.00	85.00	60.00
MHSB070085070/KMAX	70.00	85.00	70.00
MHSB070085080/KMAX	70.00	85.00	80.00
MHSB070085085/KMAX	70.00	85.00	85.00
MHSB070085090/KMAX	70.00	85.00	90.00
MHSB071086070/KMAX	71.00	86.00	70.00
MHSB071086080/KMAX	71.00	86.00	80.00
MHSB075085060/KMAX	75.00	85.00	60.00
MHSB075085080/KMAX	75.00	85.00	80.00
MHSB075085100/KMAX	75.00	85.00	100.00
MHSB075090060/KMAX	75.00	90.00	60.00
MHSB075090070/KMAX	75.00	90.00	70.00
MHSB075090080/KMAX	75.00	90.00	80.00
MHSB075090090/KMAX	75.00	90.00	90.00
MHSB075090100/KMAX	75.00	90.00	100.00
MHSB080090060/KMAX	80.00	90.00	60.00
MHSB080090070/KMAX	80.00	90.00	70.00
MHSB080095050/KMAX	80.00	95.00	50.00
MHSB080095060/KMAX	80.00	95.00	60.00
MHSB080095065/KMAX	80.00	95.00	65.00
MHSB080095070/KMAX	80.00	95.00	70.00
MHSB080095080/KMAX	80.00	95.00	80.00
MHSB080095090/KMAX	80.00	95.00	90.00
MHSB080095100/KMAX	80.00	95.00	100.00
MHSB080100075/KMAX	80.00	100.00	75.00
MHSB080100100/KMAX	80.00	100.00	100.00
MHSB085095050/KMAX	85.00	95.00	50.00

Ref.Number	ID Pin Size	OD	Long
MHSB085095080/KMAX	85.00	95.00	80.00
MHSB085100075/KMAX	85.00	100.00	75.00
MHSB085100085/KMAX	85.00	100.00	85.00
MHSB085100100/KMAX	85.00	100.00	100.00
MHSB090100100/KMAX	90.00	100.00	100.00
MHSB090100110/KMAX	90.00	100.00	110.00
MHSB090105050/KMAX	90.00	105.00	50.00
MHSB090105062/KMAX	90.00	105.00	62.00
MHSB090105070/KMAX	90.00	105.00	70.00
MHSB090105080/KMAX	90.00	105.00	80.00
MHSB090105100/KMAX	90.00	105.00	100.00
MHSB090105110/KMAX	90.00	105.00	110.00
MHSB090105128/KMAX	90.00	105.00	128.00
MHSB090106090/KMAX	90.00	106.00	90.00
MHSB090106105/KMAX	90.00	106.00	105.00
MHSB090110080/KMAX	90.00	110.00	80.00
MHSB090110100/KMAX	90.00	110.00	100.00
MHSB090110120/KMAX	90.00	110.00	120.00
MHSB095110075/KMAX	95.00	110.00	75.00
MHSB095110100/KMAX	95.00	110.00	100.00
MHSB100115085/KMAX	100.00	115.00	85.00
MHSB100115100/KMAX	100.00	115.00	100.00
MHSB100115120/KMAX	100.00	115.00	120.00
MHSB100116100/KMAX	100.00	116.00	100.00
MHSB100116115/KMAX	100.00	116.00	115.00
MHSB100120090/KMAX	100.00	120.00	90.00
MHSB100120100/KMAX	100.00	120.00	100.00
MHSB100120130/KMAX	100.00	120.00	130.00
MHSB110125100/KMAX	110.00	125.00	100.00
MHSB110125125/KMAX	110.00	125.00	125.00
MHSB110125150/KMAX	110.00	125.00	150.00
MHSB120135095/KMAX	120.00	135.00	95.00