

Browning Mounted Ball Bearings



Overview

- Product Offering
- Features & Benefits
- Competition
- Product Selection
- Markets & Applications
- Summary
- Key Contacts



Browning Ball Product Offering

- 100 Series Intermediate Duty
 - Set Screw Lock
 - Eccentric Lock
- 200 Series Standard Duty
 - Set Screw Lock
 - Eccentric Lock
 - BOA Concentric Lock
 - “AH” Air Handling Units
 - “NK” Nickel Plated Units
- 300 Series Medium Duty
 - Set Screw Lock
 - BOA Concentric Lock
 - “AH” Air Handling Units



Set Screw Lock



Eccentric Lock



NK Unit



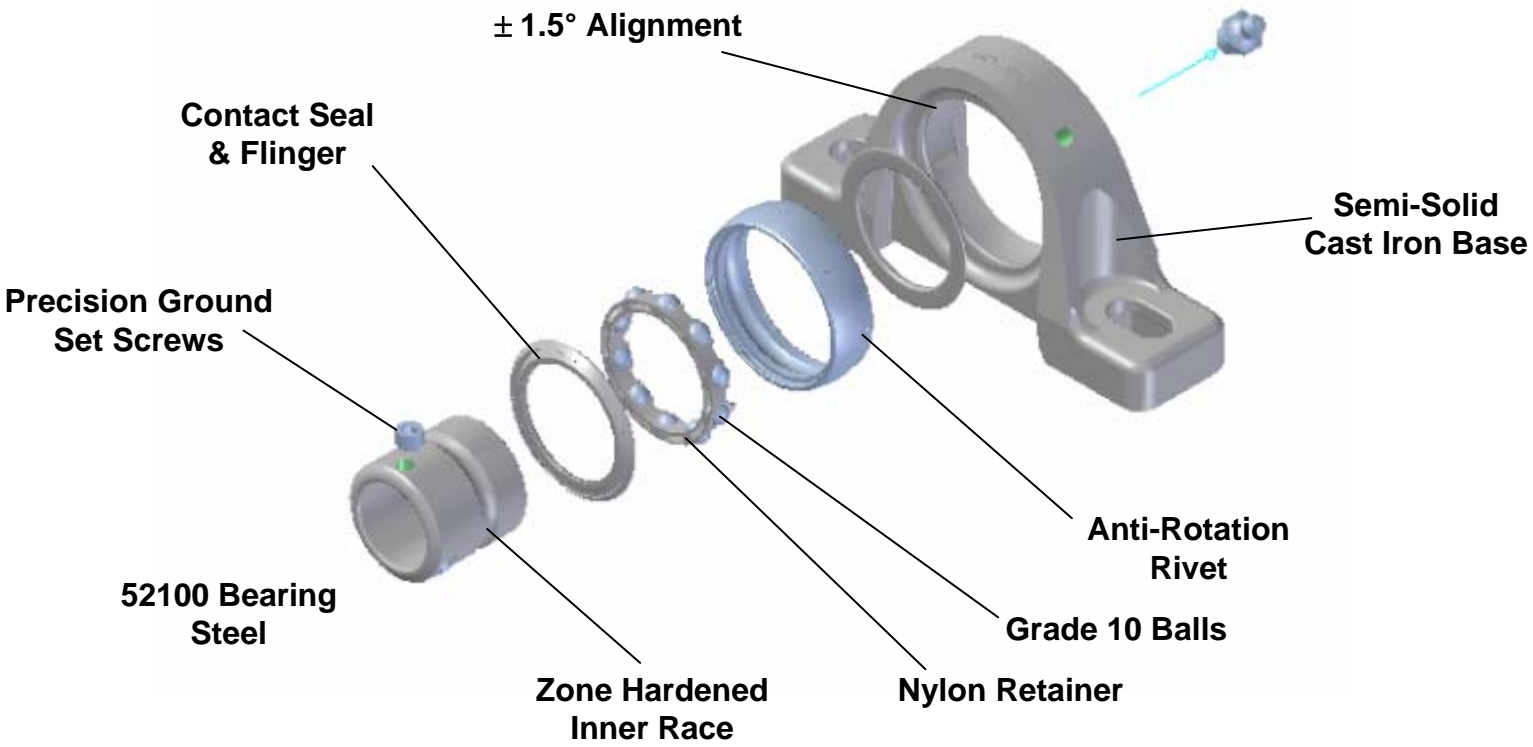
BOA Lock

Browning Ball Product Offering

- VER ER Style Bearings
- Air Handling
 - Cylindrical Rubber Mounted Inserts
 - Stamped Steel
 - AH Suffix Cast Iron
- CRES Corrosion Resistant



Features & Benefits Overview



Housing – Base

- Browning VPS
 - Semi-Solid
- Others
 - Hollow

Browning	Semi-Solid
SKF	Hollow
Fafnir	Hollow
Link Belt	Hollow
Dodge	Semi-Solid
MB	Semi-Solid
NTN	Semi-Solid



Hollow Base Example

Solid Base Casting Provides Improved Stability and Resistance to Shock and Vibration

Housing – Lubrication Groove

- Browning VPS
 - Groove in Housing
 - Allows for Consistent Grease Distribution
- Others
 - Groove in Outer Ring

Browning	Housing
SKF	Housing
Fafnir	Housing
Link Belt	Housing
Dodge	Outer Ring
MB	Outer Ring
NTN	Housing



Retainer

- Browning VPS
 - Nylon Ball Riding
- Others
 - Steel Ball Riding

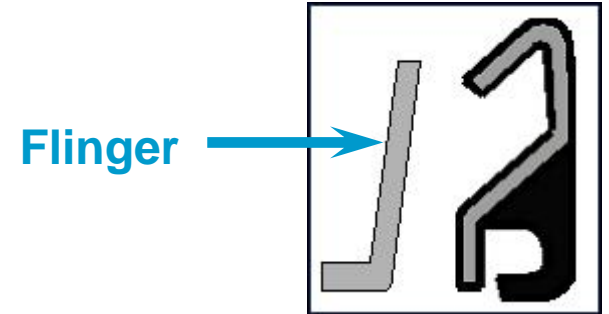
Browning	Nylon Ball Riding
SKF	Nylon Ball Riding
Fafnir	Nylon Ball Riding
Link Belt	Nylon Ball Riding
Dodge	Nylon Ball Riding
MB	Nylon Ball Riding
NTN	Steel Ball Riding



Sealing

- Browning VPS
 - Single Lip Seal With Flinger
- Others
 - Single Lip Seal, No Flinger

Browning	Single Lip W/ Flinger
SKF	Single Lip W/ Flinger
Fafnir	Single Lip No Flinger
Link Belt	Single Lip No Flinger
Dodge	Single Lip No Flinger
MB	Single Lip No Flinger
NTN	Single Lip W/ Flinger



**Flinger Helps Keeps
Contaminants Out**

Anti-Rotation

- Browning VPS
 - Outer Race Rivet
- Others
 - No Anti-Rotation Device

Browning	Rivet
SKF	Rivet
Fafnir	None
Link Belt	Rivet
Dodge	Rivet
MB	Rivet
NTN	None

Outer Race Rivet



**Tight Housing Fit Can
Loosen Over Time Due to
Outer Race and Housing Fretting**

Inner Ring – Length Thru Bore

- Browning VPS
 - 1.375"
- Others
 - Shorter Inner Length



Browning	1.375"
SKF	1.380"
Fafnir	1.375"
Link Belt	1.360"
Dodge	1.185"
MB	1.177"
NTN	1.335"



Wide Inner Race Provides Better Shaft Stability



Inner Ring – Hardening

- Browning VPS
 - Zone Hardened
- Others
 - Case Carburized



Zone Hardening



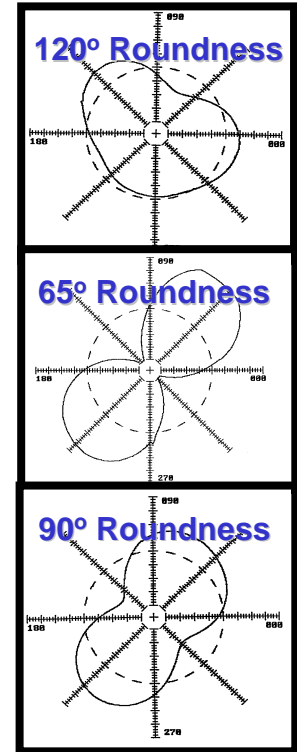
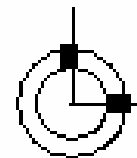
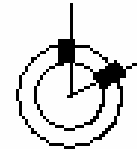
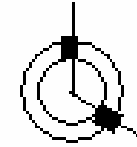
Case Carburized

Browning	Zone
SKF	Zone
Fafnir	Case Carb.
Link Belt	Zone
Dodge	Case Carb.
MB	Case Carb.
NTN	Case Carb.

Locking – Set Screw Position

- Browning VPS
 - 120°
- Others
 - 90°
 - 65°

Browning	120°
SKF	120°
Fafnir	90°
Link Belt	90°
Dodge	65°
MB	90°
NTN	120°



**120° Three Point Contact
Lessens Vibration, Reduces
Noise, and Improves Reliability**



Locking – Set Screw Design

- Browning VPS
 - Diamond Faceted, Hot Forged, Precision Ground
- Others
 - Externally Knurled
 - Internally Knurled
 - Cup Point
 - Ball Point

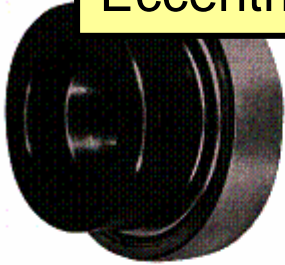
Browning	Dmd. Faceted
SKF	Ext. Knurled
Fafnir	Cup Point
Link Belt	Ext. Knurled
Dodge	Cup Point
MB	Int. Knurled
NTN	Ball Point



**Browning Set Screw Design
Contributes to Improved Clamping
and Resistance to Back Out**

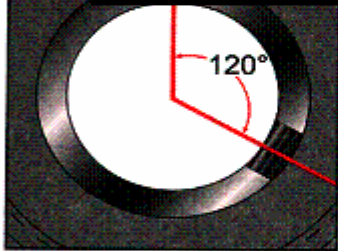
Locking Solutions

Eccentric Locking



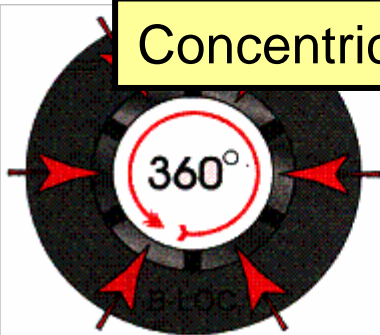
Eccentric Collar Mates With Inner Ring for Shaft Hold

Set Screw Locking



120° Set Screw Position Offers Optimum Three Point Balance for Reliable Shaft Hold

Concentric Locking



- Superior 360° Locking
- Near Perfect Concentricity
- Minimal Run Out for Less Vibration
- Designed for Reduced Shaft Marring

3 Locking Solutions

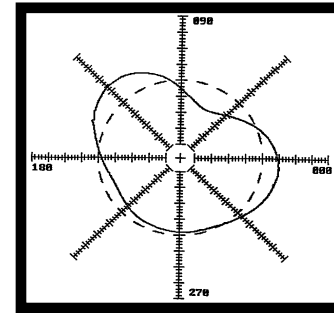
1 Brand

Browning[®]

Locking Solutions

- Set Screw Lock

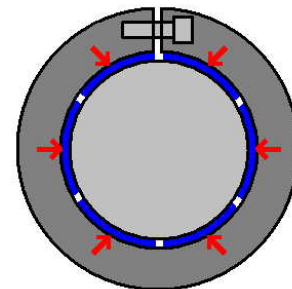
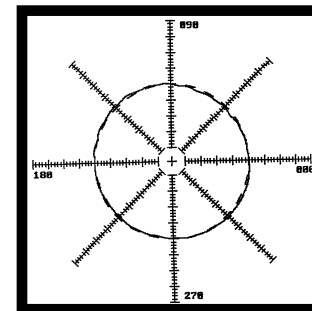
- Balanced 3 Point Contact
- Improved Reliability
- Reduced Inner Ring Distortion
- Less noise & vibration



120° Set Screw Position

- BOA Concentric Lock

- Near Perfect Concentricity
- Minimal Vibration
- Smoother Rotation
- Higher Speed Capability
- No Shaft Marring
- Easy Installation
- Locks to Stainless Shafting



Near Perfect Roundness

Competitive Feature Comparison



	Lubrication Groove	Housing Base	Inner Race Length Through Bore	Inner Race Hardening	S.S. Locking S.S. Position	S.S. Locking S.S. Design	Retainer	Anti-Rotation	Sealing
Browning	Housing	Semi-Solid	1.375"	Zone	120°	Dmd. Faceted	Nylon Ball Riding	Rivet	Single Lip w/ Flinger
SKF	Housing	Hollow	1.380"	Zone	120°	Ext. Knurled	Nylon Ball Riding	None	Single Lip w/ Flinger
Fafnir	Housing	Hollow	1.375"	Case Carb.	90°	Cup Point	Nylon Ball Riding	None	Single Lip No Flinger
Link Belt	Housing	Hollow	1.360"	Zone	90°	Ext. Knurled	Nylon Ball Riding	Rivet	Single Lip No Flinger
Dodge	Outer Ring	Semi-Solid	1.185"	Case Carb.	65°	Cup Point	Nylon Ball Riding	Rivet	Single Lip No Flinger
MB	Outer Ring	Semi-Solid	1.177"	Case Carb.	90°	Ext. Knurled	Nylon Ball Riding	Rivet	Single Lip No Flinger
NTN	Housing	Semi-Solid	1.335"	Case Carb.	120°	Ball Point	Steel Ball Riding	None	Single Lip w/ Flinger

Selection

If new product selection is needed follow steps:

- Identify bore size
- Identify housing type needed
- Identify any special application environmental considerations



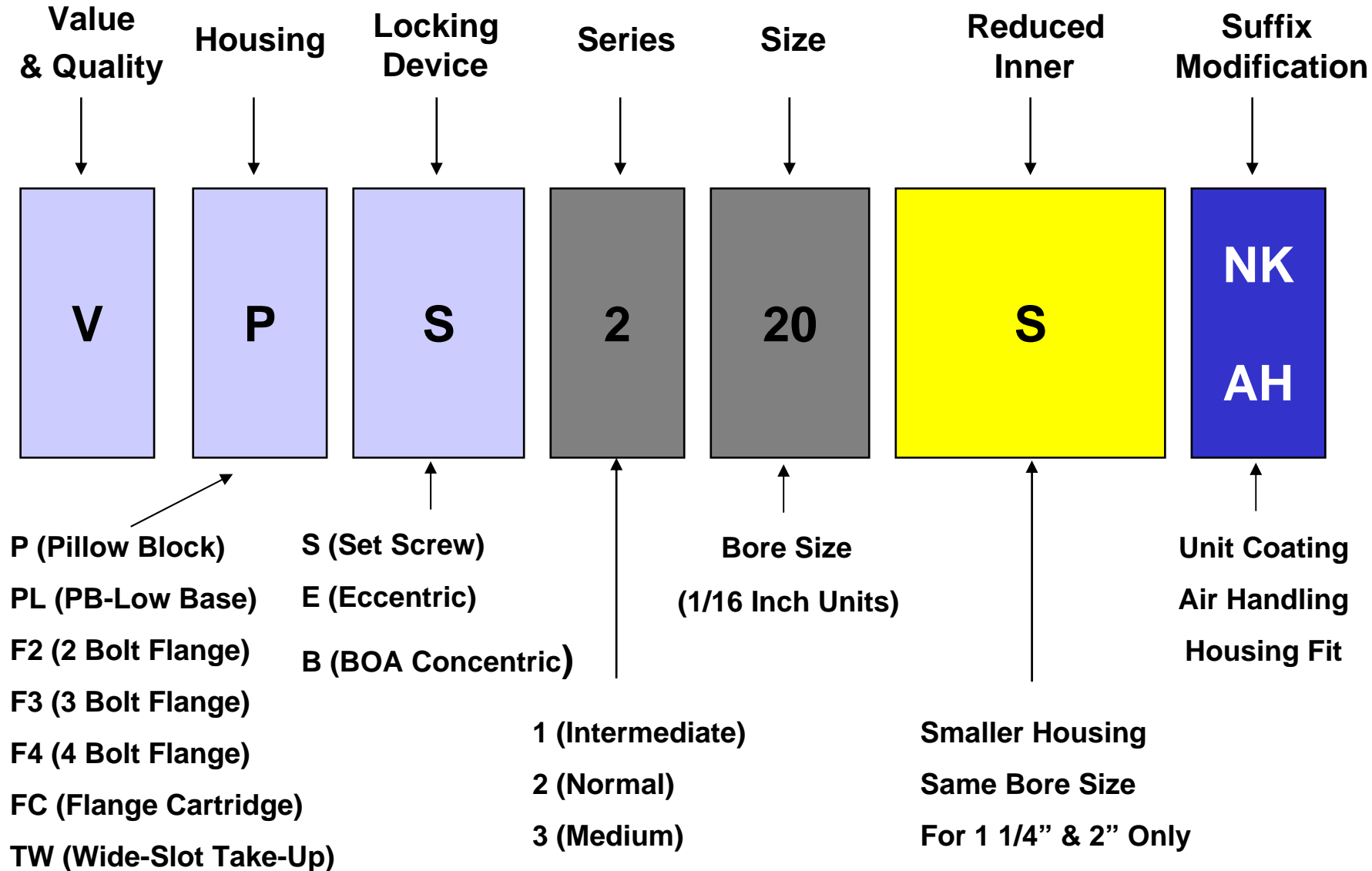
Browning suffix or CRES product



Sealmaster product

- Verify load and speed requirements
- Verify critical dimensions using product box tables

Nomenclature



How to Order

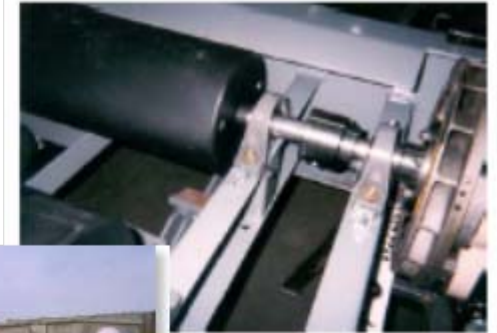
- Easy to Read Catalogs With Options & Size Availability
- Internet Ordering & Interchange Information
 - www.emerson-ept.com
- Regional Customer Service Representatives for Ordering & Questions



Markets & Applications

- 85% Standard Product – General Applications

- Air Handling
- Material Handling
- Packaging
- General Industry MRO



- 15% Custom Product – Unique Applications

- Food & Beverage



Summary

- Comparable or Superior Product Features
- Competitive Breadth
- Designed, Engineered & Supported by Same Group as Sealmaster Bearings
- Competitively Priced

Browning[®]



Key Contacts

- Visit us at www.emerson-ept.com
- EPT Customer Service (800-626-2120)
 - Price
 - Availability
 - ATO Eligibility
 - Order Entry
- Technical Customer Service (219-465-2211)
 - Technical Product Questions
 - Application & Interchange Assistance

