MAV B-LOC®

Fenner Drives®

MAV AND B-LOC® KEYLESS LOCKING DEVICES

Power and Precision

Fenner Drives, a worldwide leader in mechanical power transmission and motion control solutions, is pleased to present our comprehensive line of MAV and B-LOC Keyless Locking Devices. Only Fenner Drives delivers a product offering that combines versatile installation, design flexibility and extra heavy duty capacity – all in the MAV and B-LOC Series.

Backed by an extensive inventory of product ready to schedule shipment, the best customer service support in the industry, and the engineering expertise and manufacturing agility to provide custom solutions, Fenner Drives Keyless Locking Devices always deliver on this promise: The key to better machine design is no key at all!

MAV/B-LOC Series
4061/B112, 1008/B115 & 6061/B113

- Wide, double taper design for enhanced bending moment capacity
- Exceptional concentricity with thru-bored hubs
- Possible axial movement during installation
- Available in Standard, Heavy and Extra-Heavy Duty models

MAV/B-LOC Series
6002/B117

- Shorter length than other locking assemblies with two tapers
- Exceptional concentricity and ability to transmit bending loads
- High bending moment capacity (Mb = 0.65 × Mt)
- Continuous inner promotes ease of removal
- No axial movement during installation

MAV/B-LOC Series
2071/B109

- Designed for shafts as small as 1/4" or 6mm
- Shallow, single taper design with integrated push-off threads
- Exceptional concentricity and ability to transmit bending loads
- No axial movement during installation

MAV/B-LOC Series
1061/B106

- Shallow, single taper design with integrated push-off threads
- Exceptional concentricity and ability to transmit bending loads
- Use optional integrated spacer sleeve to mount narrow hub components
- No axial movement during installation

MAV/B-LOC Series
1062/B103

- Shallow, single taper design with integrated push-off threads
- Exceptional concentricity and ability to transmit bending loads
- Limited axial movement during installation

MAV/B-LOC Series
5061/B800

- Shallow, single taper design
- Exceptional concentricity
- Thin, extra wide sleeves provide low contact pressures allowing for smaller diameter hubs
- Integrated spacer sleeve eliminates axial movement during installation
- Minimal OD/ID ratio

MAV/B-LOC Series
2005/B400

- Self-releasing, double taper design permits simple adjustment and removal
- Not self-centering. Available pilot bushings provide pre-centering when required
- No axial movement during installation

MAV/B-LOC Series
2008/SD-10, 2108/SD-20, 2208/SD-30

- External locking device, 3-part design
- Provides extremely concentric and well-balanced mechanical interference fit
- Offered in Standard, Light, and Heavy Duty series
- Also available in Split and Half Shrink Disc designs

MAV/B-LOC Series
3009/SD-40

- External locking device, 2-part design
- Easy and quick installation
- High torque performance and good balance

MAV/B-LOC Series
1204 Shaft Coupling/WK Shaft Coupling

- Rigid shaft coupling
- External locking device
- Transmits high torque and bending moments using the same principles as the Shrink Disc

WHY GO KEYLESS

Today's global marketplace demands precise, efficient machines that optimize productivity while minimizing material and fabrication costs. When compared to traditional connection methods, Fenner Drives Keyless Locking Devices offer the following advantages:

- A mechanical interference fit with a uniform pressure distribution similar to that achieved through a shrink or press fit.
- A true zero backlash shaft-to-hub connection with none of the operational drawbacks of keyways or splines.
- The ability to mount on plain shafting, which need not be over-sized to compensate for notch factors. This allows the use of smaller shafts and bearings for more cost effective designs.
- The flexibility to mount over existing keyways if desired.
- Straight bore machining of the mounted component, generous machining tolerances and as-turned surface finishes.
- Complete axial and radial adjustability.
- Simple installation, adjustment and removal, even in the field.

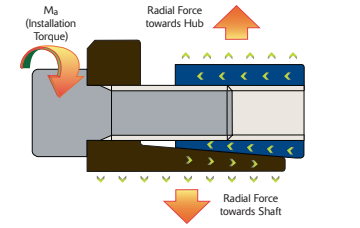
Comparison Chart	MAV/B-LOC	Interference Fit	Keyed Connection	Splined Connection	QD or TL Bushings
Keyless frictional connection	✕	✕			
Infinite radial and axial adjustment	✕				
Easy installation	✕		✕	✕	✕
Easy removal	✕				✕
Backlash free connection	✕	✕			
Transmits shock and torque reversals	✕	✕			
Transmits reversing bending moments	✕	✕			

Principles of Operation

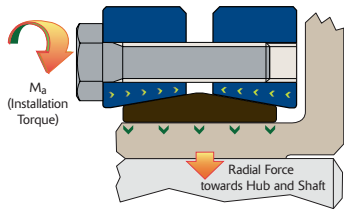
Though offered in many shapes and sizes, Fenner Drives Keyless Locking Devices all operate using the simple wedge principle. An axial force is applied — by a series of annular screws — to engage circular steel rings with mating tapers. In the case of keyless bushings, the resulting wedge action creates a radial force on the tapered rings, one of which contracts to squeeze the shaft while the other expands and presses into the component bore.

In the case of specialty locking devices, similar tapered geometry generates a radial force that is concentrated (as in our Shrink Discs) around a solid steel hub, squeezing so tightly that the hub "shrinks" onto the underlying shaft, or (as in our 1204/WK Series Couplings) simultaneously onto two solid shaft ends to form a high-capacity rigid coupling.

In all cases, the product of the radial force applied to the shaft, the radius of that shaft and the coefficient of friction between the surfaces being joined equals the rated torque capacity of the connection.



MAV and B-LOC Keyless Bushings



MAV and B-LOC Specialty Locking Devices

SELECTION ASSISTANCE	Shaft Size Range	Overall Length Range	Torque Transmission	Axial Movement	Self Centering	Concentricity	Balance	Recessed Installation Without Counterbore
MAV 4061 / B-LOC B112	1 — 8 in; 24 — 600mm	1.575 — 5.866 in; 40 — 203mm	627 — 112,109 ft lb; 800 — 1,782,000 Nm	Possible	Yes	Excellent	Excellent	Yes
MAV 1008 / B-LOC B115	2 3/4 — 8 in; 70 — 600mm	2.441 — 4.134 in; 62 — 160mm	5,384 — 78,181 ft lb; 7,300 — 1,247,000 Nm	Possible	Yes	Excellent	Excellent	Yes
MAV 6061/ B-LOC B113	180 — 560mm	231 — 280mm	226,800 — 2,354,000 Nm	Possible	Yes	Excellent	Excellent	Yes
MAV 6002 / B-LOC B117	30 — 600mm	48 — 178mm	950 — 1,071,000 Nm	No	Yes	Excellent	Excellent	No
MAV 2071 / B-LOC B109	1/4 — 1 3/8 in; 6 — 35mm	0.650 — 1.102 in; 16.5 — 28.5mm	177 — 6,045 in ft lb; 19 — 684 Nm	No	Yes	Excellent	Excellent	No
MAV 1061 / B-LOC B106	3/4 — 8 in; 14 — 400mm	1.122 — 2.559 in; 20.5 — 116mm	199 — 38,132 ft lb; 68 — 377,900 Nm	No	Yes	Excellent	Excellent	No
MAV 1062 / B-LOC B103	3/4 — 8 in; 14 — 400mm	1.122 — 2.559 in; 21.5 — 116mm	258 — 49,933 ft lb; 108 — 503,100 Nm	Yes	Yes	Excellent	Excellent	Yes
MAV 5061 / B-LOC B800	1/4 — 4 15/16 in; 6 — 130mm	0.866 — 5.039 in; 22 — 128mm	16 — 18,660 ft lb; 21 — 26,200 Nm	No	Yes	Excellent	Excellent	No
MAV 2005 / B-LOC B400	3/4 — 8 in; 18 — 1000mm	0.787 — 2.047 in; 20 — 102mm	229 — 48,974 ft lb; 300 — 2,488,000 Nm	No	No	Fair	Very Good	Yes
MAV / B-LOC Shrink Discs	5/8 — 21.26 in; 10 — 440mm	0.71 — 11.26 in; 15 — 274 mm	27 — 1,593,134 ft lb 36 — 2,160,000 Nm	No	Yes	Excellent	Excellent	N/A

All units except B400 and Shrink Discs are RoHS compliant and have self-locking tapers. All units are corrosion treated with machine oil, except Shrink Discs, which are zinc or chrome plated.

Information subject to change without prior notification.
Visit www.fennerdrives.com/catalogs for the most current information.

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