

MILLTRONICS

BEND PULLEYS

Instruction Manual

June 1998

BEND PULLEYS

Safety Guidelines

Warning notices must be observed to ensure personal safety as well as that of others, and to protect the product and the connected equipment. These warning notices are accompanied by a clarification of the level of caution to be observed.

Qualified Personnel

This device/system may only be set up and operated in conjunction with this manual. Qualified personnel are only authorized to install and operate this equipment in accordance with established safety practices and standards.

Warning: This product can only function properly and safely if it is correctly transported, stored, installed, set up, operated, and maintained.

Note: Always use product in accordance with specifications.

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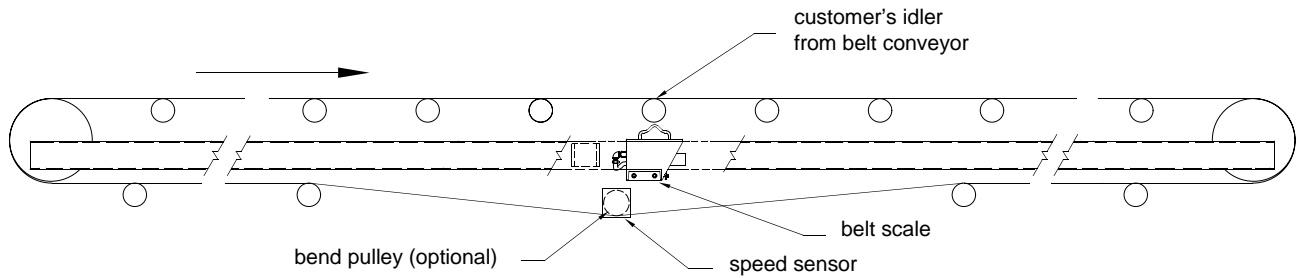
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BEND PULLEYS

GENERAL

The bend pulley is an optional component to a belt conveyor weighing system when a belt speed sensor is used. It provides a convenient interface to the conveyor belt in order to provide rotary motion for the speed sensor.

Typical Weighing System



Note: Components shown in typical mounting location, refer to the associated instruction manuals or Mass Dynamics drawing for mounting locations specific to your application.

Properly installed, the bend pulley is subject to less slippage than if the speed sensor were installed at the head pulley and also allows easier installation of the speed sensor than is often available at the tail or snub pulley. The use of a bend pulley also provides added clearance for the belt scale.

Mass Dynamics supplies bend pulleys in three versions built to suit standard belt widths.

CEMA Scale Dimensions		Bend Pulley standard diameter	Metric Scale Dimensions	
conveyor belt width in inches	dim. A in inches		conveyor belt width in mm	dim. A in mm
18	27	4 -1/2" or 6"	500	740
20	29		650	890
24	33		800	1040
30	39		800	1090
36	45		1000	1240
42	51		1000	1290
48	57		1200	1450
54	63		6" or 8"	1200
60	69	1400		1650
66	75	1450		1740
72	81	1600		1900
		8"	1600	1940
			1800	2100
			1800	2140
			2000	2300
			2000	2340

Bend pulleys for non-standard size belt scales are also available. Consult Mass Dynamics or your representative.

Version:

1. 4.5" dia. self cleaning

This bend pulley is self cleaning and is to be used on non-abrasive applications where the belt speed is less than 2 m/s (400 fpm). It is supplied with a set of two pillow blocks for mounting to the conveyor stringer. The shaft is bored to accept the speed sensor input shaft.



2. 6" dia. steel

This bend pulley can be used on applications where the belt is running at the maximum speed allowed by the belt scale. Options include: stainless steel, epoxy coating or 0.25" thick rubber lagging. Rubber lagging discourages the build-up of material on the bend pulley. It is supplied with a set of two pillow blocks, standard or corrosion resistant, for mounting to conveyor stringer. The shaft is bored to accept the speed sensor input shaft.

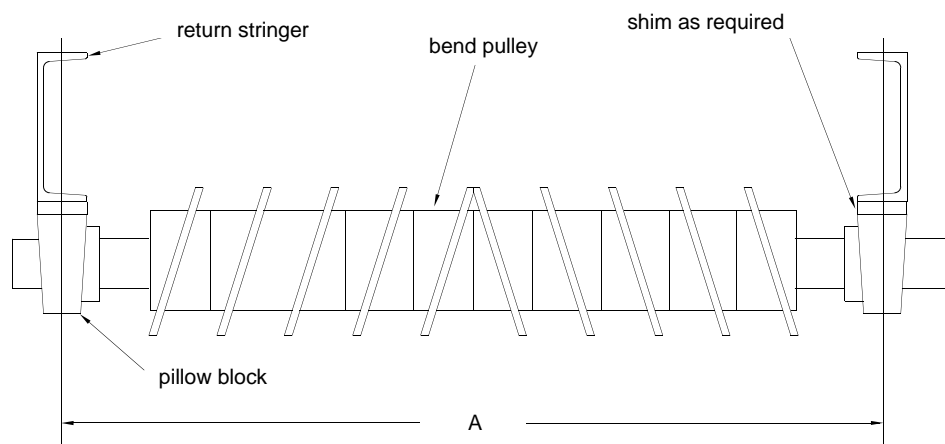
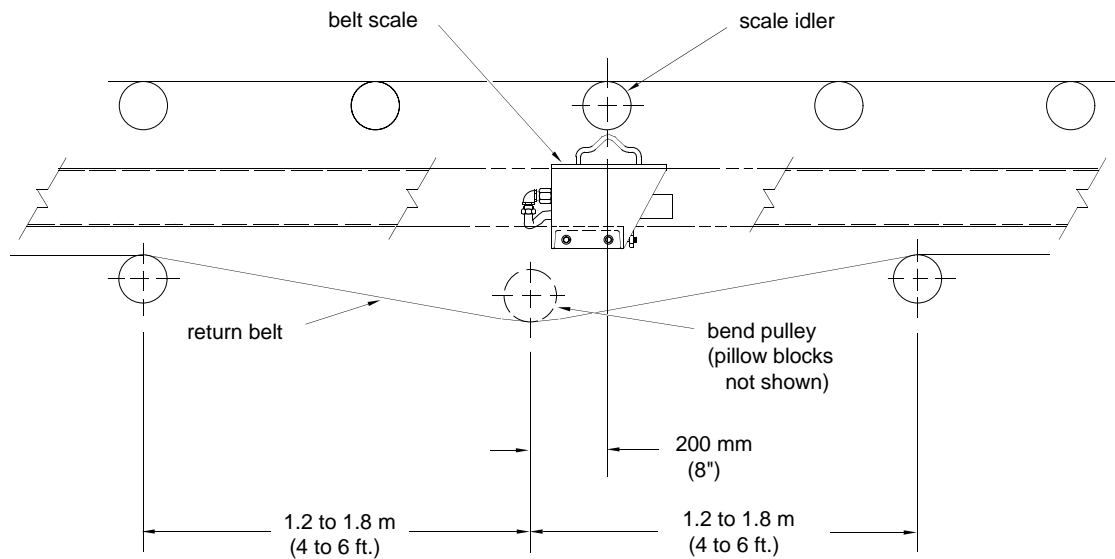


3. 8" dia. steel

This bend pulley can be used on applications where the belt is running at the maximum speed allowed by the belt scale. Options include: stainless steel, epoxy coating or 0.25" thick rubber lagging. Rubber lagging discourages the build-up of material on the bend pulley. It is supplied with a set of two pillow blocks, standard or corrosion resistant, for mounting to conveyor stringer. The shaft is bored to accept the speed sensor input shaft.



INSTALLATION

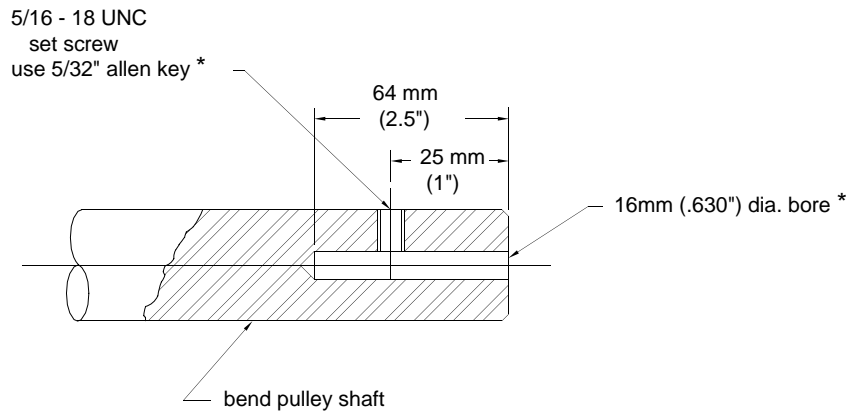


The bend pulley is installed such that it is ahead of the scale idler and is suspended from the stringer such that it pulls down on the return belt. The bend pulley center line should be 200 mm (8") from the center line of the scale idler. In order to properly locate the bend pulley, install the belt scale first.

1. If necessary, slacken the conveyor belt.
2. Measure center to center of pillow block holes, as these may vary with pillow block supplied. Locate pillow block mounting holes, one set on each stringer, at a distance of 'A' dimension apart and drill for bolt clearance.
3. Bolt pillow blocks with bend pulley to stringer.
4. If necessary, relocate next return idler either side of bend pulley such that neither is within 1.2 to 1.8 m (4 to 6 ft) of the bend pulley.
5. If necessary, tighten the conveyor belt.

OPTIONAL SPEED SENSOR MOUNTING

Mass Dynamics bend pulleys are bored to accept Mass Dynamics speed sensor shafts. Refer to the speed sensor instruction manual for mounting details.



* coat with grease to prevent seizing of
bend pulley and speed sensor shafts

MAINTENANCE AND SPARE PARTS

As the bend pulley is an integral component of your weighing system, it should be checked periodically to insure that it is providing an accurate interface of the conveyor belt speed to the speed sensor. The frequency of inspection is dependant upon the application and design of the belt conveyor and the severity of its operating conditions. It is suggested that frequent inspections be performed at first, then tapering off as time and experience dictate.

- » check the bend pulley for wear or material build-up as this will affect the apparent diameter of the bend pulley and thus its rotation with respect to belt speed.
- » check for trueness as this may increase slippage.
- » check for free rotation of shaft in pillow blocks. Keep pillow blocks well greased.

The only spare part recommended for the bend pulley are the pillow blocks. Refer to the pillow blocks furnished with your bend pulley for size and model.

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