

BUFFALO LIFTING & TESTING, INC.

DESIGN . FABRICATION . TESTING . CERTIFICATION.

WHEN YOU NEED A LIFT COME TO BLT, INC. WHERE OUR PRIORITY IS QUALITY PRODUCTS AND PROMPT DELIVERIES AT THE RIGHT PRICE!



WE HAVE A FULL LINE OF STANDARD PRODUCTS WITH THE ABILITY TO CUSTOM DESIGN FOR YOUR SPECIFIC NEEDS. ALL OUR PRODUCTS MEET OR EXCEED ASME B30.20 AND OSHA STANDARDS.

PALLET LIFTERS . LIFTING BEAMS
C HOOKS . 3 & 4 POINT BEAMS
TELESCOPING LIFTERS
SLINGS . WIRE ROPES

WWW.BUFFALOLIFTING.COM

1.877.BEAMS.4.U (232.6748)

69 ORCHARD ST FREDONIA, NY 14063
PHONE:716.672.6071 FAX:716.672.8507

Unitrex XS Max Wear.
Unmatched performance in the field
and in the boardroom.

Electric line stringing is easier and more economical with Unitrex. Made with a core of Honeywell Spectra®, it is up to 10 times lighter than steel while delivering comparable strength. The urethane-coated polyester jacket provides excellent abrasion resistance for great productivity that lasts.

To learn more,
visit www.yalecordage.com **YALE CORDAGE**
Performance. Passion. Possibilities.

77 Industrial Park Road | Saco, Maine 04072 | 207-282-3396

attached to a bottom portion 22 along first and second angle flanges 24. The top portion 20 is removable for permitting access to the interior of the upper housing 12 for inspection and maintenance, and defines an outlet opening 28 through which particulate matter can exit the conveyor 10. The upper housing 12 may optionally include a discharge chute.

The infeed housing 14 of conveyor 10 includes an inlet hopper 30 for storing particulate matter "P." A tail pulley assembly 36 is mounted on a lower shaft 38 that is positioned in the infeed housing 14. A continuous rope assembly 40 upon which multiple identical disks 42 are carried is disposed around the head and tail pulley assemblies 32 and 36, and extends through the respective inflow and outflow conveyor tubes 16 and 18. Inflow conveyor tube 16 includes an inlet tube 48 having a lower end 50 which is connected to infeed housing 14. The inlet tube 48 also includes an upper end 52. Tubular portion 54 is connected to the upper housing 12 at the bottom portion 22 at an upper end 56. Outflow conveyor tube 18 similarly includes an outlet tube 62 having a lower end 64 connected to infeed housing 14 and an upper end 66. A second upper tubular portion 68 of outflow conveyor tube 18 has an upper end 70 connected to the housing 12 and a lower end 69.

A drive mechanism 44 is positioned adjacent the infeed housing 14 and is operatively connected to the lower shaft 38. The drive mechanism 44 drives the lower shaft 38, causing the head pulley assembly 32 to rotate. This in turn drives the tail pulley assembly 36, and causes the rope assembly 40 to travel in the direction "D" shown. As the rope assembly travels, the disks 42 carry particulate matter from the inlet hopper 30 through the inflow conveyor tube 16, and into the upper housing 12, where the particulate matter exits the conveyor 10 through the outlet opening 28. Although

the drive mechanism 44 is shown in figure 6 operatively connected to the lower shaft 38, the drive mechanism 44 may alternatively be operatively connected to the upper shaft 34.

Continuing to refer to figure 6, the conveyor 10 also includes a tensioning assembly 200 which is configured to maintain a pre-selected amount of tension on the rope assembly 40. While the tensioning assembly 200 is shown in figure 6 in use on a vertical aero-mechanical conveyor, the tensioning assembly 200 may be used on an angled or horizontal conveyor, or on a conveyor having interconnected vertical and horizontal sections.

In one embodiment, tensioning assembly 200 includes flanges 202A, 202B that are attached to opposite ends of extendable tubes 220A, 220B and a pneumatic actuator 262 configured to extend and contract extendable tubes 220A, 220B by applying force to flanges 202A, 202B. Each flange 202A, 202B is an elongated bar having an opening formed through each end.

Referring to figures 7, 8 and 9, each extendable tube 220A, 220B includes an outer sleeve 222A, 222B, that are each attached at one end to a flange 202A. In this regard, the bore of the outer sleeve 222A, 222B is aligned with an opening formed through flange 202A. Tensioning assembly 200 also includes a pair of inner sleeves 242A, 242B that are attached at one end to a flange 202B and are slidably received within the outer sleeves 222A, 222B at the other end. Inner sleeves 242A, 242B are each a cylindrical tube that has a bore that together with the bore through the associated outer sleeve 222A, 222B forms a passageway for conveying particulate. A pair of seals 244A and 244B are positioned around each of the inner sleeves 242A, 242B for engaging outer sleeve 222A, 222B.

An air purge passageway 245 is formed through outer sleeves 222A, 222B that connects a space defined between

continued on next page