DYNAMIC INNOVATIONS SINCE 1908
WEIGHING, FEEDING, CONTROLS & ENVIRONMENTAL SOLUTIONS

MODEL 496
NFPA® GRAVIMETRIC COAL FEEDER

A TIME-TESTED DESIGN AND DISTINCTIVE FEATURES MAKE THE MODEL 496 THE CHOICE FOR THE FUTURE

FEEDER FEATURES
- 50 PSI pressure integrity, adhering to NFPA 85
- MERRICK signature slack belt design:
  - Large pulleys provide maximum belt wrap to eliminate slippage, while diminishing belt tension
  - Low tension results in highest accuracy as belt reaction errors are minimized
  - Longer belt, shaft, and bearing life due to lower belt tension
  - Crowned pulleys provide proper belt tracking, no v-guide required
- Critical Component Redundancy for Safety, Accuracy, and Reliability:
  - Dual load cell weigh suspension with continual comparison check, easy alignment, and no moving parts
  - Dual speed encoders at tail pulley and motor to detect belt breakage or component failure
  - Head pulley and v-play belt scrapers to keep both sides of belt clean for proper belt tracking
  - Material-on-belt and discharge-plugge sensors confirm proper material flow
- Carbon steel shell with rugged, machined weldments for longer life (no castings)
- 304 stainless steel for all active flow areas to minimize corrosion (infeed, bottom pan)
- Continuous or intermittent drag chain modes
- Extended life head and tail pulleys with externally-accessed grease fittings
- All idler rolls greased and sealed for life

ANCILLARY EQUIPMENT
BUNKER OUTLET VALVES
- Pressurized construction
- Stainless steel construction standard
- Double rack and pinion over gate drive (self cleaning)
- Electrically actuated, chain wheel or handwheel operation
- Gate position indicators
- Gate removable without removing valve

KNIFE GATE VALVES
- Designed for feeder discharge valve
- Electrically actuated, pneumatically actuated, chain wheel or hand wheel operation
- Dust-tight construction
- Designed for burner line applications / 50 PSI construction
- Gate position indicators

FEEDER DISCHARGE Hoppers
- Reinforced construction, designed to NFPA 85
- Stainless steel construction standard
- Special, polished interior finish available

COAL-IN PIPE MONITORS
- Acoustic flow monitors

DOWNSPOUTS
- Stainless steel construction standard
- Special, polished interior finish available

<table>
<thead>
<tr>
<th>BELT WIDTH</th>
<th>CAPACITY (* SEE NOTE 3)</th>
<th>INLET SIZE INSIDE DIA. (* SEE NOTE 1, 2)</th>
<th>INFED TO DISCHARGE CENTERING DIST. (* SEE NOTE 1)</th>
<th>APPROX. FEEDER WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Inches</td>
<td>100,000 lb/hr (45,500 kg/hr)</td>
<td>18 Inches (457 mm)</td>
<td>7'-0&quot; (2,134 mm)</td>
<td>7,000 lb (3,176 kg)</td>
</tr>
<tr>
<td>36 Inches</td>
<td>200,000 lb/hr (91,000 kg/hr)</td>
<td>24 Inches (610 mm)</td>
<td>7'-0&quot; (2,134 mm)</td>
<td>7,500 lb (3,403 kg)</td>
</tr>
<tr>
<td>48 Inches</td>
<td>300,000 lb/hr (136,000 kg/hr)</td>
<td>36 Inches (914 mm)</td>
<td>8'-0&quot; (2,438 mm)</td>
<td>9,000 lb (4,083 kg)</td>
</tr>
</tbody>
</table>

1. Dimensions shown are standard. MERRICK also has manufactured many special NFPA feeders to specific dimensional requirements.
2. MERRICK also specializes in Slot Inlet Model 496 Feeders. History and experience has shown that difficult flowing coals can be best handled by use of a tapered slot infeed.
3. Feedrates shown are maximum for given feeder size and are based on coal at 50 lb/cu. ft. (801 kg/cu. m.). Feeder size should also be selected based on material size being fed. Consult MERRICK for more information.

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ENCLOSURE

1. PRESSURIZED SHELL DESIGN
Exceeds NFPA 85 design criteria. Every critical area is reinforced with ribs and gussets. No castings are used on any pressure boundary or in any pressure retaining component.

2. TOTALLY ENCLOSED FEEDER DRIVE
A non-ventilated, vertically mounted AC motor with a high efficiency off-the-shelf gear reducer is directly mounted to the drive shaft.

3. EXCLUSIVE QUICK-ACCESS END DOORS
Located at either end of the feeder, each heavy-duty door is supported by a single hung davit that allows it to be completely swung away from the opening in a minimum amount of space. Swing away toggle clamps provide fast positive sealing of each door.

4. DURABLE CONSTRUCTION
For maximum life and reduced maintenance, any surface that comes into contact with coal is constructed of stainless steel or rubber.

5. REMOVABLE ACCESS PANELS
Oversized panels are located at the head and tail pulleys and at the weigh suspension, providing easy access for maintenance and inspection.

6. OBSERVATION PORTS AND LIGHTING
Strategically located observation ports provide excellent unobstructed views of the inside of the feeder.

7. BELT SPEED ENCODER
Located on the tail pulley to accurately measure true belt travel.

8. MOTOR SPEED ENCODER
Allows for comparing motor speed to belt speed for slippage or breakage detection (not shown).

9. STAINLESS STEEL WEIGH SUSPENSION
The MERRICK Coalometer utilizes dual hermetically sealed, stainless steel load cells. The weigh suspension is designed for easy removal and maintenance and is constructed entirely of stainless steel.

10. CLEAN-OUT CONVEYOR
A drag chain-type conveyor thoroughly sweeps the stainless steel floor of the feeder into the discharge chute to minimize coal and dust build-up. The conveyor is driven by an AC motor with an integral high efficiency off-the-shelf gear reducer.

INDEPENDENT DRAG CHAIN CONTROL
The integral clean-out conveyor (drag chain) can be controlled in one of two different modes: continuous or timed (not shown).

COAL VALVES
• Bunker Outlet Valves are designed to cut through a standing column of material
• Knife Gate Valves provide “off-on” control of material of varying sizes

* Coal Feeders are custom designed to meet and exceed Customer specifications – actual equipment may vary.

7. GENETIX® PROCESS CONTROLLER
Genetix® has the flexibility to accommodate both simple and complex system configurations. With Genetix® you can choose where to add intelligence to your process and the best method to seamlessly integrate the information into your plant control system. You can adapt Genetix® to your system and application needs.