## 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-plow belt scrapers to keep both sides of belt clean for proper belt tracking
  - Material-on-belt and discharge-pluggage 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)
- Easy feeder access through large gasketed end and side doors
- Consistent material profile with self-relieving infeed design
- 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

| BELT WIDTH | CAPACITY *(* SEE NOTE 3)* | INLET SIZE INSIDE DIA. *(* SEE NOTE 1, 2)* | INFEED TO DISCHARGE CENTERLINE DIM. *(* SEE NOTE 1)* |
|---|---|---|---|
| 24 Inches<br>609 mm | 100,000 lb/hr<br>(45,500 kg/hr) | 18 Inches<br>457mm | 3’-9”<br>1,143 mm |
| 36 Inches<br>914 mm | 200,000 lb/hr<br>(91,000 kg/hr) | 24 Inches<br>610 mm | 4’-0”<br>1,219 mm |
| 48 Inches<br>1,219 mm | 300,000 lb/hr<br>(136,000 kg/hr) | 36 Inches<br>914 mm | 4’-6”<br>1,371 mm |

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

# MODEL 496SC
## SHORT CENTERLINE COAL FEEDER


**GRAVIMETRIC NFPA® FUEL METERING FOR CONSTRAINED INFEED/DISCHARGE DISTANCES**

MERRICK

# MODEL 496SC SHORT CENTERLINE COAL FEEDER

## STANDARD FEATURES

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.

WEIGHING

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

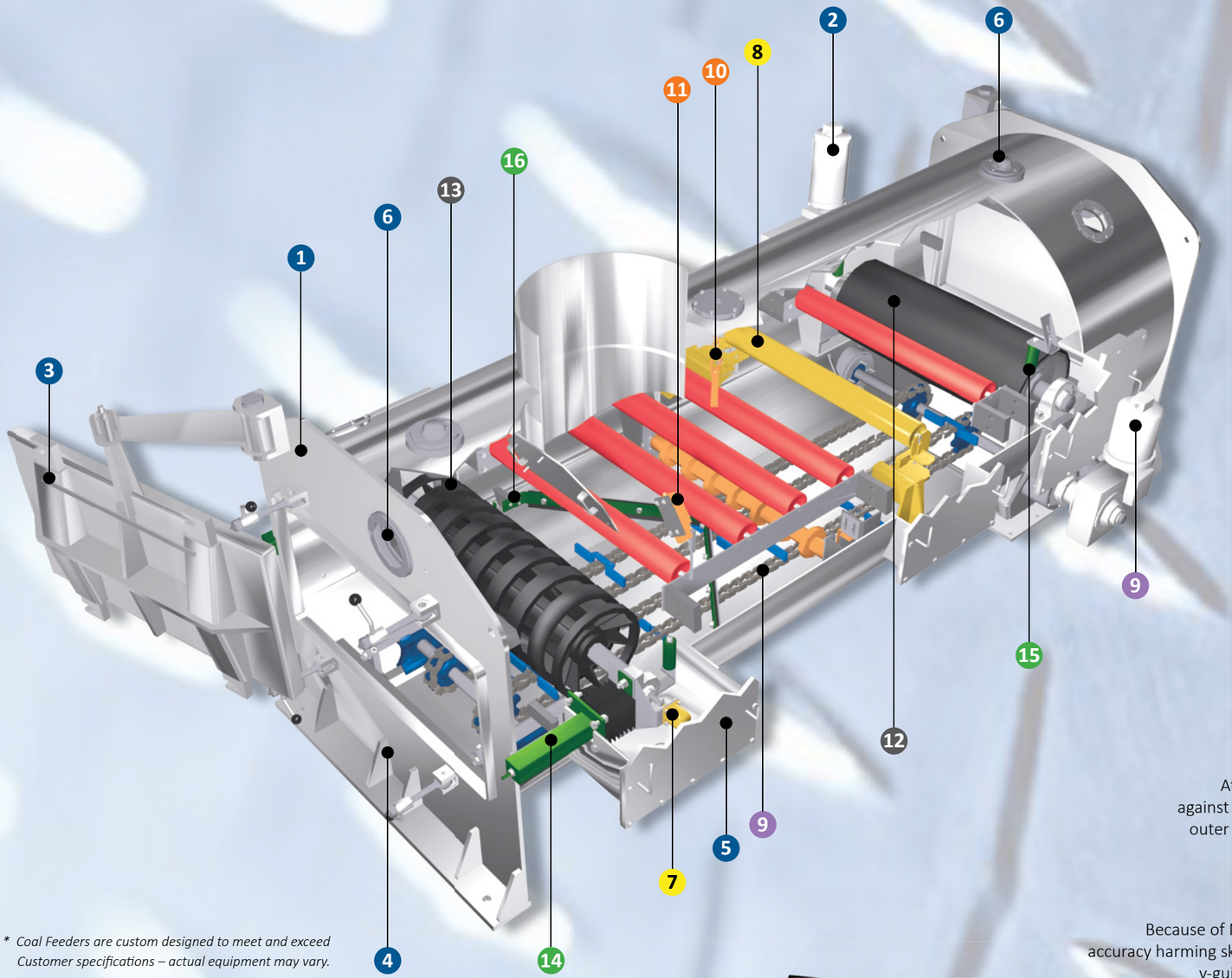
**MOTOR SPEED ENCODER**
Allows for comparing motor speed to belt speed for slippage or breakage detection (not shown).

**8. 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.

CLEANOUT

**9. CLEAN-OUT CONVEYOR OR OPEN BOTTOM DESIGN**
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 Feeders are custom designed to meet and exceed Customer specifications – actual equipment may vary.*


# MODEL 496SC SHORT CENTERLINE COAL FEEDER

## STANDARD FEATURES


ALARM SENSORS

**DISCHARGE PLUGGAGE SWITCH**
Indicates coal pluggage in the discharge chute (not shown).

**10. COAL-ON-BELT SWITCH**
Identifies the presence or absence of material on the feeder belt.

**11. BELT TRACKING SWITCHES**
Located on either side of the belt, these two-stage switches can first indicate an alarm and then can take additional action as programmed.

PULLEYS

**12. LAGGED HEAD PULLEY**
Rubber coated head pulley is lagged and crowned to assure positive belt drive and tracking.

**13. SELF-CLEANING TAIL PULLEY**
A spiral wound crowned tail pulley helps keep the inside of the feeder belt clean and helps maintain positive belt tracking.

BELT

**14. BELT TAKE-UPS**
Constructed of stainless steel, take-ups are totally enclosed and adjustable from outside the feeder.

**15. BELT GUIDE ROLLERS (OPTIONAL)**
Located on either side of the head and tail pulleys, aiding proper belt tracking.

**16. BELT SCRAPERS**
At the head pulley a scraper is held positively against the belt by counterweights and scrapes the outer surface of the belt. A v-type plow scraper is located on the inside bottom belt strand to minimize coal build-up on the pulleys.

**CURBED FLAT BELT**
Because of MERRICK's unique inlet design, the need for accuracy harming skirtboards, high belt curbing, or belttracking v-guides is eliminated, allowing a more accurate flat belt with a minimum one-inch curb (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


## 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.