

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

MODEL 490

LOW PRESSURE GRAVIMETRIC FEEDER




MERRICK



RUGGED CONSTRUCTION AND REPEATABLE CONSISTENCY MAKE THE MODEL 490 THE CHOICE FOR FLUIDIZED BED BOILER FEED SYSTEMS

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 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.

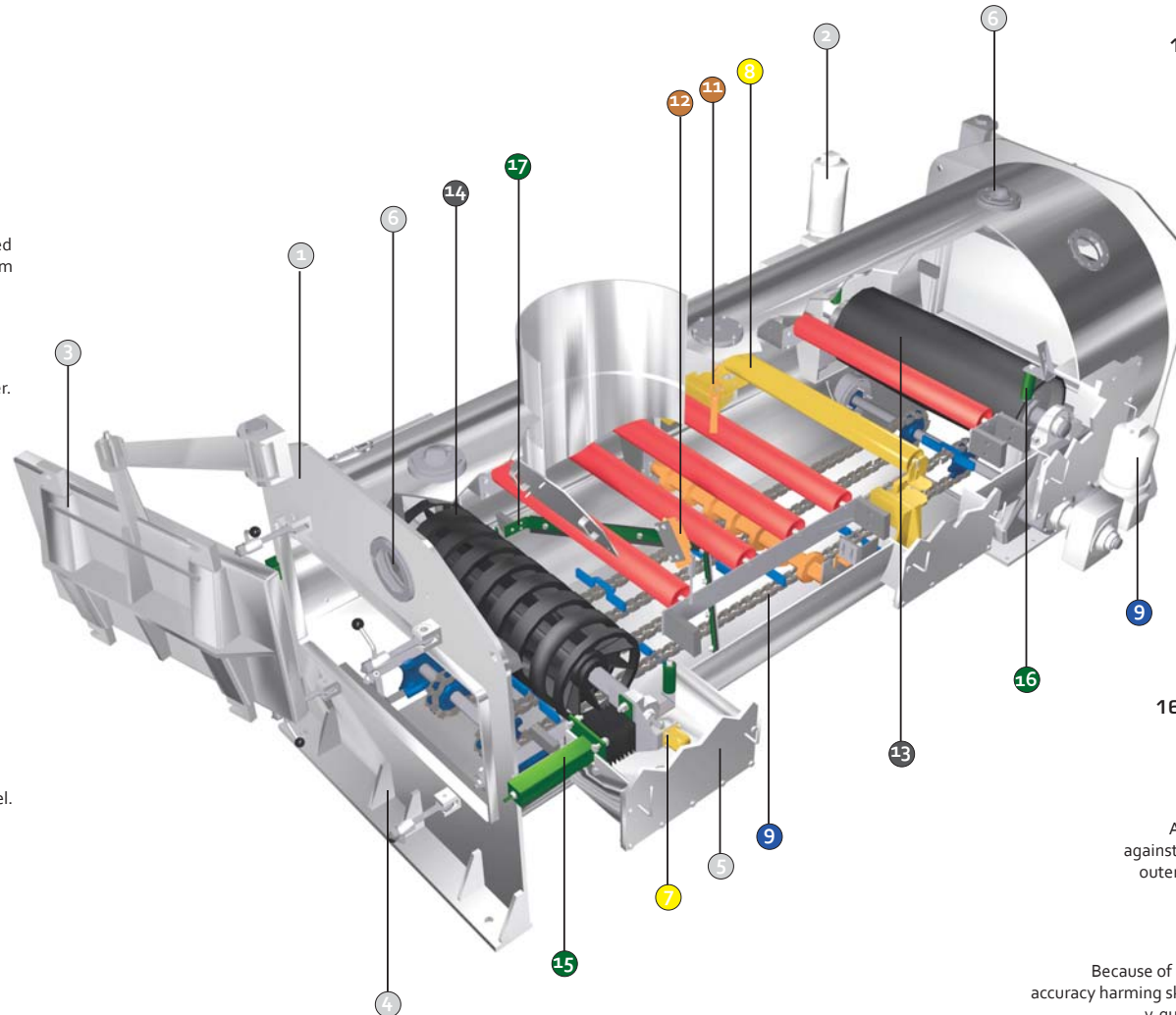
CLEANOUT

9. CLEAN-OUT CONVEYOR

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).



10. DISCHARGE PLUGGAGE SWITCH

Indicates coal pluggage in the discharge chute (not shown).

11. COAL-ON-BELT SWITCH

Identifies the presence or absence of material on the feeder belt.

12. 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.

13. LAGGED HEAD PULLEY

Rubber coated head pulley is lagged and crowned to assure positive belt drive and tracking.

14. 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.

15. BELT TAKE-UPS

Constructed of stainless steel, take-ups are totally enclosed and adjustable from outside the feeder.

16. BELT GUIDE ROLLERS (OPTIONAL)

Located on either side of the head and tail pulleys, aiding proper belt tracking.

17. 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).

ALARM SENSORS

PULLEYS

BELT



COAL VALVES

- Bunker Outlet
Designed to cut through a standing column of material
- Knife Gate
Provide "off-on" control of the 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.



BELT WIDTH	CAPACITY - see note 3 -	INLET SIZE INSIDE DIA. - see note 1, 2 -	INFEED TO DISCHARGE CENTERLINE DIM. - see note 1 -	APPROX. FEEDER WEIGHT
24" (XXX mm)		14" (XXX mm)		
36" (XXX mm)		24" (XXX mm)		

FEEDER FEATURES

- 3 PSI pressure integrity, NFPA 8504
- Carbon steel shell with rugged weldments for longer life
- 304 stainless steel in active flow areas minimizes corrosion
- Easy feeder entry through large gasketed end and side access
- Constant material profile maintained with fixed leveling bar
- Continuous or intermittent drag chain modes
- Extended life head and tail pulleys are regreasable, with external grease fittings
- All idler rolls greased and sealed for life
- Reduced costs for shimming and realignment with simple alignment weight sensing system
- Positive belt wrapping with large pulleys eliminates the need for high tension on both sides of the belt
- Longer belt and bearing life due to lower belt tension
- Head pulley belt scraper and a V-plow belt scraper clean and disperse material from inside the belt
- Touch screen interface controls
- Dual encoders at motor and idler pulley detect belt slippage or breakage

ANCILLARY EQUIPMENT

COAL VALVES

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 burner line applications (pneumatic actuator)
- Can be used for feeder discharge valve (electrically actuated, pneumatically actuated, chain wheel, or hand wheel operation)
- Dust-tight construction
- Gate position indicators

FEEDER DISCHARGE HOPPERS

- Reinforced construction, designed to NFPA 85
- Stainless steel construction standard
- Special, polished interior finish available
- Temperature probe available

COAL-IN-PIPE MONITORS

- Acoustic

DOWNSPOUTS

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



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