

FEEDER FEATURES

- 3 PSI continuous 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

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 Inches 609 mm	100,000 lb/hr (45,500 kg/hr)	18 x 24 Inches 457mm x 610mm	20'-0" 6,100 mm	14,000 lb 6,351 kg
36 Inches 914 mm	200,000 lb/hr (91,000 kg/hr)	24 x 72 Inches 610mm x 1829mm	20'-0" 6,100 mm	15,000 lb 6,804 kg
48 Inches 1,219 mm	300,000 lb/hr (136,000 kg/hr)	36 x 108 Inches 914mm x 2743mm	20'-0" 6,100 mm	18,000 lb 8,165 kg

- * 1. Dimensions shown are standard. MERRICK also has manufactured many special NFPA feeders to specific dimensional requirements.
 * 2. MERRICK also specializes in Slot Inlet Feeders. History and experience has shown that difficult flowing coals can be best handled by use of a tapered slot infeed.
 * 3. Feeder rates 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.

FAMILY OF

MERRICK

COMPANIES

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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
- Gate position indicators

FEEDER DISCHARGE HOPPERS

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

COAL-IN-PIPE MONITORS

- Acoustic flow monitors

DOWNSPOUTS

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

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

MODEL 490 LOW PRESSURE GRAVIMETRIC FEEDER



SAFE, ACCURATE, RELIABLE MATERIAL METERING FOR
 FLUIDIZED BED BOILERS



STANDARD FEATURES

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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. 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.

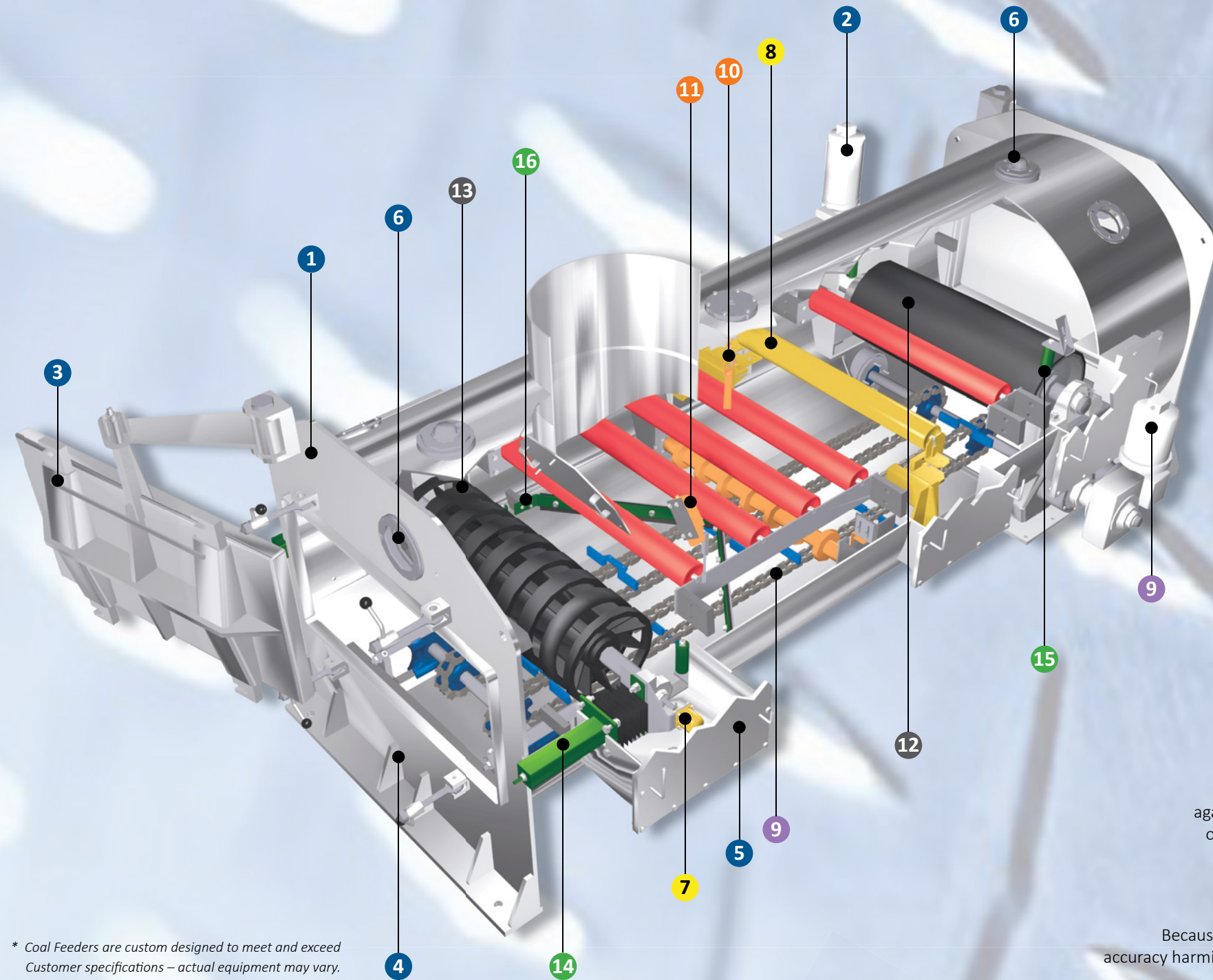
CLEANOUT

9. CLEAN-OUT CONVEYOR

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.

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.

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.

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 beltracking v-guides is eliminated, allowing a more accurate flat belt with optional four-inch curb (not shown).

PULLEYS

BELT

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.