

HMA Materials Handling and On-Trak Engineering work in partnership to design and manufacture our Heavy-Duty Feeders Breakers which are constructed to suit the heaviest of conditions covering product types such as coal and aggregate. The final size of each unit can be modified to suit the end users' requirements. Feeder-Breakers utilise a chain and flight drag conveyor and a crushing roller to control the flow rate of material and perform a primary size reduction. A typical application is the transfer the run of mine material from the haulage equipment to a conveyor at the discharge point, providing storage capacity and minimising cycle times.

CONSTRUCTION MATERIALS

We custom design our breaker head assembly to suit the material, size and throughput required. This ensures our machine outlasts and outperforms all others.

The deck materials range from 250 Grade mild steel up to Chromium Laminate, with the thickness determined by the application and potential wear rates from the material being conveyed.

DRIVE SYSTEM

The breaker is driven by a hydraulic motor that is sized to suit the application and is run by our dedicated hydraulic power unit (HPU) mounted on a separate dedicated frame assembly that can be located remotely from the feeder to make access for maintenance easier. The HPU has open sides to allow breathing and a removeable roof section for easy access to perform maintenance activities.

We use a twin electric/gearbox conveyor drive system to provide a balanced load on the shaft with no torsional stresses reducing the potential for shaft breakage. It also allows for operations to continue in the event of motor or gearbox failure, therefore if one motor fails, the unit can still run at 50% capacity.

FEED ARRANGEMENT

The receiving end of the Feeder-Breaker can be designed to receive material from high volume trucks, front-end loaders, shuttle cars or at ground level fed by a dozer.

CRITICAL DESIGN ATTRIBUTES

- Round Link Mining Chain or Engineered Chain
- Flight bars can be fabricated or cast, depending on the method of attachment chosen at the design review stage with all stake holders.
- Our bearing housings are billet steel, instead of cast iron which provides added strength.
- Our flight bars are larger than standard which provide longer lasting performance.
- The breaker bearings are rated over 1,000,000 N which is above industry standard.
- Option for automatic tensioning of the chain via the hydraulic power pack meaning less maintenance time and improved operational performance.
- The conveyor shafts and sprockets are designed to suit the final machine with the aim to putting less stress through each sprocket that in turn allows for a longer expected design life.
- The system includes numerous devices for monitoring the performance including feedback into the local control system for alarming and operational purposes.

FEEDER BREAKER



HYDRAULIC POWER UNIT FOR FEEDER BREAKER



FLIGHT BARS AND ROTATING BREAKER HEAD

