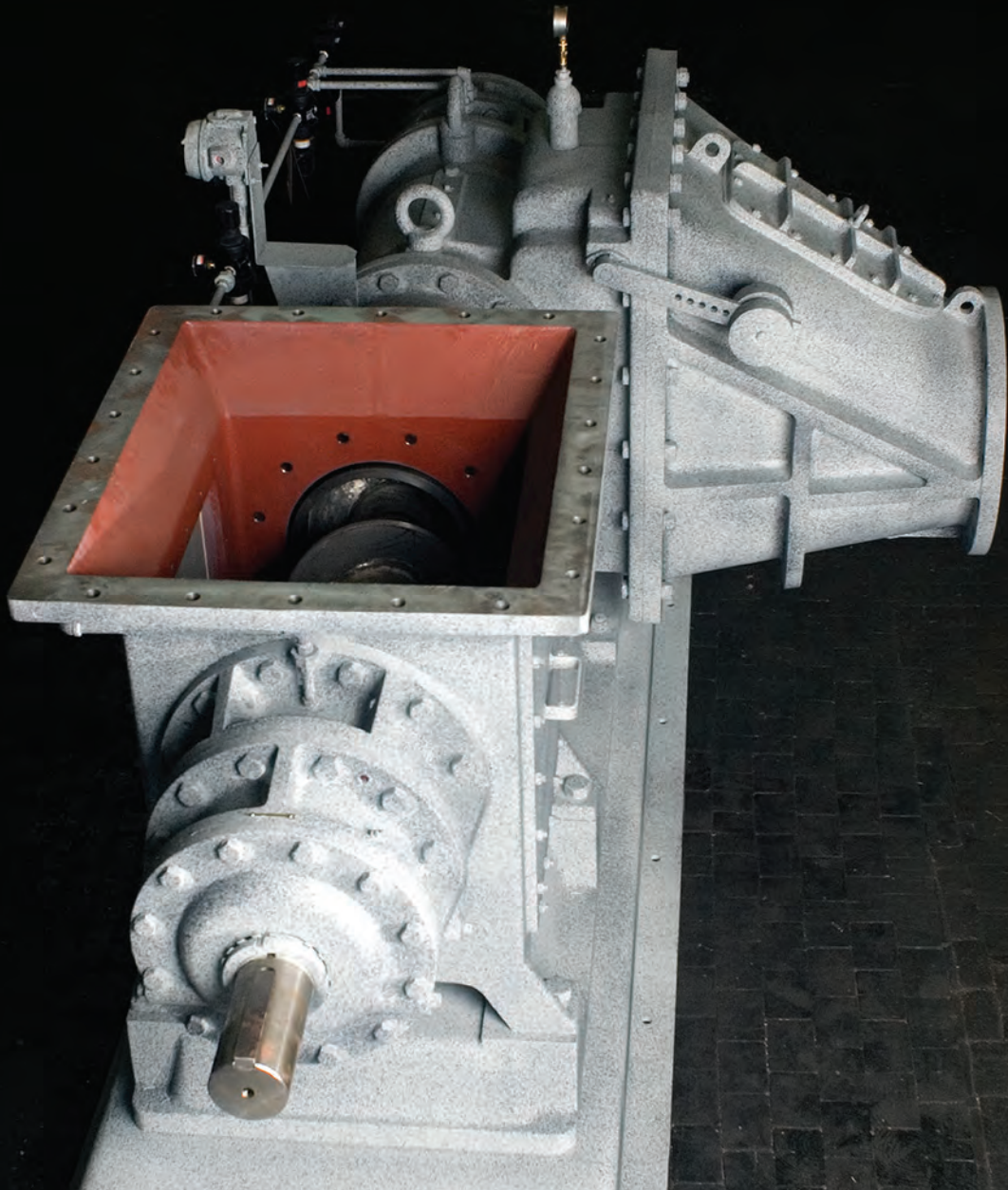


One Source

# Fuller-Kinyon® Pump: Dry Material Line Charger



# Ongoing innovations

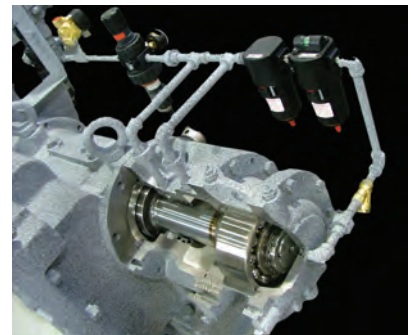
## Outstanding results

### Pneumatic Conveying Expertise

- **The original Fuller-Kinyon® pump, invented in 1926, began a long line of innovative products engineered for proven reliability and dependable performance.**
- **Thousands of Fuller-Kinyon pumps sold worldwide testify for their:**
  - **Heavy-duty construction**
  - **Ease of maintenance**
  - **Design simplicity**
  - **Cost effectiveness**
  - **Ability to handle high capacities**
  - **Versatility and flexibility**
  - **Fuel efficiency / low power consumption**

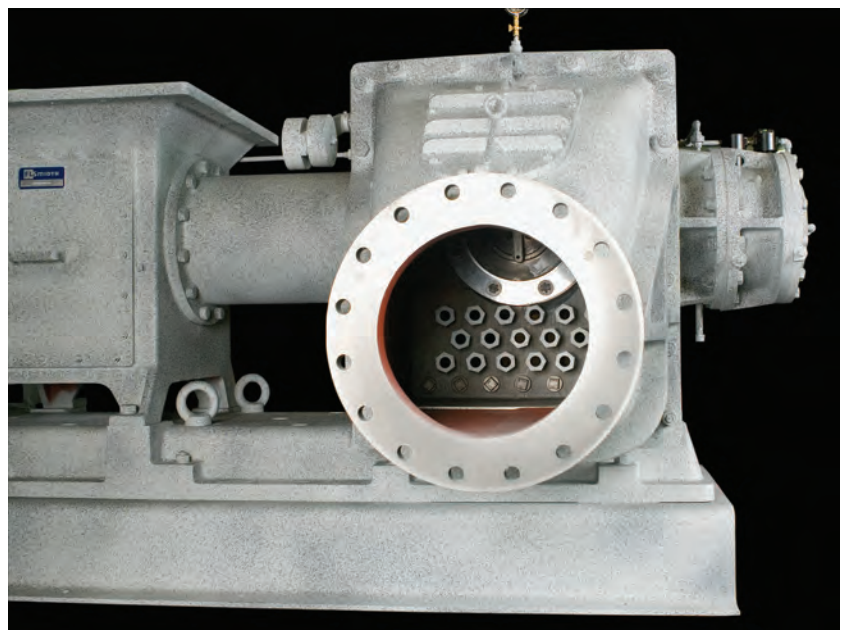
The Type M Fuller-Kinyon Pumps are heavy-duty, screw-type pneumatic pumps. These pump systems are most commonly used to convey dry, free-flowing, pulverized materials from grinding mills, transfer materials from silo to silo, transfer dust from collectors, and load and unload railcars, ships and barges. The materials are conveyed literally anywhere a pipeline can be run and to any number of delivery points. Distances of up to 4,500 feet (~1,375 meters) are not uncommon.

Fuller-Kinyon Type M Pumps are constructed of cast iron and steel, and mounted on a cast iron base. Type M pumps are equipped with ball bearings that support a pump screw at both ends to help provide a smooth, balanced operation. The screw is dynamically balanced. Areas of the screw, and other parts of the pump that are in direct contact with the material to be conveyed, are made



*Type M pump's pressurized seal and shaft bearing assembly*

of hardened, wear-resistant material and special hard surfacing. The screw is directly coupled to the driving motor but can be v-belt driven. Standard equipment on Type M pumps includes a pressurized seal and bearing assembly that extends the service life of the discharge seals by preventing the material being handled from entering the bearing area. Each pump system includes the pump, drive motor and compressed air source.



# Operation

## Control your costs and improve your availability

The 3-piece screw makes the Fuller-Kinyon® Type M Pump the best. Replacement or removal of parts - and lower plant maintenance costs - have never been easier.

## Specifications - Type M Pump : Capacities

Diameters ranging from 150mm to 350mm with capacities up to 600 mtph of standard Portland cement

## Conveying Air Pressure Range

Up to 35 psig (~2.4 Bar)

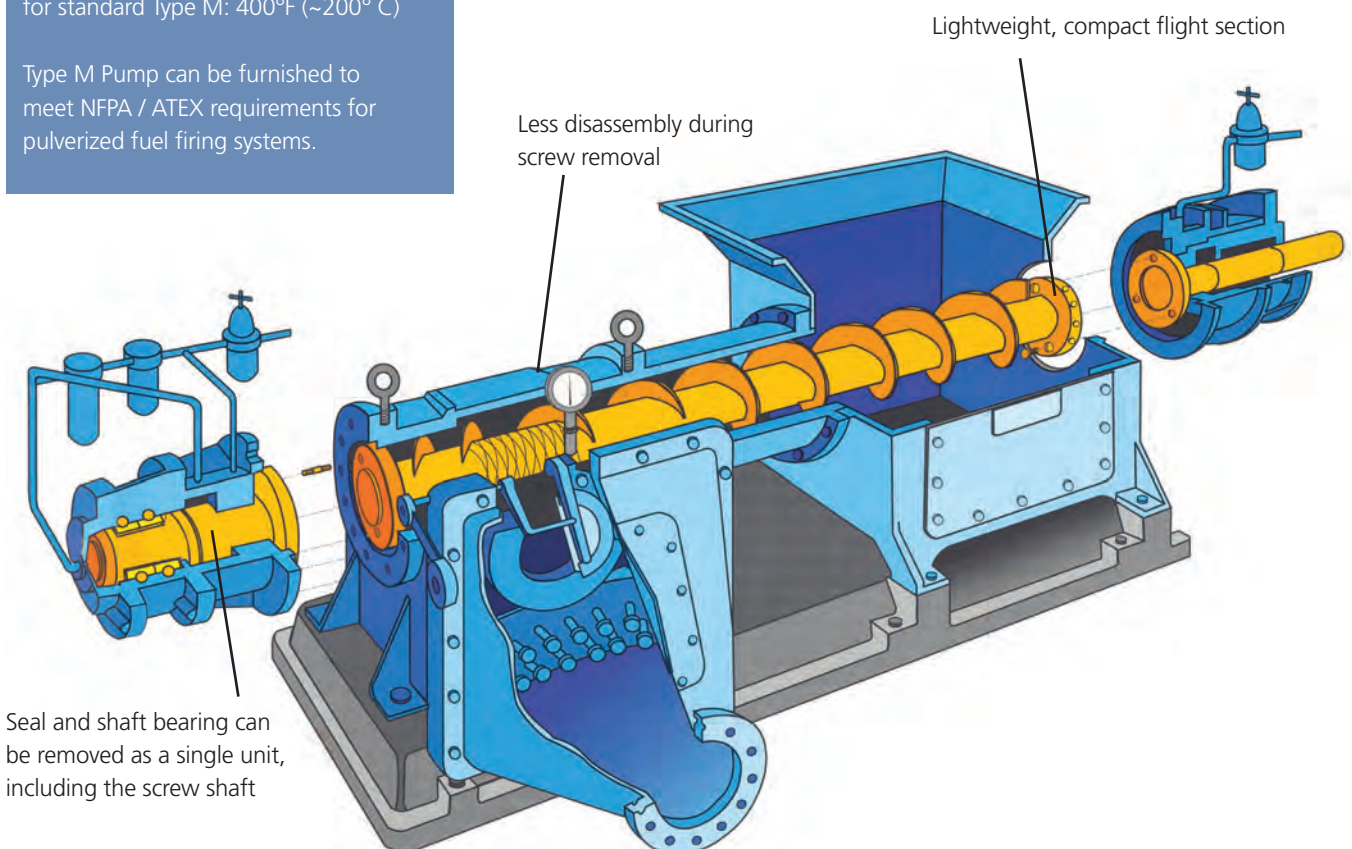
## Specialties

Maximum material temperature for standard Type M: 400°F (~200° C)

Type M Pump can be furnished to meet NFPA / ATEX requirements for pulverized fuel firing systems.

The materials to be conveyed enter the hopper by gravity and are advanced through the barrel by the screw. The material is compacted as it is advanced.

Its density is further increased in the space between the terminal flight of the screw and the face of the non-return valve to form a seal against the transport line pressure, thus preventing blowback. The material then enters the discharge body, is fluidized by compressed air, and is conveyed into the transport line.



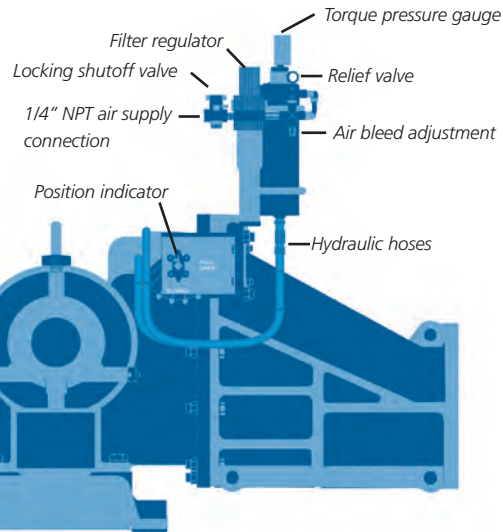


# Pneu-Flap™ Pneumatic Torque Controller Pump Upgrade

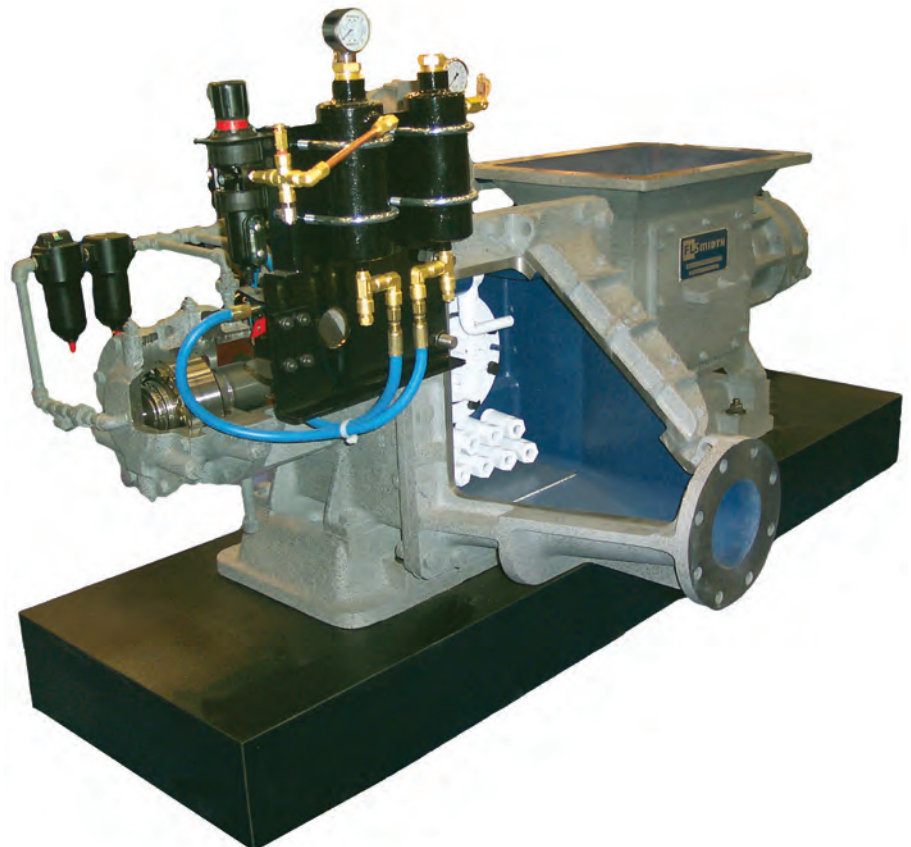
The Pneu-Flap Pneumatic Torque Controller is available as an upgrade on the Fuller-Kinyon® M pump. It is designed to provide a constant torque through the full range of motion of the pump discharge flapper valve, thereby maintaining a good material seal at all times between the pressurized conveying line and the pump screw.

Furthermore, the Pneu-Flap Torque Pneumatic Controller is designed to be easily adjustable for specific operating conditions and minimize component wear. Pump performance is improved by optimizing the flapper valve torque.

- Improved performance and higher capacity
- Reduced wear due to less blow-back through flapper valve
- Reduced overall maintenance cost
- Lower overall power consumption
- On-line adjustment of the flapper valve
- Less movement of the flapper valve
- More stable operation
- Easy to install
- Change materials and torque adjustment without shutting down



*Pneu-Flap™ Pneumatic Flapper Torque Controller*



# Fuller-Kinyon® Pump Options

## Control Panel

- Stand-alone unit
- Controls from motor amps or line pressure

## Drive Coupling

- Direct drive is standard
- Flexible coupling
- 1160 rpm maximum
- V-belt option available

## Pump Hopper Extension

- Handles material surges
- Provides a vent source

## Solenoid Trip Relay Option

- Air injection to screw to relieve overload conditions
- Control from motor amps

## Pneu-Flap Control Upgrade

- Pneumatic flapper control
- Stabilizes material feed
- Adapts to all type M pumps

## Combination Base

- Fabricated steel
- Mounts motor and pump on one base

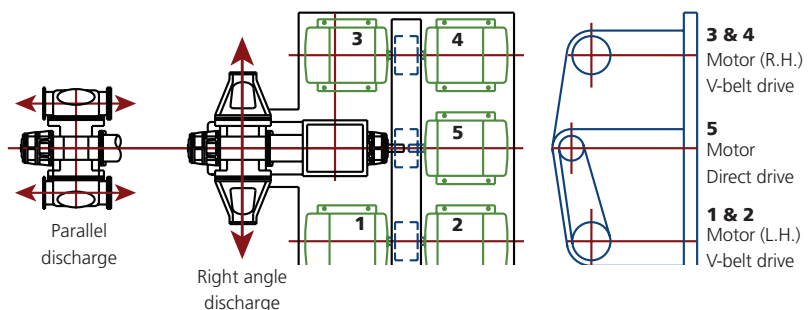
## Pump Discharge

(see illustration below)

- Right angle standard
- Right or left hand available
- Parallel available for convenience

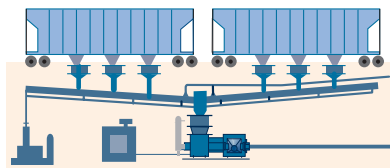
## M Pump Discharge Options

- Parallel, right-angle or left-angle discharge
  - Right-hand discharge with parallel conveying to front, rear or 90° perpendicular
  - Left-hand discharge with parallel conveying to front, rear or 90° perpendicular
- V-belt drive also available



# Applications for Fuller-Kinyon® Pump Systems

[www.flsmidth.com](http://www.flsmidth.com)



Fuller-Kinyon® Pump Railcar Unloading

### Fuller-Kinyon pump unloading systems for high capacity/high demand railcar applications

- Fuller-Kinyon pump unloads one, two or three cars simultaneously
- Dust-controlled, clean operations
- Automated, less labor

### Injection systems and transfer systems

Economical and reliable long-distance, high capacity technology

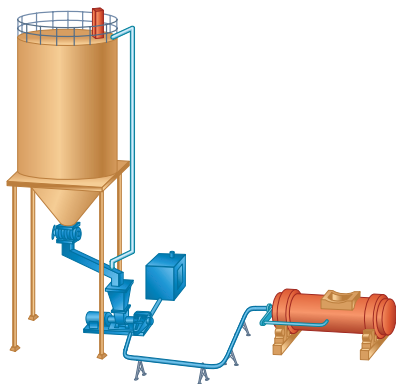
- Operational simplicity
- Lower velocities than dilute technology
- Higher pressure than dilute technology
- Continuous conveying
- Low headroom requirements
- Simple controls
- Rugged, heavy-duty design

### More applications

- Grinding mills
- Transfer materials from silo to silo
- Transfer dust from collectors
- Load and unload ships and barges

### Typical materials handled

Asphalt filter dust  
 Barites  
 Bauxite  
 Bentonite  
 Catalysts  
 Cement  
 Cement raw materials  
 Clays (dried)  
 Coal  
 Coke dust  
 Copper calcines  
 Dolomite  
 Feldspar  
 Fluorspar  
 Fly ash  
 Gypsum (calcined/raw)  
 Kaolin  
 Lime  
 Limestone  
 Magnesite  
 Magnetite  
 Manganese dioxide  
 Ores  
 Phosphate rock  
 Silica  
 Talc  
 and more.



Fuller-Kinyon® Pump Injection System

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