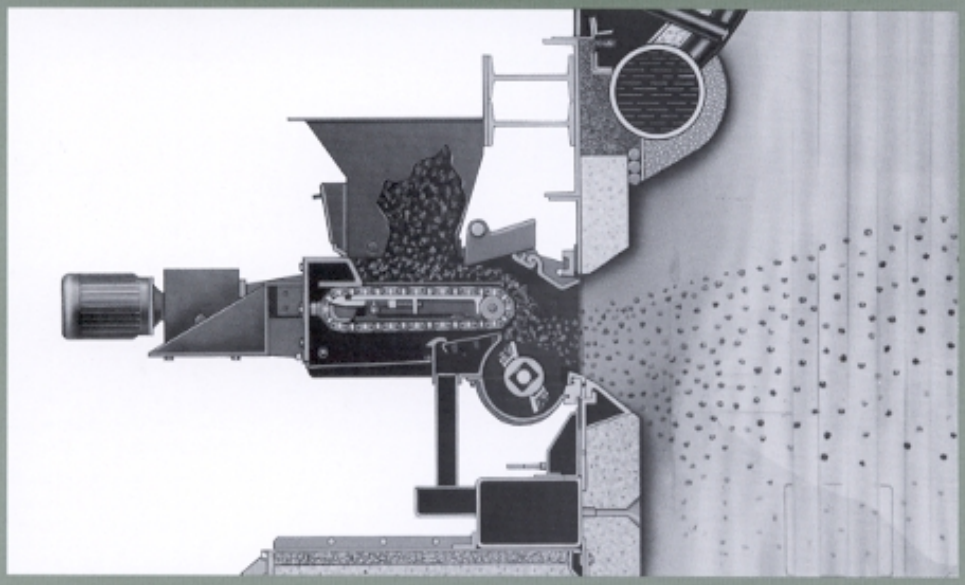
Detroit® Ultrafeed Coal Distributor



The **Detroit Ultrafeed** coal distributor brings a new look to a widely used and proven device for fuel distribution in a furnace, the chain conveyor type distributor. While used primarily for coal distribution on spreader stokers, this workhorse has also been used with fluid bed boilers and can be used to distribute other solid materials of similar size. The Ultrafeed can be retrofitted to virtually any spreader stoker application.

Individual drive is provided for each Ultrafeed coal distributor with distinctly separate drive of the fuel metering chain conveyor carriage and the fuel distributing overthrow rotor.

The Ultrafeed distributor with its many features, including the continuous positive feed of the chain conveyor carriage and the flexibility of the variable speed control, is the ideal choice for new installations or retrofits. **Consider the Ultrafeed for:**

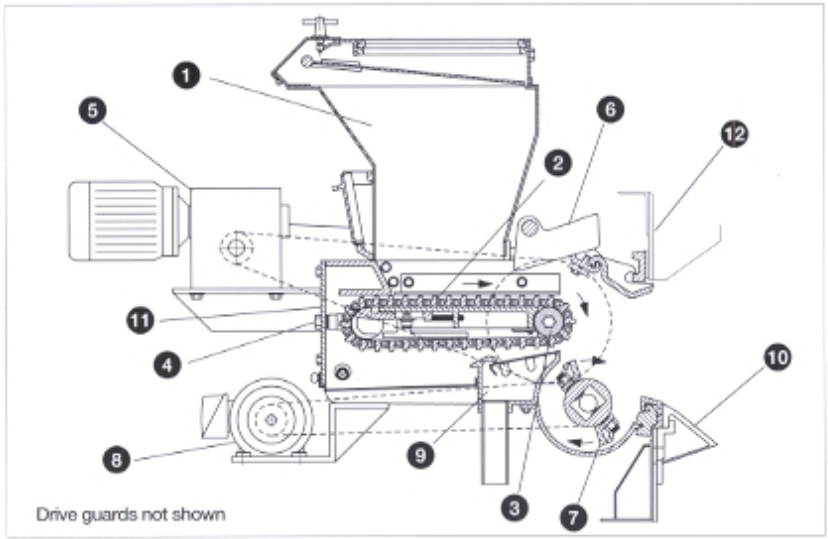
- High volume coal distributing to meet greater capacity demands
- Distribution of wet coal or fines
- Variations in coal quality when changing sources of supply
- A wider range and lower grades of coals, lignites to bituminous, with varying heating values
- Even distribution over your entire stoker grate surface
- Close following of a control signal from today's sophisticated combustion control systems
- Upgrading old equipment
- Ease of installation and maintenance
- Custom applications and many options available

Look to Detroit.... The world's leading manufacturer of solid fuel burning stokers.

Detroit Ultrafeed coal distributors are used as regular components of Detroit spreader stokers and as stand alone equipment for replacements or other applications. We have served the power industry since 1898 and with our large engineering, manufacturing and service staff here for you, we will continue to provide the highest quality and very best technology. For more information, call or write us today.

Detroit Stoker Company
Subsidiary of United Industrial Corporation
1510 East First Street
Monroe, Michigan 48161
Phone: (313) 241-9500 Fax: (313) 241-0216

Detroit® Ultrafeed Coal Distributor



1 Fuel hopper (option) is available as a standard or custom design and with various materials of construction. A drive gate is shown and is also available as an option. Some type of cut-off device above each distributor is recommended to facilitate maintenance of the distributor.

2 Chain conveyor carriage which meters the fuel feed by varying the speed of the motor from the combustion control system. The entire carriage is readily removable as a single sub-assembly from the front of the distributor in a pullout module.

3 Carriage drive shaft -- now a direct connected spline shaft for a more positive drive without the frequent attention a taper pin requires.

4 Carriage position adjustment for placement of fuel being fed to the rotor so as to obtain the proper fuel distribution on the stoker grate surface.

5 Carriage drive is separate for each distributor and from a 1 HP, 1200 RPM, 3 ph., 60 hz., 230/460 v. T.E.F.C. motor mounted on an external AGMA industrial class II gear reduction unit. No more cumbersome, maintenance demanding integral gearcase and mechanisms that were required when a single drive served both the carriage and the rotor. Carriage speed control is not furnished; however, an A.C. variable frequency drive package is available as an option. Each distributor can be varied in speed automatically in unison from a common control signal while still allowing for individual biasing of any one distributor in relation to the others. This provides for optimum fuel distribution. The carriage drive is complete with motor and reducer, chain and sprockets, drive mounting bracket and guard. A zero speed switch is also available as an option.

6 Adjustable throat blade limits the depth of the fuel on the carriage and is an additional control of the fuel discharge to the distributing rotor. This permits optimization of the carriage speed control range for variations in the heating values of the fuel.

7 Distributing overthrow rotor to spread the fuel in the furnace evenly, longitudinally and laterally, over the stoker grate surface. The entire rotor assembly is also readily removable as a single sub-assembly.

8 Rotor drive is also independent for each distributor from a separate 1 HP, 1200 RPM, 3 ph., 60 hz., 230/460v. T.E.F.C. motor. Rotor speed is controlled manually to obtain the best longitudinal fuel distribution. Rotor speed control is not furnished; however, control devices available as options are an AC variable frequency drive package or a mechanical variable speed drive unit, whichever is preferred. A zero speed switch is furnished to interlock with the carriage drive in the event of a stalled rotor. The rotor drive is complete with motor, timing belt and sheaves, drive mounting bracket and guard.

9 Air box which is pressurized to produce a stream of air across a stainless steel plate surface to assist in moving fines away from the distributor opening, to alleviate the travel of fines back into the housing under the carriage, to aid in keeping wet coal from adhering to the carriage chain flights, and to neutralize the effect of radiant heat on the carriage.

10 Air cooled apron tuyeres line the bottom of the distributor discharge opening into the furnace in coal firing applications providing a cool surface in this area to prevent the build-up of fines which could interfere with proper fuel distribution.

11 Distributor housing with base for attachment to distributor front plate. This rugged bolted assembly is of high grade cast iron construction and heavy steel front access cover for long life and heat resistant durability.

12 Distributor front plate (option), pre-engineered or special design to the application.

The Ultrafeed coal distributor is a completely shop assembled unit except for the apron tuyeres which must be shipped loose with their hangers. The Ultrafeed is designed so that two subassembly modules make up the internal moving parts. These are easily accessed for simple removal in the field should a repair or replacement be necessary.

Bulletin No. APR-16-01

Printed in the U.S.A.