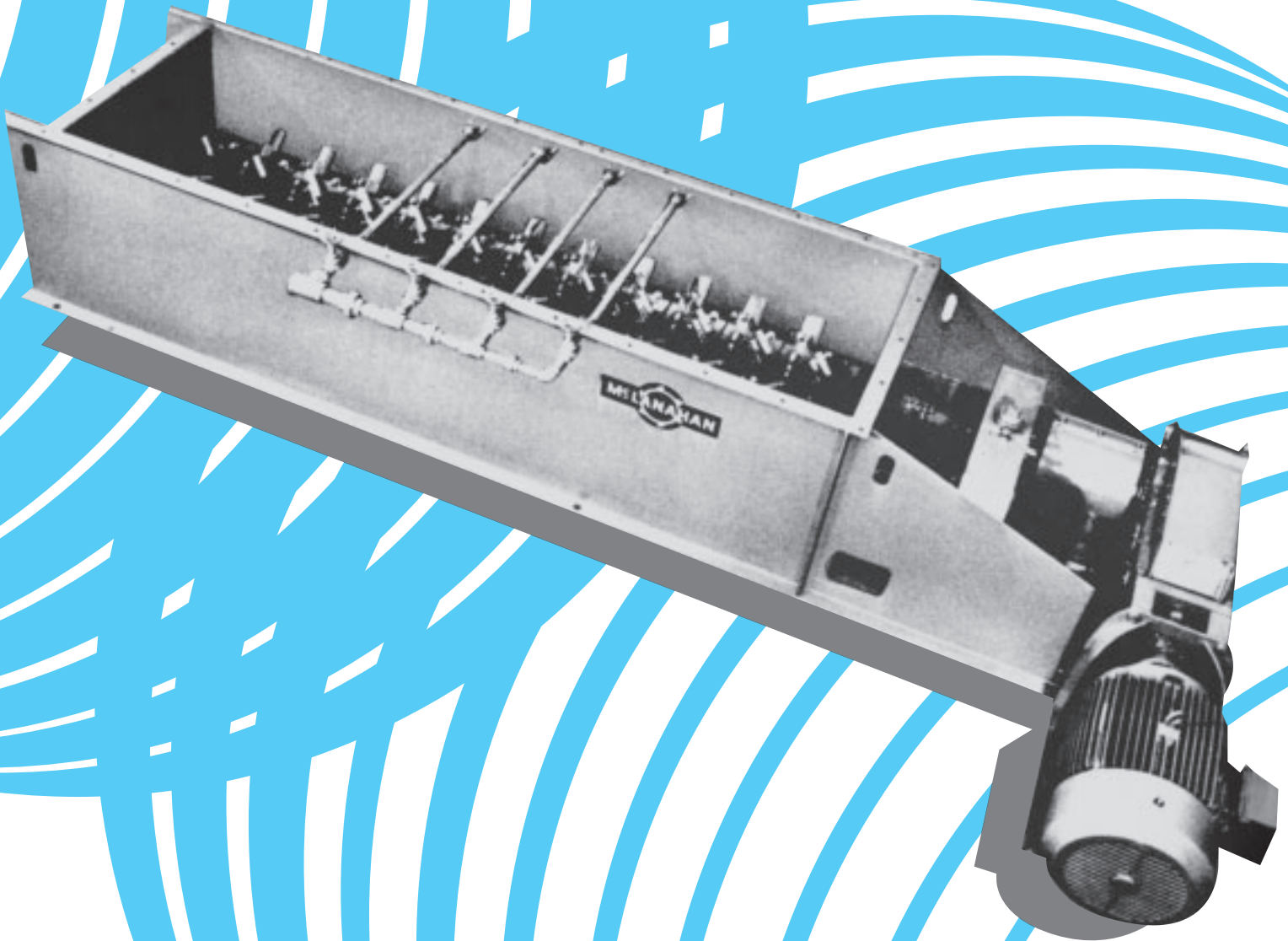




**McLanahan**®



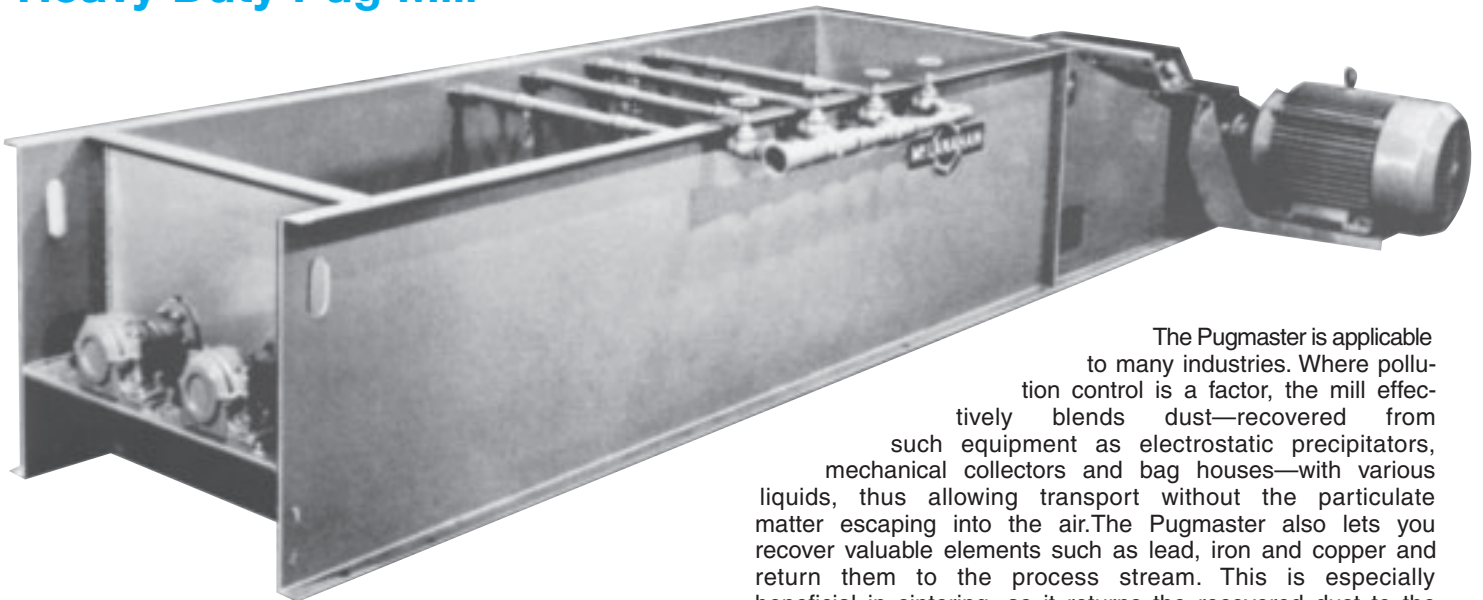
PUG MILL MIXERS

### Custom Built to Your Needs

McLanahan custom-builds pug mills to fit your specific application because of the many variables that must be considered: capacity requirements, corrosive or abrasive material handling, dust control, moisture content and others. Three basic types of units are described here according to their

use: heavy duty, medium duty and coal mixing. All are designed for uniform, continuous feed applications. We will modify these machines or design special machines as necessary to match your specific needs.

## PUGMASTER Heavy Duty Pug Mill



The Pugmaster is applicable to many industries. Where pollution control is a factor, the mill effectively blends dust—recovered from such equipment as electrostatic precipitators, mechanical collectors and bag houses—with various liquids, thus allowing transport without the particulate matter escaping into the air. The Pugmaster also lets you recover valuable elements such as lead, iron and copper and return them to the process stream. This is especially beneficial in sintering, as it returns the recovered dust to the process—providing a closed circuit.

### Design features and benefits

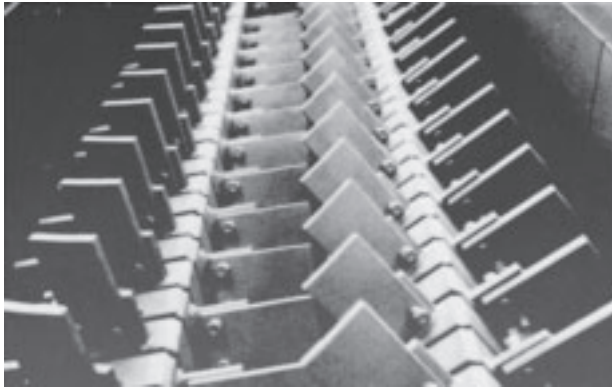
- The Pugmaster Pug Mill is fabricated from steel plate with a rigid base frame. Removable cover plates provide easy access to internal section.
- Top feed opening can be modified to mate with equipment supplied by other manufactures.
- Paddle shafts, flanged at both ends, simplify maintenance; permit removal of entire assembly.
- Reversible paddle bases are bolted in pairs to paddle shafts. Abrasion-resistant, bolt-on paddles insure maximum wear life.
- Positive, grease-lubricated dual seals are used on stub shafts where they pass through the mixer box at both feed and discharge ends.
- Timing gears are sealed in a heavy duty oil bath case which features fill and drain points and an oil level gauge. These gears allow for paddle intermeshing which provides a vigorous mixing action.
- The four spray pipes are connected to a common header and are equipped with spray nozzles. Individual control valves meter the proper amount of various wetting agents to each pipe.

- Anti-friction roller bearings support paddle shafts and the split-type bearing housings have taconite seals.
- The pug mill drive features a heavy duty gear reducer equipped with taconite seals. Flexible shaft-type couplings connect the reducer to the timing gears and the motor to the reducer.
- All personnel guards are provided.

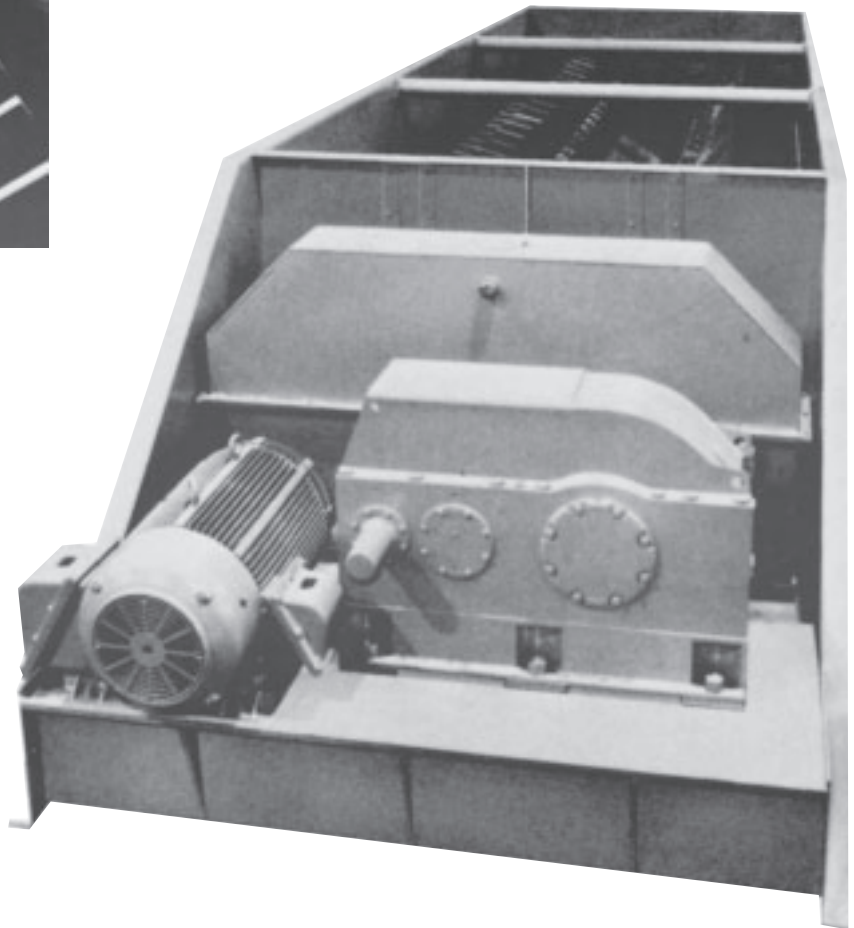
### PUGMASTER

Size	Capacity TPH @ 100 PCF	Recommended Motor Horsepower	Weight (pounds)	Maximum Feed Size (inches)
18" x 10'	72	60	10,020	2
24" x 12'	160	100	19,460	2½
30" x 15'	300	125	31,200	3
36" x 18'	465	150	34,800	4
44" x 20'	610	200	51,300	4
54" x 24'	850	250	62,400	6
66" x 28'	1450	250	74,800	6

# COALMASTER Mixer



This extremely durable coal mixer does the same job as larger machines but requires less horsepower. It efficiently blends varieties of coal and mixes them with fuel oil to increase bulk density and with other liquids and wetting agents to produce a controlled slurry. The paddle pitch design moves the material constantly in a kneading/mixing action, providing a homogeneously mixed product. The Coalmaster mixer is designed for continuous operation.



## Design features and benefits

- Mixer box is fabricated from steel plate and is solidly reinforced for strength and rigidity.
- Mixer shafts are fabricated from extra heavy steel pipe, with paddle bases welded at an angle to the shafts for proper mixing action. The shafts are flanged at both ends to facilitate normal maintenance. Reversible paddle bases available as an option.
- Paddles are 1"-thick high carbon steel, heat treated to a hardness of 500 to 600 Brinell. Various optional paddle materials are available.
- The box has 1/2"-thick A.R. steel side, end and bottom liners.
- All bearings are self-aligning, anti-friction type, spherical roller with taconite-type seals for operation in dusty atmospheres. No intermediate hanger bearings are used and all bearings are mounted outboard.

- V-belt drive transmits motor power to input shaft of the gear reducer, then to one of the paddle shafts. Timing gears between the paddle shafts provide a constant intermeshing of paddles which maximizes blending.

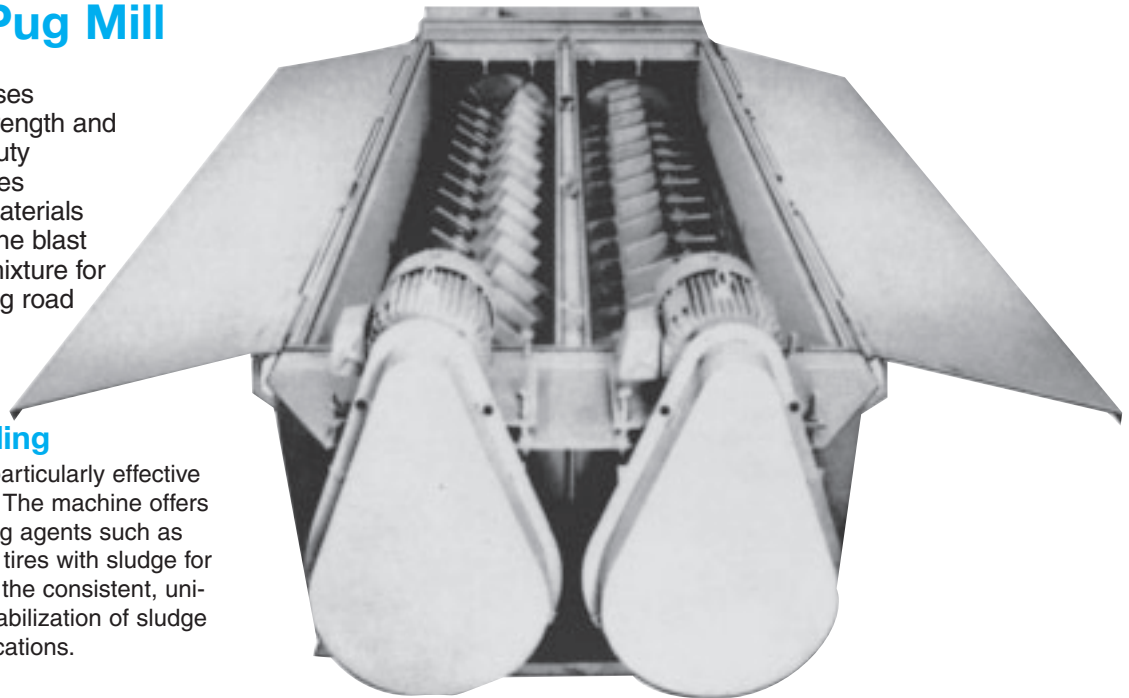
## COALMASTER

Size	Capacity TPH @ 55 PCF	Recommended Motor Horsepower	Weight (pounds)	Maximum Feed Size (inches)
24" x 12'	115	75	18,600	3
30" x 15'	215	100	25,900	3
36" x 18'	390	125	29,740	4
44" x 20'	600	150	43,800	6
54" x 24'	1050	200	52,700	6

# BLENDMASTER

## Medium Duty Pug Mill

Here's a mill that possesses a surprising degree of strength and durability for a medium duty machine. Its variety of uses includes: wetting down materials for disposal, controlling fine blast furnace dust in a water mixture for ease of handling, blending road base materials, etc.



### Ideal for Sludge Handling

Blendmaster has proved itself particularly effective for sewage sludge applications. The machine offers a dependable way to mix bulking agents such as wood chips or shredded rubber tires with sludge for composting. It can also provide the consistent, uniform mixing required for lime stabilization of sludge for soil additive or land fill applications.

### Patented

McLanahan also offers a patented sludge treatment unit to separate very densely compacted sludge cake, such as that produced in a filter press, for subsequent mixing with lime or kiln dust (U.S. Pat. No. 5,639,035). It utilizes a specially designed shaft having paddles and shear blades to quickly and efficiently separate fibrous, dense sludge cake into small particles.



*Blendmaster Pug Mill shown processing wood chips and sewage sludge at an eastern treatment facility.*

### Design features and benefits

- Blendmaster box is fabricated from steel plate, ribbed and flanged for maximum rigidity.
- Flanged hopper accommodates attachment of auxiliary chutes or hoppers provided by other manufacturers.
- Paddle shafts of structural steel pipe have replaceable bolt-on screw flights at feed end only. Shafts are flanged at both ends for easy maintenance.
- The bolt-on paddles are high carbon steel heat-treated to a Brinell of 500 to 600. Paddle bases are welded to the shafts. Various optional paddle materials available.
- Anti-friction bearings support paddle shafts. Bearings are mounted outboard and sealed with Spirolox ring seals.
- The Blendmaster is V-belt driven by two motors top- or side-mounted on adjustable base plates. Variable speed drives are available. Drives can be located at feed or discharge ends.
- Steel splash cover over entire mixing section is removable for maintenance and inspection.

### BLENDMASTER

Size	Capacity TPH @ 50 PCF	Recommended Motor Horsepower @ 1800 RPM	Weight Less Motor
12" x 10"	17	2 @ 10	3,700 #
18" x 10'	36	2 @ 10	4,700 #
24" x 12'	80	2 @ 20	9,000 #
30" x 15'	150	2 @ 30	11,800 #
36" x 18'	230	2 @ 40	14,700 #
44" x 20'	305	2 @ 50	24,500 #

Pug Mill capacity is directly proportional to the bulk density of the final mixture and paddle shaft R.P.M.

\* Bolt-on paddles not available on this size unit.