



## Model 8032 Asphalt Drum Mixer



### GENERAL

**DESIGN AND PRODUCTION:** The ALmix model 8032 Drum Mixer is of the parallel flow design and includes a special herringbone bolt-in flight design for maximum drying and mixing efficiency, lower stack temperature and reduced fuel consumption. This Mixer is designed to produce 140-300 TPH depending upon aggregate and moisture characteristics. More specifically, the above quoted plant is guaranteed to produce 200 TPH of 300° F hot mix from material having an initial moisture content of 5%, at an altitude under 1,500 ft. above sea level.

**DRUM MIXER:** The 80" diameter x 32' long drum is constructed from 3/8" thick steel plate. The drum is trunnion driven through four Dodge TXT - 625 shaft mounted reducers by four 20 H.P. motors. The main frame features unitized construction from heavy, structural steel members with beams supporting the trunnions and drum. Four (4) 18" diameter x 8" face trunnions are machined and heat treated to 500 brinell and are fitted with 3-7/16" diameter spherical type roller bearings. Each trunnion assembly is mounted on a 1" thick steel plate allowing the assembly to be adjusted as a unit. The trunnions drive two 2-1/2" thick steel tires made from one piece forgings. The drum shell is reinforced by 1/4" thick steel bands in the area where the tires are wedged to the shell. Two 24" diameter guide rollers are provided to insure the proper operating position of the drum mixer assembly. Material is discharged from the drum by bolt-on abrasion resistant steel sweeper flights through a side discharge chute containing replaceable liners. An air seal constructed from high temperature belting is installed between the drum and the discharge breaching.

**SLINGER CONVEYOR:** A 24" x 10' slinger type inlet conveyor driven by a 5 H.P. motor through a shaft mounted gear reducer receives aggregate from the cold feed conveyor and conveys it into the drum under the burner assembly. This relatively high speed conveyor eliminates the plugging and heat loss associated with normal inlet chutes. The conveyor may be reversed for direct loading of trucks during feeder bin clean-out or belt scale calibration.

**BURNER ASSEMBLY:** The Model 8032 Drum Mixer employs the Hauck StarJet burner assembly. The StarJet requires no refractory type ignition port or combustion chamber. Thus, thermal energy is imparted directly into the aggregate instead of losing heat through refractory radiation. The burner is capable of burning any grade of fuel oil, natural gas, liquid LP and combustible liquid waste. The burner assembly includes a high efficiency 36 oz. blower driven by a 40 H.P. motor, automatic temperature control and flame safeguards. The burner capacity is 70 MBTU/HR. The fuel pump is driven by a 2 H.P. motor.

**POLLUTION CONTROL SYSTEM:** The ALmix pollution control system includes a greatly expanded hinged discharge breaching on the drum mixer connecting to the baghouse entry plenum. This large area assures fall-out of any relatively large asphalt coated particles prior to their entrance into the baghouse. The hinged discharge breaching and the duct work between the drum mixer and baghouse connect via load-binders without the need for bolts. Duct work connecting the baghouse to the exhaust fan is permanently fixed. The mobile single unit baghouse type dust collector is designed to handle 34,400 CFM at an air to cloth ratio of 5 to 1 and an operating temperature of 280

- 350 degrees F. The filter bags are an elliptical design and are made of fiber with snap bands sewn into the bag tops. The filter bags encompass a large filter area in a compact housing thus keeping the air velocity through the bag to a very low level when compared with traditional pulse jet houses. Bag design is of the single wall type with 400 87" long bags yielding 6,880 sq.ft. of cloth area. The bags are constructed from 14 ounce virgin NOMEX with 13% glass fiber to give better filtration on the sub-micron particle sizes. The bags are cleaned while the baghouse is in operation by sequentially isolating each row and then creating a reverse flow of air breaking the cake of dust on the filter surface and causing it to fall into the collection hopper. The bag cleaning devices consist of independent rotating clean air nozzles that are indexed to stop at one chamber (row of bags) at a time, closing off that chamber from the process airflow. The cleaning nozzle drive and sequence mechanism consists of a right angle gear motor with rotating eccentric drive shaft that engages a central sprocket. The mechanism moves the cleaning nozzle from row to row quickly but allows the nozzle to pause momentarily at each row. The cleaning mechanism automatically starts cleaning according to a preset time which is adjustable by the plant operator. After the nozzle completes a full cycle and returns to its parked position, a sensor cuts off power to the cleaning mechanism gear motor. The baghouse requires no compressed air for cleaning.

**RETURN DUST SYSTEM:** The portable bag collector maintains the hopper design universally recognized as the most efficient and economical method of disposing of collected fines with minimal reintraintment. The baghouse hopper section contains a 12" diameter auger driven by a 10 H.P. motor. The auger delivers



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the collected dust to a 10" diameter rotary vane feeder driven by a 1 H.P. motor and is connected via a blow through adapter and flexible dust handling hose to the drum mixer dust pipe. An in-line blower mounted on the baghouse frame and driven by a 30 H.P. motor is connected to the other side of the blow through adapter to convey the bag house fines and lime to the drum mixer dust pipe.

**EXHAUSTER:** The pollution control system includes a high efficiency backward inclined BCS 365 exhaust fan with 125 H.P. motor. The exhauster is supplied with an automatically controlled louvered damper and hinged, ported stack.

### ASPHALT BLENDING SYSTEM

**GENERAL:** The Model 8032 Drum Mixer includes the ALmix Millennium Control System. The heart of this control system is an IBM PC compatible computer. The Millennium Control features a fully graphic operator interface to provide complete plant status at-a-glance. Premium is a Windows based system employing "point and click" technology. The system retains information, system constants and scale calibrations in case of power failure or power off conditions on a hard disk.

**FORMAT:** Included in the system are two 17" VGA full color monitors and a 101 key keyboard. The operator uses the monitor to preset the percent of liquid asphalt desired in mix, percent of reclaimed material desired in mix, percent of liquid asphalt in reclaimed material, percent of mineral filler, percent of liquid additive, separate start and stop delay times for AC injection, liquid asphalt tolerance percent and aggregate moisture compensation setting for each aggregate. The following items will be displayed on the video monitor: aggregate TPH for each aggregate, aggregate total TPH at point of asphalt injection, liquid asphalt TPH, recycle TPH, mineral filler TPH, liquid additive TPH, total mix TPH, desired % of aggregates, mineral filler, liquid additive, recycle and liquid asphalt, actual % of aggregates, mineral filler, liquid additive, recycle and liquid asphalt, accumulated total tons of each aggregate, accumulated total tons of liquid asphalt, accumulated total tons of mineral filler, accumulated total tons of recycle, accumulated total tons of liquid additive, accumulated total tons of mix, incline conveyor FPM and liquid asphalt temperature.

**BLENDING EQUIPMENT:** The asphalt pump package consists of a 2" jacketed, positive displacement asphalt pump driven by a 7-1/2 H.P. motor through an AC inverter drive. Following the pump assembly is a jacketed, 3-way, air cylinder actuated by-pass valve to

pass asphalt to the drum (through the meter) or recirculate the asphalt to the tank. Next is a second jacketed, positive displacement, asphalt pump which is used as a meter to monitor the asphalt flow rate. The accuracy and durability of this second pump complete with optical encoder make it far superior to traditional asphalt flow meters. Temperature compensation is accomplished through the Premium Control System. The pump and meter assembly is skid mounted for location on the gooseneck of the asphalt storage tank.

### OPTIONS:

- 3, 4 or 5 bin Portable Cold Feed Systems
- Unitized pollution control equipment
- Baghouse or Wet Collector
- Variety of Asphalt Storage Silos and Slat Conveyors; self-erecting portable units or stationery units
- Portable or stationery Asphalt Tanks, with indirect or direct fired heating systems
- Various optional blending equipment control features including: Automatic feed control, multiple mix design storage, virgin aggregate tolerance alarm and asphalt temperature compensation

