



Model 5424 Asphalt Drum Mixer



GENERAL

DESIGN AND PRODUCTION: The ALmix model 5424 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 50 - 100 TPH depending upon aggregate and moisture characteristics. More specifically, the above plant is guaranteed to produce 75 TPH of 300°F hot mix from material having an initial moisture content of 5%, at not more than 1,500 ft. above sea level.

DRUM MIXER: The 54" diameter x 24' long drum is constructed from 5/16" thick steel plate. The drum is trunnion driven through four (4) shaft mounted reducers by two (2) 15 H.P. motors. The main frame features unitized construction from heavy, structural steel members with beams supporting the trunnions and drum. Four (4) 12" diameter x 5" face trunnions are machined and heat treated to 500 Brinell and are fitted with 2-15/16" 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" 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 12" diameter guide rollers are provided to insure the proper operating position of the drum mixer assembly. The drum is mounted at operating slope on the main frame, eliminating the need for costly elevation on setup. Material is discharged from the drum by bolt-on abrasion resistant steel

sweeper flights through a side discharge chute. An air seal constructed from high temperature belting is installed between the drum and the discharge breaching.

SLINGER CONVEYOR: An 18" x 10' long slinger type inlet conveyor driven by a 3 H.P. motor through a shaft mounted gear reducer receives aggregate from the cold feed collecting 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.

BURNER ASSEMBLY: The Model 5424 Drum Mixer employs the Hauck StarJet burner assembly. 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, high altitude, blower driven by a 25 H.P. motor, automatic temperature control and flame safeguards. The burner capacity is 27.9 MBTU/HR. The fuel pump is driven by a 1/2 H.P. motor.

POLLUTION CONTROL SYSTEM: The pollution control system includes an expanded discharge breeching on the drum mixer connecting to the baghouse entry plenum. This large area assures fallout of area relatively large asphalt coated particles prior to their entrance into the baghouse. The duct work between the baghouse and the drum mixer is constructed from 3/16" thick steel plate. Duct work connecting the baghouse to the exhaust fan is designed to provide the minimum pressure drop. The Model 154 fabric filter type dust collector is designed to handle 12,000 CFM

at an air to cloth ratio of 5.5:1 and operating temperatures of 280-350°F. Bag design is of the double wall type with 152 6" diameter x 7' long bags yielding 2,184 sq. ft. of cloth. The bags are constructed from 14 ounce NOMEX with 13% glass fiber to give better filtration on the sub-micron particle sizes. The surface of the bag is singed prior to manufacture to insure better cake release during the cleaning operation. The bags and cages are designed for easy top removal through hinged gasketed doors.

ASPHALT BLENDING SYSTEM

GENERAL: The Model 5424 Drum Mixer includes the ALmix Millennium Blending Control System. The heart of this control system is an IBM PC compatible computer driving an industrial grade PLC. The Millennium Control features a fully graphic operator interface to provide complete plant status at-a-glance. Millennium 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 is a 17" VGA full color monitor 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, separate start and stop delay times for AC injection, liquid asphalt tolerance percent and predetermined moisture content for each aggregate. The following items will be displayed on the video monitor: aggregate TPH for each aggregate, aggregate total TPH at point



Model **5424** Asphalt Drum Mixer



of asphalt injection, liquid asphalt TPH, total mix TPH, desired % of aggregates and asphalt, actual % of aggregates and asphalt, accumulated total tons of each aggregate, accumulated total tons of liquid asphalt, 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 3 H.P. motor and flux vector 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 Millennium Control System.

The pump and meter assembly is skid mounted to allow location on the asphalt storage tank.

OPTIONS:

- Stationery or Portable Asphalt Plant Design Configurations
- Single or 2 bin Cold Feed Systems – mounted on frame with drum mixer
- 2, 3 or 4 bin 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

