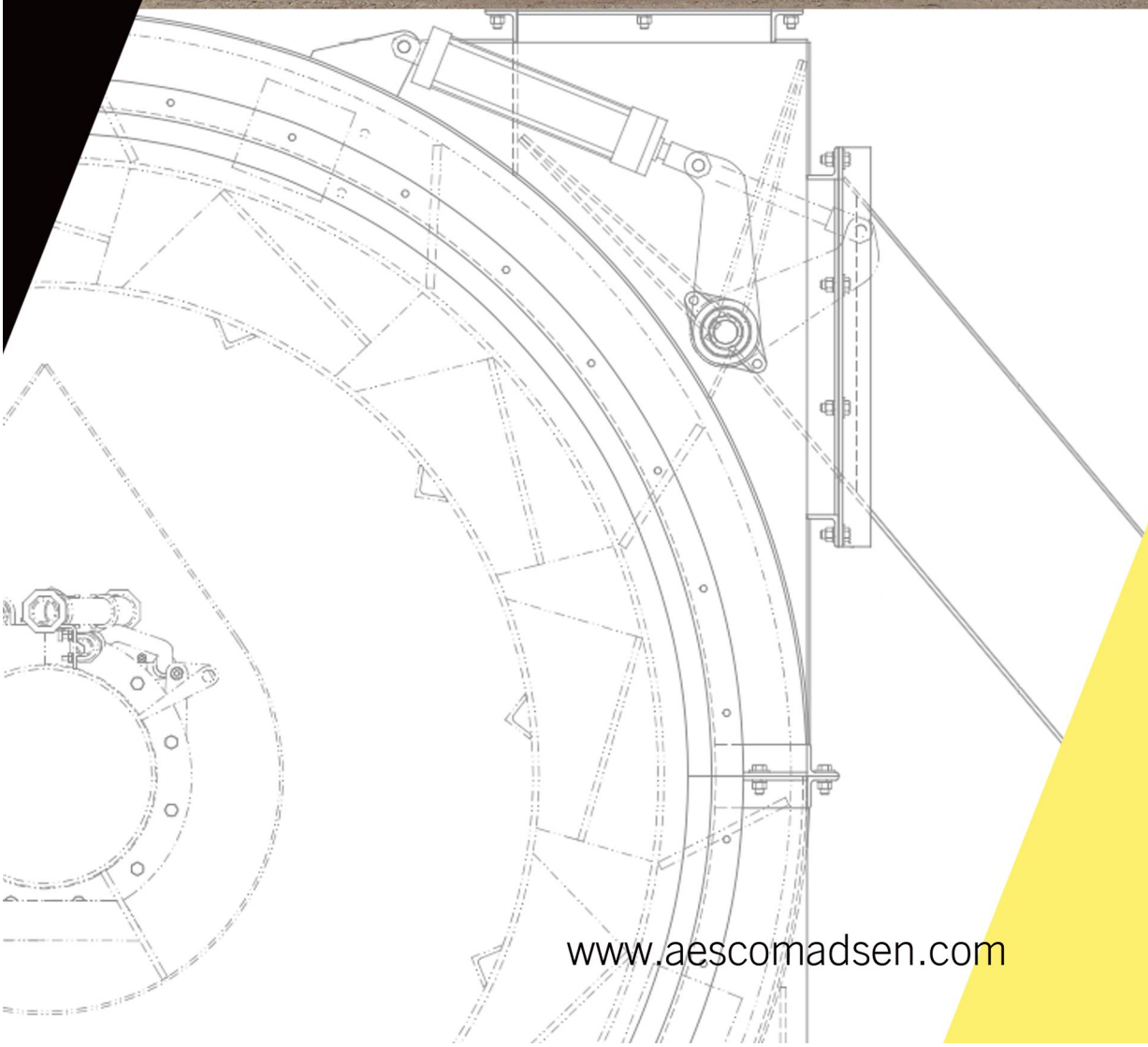
COUNTERFLOW DRYER

DRUM MIXER

CFM SERIES



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CFM SERIES

Counterflow Dryer / Drum Mixer

With models ranging in production from 150 to 500 tons per hour, Aesco Madsen's CFM Series of counterflow Drum Mixers are designed to exceed the performance standards required for nearly any application.

By merging counterflow technology with continuous innovation in output and efficiency, the CFM series has established itself as an industry leader in reliable, cost-effective asphalt production for more than a decade.

For additional information on how the CFM Series can improve your plant operations, reach out to one of Aesco Madsen's knowledgeable sales representatives today.

Model Specifications

Model	Drum Size	Total Weight	TPH
CFM 150	5’ 8” x 32’	50,000 lbs.	120 - 200 TPH
CFM 200	6’ 6” x 35‘	65,000 lbs.	125 - 225 TPH
CFM 250	7’ 6” x 40‘	95,000 lbs	200 - 300 TPH
CFM 350	8’ 6” x 44’	107,000 lbs.	300 - 400 TPH
CFM 450	9’ 6” x 44’	130,000 lbs.	400 - 500 TPH

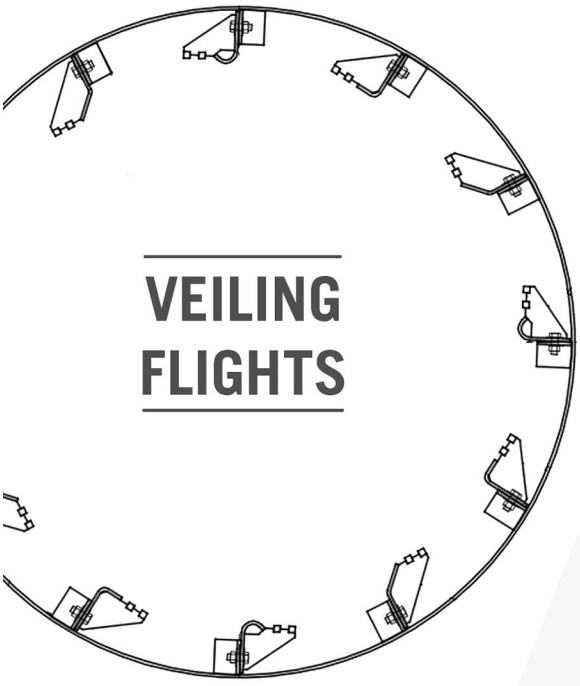
*CFM series drum mixers support up to 50% RAP

CFM 200

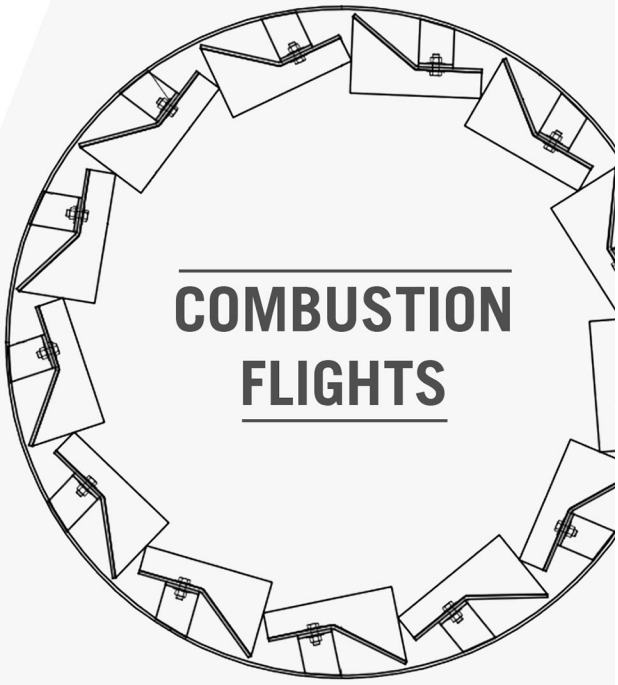
Counterflow Process

1. Drying Zone

As virgin aggregate first enters the drum, it passes through the drying zone where the material is brought to temperature and any moisture is removed. This is accomplished by a series of patented heavy veiling grid flights, designed to lift the material up, then evenly spread it through the burner's heat stream.



2. Combustion Zone



The material then continues to travel towards the burner to the combustion zone. It is here where the combustion flights lining this section of the counterflow drum perform two crucial functions. First, they serve as a heat shield, protecting the shell of the drum from overheating. Second, they prevent the aggregate from falling through the burner flame and causing improper combustion.

Counterflow Process

3. Mixing Zone

Lastly, the virgin material travels behind the burner flame into the mixing zone where liquid asphalt, RAP (recycled asphalt pavement), fines, and additives are blended into the mix. It is in this mixing chamber that the benefits of counterflow technology are truly realized. Conducting the mix process away from the hot gases and burner flame allows the CFM series counterflow drum mixer to eliminate the environmentally harmful hydrocarbon (blue smoke) emissions seen in more traditional plant technology.

Additionally, this counterflow system allows for a significantly higher amount of RAP to be utilized, drastically reducing overall operating costs. With five separate models of CFM series counterflow drum mixers available, Aesco Madsen is able to offer this versatile system to meet any need, matching the specific production requirements of each and every customer.

Superior Veil Technology

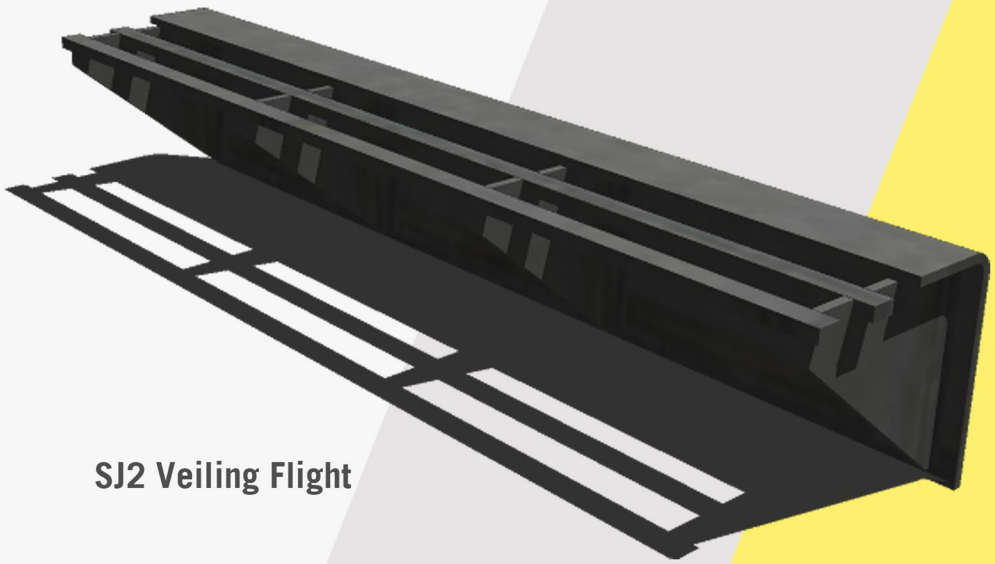
Through Custom Flights & Direct Drives

It is extremely important to have the right veil of material within the drum. A veil that is too thick will impede the heat flowing into the baghouse, causing moisture within the baghouse to condense. This unwanted moisture will result in dust caking to the bags, lowering baghouse efficiency and overall plant production.

Alternatively, too thin of a veil will result in an excess of heat entering the baghouse creating a fire risk. The operator is then forced to trim down the burner, also lowering overall plant production.

Once one understands that the veil influences almost every aspect of an asphalt plant, it can be easy to see why a well-distributed veil is extremely important. It is for this reason that Aesco Madsen has focused so much effort on, and succeeded in, producing the perfect veil.

Two crucially notable components that work in unison with one another in order to create the perfect veil found in Aesco Madsen's CFM Series counterflow drum mixers are: Custom SJ2 Veiling Flights, and Variable Frequency Direct Drives used to control the drums rotational speed.



SJ2 Veiling Flight

Superior Veil Technology

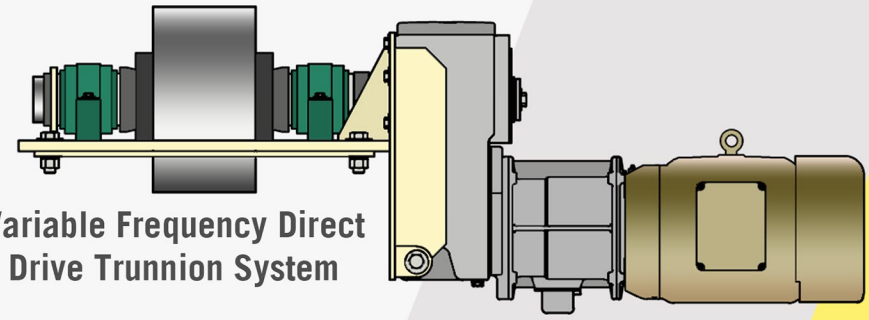
Through Custom Flights & Direct Drives

SJ2 Flights

Aesco Madsen's custom SJ2 Bolt-in-Flights were developed by industry experts within the company based off of decades of experience and careful research into the physics behind producing the perfect veil. Exclusive to Aesco Madsen drum mixers and available in a variety of angles for an added dimension of adaptability; the SJ2 Bolt-in-Flights have been central to the success and reputation that the CFM series counterflow drum mixers have received over the years.

Variable Frequency Direct Drives

Variable frequency direct drives are the second major component responsible for the sought after veil seen in CFM Series drum mixers. This innovative feature provides complete control over the drum mixers rotational speed through the simple turn of a dial, allowing the drum to be fine-tuned in order to pinpoint the speed where the SJ2 grid flights within the drum produce the perfect veil for any given production requirements.



Variable Frequency Direct Drive Trunnion System

Additionally, the direct drive design elminates the efficiency losses found in traditional pulley motor systems. As the name suggests, the direct drive motors eliminate the need for the pulleys traditionally used to rotate the trunnions. The result is an increase in plant efficiency and a reduction in obsolete components that are likely to wear down and need replacement.

Standard Features

- SJ2 bolt-in flights for easy replacement and veil adjustment
- Built with heavy duty I-Beam welded construction
- Slinger belt with reversing capabilities for easy calibration
- Counterflow technology for higher RAP usage and lower hydrocarbon emissions
- Compatible with all warm mix and additive systems
- High efficiency Hauck long nose burners

Hauck Starjet Burner System

Each CFM Series Drum Mixer comes standard with a high efficiency Hauck Starjet Burner system. This system's unique flame shaping feature is able to generate the ideal burner flame no matter which model CFM Drum Mixer is right for your production needs. Having this type of flame control is crucial when adjusting for variables such as aggregate composition, drum size, or environmental conditions.

To provide your operation with even more versatility, the Hauck Starjet system will burn all clean commercial grades of fuel oil, natural gas, and liquid propane.

Available Upgrades

- Hydraulic lift for quick, efficient set-up and slope adjustment
- Stationary, Relocatable, or Portable configurations
- Insulation wrapped shell within a durable aluminum covering to lower heat loss and burner fuel costs
- Adjustable drum rotation speed by way of a variable frequency drive
- Warm Mix and Anti-Strip additive systems
- High efficiency burner capable of utilizing any type of fuel oil, natural gas, reclaimed oil, or propane

The Eco-Foam II Warm Mix system injects water directly into the asphalt cement just before reaching the drum mixer. This instantly turns the water to steam in the form of small bubbles, resulting in a “foamed asphalt” mixture. This mixture is able to effectively coat the aggregate within the drum at temperatures 50 - 60 degrees Fahrenheit lower than normal HMA due to it’s lowered viscocity.

With fuel savings of approximately 2.5 - 3 percent for every 10 degree reduction in temperature, this systems return on investment for your operations bottom line will be felt immediately.

Eco-Foam II Warm Mix System

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