CMI
ROADBUILDING INC.



ASPHALT PLANTS

E3 RAP-STAR SERIES

COUNTERFLOW DRUM-MIXERS

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COUNTERFLOW DRUM-MIXERS

The E3 RAP-Star series of continuous counterflow drum-mixers combines high productivity and high RAP percentage capabilities with simplicity and reliability.

Available as portable drums in capacities from 200 to 500 tph and as relocatable and stationary drums in capacities from 200 to 600 tph.

Capable of handling high percentage RAP mixes E3 RAP-Star's are available with trunnion drive or chain drive and are an ideal retrofit for existing counterflow plants.



REPLACEABLE PADDLES

Replaceable Paddles can discharge material centrally or to either side depending on plant layout.

HEAT TRANSFER PANELS

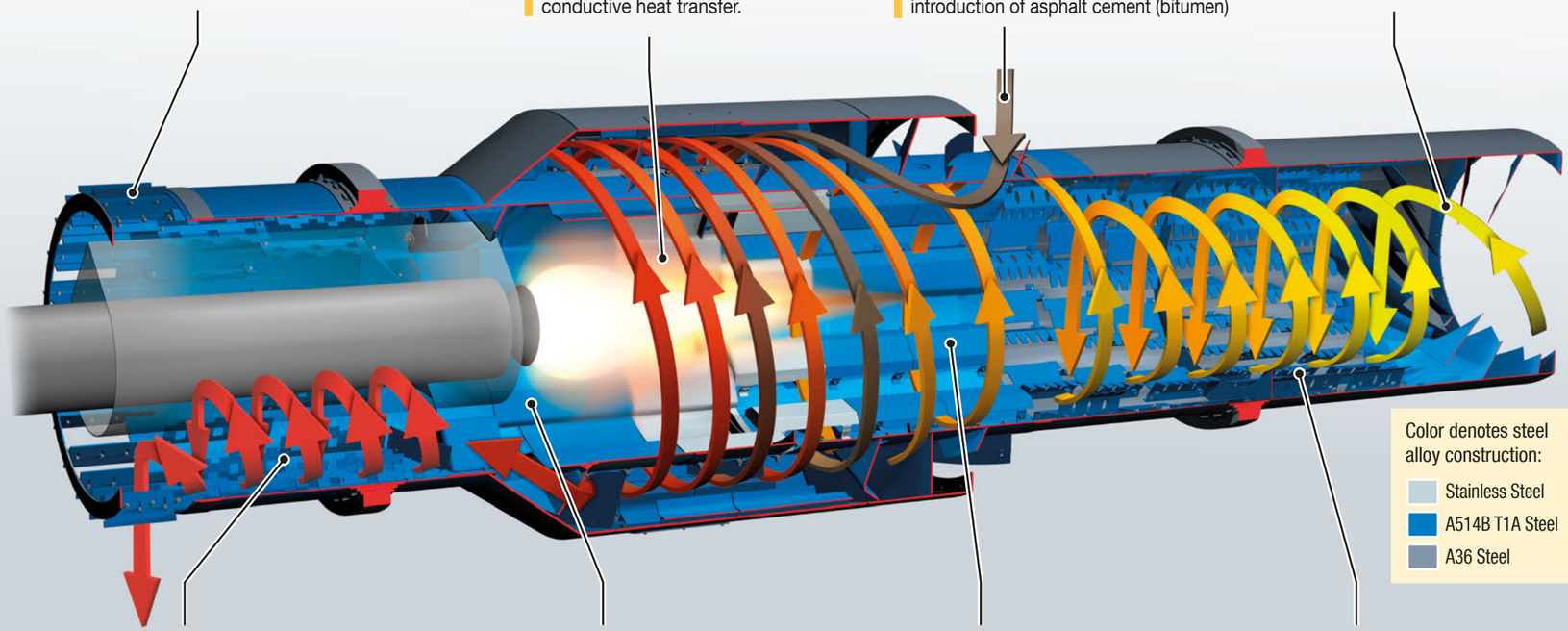
Radiant heat transfer panels (Stainless in the combustion zone) keep RAP from the direct flame while providing excellent conductive heat transfer.

RAP ENTRY

Cold, wet RAP is introduced into the outer shell, where it is blended with a proportion of hot aggregate and hot dust removing excess moisture before the introduction of asphalt cement (bitumen)

VIRGIN AGGREGATE ENTRY

Inlet spirals effectively move the cold virgin aggregate into the drying zone no matter what the slinger conveyor position.



Color denotes steel alloy construction:

- Stainless Steel
- A514B T1A Steel
- A36 Steel

MIXING ZONE

The mixing zone uses a castle flight design from CMI Magnum drums resulting in industry leading mixing.

TEE-PEE FLIGHTS

"Tee-Pee" flights (Stainless in the combustion zone) protect the primary drum shell from heat and allow virgin aggregate to pass along the drum.

INSULATOR FLIGHTS

Insulator flights (Stainless in the combustion zone) prevent aggregate veiling in the combustion zone, increasing efficiency and stopping flame impingement.

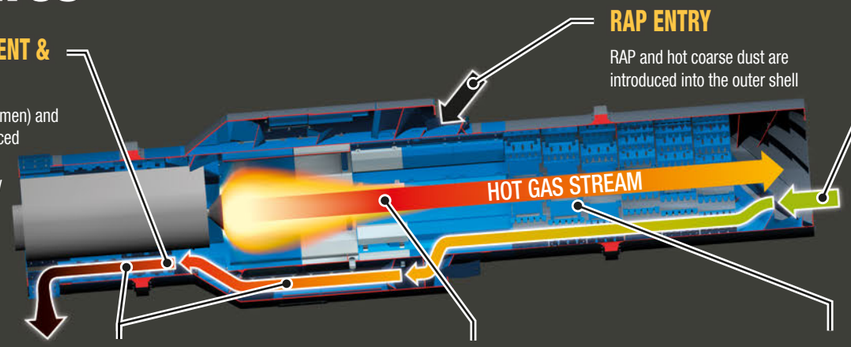
SAW TOOTHED FLIGHTS

Saw toothed lifting flights result in a consistent curtain of material being dried, reducing baghouse temperatures and increasing efficiency.

Features

ASPHALT CEMENT & FINE DUST

Asphalt cement (bitumen) and fine dust are introduced and all constituents are mixed thoroughly



MATERIAL BLENDING

E3 RAP-Star's have the industry's longest material blending zone, where RAP and virgin aggregates mix together

EMISSION CONTROL

Unburned hydrocarbons from the mixing zone are drawn into the exhaust gas stream and incinerated

HEAT TRANSFER

The E3 RAP-Star design features three heat transfer methods: convective, radiant and conductive



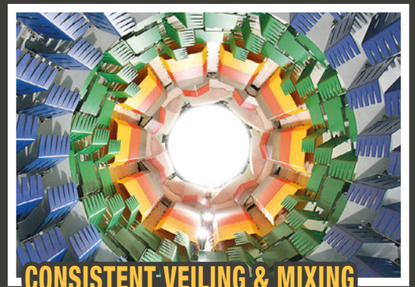
PLANT UPGRADES

E3 RAP-Star drums can be easily retro-fitted to existing CMI, Cedarapids® and Standard Havens® drum frames. Alternatively an E3 RAP-Star drum upgrade will improve the efficiency and performance of other manufacturers asphalt plants.



HIGH RAP CAPABILITY

By feeding RAP into the outer shell and mixing it with hot, dry virgin aggregate for the length of the combustion zone, the E3 RAP-Star achieves enhanced RAP mixing before introduction of liquid bitumen/asphalt cement, making the E3 capable of 50%+ RAP mixes.



CONSISTENT VEILING & MIXING

The design and configuration of the E3 RAP-Star flighting resulting from years of experience of CMI, Standard Havens® and Cedarapids® dryers & drum mixers, optimizes efficient drying and mixing whatever the material.

TECHNICAL SPECIFICATIONS

	UNITS	E3-200	E3-300	E3-400	E3-500	E3-600
PRODUCTION CAPACITY						
OUTPUT	tph	200	300	400	500	600
	mtph	181	272	363	454	544
DRUM MIXER						
MAIN DRUM DIAMETER	ft / ins	6' 4"	7' 4"	8' 4"	9' 3"	10' 3"
	mm	1930	2230	2540	2830	3124
RAP ENTRY DIAMETER	ft / ins	9' 4"	10' 4"	11'	11' 10"	13' 4"
	mm	2845	3150	3350	3610	4064
DRUM LENGTH	ft / ins	36'	42'	47' 6"	47' 6"	47' 8"
	mm	10973	12802	14480	14480	14529
DRUM DRIVE	hp	4 x 20	4 x 25	4 x 40	4 x 50	4 x 60
	kW	4 x 15	4 x 19	4 x 30	4 x 37	4 x 45
AIR VOLUME						
TOTAL	ft^3 / min	32000	48000	64000	80000	96000
	m^3 / min	906	1359	1812	2265	2718
BURNER						
BURNER TYPE	-	Fuel Oil	Fuel Oil	Fuel Oil	Fuel Oil	Fuel Oil
CAPACITY	$x10^6$ BTU / hr	82	100	135	153	200

OPTIONS
Trunnion (friction) drive or chain drive
Integrated patented warm mix asphalt system
Various flighting arrangements to suit location and application
Various burners available to suit local emissions criteria
Special suspensions and air-ride
Self-contained hydraulic set-up system
Can be retro-fitted to existing CMI, Cedarapids® and Standard Havens® plants





BENEFITS

- Reduced fuel usage due to efficient heat transfer
- Reduced cost per ton through increased RAP usage
- Easy retro-fit to existing CMI, Cedarapids® and Standard Havens® drum frames
- Fully bolted flighting for ease of maintenance
- Easy access to the enhanced RAP mixing zone from inside or outside of drum
- Abrasion resistant materials throughout to increase working life

DEALER STAMP

Cedarapids® Standard Havens® Johnson-Ross®

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