

AMMANN



AMMANN RECYCLING TECHNOLOGY

CREATING VALUE
THROUGH RE-USE



HIGH CARE IN ROAD RECYCLING

As a responsible industry leader, Ammann is fully committed to reducing the carbon footprint of road construction. By maximising the reuse of existing materials, we help to conserve natural resources and reduce the need for raw material extraction.

The Company has a consistent focus on high-quality reuse, rather than general recycling. Our highly sustainable processes enable us to maintain the highest quality of production throughput while also delivering the lowest emissions and optimal efficiency.

Ammann's wide range of recycling technologies enables our customers to choose from various solutions tailored to their local market demands, budgets, and carbon footprint goals.



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RECYCLING TECHNOLOGIES

Road pavements can be recycled through various methods, primarily in-plant and in-situ processes, each of which can be carried out using either hot or cold techniques.

There is no single optimum recycling technology: each method has its strengths and limitations. In-situ recycling enables on-site reuse of materials, offering sustainability and cost benefits, but requires extensive equipment and longer execution times. In contrast, in-plant recycling is more efficient and widely accepted, delivering higher performance through controlled processing.

Hot recycling – whether on-site or in-plant – heats and reuses RAP efficiently, making it ideal for large-scale projects. Cold recycling, which combines RAP with emulsion or additives, is better suited for a smaller range of applications.

Choosing the right solution depends on project needs, and that's where Ammann makes the difference. With decades of experience and a wide range of technologies, Ammann is the right partner to guide and support you in selecting the

best recycling method for your goals. As is well understood, heating is essential when the mixing plant is reusing materials. The recycled asphalt (RAP) must be heated until it has the temperature of a conventional mix.

There are different methods for heating RAP:

- Heating RAP by combining it with overheated aggregates (RAC);
- Heating RAP and the aggregates together in the same dryer (RAH35, RAH50);
- Heating RAP and aggregates in separate dryers (RAH60, RAH100).

In this document, we provide an overview of the unique Ammann solutions currently available and well-proven in the global market.



RAH 50 2ND GEN. + RAC



INDIRECT HEATING

DIRECT HEATING

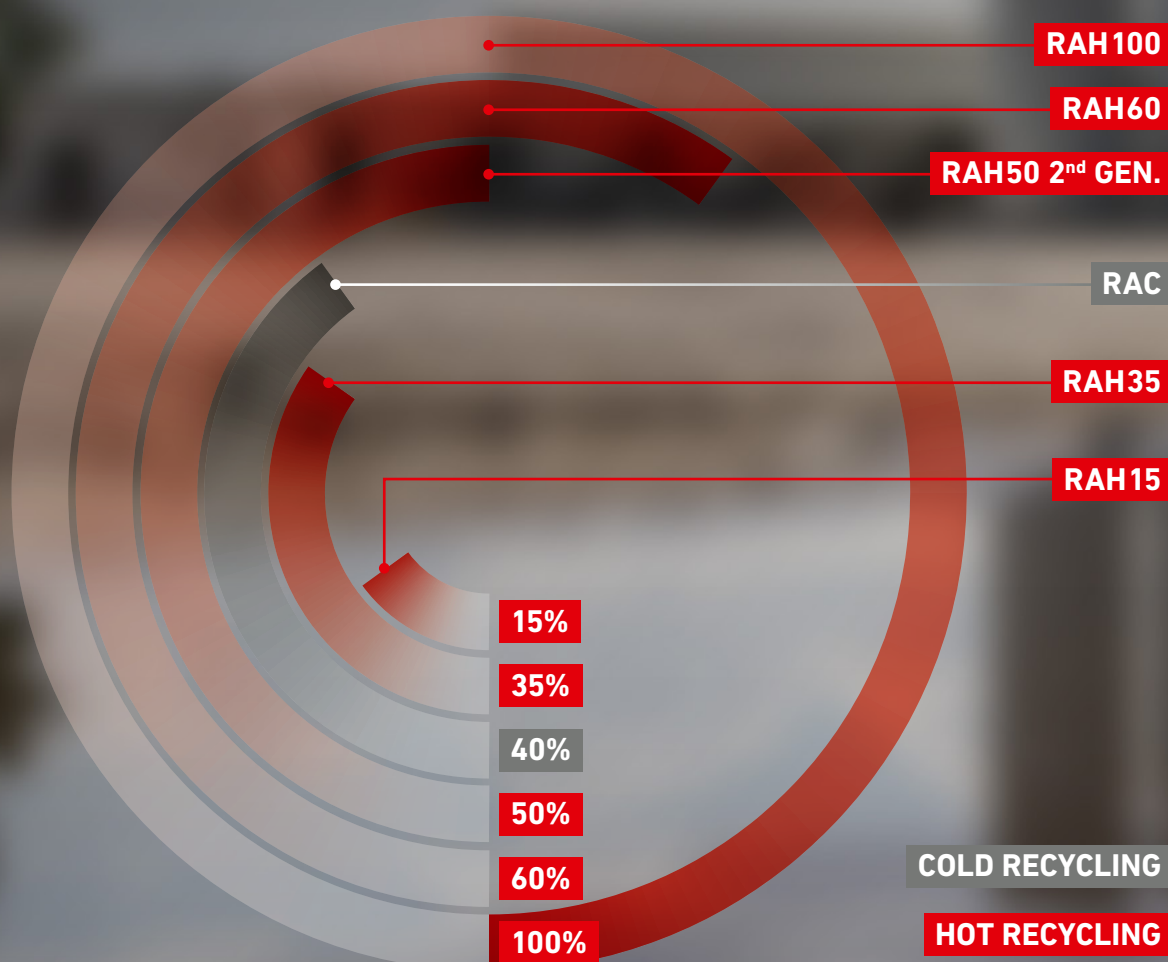
COLD
RECYCLING

ASPHALT PLANTS		RAC	RAH 15	RAH 35	RAH 50 2 ND GEN.	SINGLE DOUBLE COLLAR	RAH 60	RAH 100	UP TO 100%
BATCH	Stationary Transferable	ABP HRT	•				•	•	
		ABP UNIVERSAL	•	•	•		•	•	
		ABA UNIBATCH	•	•	•		•	•	
		ABC SOLIDBATCH	•	•	•				
		ABA UNIHRT	•				•	•	
		ABC ECOHRT	•				•	•	
		ABC ECOBATCH	•	•			•	•	
		ABC VALUETEC	•	•	•		•		
		ABC ECOTEC SUPERTEC	•	•					
		ABT SPEEDYBATCH 2.0	•	•	•				
	Mobile	ABM EASYBATCH	•						
CONTINUOUS	Stationary Transferable	ACP CONTIMIX 2.0		•	•		•	•	•
		ACP CONTIHRT					•		
		ACC COUNTERMIX							
		ACC ALPINE				•			
		SCC 400 COLDMIX							•
		MECHTEK							•
	Mobile	ACM PRIME 2.0	•	•					



SUSTAINABLE SOLUTIONS

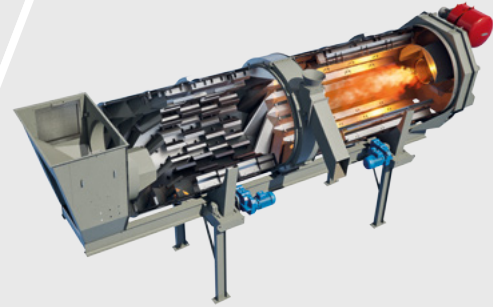
The use of recycled asphalt is a necessity given today's sustainability needs. Ammann is a world leader in the development of RAP technology.



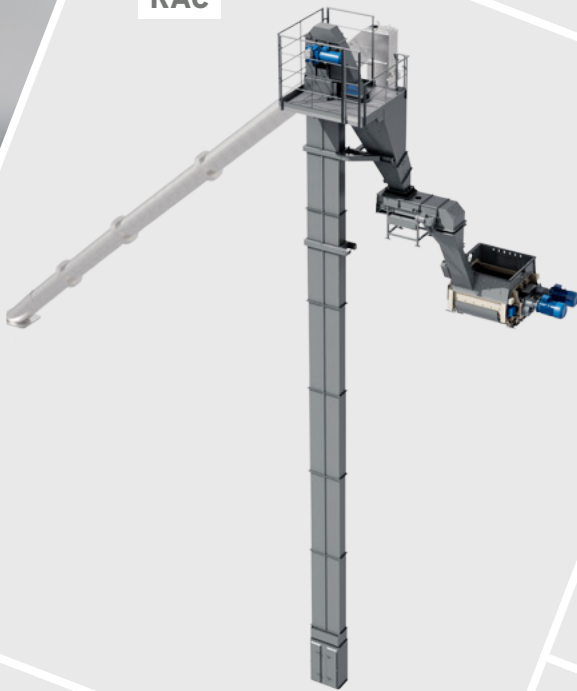
RAH15



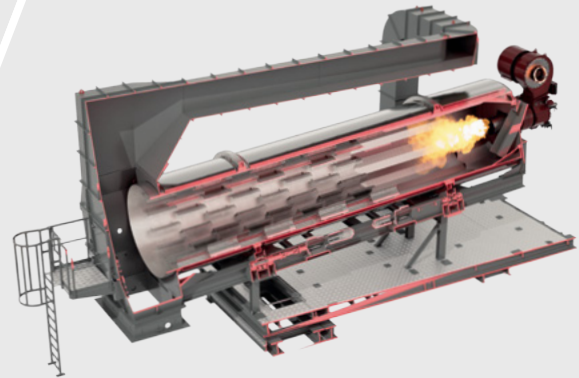
RAH50 2nd GEN.



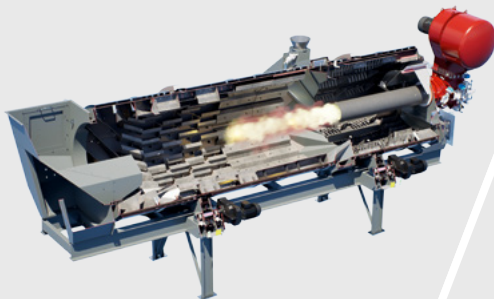
RAC



RAH60



RAH35



RAH100

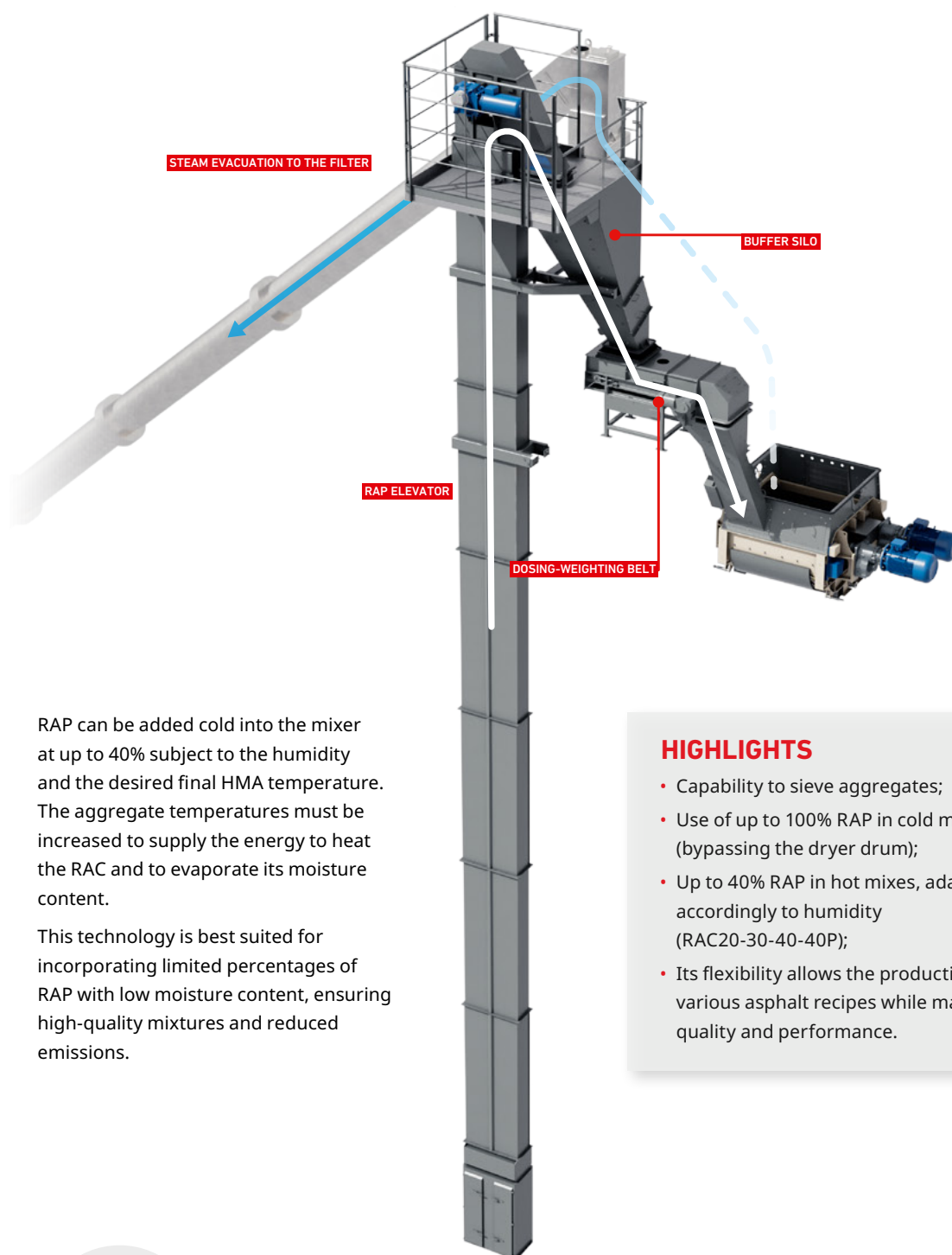


RAC



Check the video

Up to 40% cold feed
into the mixer



RAP can be added cold into the mixer at up to 40% subject to the humidity and the desired final HMA temperature. The aggregate temperatures must be increased to supply the energy to heat the RAC and to evaporate its moisture content.

This technology is best suited for incorporating limited percentages of RAP with low moisture content, ensuring high-quality mixtures and reduced emissions.

HIGHLIGHTS

- Capability to sieve aggregates;
- Use of up to 100% RAP in cold mixes (bypassing the dryer drum);
- Up to 40% RAP in hot mixes, adaptable accordingly to humidity (RAC20-30-40-40P);
- Its flexibility allows the production of various asphalt recipes while maintaining quality and performance.

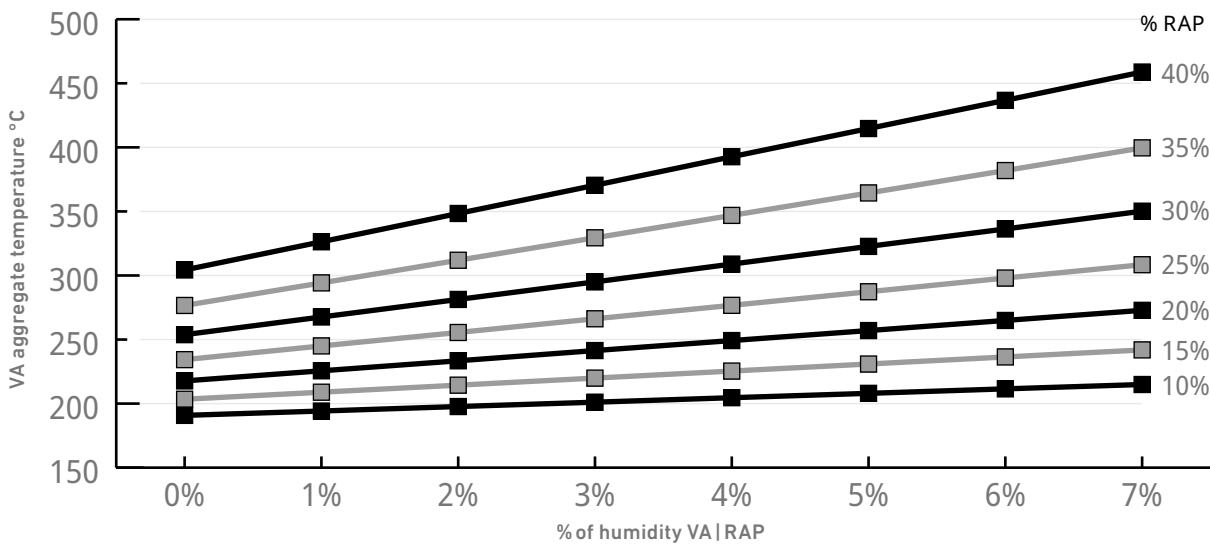
RAC system in fixed plants

40%

RAC SYSTEM IN ACM PRIME 2.0



RAC PERFORMANCES



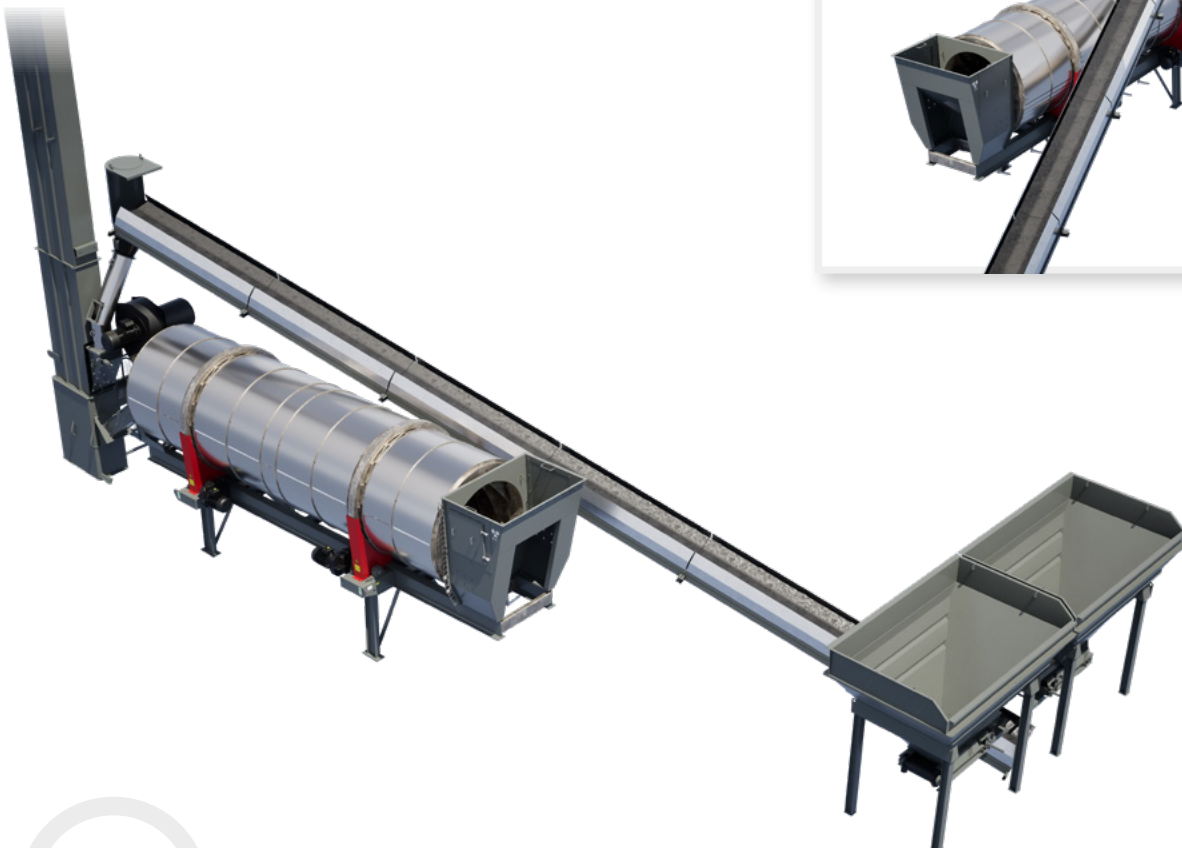
RAH15

Feed up to 15% RAP
into the hot elevator

RAH15 represents the simplest technical solution with the lowest investment cost. It consists in the introduction of a quantity of pre-screened, non-fine-grained RAP, in a percentage no greater than 15% to allow for screening if necessary. The RAP is simply introduced at the foot of the hot aggregate elevator and dried and heated by contact with the appropriately overheated virgin aggregates.

HIGHLIGHTS

- Achieves recycling rates of up to 15% RAP content via the screening process;
- Requires minimal initial investment;
- RAP is directly heated through contact with overheated aggregates, starting from the hot elevator bucket and continuing into the hot mineral silo;
- Allows for precise dosing of RAP in accordance with technical standards;



15%

RAH35



Check the video

Feed up to 35% RAP via the ring

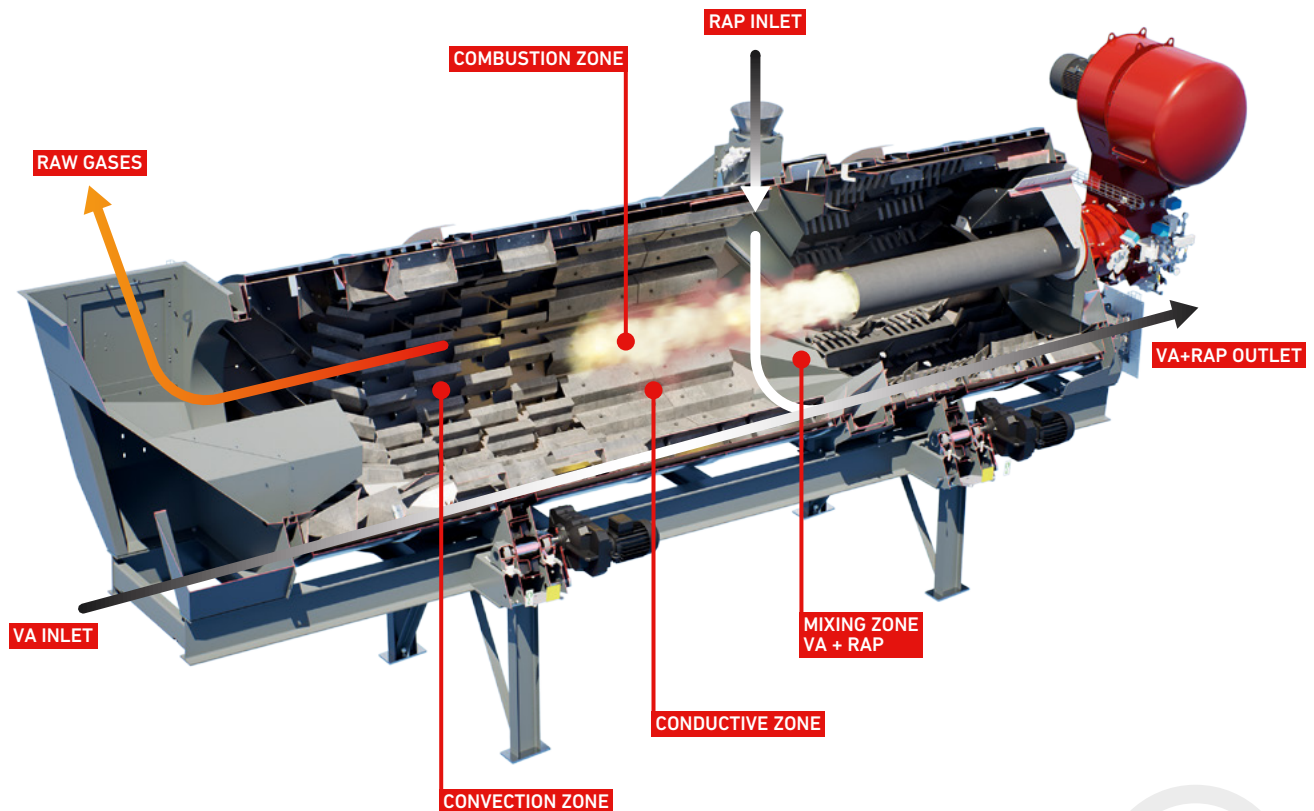
The RAH35, a cutting-edge recycling technology, is the latest innovation introduced by Ammann for its classic plants.

The RAH35 is a counter flow dryer featuring a special recycling ring designed to incorporate up to 35% RAP, or even more. The dryer can be equipped on any plant and requires a minimal investment. The special ring enables the introduction of RAP into the most suitable area of the cylinder, after the combustion chamber, far from the high temperature of the flame.

The RAH35's unique design ensures the efficient mixing and homogenization of the RAP and aggregates, scientifically and efficiently, thus allowing for the release of reduced emissions and the thermal treatment of the aggregates through their passage through the flame.

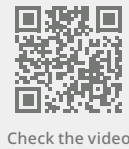
HIGHLIGHTS

- VA and RAP are dried and heated together into RAH35: more efficiency, no energy waste, no VA overheating;
- Gentle heat transfer and RAP protection;
- A high-cost-effective solution, with high performance, low fuel consumption, and emissions.



35%

RAH50 2ND GEN.



Feed up to 50% RAP
via the middle ring

The RAH50 is the highest technology counterflow dryer. RAP enters through a middle ring in the aggregates dryer drum that is equipped with a series of channels that control the flow and protect the RAP from high temperatures. The RAP is mixed with the hot VA, which gently heats the RAP.

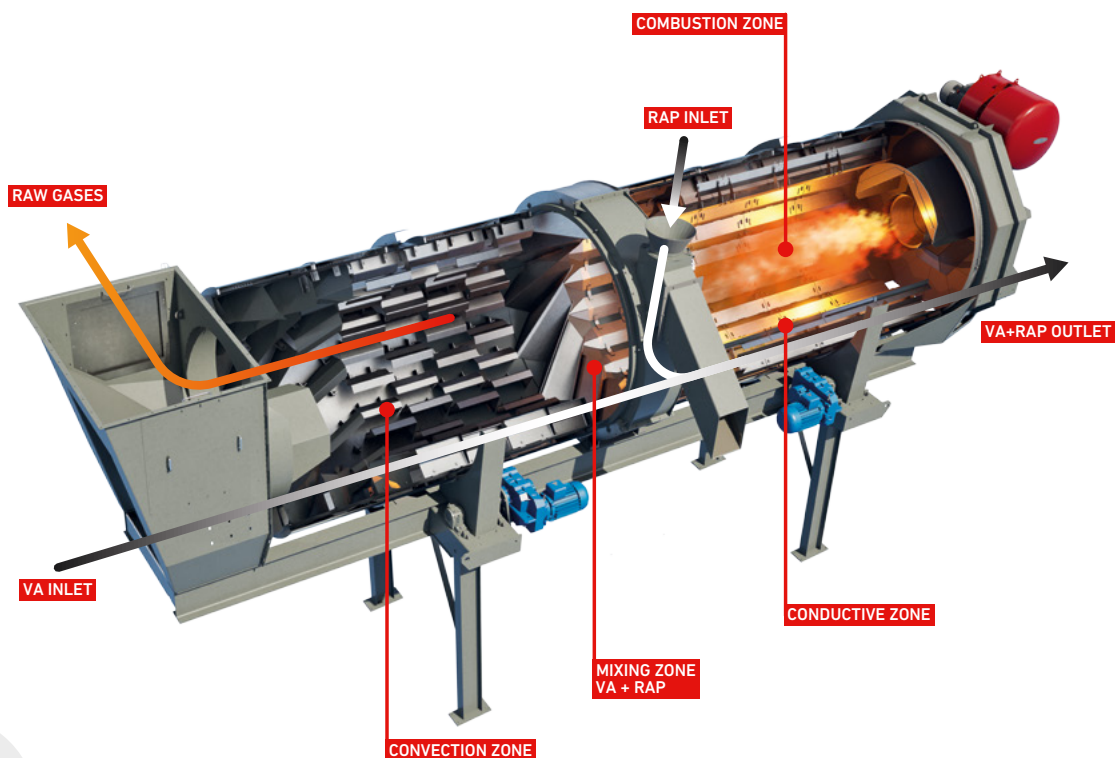
The mix of VA and RAP is now introduced into the annular chamber, an advanced, patented component designed to minimise emissions. The temperature is increased slowly, and the chamber rotates to protect the VA and RAP mix from the flame.

The annular chamber separation of the RAP from the high flame temperature:

- Prevents burning of the bitumen;
- Reduces emissions;
- Avoids interruption of the burner's combustion;
- Eliminates steam in the hot elevator.

HIGHLIGHTS

- Heating the RAP and VA together adds efficiency, conserves energy and prevents overheating;
- The gentle heating process reduces VOC emissions to less than 50 mg/Nm³;
- This patented heating technology prevents damage to bitumen and results in a high-quality mix;
- Three international patents and over 250 units working globally.



RAC + RAH (35 OR 50)

Up to 60% RAP when optimising a combination of Cold and Warm RAP additions

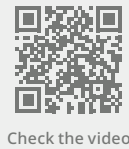
HIGHLIGHTS

- Quick and flexible to adapt to different recipes and changes in production tonnage per hour;
- Very effective investment level if compared with the installation of any parallel dryer drum;
- Cost-effective solution.



60%

RAH60



Check the video

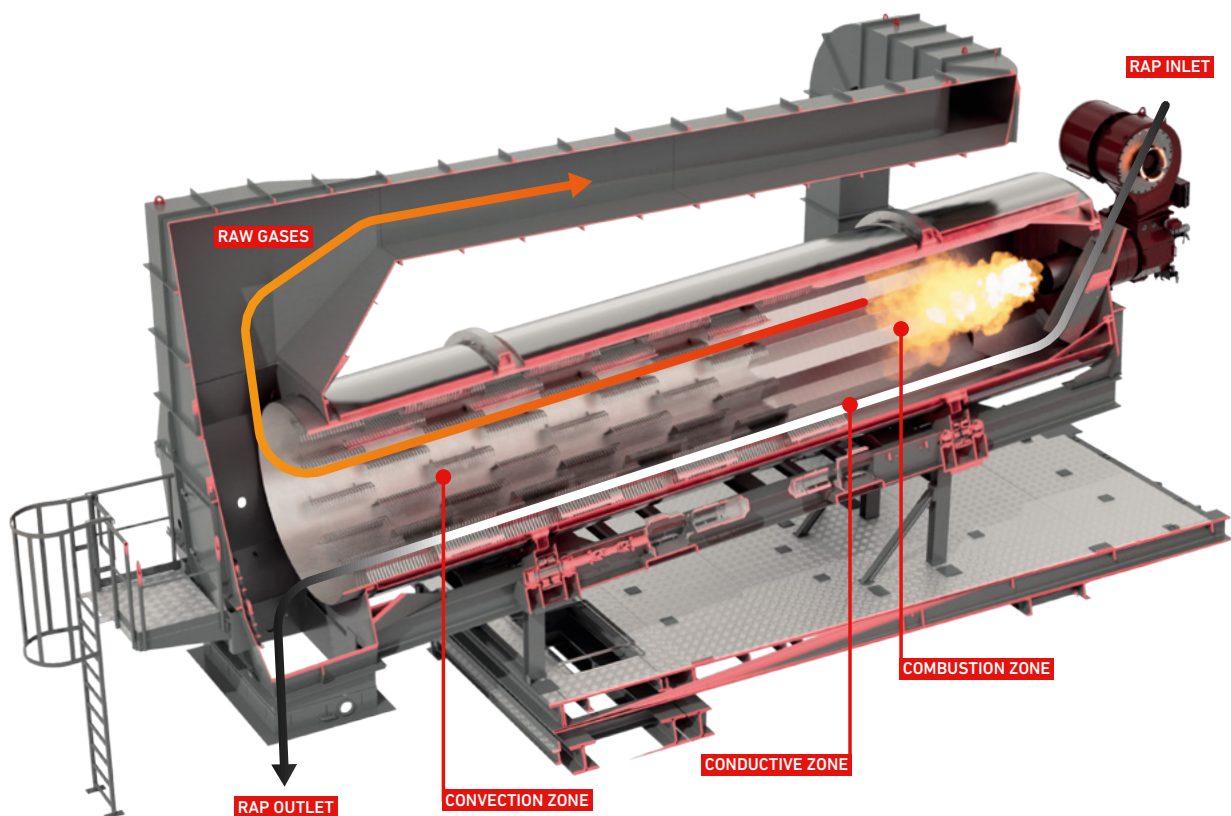
Classic technology up to 60% RAP, a high performer that has been updated for the latest challenges

The experience gained by Amman in over 40 years of development of the RAH60 and hundreds of installations worldwide is unique and invaluable. The RAH60 design and performance are still the best choice in terms of cost/benefit for many customers around the world.

RAH60 systems utilise parallel-flow dryers to allow production of mixes with up to 60% RAP. The RAP travels in a parallel flow direction where the heating raises the RA temperatures to 120–130 °C with minimal impact on the bitumen quality.

HIGHLIGHTS

- High addition rates of up to 60% RAP in the new mixes;
- Highly suited for larger production runs;
- Very suitable for all recipes;
- Can be combined with RAC system for additional flexibility in plant operation;
- Reliable system – hundreds operating units worldwide.

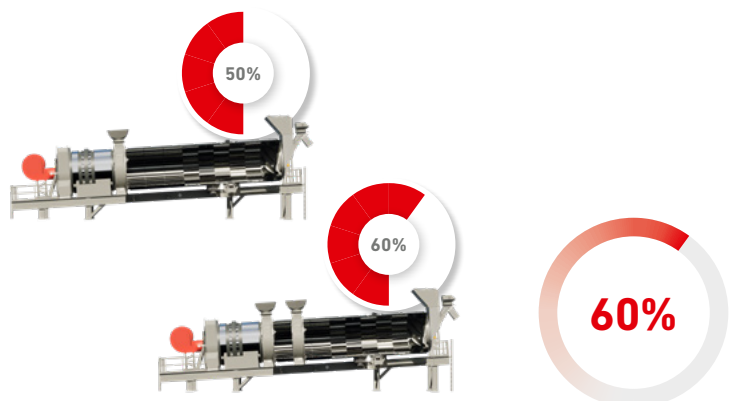


2ND RAP COLLARS: UP TO 60%

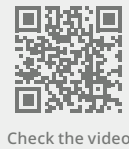


HIGHLIGHTS

- Available only for Alpine Continuous plant, this is a high recycled product (RAP) mix design with typical rates of 50% standard and 60% via dual collar feed;
- The extended mix section of the drum allows for better heat transfer to the material and longer mixing time;
- The 60% RAP capabilities give the Alpine market-leading RAP content at the highest consistent quality.



RAH100



Maximum RAP utilisation up to 100%, with minimal emissions and energy consumption

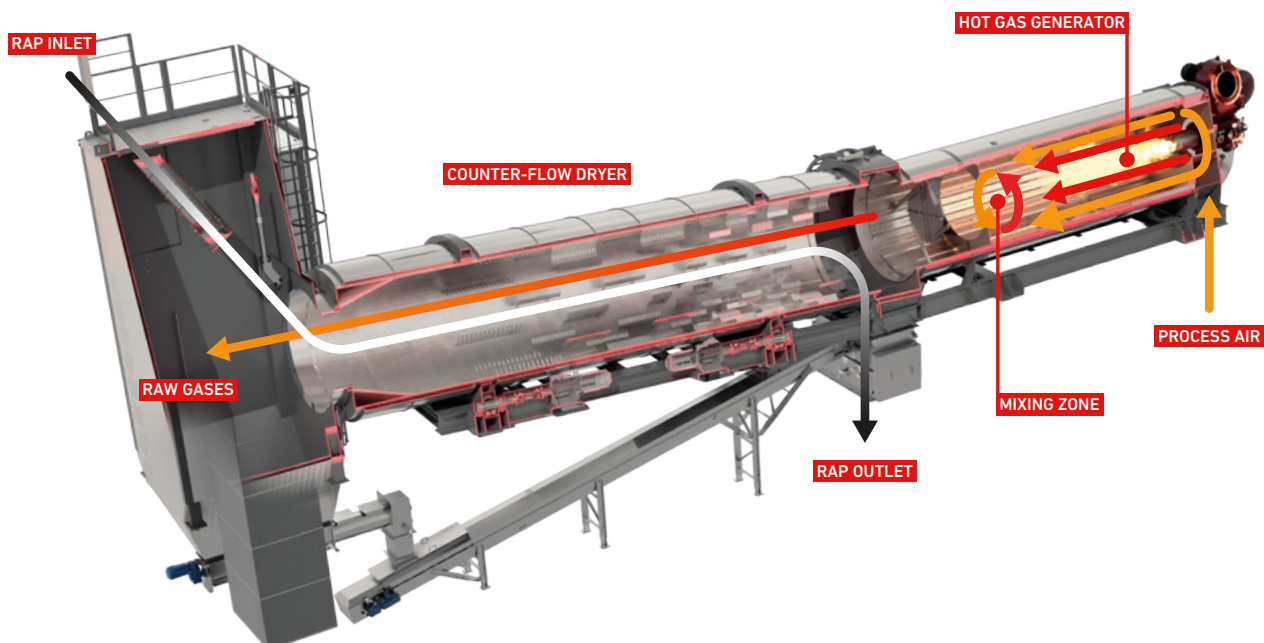
The Ammann RAH100 features advanced technology designed for efficient and sustainable asphalt production. It consists of two integrated sections: a high-technology static hot gas generator and a rotating counterflow dryer specifically for RAP.

RAP is introduced at the far end of the counterflow dryer and moves toward the heat source, but exits before reaching it. This design ensures the RAP is gently heated without exceeding 160°C, preserving the quality of the bitumen.

Unlike other technologies, the RAH100 eliminates the need to overheat virgin materials. Its controlled, energy-efficient process reduces emissions and minimises energy consumption, making it the most sustainable solution available.

HIGHLIGHTS

- Suitable for every production run;
- Conceived for producing all recipe types;
- Very low VOC and odour emissions (integrated system for fumes reburning);
- No RAP bitumen ageing;
- Special high-quality steel construction;
- Low maintenance on all channels;
- Reuse of warm air from the chimney;
- Patented Ammann technology.





OVER 80 RAH100
UNITS OPERATING
WORLDWIDE,
WITH MANY
OF THESE
UNITS BEING
RETROFITS.



SUSTAINABLE SOLUTIONS

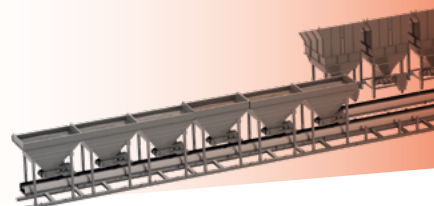
RETROFIT SOLUTIONS: RECYCLING AND MUCH MORE

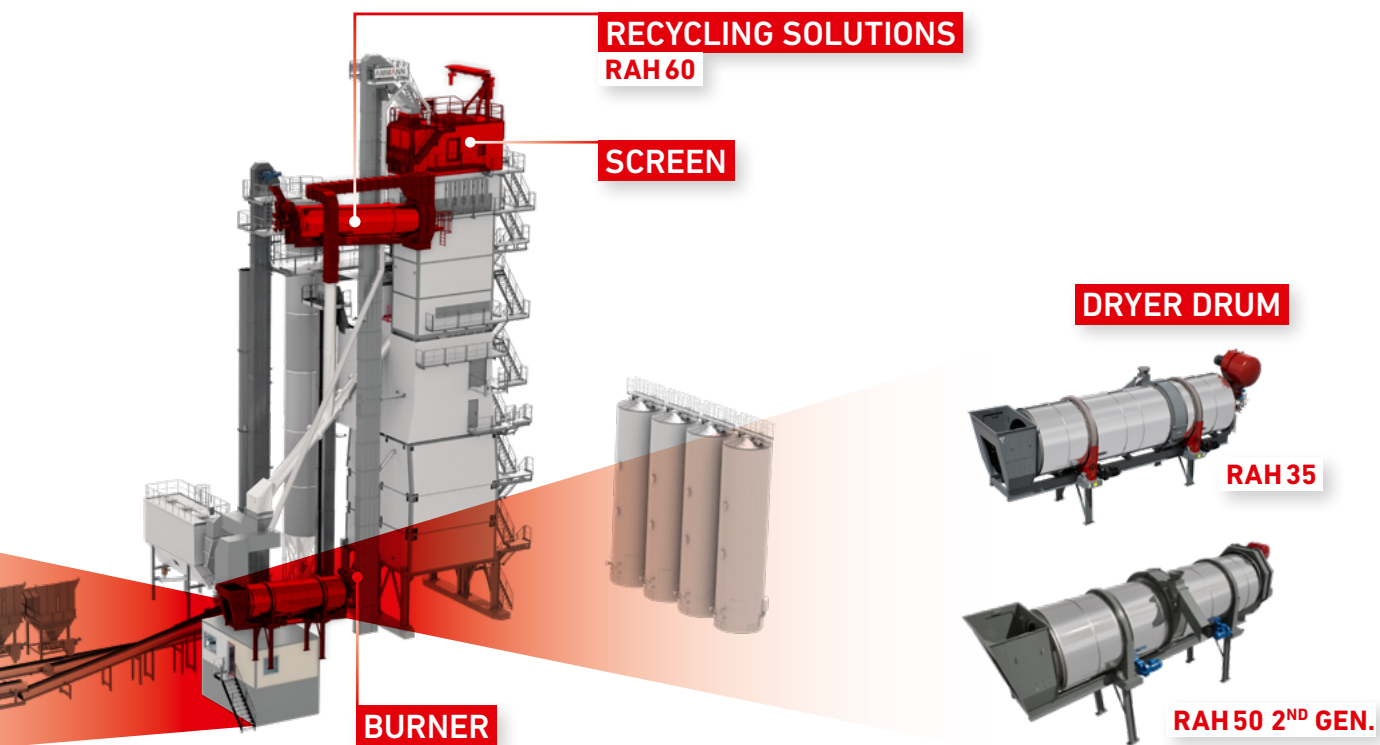
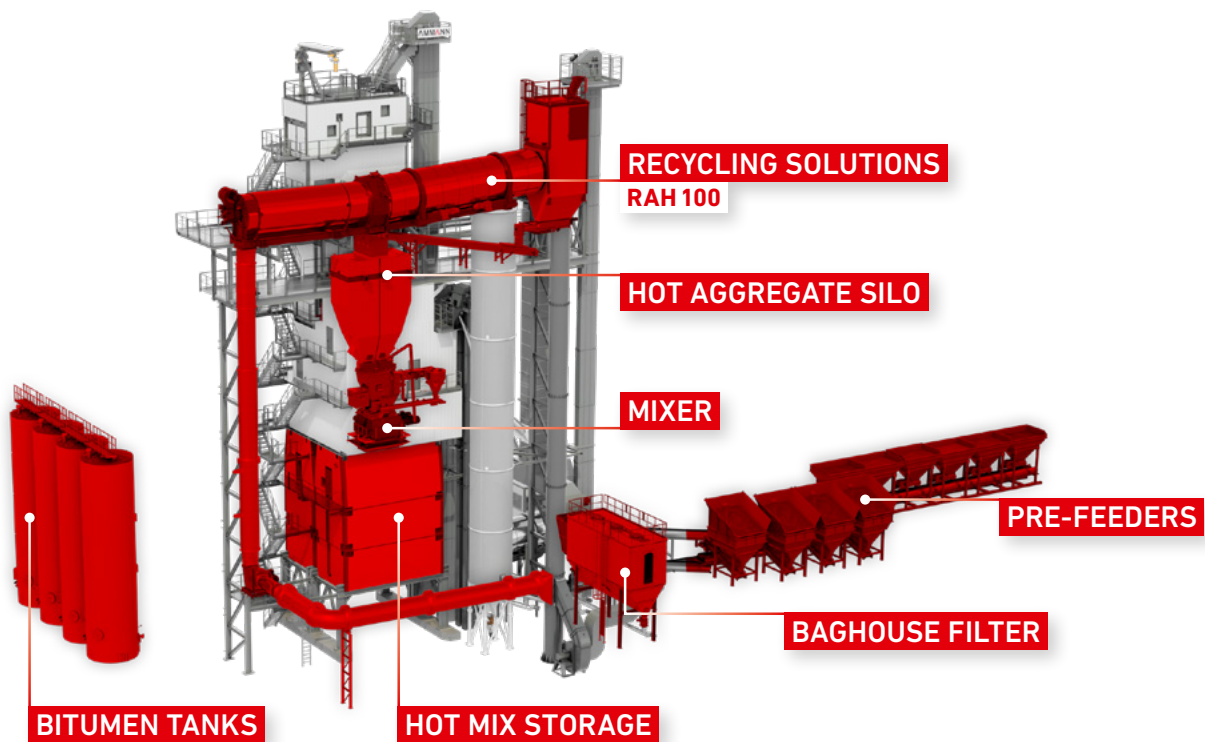
Improve the recycling performance of your existing plant.
All Ammann Recycling Solutions are also available
as retrofit options.

PLANT MANAGEMENT



AS1 CONTROL SYSTEM







AS1

CONTROL SYSTEM

AS1 DYNAMIC RECYCLING ADDITION (RAD)

The powerful and future-oriented AS1 system concept combines proven Ammann software with specially matched industrial hardware.

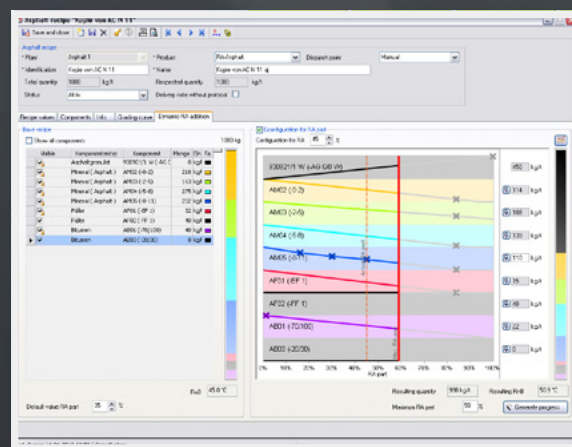
TWO COMPENSATION OPTIONS

Quantitative compensation

The correction of virgin material is carried out in relation to the quantity and composition of the RAP material.

Qualitative compensation

The correction of virgin material is carried out in relation to the quantity and composition of the RAP material in accordance with Ring and Ball specifications (based on the formulae detailed in EN13108).



HIGHLIGHTS

- The integrated wizard guides operator through the recipe input process;
- One recipe is sufficient for numerous RAP ratios;
- Changing the RAP ratio by using the slide controls during production;



AS1 AMMANN DRYING EXPERT (ADX)

Smarter Drying,
Greater Savings



HIGHLIGHTS

- Automates both the burner power and the dryer RPM setting;
- Fuel savings;
- Eliminates the need for manual interventions;
- Prevents inefficient temperature fluctuations;
- Highly consistency material temperature;
- Improved ease of use;
- Increased operational safety.



EFFICIENCY & ENERGY SAVING



AMMANN FOAM

Simple and low cost solution to improve your recycling performance

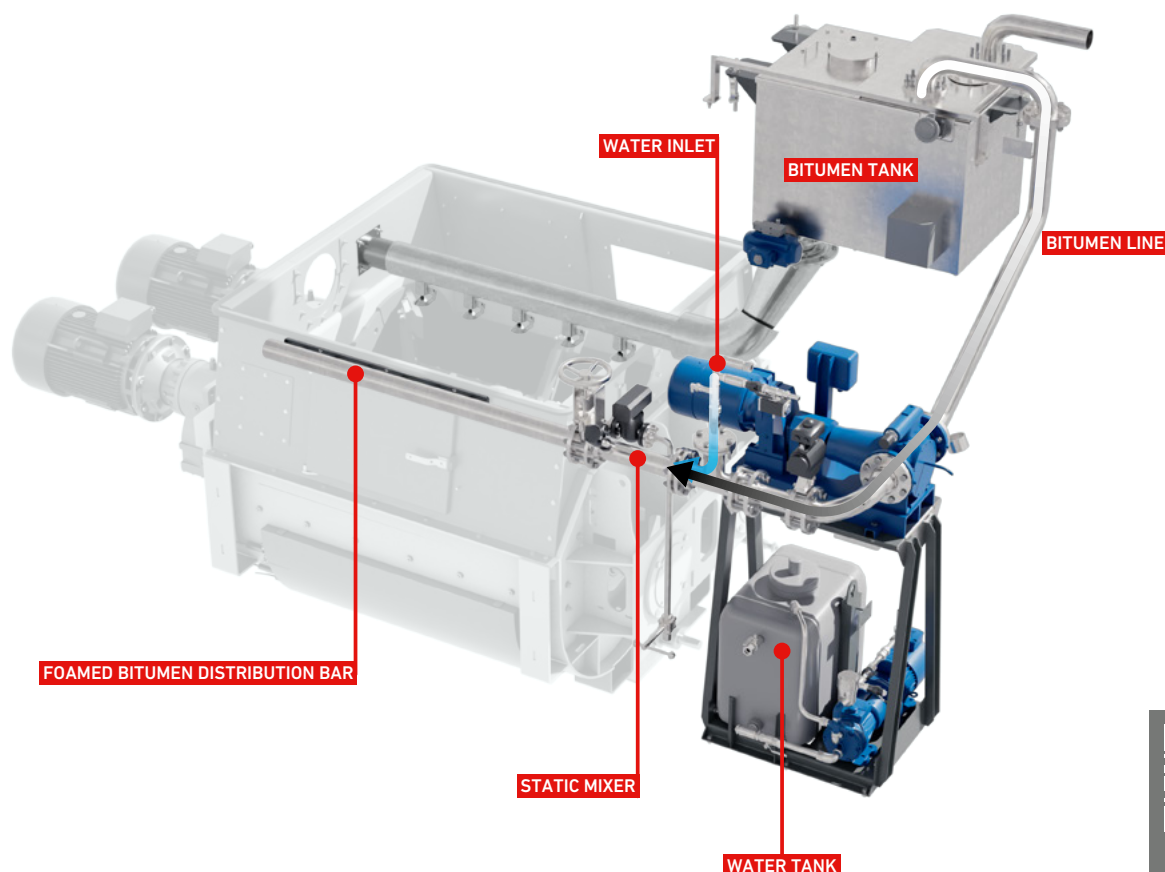
Ammann believes low temperature asphalt mixes are the future of the asphalt industry. Therefore, we developed the Ammann Foam System in collaboration with our customers and internal experts.

The low temperatures associated with the use of Ammann Foam provide big advantages:

- Higher workability during mix production and placement;
- Improved compaction performance;
- Extension of the paving season;
- An ability to deliver mixes longer distances;
- Better recycling performance.

Using Ammann Foam to produce warm mix asphalt (WMA) provides additional benefits:

- Reduced VOC emissions from bitumen;
- Lower levels of gas emissions and CO₂ from savings in drying and heating of virgin aggregates;
- Diminished fumes, emissions and odours;
- Quicker opening of roads to traffic;
- Savings in production costs through reduced energy consumption.



Learn more

AMMANN'S GLOBAL PRESENCE

An Innovative, Sustainable Business

Ammann is a world-leading supplier of mixing plants, machines and services to the construction industry, with core expertise in road-building and transportation infrastructure. We are committed to sustainability – in both the products we make and the ways we make them.

Our strengths are the forthcoming approach of a family firm that has been operating for many years, coupled with our strong and well-established international presence. Since 1869, we have been setting benchmarks in the road-building industry, thanks to countless innovations and solutions that are as competitive as they are dependable.

True to our motto, "Productivity Partnership for a Lifetime," we gear our activities to the needs and requirements of our customers around the globe. Plants and machines that consistently prove their merits under demanding conditions are the best way to give our customers the critical, competitive edge they need.

Our reliable, punctual service network provides the essential spare parts that keep our customers working – and supports the plants and machines throughout their lifetimes.

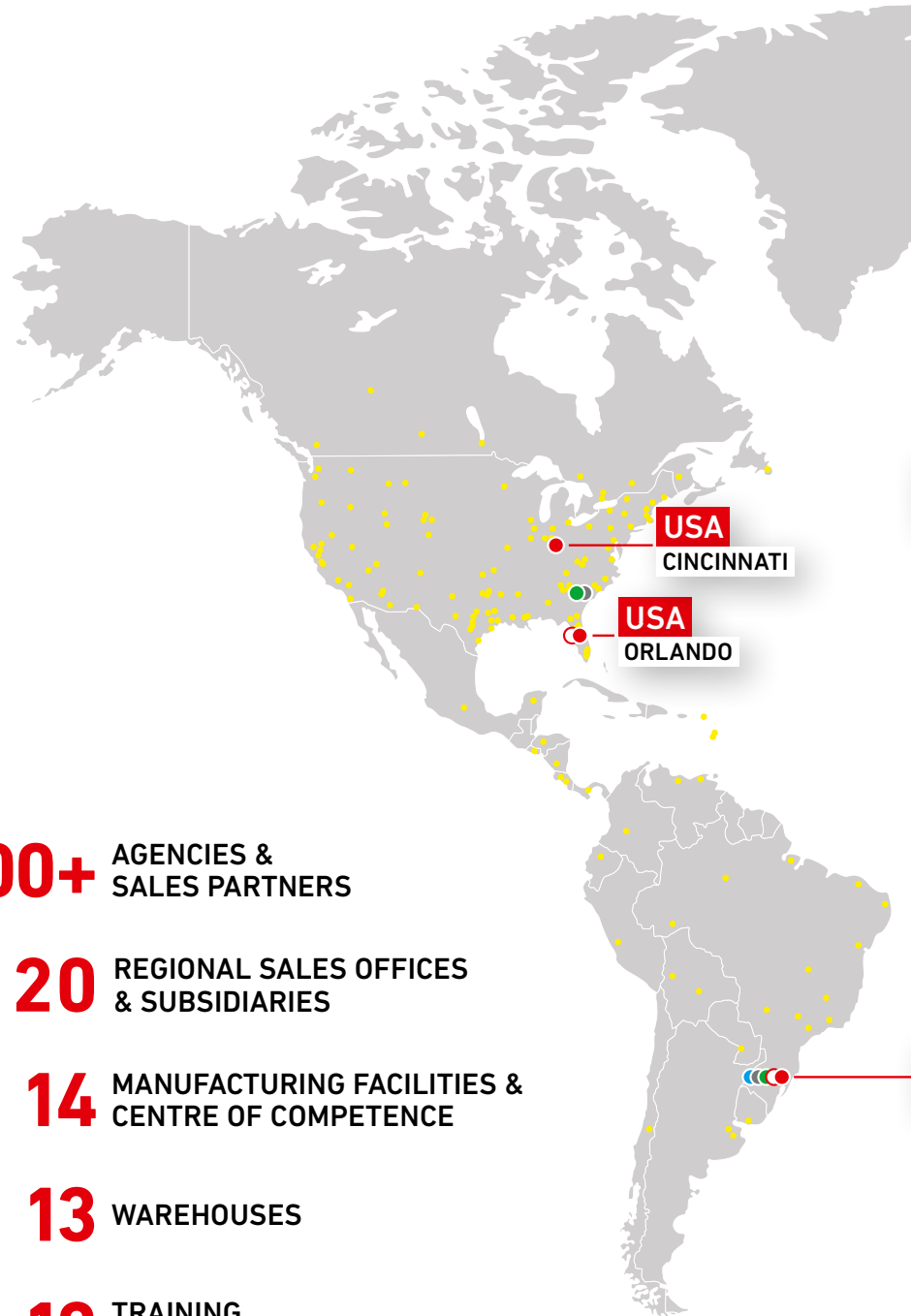
200+ AGENCIES & SALES PARTNERS

20 REGIONAL SALES OFFICES & SUBSIDIARIES

14 MANUFACTURING FACILITIES & CENTRE OF COMPETENCE

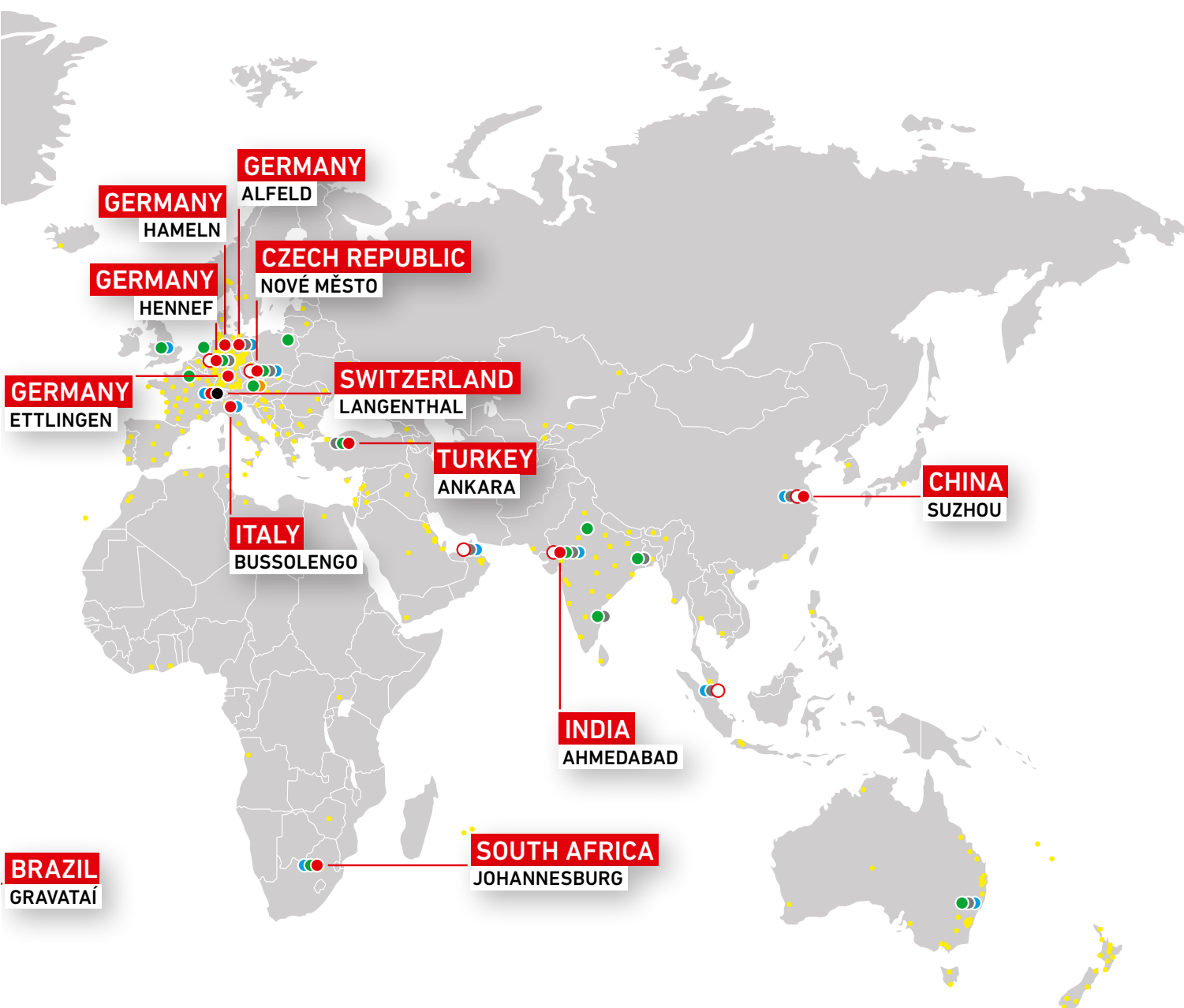
13 WAREHOUSES

12 TRAINING CENTRES



PLANTS

ASPHALT-MIXING PLANTS
CONCRETE-MIXING PLANTS



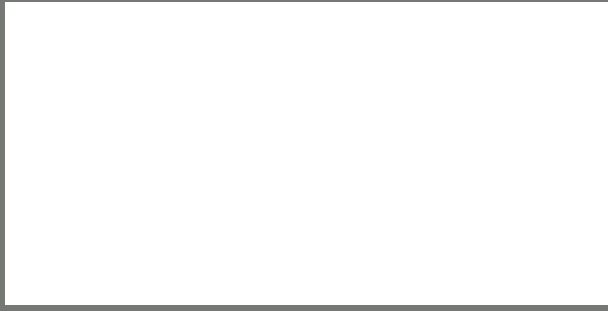
GLOBAL DISTRIBUTION & SERVICE NETWORK

- HEADQUARTERS
- REGIONAL SALES OFFICES
- SUBSIDIARIES
- AGENCIES & SALES PARTNERS
- MANUFACTURING FACILITIES & CENTRE OF COMPETENCE
- GLOBAL RETROFIT CENTRE
- WAREHOUSES
- TRAINING CENTRES



MACHINES

LIGHT COMPACTION
SOIL & ASPHALT COMPACTION
ASPHALT PAVERS



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