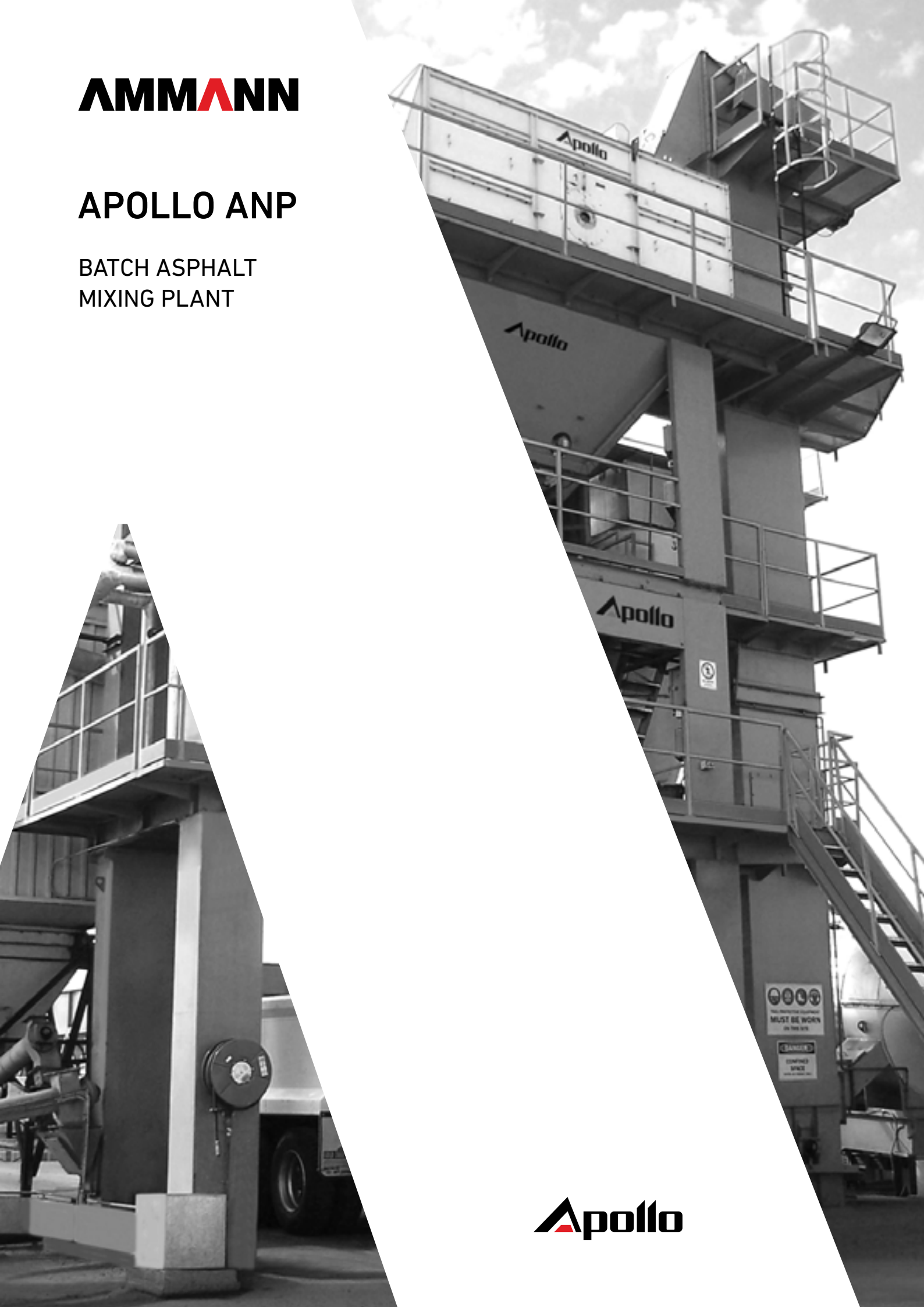


AMMANN

APOLLO ANP

BATCH ASPHALT
MIXING PLANT



Apollo

1000+ PLANTS IN OPERATION

RECYCLING OPTIONS

Cold Recycling addition up to 25%

COLD FEED BINS

- A compact, modular fourbin feeder ensures quick transport and assembly
- Highest feed precision
- through volumetric control, with frequency converters
- L-formation is possible

BAG FILLER

- Very few moving parts for low maintenance and high reliability
- Optimised bag house design ensures lowest temperature and pressure losses and therefore significantly reduce operational costs

“ REDUCING YOUR
TOTAL COST
OF OWNERSHIP
AND BOOSTING
YOUR PROFIT. ”

DRYER DRUM

The dryer internals, the flame room and the lifters are designed to avoid sticking of wet materials in the feed zone, to optimise combustion conditions, to minimise pollutant emissions and to provide excellent heat transfer conditions in the radiation and convection zones

SCREEN

Highest throughput and grading accuracy due to maximized specific screening performance

HOT AGGREGATE SILO

- 4 aggregate compartments
- Optimised silo and pocket geometries in order to avoid segregation of aggregate fractions

FOREIGN FILLER

Foreign filler system with elevator feeding system

BITUMEN TANKS

With / without Thermal oil-heated bitumen tank system

MIXER

Highly efficient twin-shaft paddle mixer

4 TYPES OF ANP PLANTS

APOLLO ANP SERIES ASPHALT-MIXING PLANTS ARE BUILT WITH CUSTOMER-FOCUSED TECHNOLOGY THAT IMPROVES THE PROFITABILITY OF YOUR BUSINESS.

The batch plant is ideal when numerous varied mixes are required – and accurate proportioning and homogenous blending are needed, too.

High quality mix is delivered with the help of an easy-to-calibrate, rugged, multipoint weighing arrangement. A heavy-duty pug mill mixer and carefully designed, intuitive controls also enable quality.

VERSION

1

NEW GEN PLANT
WITH AS1 CONTROL

VERSION

2

NEW GEN PLANT
WITH HMI (PLC) CONTROL

VERSION

3

LEGACY PLANT
WITH HMI (PLC) CONTROL

VERSION

4

LEGACY PLANT
WITH AS1 CONTROL



VERSION 1

NEW GEN PLANT WITH AS1 CONTROL

EXPERIENCE INNOVATION IN ASPHALT PRODUCTION WITH AMMANN INDIA'S ANP APOLLO NEW GEN PLANTS, FEATURING THE CUTTING-EDGE AS1 CONTROL SYSTEM. ELEVATE EFFICIENCY AND PRECISION IN EVERY BATCH, SETTING NEW STANDARDS IN ASPHALT MIXING EXCELLENCE.

BENEFITS

- Direct coupled gear motors in Auxiliary, Gathering, Slinger, Trunnion roller, Filler screws
- New Gen plant comes with a Y chute arrangement for Foreign filler and Reclaim filler and coarse filler arrangement
- Direct induction motors in Burner and Bag house
- Lesser Power requirement
- Lesser transport cost
- Precise control of RF and FF recipe
- Main burner Firing through pilot flame (Safety, reliable and robust firing)
- Plant can run on complete close looping mode (Auto operation)
- More advance, precise and robust new generation control
- New generation bag house (Elliptical bags, Pre separator, More effective filtering area, Direct mounted exhauster Optional VFD)
- Low pressure burner (suitable with Heavy oil, LPG, CNG) optional

OPTIONS

- Waste plastic attachment
- RAP 25 % attachment
- Solid addition (SMA)

DRUM MIXER & BURNER



In ANP New Gen Plant Dryer Drum, The mineral mixture of the pre-metering will be dried in a direct-fired drum and heated to the temperature required for further processing. The drum works according to the counter flow process, it means that the mineral mixture runs against the flame propagation. The charging of the drum is usually carried out by a feed belt. The drum tube is inclined rotational movement is generated with motor driver rollers.

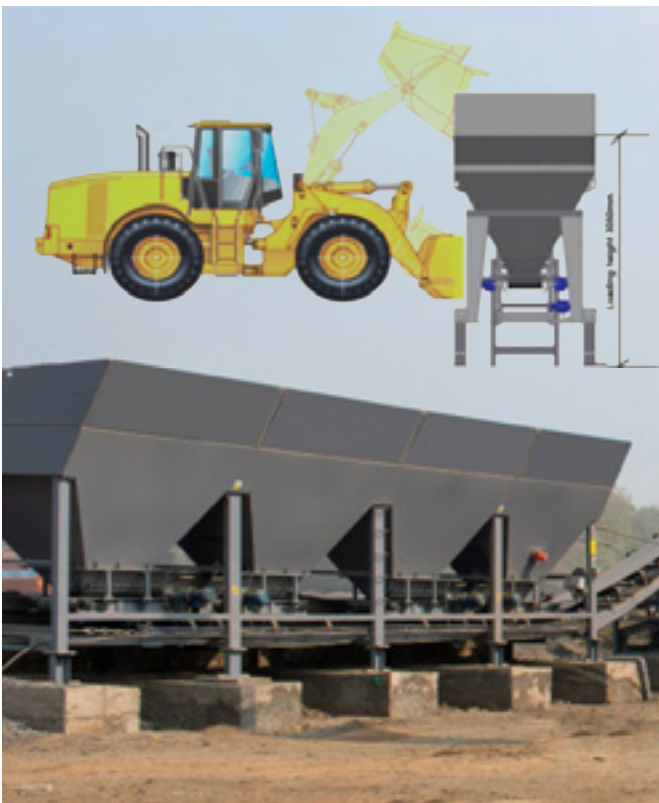
Hub and conveying blades provides the loosening and movement of the mineral by the preheating, evaporation and heating zone to the drum outlet. The drum designed in such a way that heat will be transferred by means of conduction, convection and Radiation.



Monoblock, multi fuel liquid burner fires through pilot flame for safety and reliable operation. This burner is having highest fuel efficiency in class. Burner construction ensures proper stoichiometry between fuel and air. Burner is preset in factory for the smooth starting of the plant.

Thus this will result in to optimum fuel efficiency and pollution control. High speed impeller and special designed vanes gives maximum air flow. Air fuel ratio can set in infinite range through special designed rotary drum.

FEEDERS



- Low tipping height resulting in to half ramp and hence customer cost of full ramp is saved
- Precise control of auxiliary belt converts in to accurate mineral fractions in final Job Mix Formula– JMF with our advance as1 Control System and reduce material losses
- Direct coupled gear motors, rubber coated drive rollers, hardened metal belt scraper, belt tensioner with return roller increases the reliability and life of the parts
- Easy access to the main components allow ease of maintenance
- Vibrators in sand bin for ease of flow of sand/ crushed dust
- Cold feeder outlet with material sensor (No-flow Sensor)
- Safety grill and pull back switch (on selected models)
- Mesh on each feeders (on selected models)
- Scalping screen to remove the oversize aggregates
- Ease of cold feeder calibration with special software assistance in as1 system

AS1 CONTROL SYSTEM

Microprocessor control for the operation, control and display of the complete Ammann scope of delivery, storage of recipes, plant parameters and production and operational data.

The complete asphalt mixing plant including its measured values can be displayed on the screen image specific to the customer, corresponding to the material flow. This assures at any time an overview of all plant components. The plant control processes all dynamic operations of the asphalt mixing plant in real time and displays them on the monitor. Above this, it shows all status changes within a few milliseconds which enables the operator to intervene immediately, if necessary.

Consisting of proven modules, the software will be configured specific to the plant and includes extensive parametric functions to adopt and optimize both the process flow and the sensory testing device. The test images in windowing technique which have been proven for many years allow the operator a quick diagnosis from the screen, and they are a convenient support during the setting-up of plant parameters.

The production data are registered in the extensive production statistics where they are processed and can be printed out. Error messages appear in an optical way, as text windows, and optionally as verbal indication.

The modular design of the software and the switch gear allow an easy expansion of the control system to future plant modifications.

Via remote access the customer has the possibility to transfer data for their further treatment, and our experts can quickly diagnose problems and remedy them or transfer software-updates.



VERSION 2

NEW GEN PLANT WITH HMI (PLC) CONTROL

AMMANN INDIA PROUDLY OFFERS THE HMI (PLC) OPTION FOR OUR ANP NEW GEN ASPHALT BATCH MIXING PLANTS.



In addition to our state-of-the-art ANP New Generation asphalt batch mix plant, we are proud to offer HMI (PLC) control solutions. With our HMI control system, we provide our customers with enhanced functionality, precision, and efficiency in managing their asphalt production processes.

This integrated technology ensures seamless communication between operators and the plant, allowing for real-time monitoring and control, which ultimately leads to improved productivity and the highest quality asphalt mixes.

At Ammann we are committed to delivering innovative solutions that empower our clients to optimize their operations, and our HMI control system is a testament to that commitment.



HMI (PLC)

The operating statuses are visualized in a simple form. All operations and displays are performed in real-time. Messages and warnings to the operator and any faults on the plant are signaled acoustically and visually to enable an immediate intervention by the operator, when necessary.

All status changes and operating states in the control process are displayed. The plant controller controls and monitors the weighing and mixing process fully automatically.



VERSION 3

LEGACY PLANT WITH HMI (PLC) CONTROL

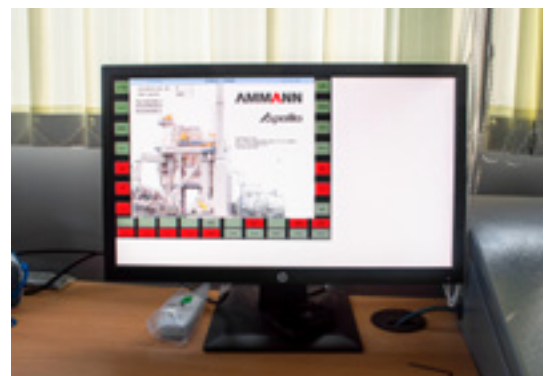
EXPERIENCE SEAMLESS OPERATION AND ENHANCED EFFICIENCY WITH THE HMI (PLC) CONTROL SYSTEM INTEGRATED INTO OUR ANP APOLLO LEGACY ASPHALT BATCH MIXING PLANTS, EXCLUSIVELY BY AMMANN INDIA.



SCADA (OPTIONAL)

The production and operational data are registered in the extensive production statistics where they are processed and can be printed out. Provision remote access to our experts can quickly diagnose problems and remedy them or transfer software-updates.

If HMI control system is not working the plant can still operate on SCADA.



LEGACY PLANT WITH AS1 CONTROL

IN ADDITION TO OUR STATE-OF-THE-ART ANP LEGACY ASPHALT BATCH MIX PLANT, WE TAKE PRIDE IN OFFERING CUTTING-EDGE TECHNOLOGY WITH AS1 CONTROL SYSTEM.

This integration of New Gen control elevates the capabilities of our plant, ensuring precision, efficiency, and enhanced performance.

With this innovative control system, our customers can expect seamless operation and real-time monitoring, allowing for precise adjustments and optimization of the asphalt mixing process. It represents our commitment to staying at the forefront of technology, providing our clients with the latest advancements to meet their evolving needs.

With our ANP Legacy plant and New Gen control, we continue to set the standard for excellence in the asphalt mixing industry, delivering superior results and unmatched reliability.

POLLUTION CONTROL UNIT

The ANP Legacy Plants are supplied with a standard dual stage pollution control system, comprising of a twin cyclonic separators and a secondary bag house filter.

All ANP series plants are supplied with the air flow type bag house filter unit. It provides savings on power, lower maintenance, trouble-free service and strict conformance to stringent environmental norms.

DRYING DRUM

The ANP Legacy Asphalt Plants are renowned for their high efficiency and low maintenance Drying Drum. The field proven flights together with an additional amount of drying volume places the ANP drying drum in its own class.

The special drying flight design, ensures the highest thermal transfer efficiency by allowing specifically designed flights to transfer the heat by radiation, convection and conduction, transferring uniform heat to all different sizes of aggregates.

The drum features a unique air preheat system, which improves drying efficiency, aid power saving, reducing the thermal stresses on the drying drum and noise emissions from the burner.



BURNER

ANP Legacy plants are supplied with a proven burner design, which has a reputation for its fuel efficiency and lower emissions.



ADDITIONAL COMPONENTS

RAC

The RAP addition system is designed to incorporate Reclaimed Asphalt Pavement (RAP), which can be in the form of crushed or milled material, into the mixing process. This process, known as RAC Cold addition, involves adding the RA material without prior heating. Up to a maximum of 25% (with 3% moisture) can be added in this manner. The system includes a RAC bin feeder equipped with a special feeder to prevent material sticking, along with body and top screen vibrators, all controlled by a VFD. Additionally, there's a RAP Belt elevator with drive, head and foot station, an extra platform, and a Cold RAP feed device directly feeding into the mixer.



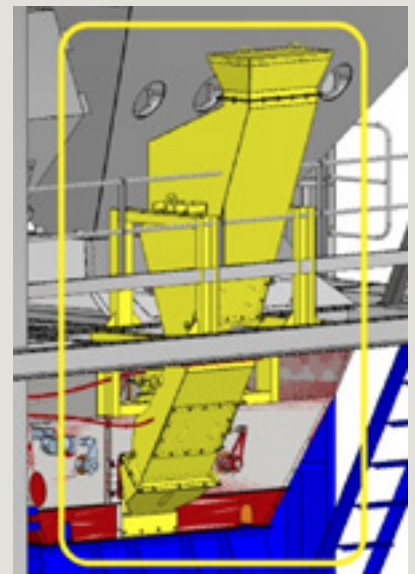
FIBRE ADDITION

The cellulose fiber addition system adheres to the specifications outlined by MoRTH and IRC. Its primary function is to mitigate drain down in gap and open-graded asphalt mixes, enhance strength and stability to minimize rutting, and bolster resistance to cracking in dense-graded asphalt mixes while serving as a stabilizing agent. The system includes a storage silo, cellular wheel, injector, blower, conveying pipe, cyclone, level indicator, buffer silo, rotary valve, weighing scale with load cell, and a chute for direct integration into the mixer.



WASTE PLASTIC ADDITION

According to IRC guidelines, waste plastic is incorporated into the asphalt mixing process. This involves adding waste plastic directly into the mixer after precise weighing. The waste plastic is introduced in a dry state and serves as a binding agent in the mixture. Typically, the addition of waste plastic ranges from 5% to 10% of the bitumen content. The system includes a storage hopper, weighing mechanism, and chute directly feeding into the mixer for seamless integration.



COMMON PARTS

BATCHING TOWER

Fully enclosed inclined linear vibrating screens with high quality vibrating screen cloth, contribute to top notch performance. The inclined linear vibrating screen is provided with duplex spring absorbers, and is powered with two numbers of six-pole maintenance free vibro motors. The free-floating design prevents any vibration from being transferred to the weighing scales. A wider platform with easy access eases the maintenance of the screen.

Highly reliable weighing system with low maintenance load cells and an easy calibration system makes the ANP series highly popular with the site engineers and plant operators.

The 3D mixer unit is the heart of the ANP plants and has a large live zone, realizing a quick and even mixing of asphalt. The mixer unit is hot oil jacketed and supplied with a low-maintenance oil-bath type chain drive. The paddles, arms and tips are made of wear resistant high nickel hardened cast alloy steel. The reversible design of the mixer internals ensures a lower operating cost.

Hot stone bin sampling trays and a complete batching tower dust scavenging are standard in all the ANP series plants.



THERMIC OIL HEATER

The ANP plants are supplied with hot oil jacketing on bitumen pipe line, asphalt pump, bitumen weigh hopper section and pug mill body.

Opting for hot oil heating reduces asphalt pump binding, asphalt pipeline blocking, smoother bitumen weigh batcher and pug mill operations.

The thermic oil heaters are supplied with auto temperature controls to maintain precise bitumen temperature.

The Thermic oil heater is supplied with independent automatic control panel including oil temperature indicator controller, low level switch, low circulation pressure switch, over temperature cut off thermostat burner control relays and burner operating circuits.

Capacity range: up to 500,000 kcal/h



COLD BIN FEEDER

A compact, modular four-bin feeder ensures quick transport and assembly.

Highest feed precision through volumetric control, with frequency converters.



BITUMEN HEATING AND STORAGE SOLUTIONS

The indirect heating tanks are supplied with a high efficient thermic oil heater. All tanks are supplied with auto thermostatic controls and level indicators.

TECHNICAL SPECIFICATIONS

PLANT TYPE		NEW GEN		LEGACY	
PLANT MODEL		1500	2000	1500	2000
UNITS	PLANT CAPACITY AT 3% MOISTURE CONTENT	120 t/h	160 t/h	120 t/h	160 t/h
	BATCH SIZE	1500 kg	2000 kg	1500 kg	2000 kg
	CYCLE TIME	45 s	45 s	45 s	45 s
	COLD FEED BINS (N° OF BINS)	4	4	4	4
	CHARGING CONVEYOR (CAPACITY)	228 t/h	228 t/h	140 t/h	180 t/h
	THERMO DRUM (DRYER (LXD))	7.0 × 1.8 m	7.0 × 1.8 m	8 × 2.1 m	8 × 2.1 m
	DRIVE TYPE	4W FRICTION DRIVE			
	BURNER TYPE	HIGH PRESSURE, FULLY AUTOMATIC, MODULATING MONOBLOCK		HIGH PRESSURE, FULLY AUTOMATIC, MODULATING	
	FUEL	LDO DIESEL FURNACE OIL			
	CAPACITY	10 MW/h	12 MW/h	14.1 MW/h	14.1 MW/h
TOWER UNIT	HOT ELEVATOR CAPACITY	140 t/h	180 t/h	140 t/h	180 t/h
	FILLER ELEVATOR CAPACITY	21 t/h	21 t/h	21 t/h	21 t/h
	SCREENING UNIT (SCREENING METHOD)	Inclined linear vibration			
	N° OF DECK	4	4	4	4
	SCREENING CAPACITY	140 t/h	180 t/h	140 t/h	180 t/h
	HOT AGGREGATE BIN UNIT (N° OF BINS)	4	4	4	4
	WEIGHING UNIT (AGGREGATE HOPPER CAPACITY)	1500 kg	2000 kg	1500 kg	2000 kg
	FILLER HOPPER CAPACITY	300 kg	300 kg	300 kg	300 kg
	BITUMEN HOPPER CAPACITY	225 kg	225 kg	225 kg	225 kg
	MIXER UNIT TYPE	TWIN-SHAFT HOT OIL JACKETED			
POLLUTION CONTROL UNIT	MIXER CAPACITY	1500 kg	2000 kg	1500 kg	2000 kg
	BITUMEN PUMP	800 lpm	800 lpm	800 lpm	800 lpm
	PRIMARY TYPE	PRE-SEPARATOR	PRE-SEPARATOR	CENTRIFUGAL DOUBLE CYCLONE	CENTRIFUGAL DOUBLE CYCLONE
	SECONDARY TYPE	BAG HOUSE FILTER	BAG HOUSE FILTER	BAG HOUSE FILTER	BAG HOUSE FILTER
	BAG HOUSE FILTER	REVERSE AIRFLOW	REVERSE AIRFLOW	REVERSE AIRFLOW	REVERSE AIRFLOW
	FILTER AREA	254 m ²	327 m ²	370 m ²	370 m ²
	FILTER BAGS	ELLIPTICAL TYPE		CIRCULAR TYPE	
	CONTROL PANEL TYPE	AS1 CLASSIC		SIEMENS PLC AND HMI	
	OPTION AVAILABLE	SIEMENS PLC AND HMI		AS1 CLASSIC	
ACCESSORIES	FILLER SILO (CAPACITY RANGE)	1.5 7 18 m ³ IMPORTED FILLER			
	BITUMEN TANKS (CAPACITY RANGE)	15 25 30 50 m ³			
	HEATING SYSTEM	DIRECT HEATING THERMIC OIL HEATING			
	THERMIC OIL HEATER (HOT OIL HEATER CAPACITY)	3,00,000 5,00,000 6,00,000 Kcal/h			
	HOT MIX STORAGE SILO (CAPACITY RANGE)	20 MT			

Plant capacity rated at: 3% moisture content in cold aggregates | Aggregate density of 1.6 tons/m³ | Mean sea level | Ambient temperature of 30 °C | Hot mix temperature of 150 °C

Per Ammann's policy of constant upgradation of products, specifications are subject to change without prior notice.

AMMANN WORLD PRESENCE

AN INNOVATIVE,
SUSTAINABLE
FAMILY
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

13 TRAINING CENTRES

11 WAREHOUSES

12 MANUFACTURING FACILITIES & CENTRE OF COMPETENCE

PLANTS

ASPHALT-MIXING PLANTS

CONCRETE-MIXING PLANTS



MACHINES

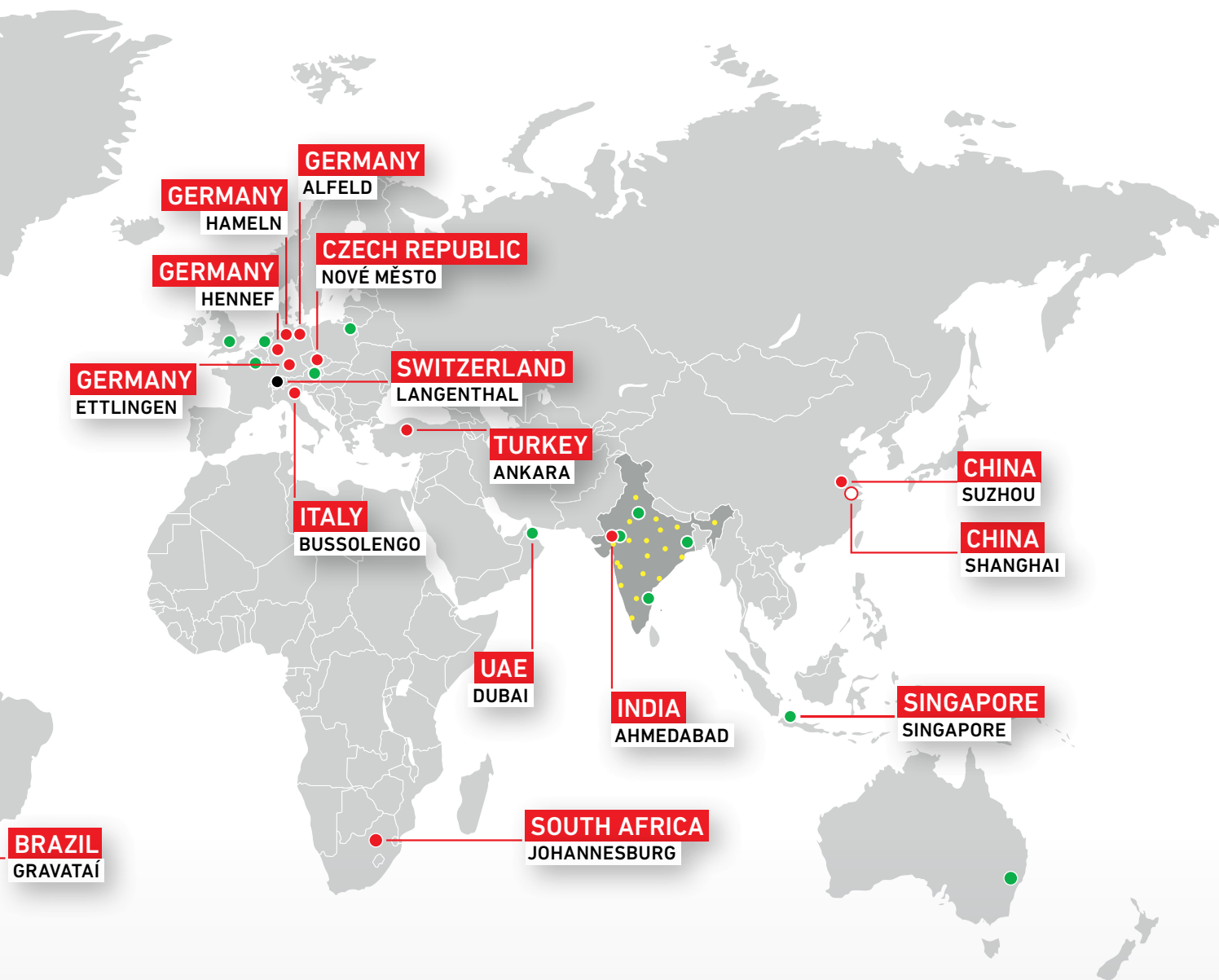
LIGHT COMPACTION

SOIL & ASPHALT COMPACTION

ASPHALT PAVERS

ASPHALT RECYCLING





GLOBAL DISTRIBUTION & SERVICE NETWORK

- HEADQUARTERS
- REGIONAL SALES OFFICES
- SALES & SERVICE OFFICE
- MANUFACTURING FACILITIES & CENTRE OF COMPETENCE

AMMANN INDIA PRIVATE LIMITED: 100% SUBSIDIARY OF AMMANN GROUP

For over 30 years, Apollo has been the Indian market leader for asphalt mixing plants and pavers. A total of 500+ employees at three plants in the Gujarat province produce plant and machinery for Apollo's primary market, India, and other emerging markets. Additionally, Apollo has a broad network of sales and service points throughout India.



AMMANN INDIA DUAL BRANDING: AMMANN AND APOLLO

With the dual branding, Ammann is expanding its market position among asphalt mixing plants, asphalt pavers, and compaction machines in India, SAARC countries, Southeast Asia, the Middle East, Eastern Europe, Africa, and Latin America. Ammann India is responsible for selling the Ammann and Apollo product range in the above region, while the Ammann Group continues to operate globally. The ownership with Apollo, therefore, represents a significant contribution towards strengthening Ammann's global market position.

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