

VPM SERIES

Polymer Modified Bitumen Plants

Max. 5 – 50 t/h · Batch and continuous · Thermal oil or electric heating

5 – 50 t/h	**Batch · Continuous**	**MultiShear™**	**1997**
max. capacity	two production types	Vimpo mill technology	experience since

Recipe-controlled PMB and CRMB production for roads, membranes and sealants — high-shear milling, precise dosing and a proven design.

VPM plants weigh hot bitumen and polymer to the recipe ratio, mix them and pass them through a high-shear mill to produce homogeneous polymer modified bitumen. In the batch type the mix circulates through the Vimpo VCM-P MultiShear™ mill; in the continuous type it passes once through a Buckau-Wolf Supraton® mill straight to the storage tank. Both types are built and tested at our Ankara factory, CE marked, with thermal oil jacketed or electric heating with PT100 control.

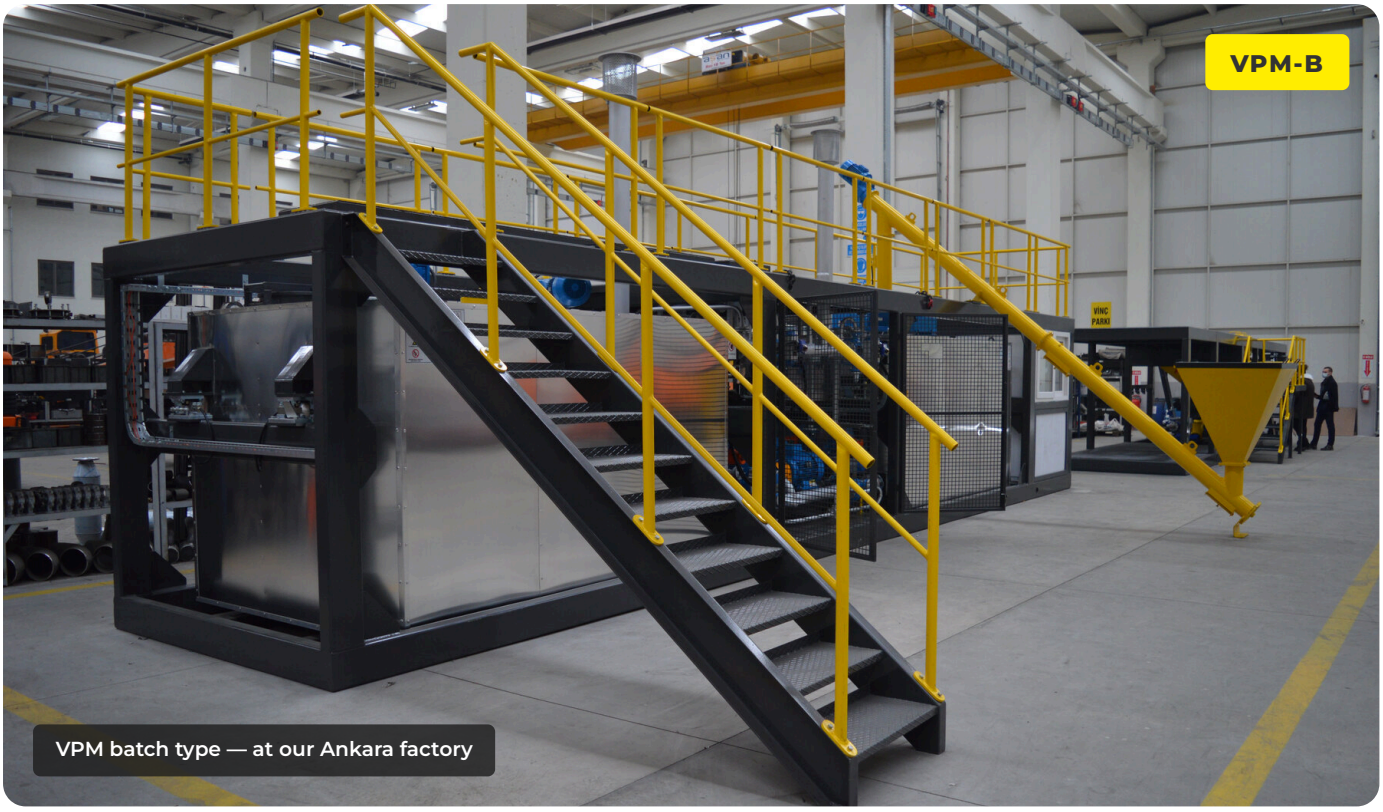
- Max. 5 – 50 t/h, batch and continuous
- Thermal oil jacketed or electric heating with PT100 control
- Load cells, Coriolis mass flowmeter, gravimetric SBS dosing
- Recipe control with PLC and SCADA
- Optional additive lines and CRMB production
- CE marked; 2006/42/EC and 2014/30/EU

AMONG OUR REFERENCES

COLAS · LUKOIL · Puma Energy · İstanbul Teknik

BATCH TYPE · VPM-B

Multi-pass by circulation



VPM batch type — at our Ankara factory

In the batch type the polymer is milled in bitumen that circulates between the mixing tank and the Vimpo VCM-P MultiShear™ mill, for as many passes as the recipe sets. Because the number of passes follows the recipe, different PMB grades and high polymer contents are produced with full flexibility.

HOW IT WORKS

1. Bitumen is taken from the storage tank and weighed to the recipe quantity in the load-cell mixing tank.
2. SBS is fed into the tank by screw conveyor; 2 × 7.5 kW agitators disperse the polymer in the bitumen.
3. The mix passes through the VCM-P MultiShear™ mill and returns to the tank — for the number of passes set in the recipe.
4. When the recipe is complete, PMB is sent automatically to the storage tank. In two-tank models one tank is filled while the other is being milled.

WHO IT IS FOR

Small and mid-size PMB producers, asphalt plant owners and contractors producing for their own use; frequent recipe changes and high polymer contents.

HIGHLIGHTS

- Max. 5, 10 and 20 t/h
- VCM-P-10 (90 kW) · VCM-P-20 (160 kW, 1,950 rpm)
- 1 × 5 – 10 m³ or 2 × 10 m³ mixing tank, 4 load cells per tank
- Vimpo VN636 / VN863 bitumen pumps
- Optional VPM-DOS-2000 automatic SBS dosing

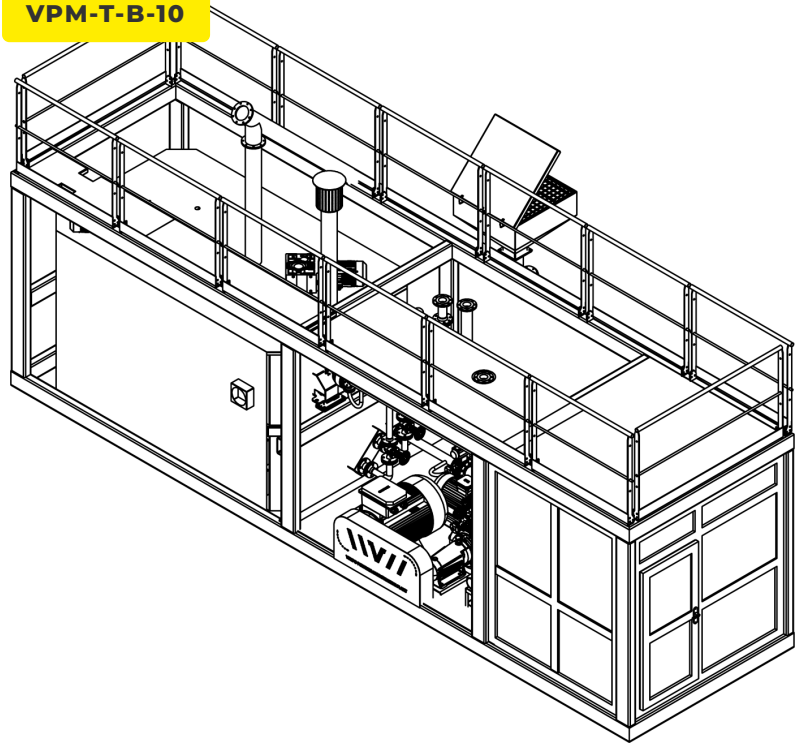
	VPM-T-B-5	VPM-T-B-10	VPM-E-B-10	VPM-T-B-20	VPM-E-B-20
Max. capacity	**5 t/h**	**10 t/h**	**10 t/h**	**20 t/h**	**20 t/h**
Mill (MultiShear™)	VCM-P-10 · 90 kW	VCM-P-10 · 90 kW	VCM-P-10 · 90 kW	VCM-P-20 · 160 kW	VCM-P-20 · 160 kW
Mixing tank	1 × 5 m³	1 × 10 m³	1 × 10 m³	2 × 10 m³	2 × 10 m³
Bitumen pump	VN636 · 35 m³/h	VN636 · 35 m³/h	VN636 · 35 m³/h	VN863 · 50 m³/h	VN863 · 50 m³/h
Heating	Thermal oil	Thermal oil	Electric · PT100	Thermal oil	Electric · PT100

BATCH TYPE · GENERAL ARRANGEMENT

Compact plant on a single skid

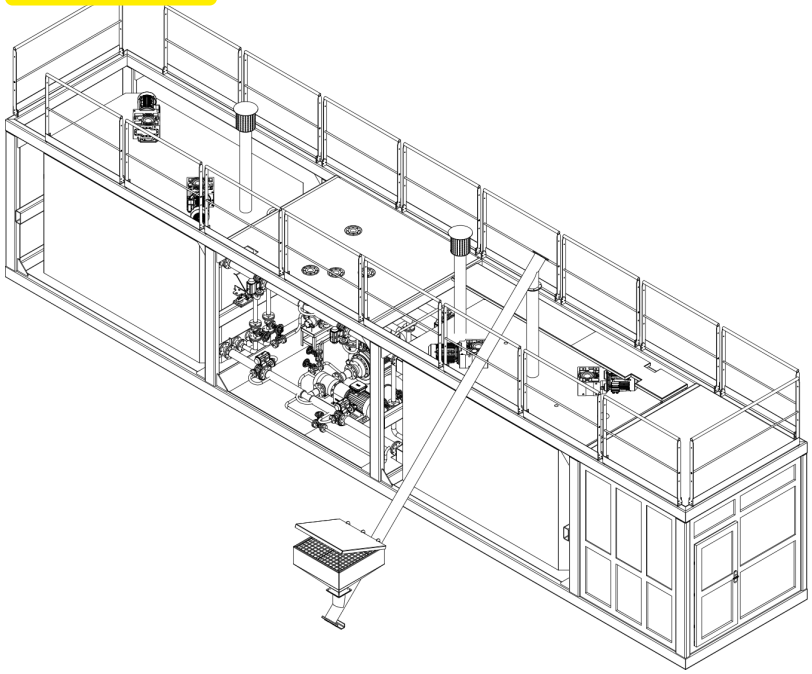
The cabin, mixing tank, mill, pumps and SBS feeding sit on a single skid, with a railed maintenance platform on top. The SBS screw conveyor and feed hopper extend outside the skid.

VPM-T-B-10



Length	9,000 mm
Width	2,400 mm
Height (incl. handrails)	3,875 mm
Body height	2,700 mm
Mixing tank	1 × 10 m³
Mill	VCM-P-10 · 90 kW

VPM-T-B-20

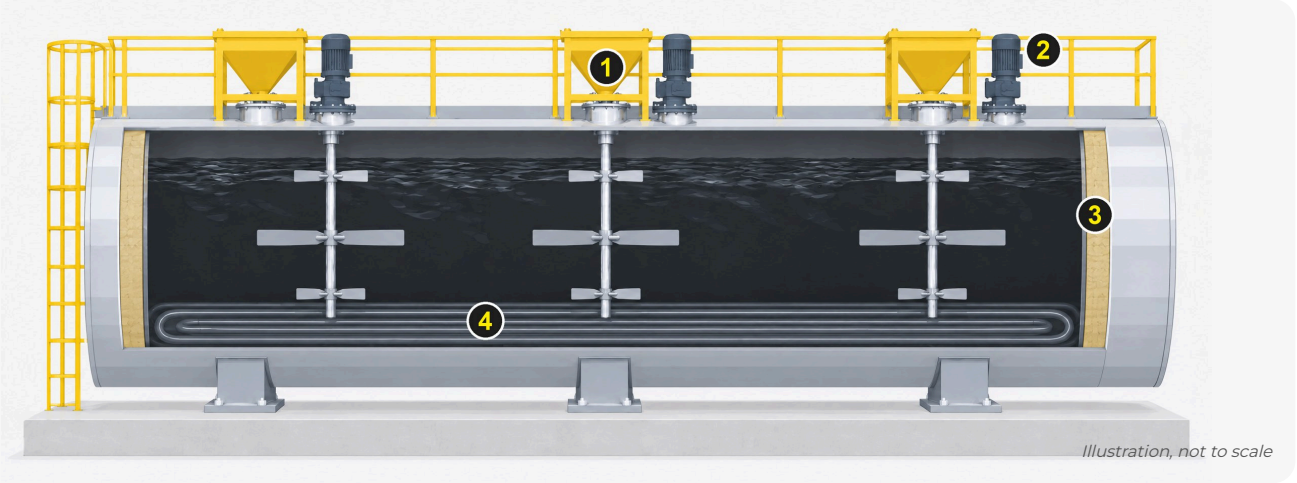


Length	13,400 mm
Width	2,400 mm
Height (incl. handrails)	3,863 mm
Body height	2,700 mm
Mixing tank	2 × 10 m³
Mill	VCM-P-20 · 160 kW

Dimensions in mm, for information; final dimensions are confirmed during detail engineering.

WITHOUT MILL · ELVALOY™ RET

Elvaloy™ RET PMB tank



Illustration, not to scale

1 **Feed hoppers** 2 **Agitators 15 kW** 3 **Rock wool insulation** 4 **Thermal oil coil**

Elvaloy™ RET is a reactive elastomeric terpolymer. It melts into hot bitumen and bonds chemically with it, so a high-shear mill is not necessary. The Vimpo Elvaloy™ RET PMB tank is a heated, insulated VBT tank with agitators and feed hoppers. It is a lower-cost PMB option next to the VPM plants with mills.

HOW IT WORKS

1. Fill the tank with hot bitumen. Thermal oil heating keeps the bitumen at process temperature.
2. Add Elvaloy™ RET through the feed hoppers. Load cells on the hoppers can weigh each dose.
3. Mix with the agitators: one 15 kW agitator for each hopper. A frequency converter can set the agitator speed.
4. Add PPA as the catalyst and continue to mix. Then send the PMB to storage or to the asphalt plant.

WHO IT IS FOR

Asphalt plant owners, contractors and terminals that make PMB from their own bitumen with a low investment and without a mill.

	VBT-T-H-50-50-AG-RET	VBT-T-H-100-100-AG-RET
Gross volume	**50 m³**	**100 m³**
Batch	40 t	per project
Shell plate	6 mm	8 mm
Insulation (rock wool)	50 mm	100 mm
Agitators	3 × 15 kW · 127 rpm	4 × 15 kW · 127 rpm
Feed hoppers	3 · manual	4 · manual
Heating	Thermal oil	Thermal oil

TYPICAL PROCESS — PUBLISHED DATA

- Elvaloy™ RET: 0.7 – 2 % of the bitumen mass. Do not go above 2.5 %: the bitumen can gel.
- PPA: 0.2 – 0.3 %, after Elvaloy™ RET. Do not add Elvaloy™ RET after PPA.
- Mixing: 2 – 3 h (Dow); typically 4 h from Elvaloy™ RET addition to ready binder.
- Temperature: set to the recipe (laboratory studies: 185 °C).

™ Elvaloy is a trademark of Dow or an affiliated company of Dow. Process values are typical published values (Dow, DuPont / AMAP, academic studies), not a guarantee. The recipe is set for the base bitumen and the target grade by laboratory test at commissioning.

CONTINUOUS TYPE · VPM-C

Uninterrupted production in a single pass



VPM-C continuous type — at our Ankara factory

In the continuous type bitumen and SBS are metered, combined in a premix tank and passed only once through a Buckau-Wolf Supraton® mill, straight to the storage tank. Production is uninterrupted; recipes and dosing are managed from the operator panel.

HOW IT WORKS

1. Bitumen is fed by a VFD-controlled Vimpo VN pump and metered by a Coriolis mass flowmeter.
2. SBS is dosed gravimetrically from a 1,800 kg weighed bunker by rotary valve and screw conveyor.
3. Bitumen and SBS combine in a 1,000 kg load-cell premix tank with a 5.5 kW agitator.
4. The mix passes once through the Supraton® mill to the storage tank; a by-pass line can send premix directly to the tanks.

WHO IT IS FOR

Refineries, bitumen terminals and producers selling PMB; high, uninterrupted output and a wide product range with additive lines.

HIGHLIGHTS

- Max. 20, 30 and 50 t/h
- Supraton® 349-5.03 (90 kW) · 449-5.03 (132 kW) · 549-5.03 (250 kW)
- Coriolis mass flowmeters — KROHNE; Endress+Hauser on the 50 t/h model
- Siemens PLC and SCADA
- P235GH piping, TIG welded to EN ISO 3834, 16 bar / 230 °C
- 8,900 × 2,300 × 2,200 mm chassis (20 and 30 t/h)

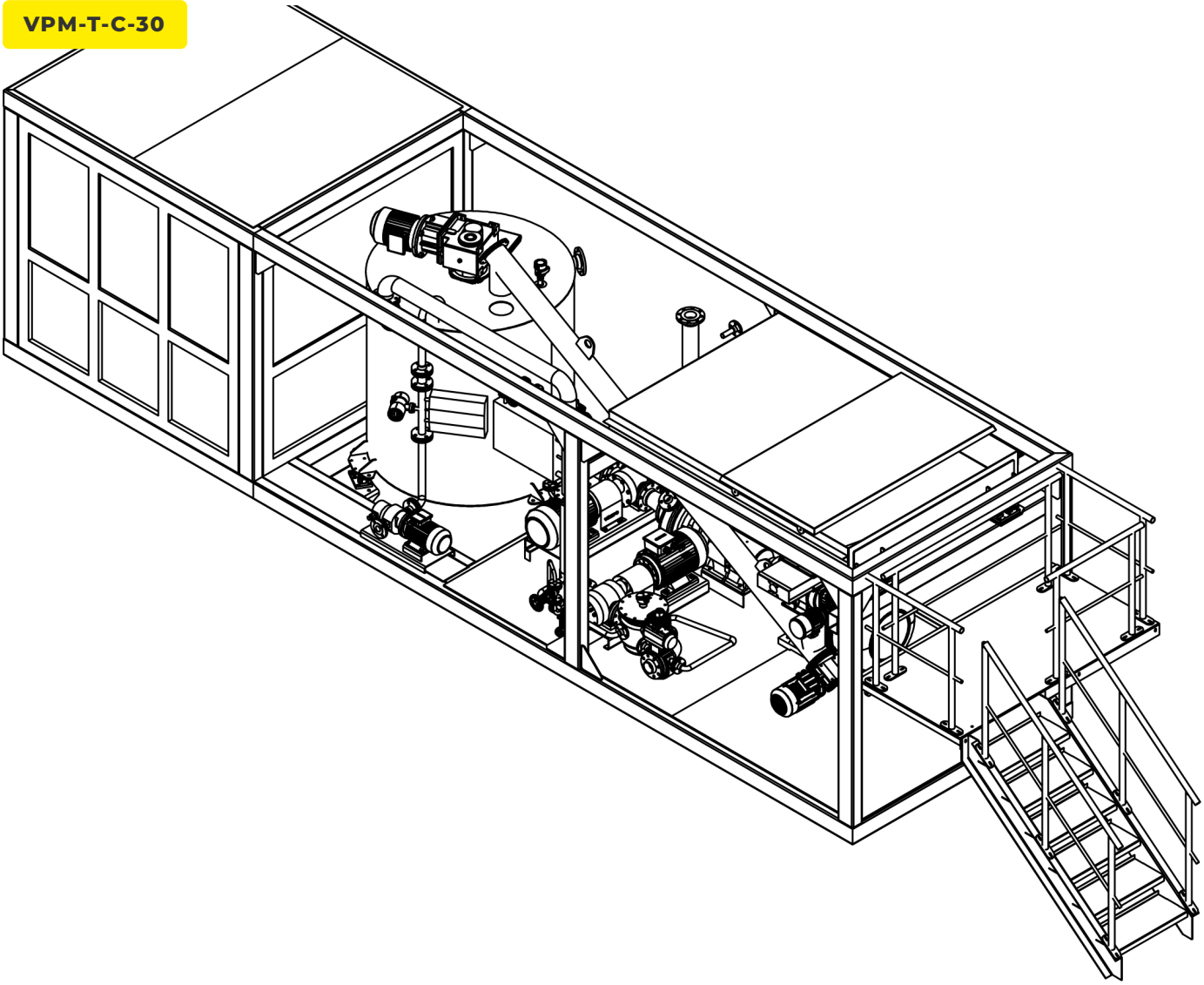
	VPM-T-C-20	VPM-E-C-20	VPM-T-C-30	VPM-E-C-30	VPM-T-C-50
Max. capacity	**20 t/h**	**20 t/h**	**30 t/h**	**30 t/h**	**50 t/h**
Mill (Supraton®)	349-5.03 · 90 kW	349-5.03 · 90 kW	449-5.03 · 132 kW	449-5.03 · 132 kW	549-5.03 · 250 kW
Premix tank	1,000 kg	1,000 kg	1,000 kg	1,000 kg	2,000 kg
Coriolis flowmeter	35 t/h	35 t/h	35 t/h	35 t/h	Endress+Hauser
Heating	Thermal oil	Electric · PT100	Thermal oil	Electric · PT100	Thermal oil

CONTINUOUS TYPE · GENERAL ARRANGEMENT

Single skid with access stairs

The premix tank, Supraton® mill, pumps and cabin sit on a single skid, with access stairs and a platform at the skid end for maintenance and filling. The drawing shows the VPM-T-C-30 layout.

VPM-T-C-30



Length	9,000 mm
Length (incl. stairs)	11,018 mm
Width	2,200 mm
Height	2,300 mm
Premix tank	1,000 kg
Mill	Supraton® 449-5.03 · 132 kW

Dimensions in mm, for information; final dimensions are confirmed during detail engineering.

KEY FEATURES

Why Vimpo VPM?

Milling technology
Our own VCM-P MultiShear™ and Buckau-Wolf Supraton® high-shear mills.

Dosing precision
Load-cell weighed tanks, Coriolis mass flowmeter, gravimetric SBS dosing.

Proven design
A process proven by plants in operation; CE marked, 2006/42/EC and 2014/30/EU.

Recipe-controlled automation
PLC and SCADA, automatic transfer and dispatch, pneumatic valves, air-conditioned cabin.

Heating options
Thermal oil jacketed (T) or electric with PT100 control (E) — tank, pump, mill and lines.

Quality components
Vimpo VN pumps, Siemens, ABB, KROHNE, Schneider Electric / Eaton, Weidmüller, VEGA.

OPTIONAL ON BOTH TYPES

Additive lines and CRMB



- Aromatic oil and softener (flux oil) dosing
- Sulphur dosing — crosslinker
- PPA dosing
- Thermal oil heat exchanger
- Crumb rubber modified bitumen (CRMB)

CRMB — bitumen modified with crumb rubber from end-of-life tyres. It brings waste tyres back into the road and gives the pavement elasticity, fatigue and rutting resistance. The rubber content and feeding system are sized per project.

Polymers and additives that can be used: SBS (Kraton™, Calprene®, Globalprene®, Kumho KTR) · APP (membranes) · EVA · Elvaloy™ RET · PPA · crumb rubber (CRMB)

STANDARD SCOPE

- High-shear mill and Vimpo VN feed pumps
- Load-cell mixing / premix tank and agitators
- SBS feeding: screw conveyor or weighed bunker
- Thermal oil jacketed or electric heating, rock wool insulation
- Air-conditioned cabin, switchgear and control panel, PLC and SCADA
- Factory tests, data sheet, CE declaration, operating manual

WHERE PMB IS USED

- **Motorways, SMA and porous asphalt**
- **Airport and bridge deck surfacing**
- **Waterproofing membranes**
- **Crack and joint sealants**
- **Modified emulsions**
- **Refineries and terminals**

Let's size your plant

Tell us your production capacity, polymer type, heating preference and site conditions — we will recommend the right VPM model and send the data sheet and quotation. Commissioning, operator training and spare parts from Ankara, Herford (Germany) and Pune (India).

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