

catalogue

Road construction equipment



2015



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UVB-1 | Bitumen Emulsion Unit

GlobeCore's UVB-1 Bitumen Emulsion plants are designed for the production of anionic and cationic bitumen emulsions. Bitumen emulsions are used in road construction and for the resurfacing of old roads and highways. Bitumen emulsions are used before the application of asphalt or concrete, and are used for the preparation of cold asphalt concrete mixes, the treatment of road surface tops, preparation of thin film protective coatings, and road-patching repairs. The units can be operated either indoors or outdoors under canopy. The UVB-1 unit has a one cubic meter (1 m³) per hour production capacity. (1.3 cubic yards)



UVB-1 unit, 1 m³/hour production capacity

Specifications	Value
Maximum production capacity (preparation time included), m ³ /hour	1
Minimum bitumen consumption, m ³ /hour/ cubic yards per hour	0.97/1.26
Water consumption, m ³ /hour/ gallons per hour	0.6-0.7 */158-185
Flux consumption, dm ³ /hour	0-50 *
Acid (alkali) consumption, dm ³ /hour	1-20 *
Emulsifier consumption, dm ³ /hour	1-20 *
Adhesion additive consumption, dm ³ /h	1-20 *
Max bitumen input pressure, MPa	0.2
Bitumen to mixer pressure, MPa	14-16
Water phase to mixer pressure, MPa	0.2
Bitumen input temperatur, °C/F	140-160/284-320
Water input temperautre, °C/F	40-60/104-140
Max emulsion output head, m	15
Max nominal power, kW	17
Power voltage at 50 Hz, V	380
Compressed air supply, bar	4-6
Air consumption, dm ³ /min	100
Dimensions (L/W/H), mm/inches:	2250/1750/1840 87.5"/69"/72.5"
Max weight, kg/lbs	1050/2320.5

* Depending on process recipe

** The unit can inject various components into the emulsion: stabilizer, viscosity adjustment, adhesion additive as well as latex, which allow to produce a more thermally durable product.

UVB-1 extension, 1 m³/hour production capacity (1.3 cubic yards)



*Water phase extension section
For UVB-1 1m³/hour production capacity*

The “water phase extension” section increases the production capacity of the UVB-1 by more than 2 times due to the elimination of the time required for preparation of the blend in the unit. The addition of the extension provides for continuous operation of the unit.

The unit is designed to operate when ambient temperatures range between +5°C/41°F to +40 °C/104°F.

Specifications	Value
Minimum pump capacity, m ³ /hour/ gallons per hour	12/3176
Temperature of water input to the extension, °C/°F	40-60/104-140
Max nominal power, kW	3
Power voltage at 50Hz (60Hz in USA), V	380
Dimensions (L/W/H), mm/inches	2230/1170/1500 88"/46"/59"
Max weight, kg/lbs	370/818

UVB-1 | Bitumen emulsion unit 2 m³/hour production capacity (2.6 cubic yards)

Specification	Value
Maximum production capacity (preparation time included), m ³ /hour/cubic yards/hour	2*/2.6
Minimum bitumen consumption, m ³ /hour/cubic yards per hour	1.5/1.96
Water consumption, m ³ /hour/gallons per hour	0.6–1.5*/159–397
Flux consumption, dm ³ /hour	0–50 *
Acid consumption, dm ³ /hour	5–20 *
Emulsifier consumption, dm ³ /hour	5–20 *
Adhesion additive consumption, dm ³ /h	1–20 *
Max bitumen input pressure, MPa	0.2
Bitumen to mixer pressure, MPa	1.4–1.6
Water phase to mixer pressure, MPa	0.2
Bitumen input temperature, °C/°F	140–160/284–320
Water input temperature, °C/°F	40–60*/104–140
Max emulsion output head, m	15
Max nominal power, kW	17
Power voltage at 50 Hz, V	380
Compressed air supply, bar	4–6
Air consumption, dm ³ /min	250
Dimensions (L/W/H), mm/inches	2340/2080/2080 92"/82"/82"
Max weight, kg/lbs	1260/2785

* Depending on process recipe

The unit consecutively blends components in hydrodynamic mixers at a constant pressure and temperature. Due to the unique design the hydrodynamic mixer, the unit is able to provide instant blending of component streams. This makes the unit compact and reduces energy consumption. The final stage of production of the “uniform water-bitumen emulsion” occurs in a colloid mill. The high performance colloid mill assures the production of a high quality final product.

The unit also features “process control” instrumentation that allows the operator to operate the unit in either manual or semi-automatic mode.



A 2 m³/hour UVB-1 bitumen unit



UVB-1 | Bitumen emulsion unit 8 m³/hour production capacity (10.4 cubic yards)

The reliability of the unit is ensured by the use of the best components from European and Asian and American manufacturers:

- Motovario gearbox
- KTR couplings
- Wilo pumps
- Influx flowmeters
- Zipson valves *(This is only a partial list of manufacturers)*

The unit features Wika temperature and pressure sensors for safety of operation



An 8 m³/hour UVB-1 bitumen unit

UVB-1 | Bitumen emulsion unit 8 m³/hour production capacity (10.3 cubic yards)

Specification	Value
Maximum production capacity (preparation time included), m ³ /hour/cubic yards	8*/10.3
Minimum bitumen consumption, m ³ /hour/cubic yards	10.5/13.6
Water consumption, m ³ /hour/gallons per hour max	5–7*/1853
Flux consumption, dm ³ /hour	50–350 *
Acid consumption, dm ³ /hour	50–150 *
Emulsifier consumption, dm ³ /hour	до 50 *
Max bitumen input pressure, MPa	0,2
Bitumen to mixer pressure, MPa	1.4
Water phase to mixer pressure, MPa	0.2
Bitumen input temperature, °C/°F	140–160/284–320
Water input temperature, °C/°F	40–60/104–140
Max emulsion output head, m/cubic yards	10/13
Max nominal power, kW	38
Power voltage at 50 Hz, V	380/220
Dimensions (L/W/H), mm/inches	4850/2150/2200 191"/84.6"/86.6"
Max weight, kg/lbs	3550/7845

* Depending on process recipe



UVB-1 unit, 8 m³/hour production capacity (containerized)

For outdoor operation, the unit can be manufactured and placed in a container with rolling doors for anti-vandal protection.

For indoor operation, or operation under a canopy, the unit can be manufactured and placed in an open container.

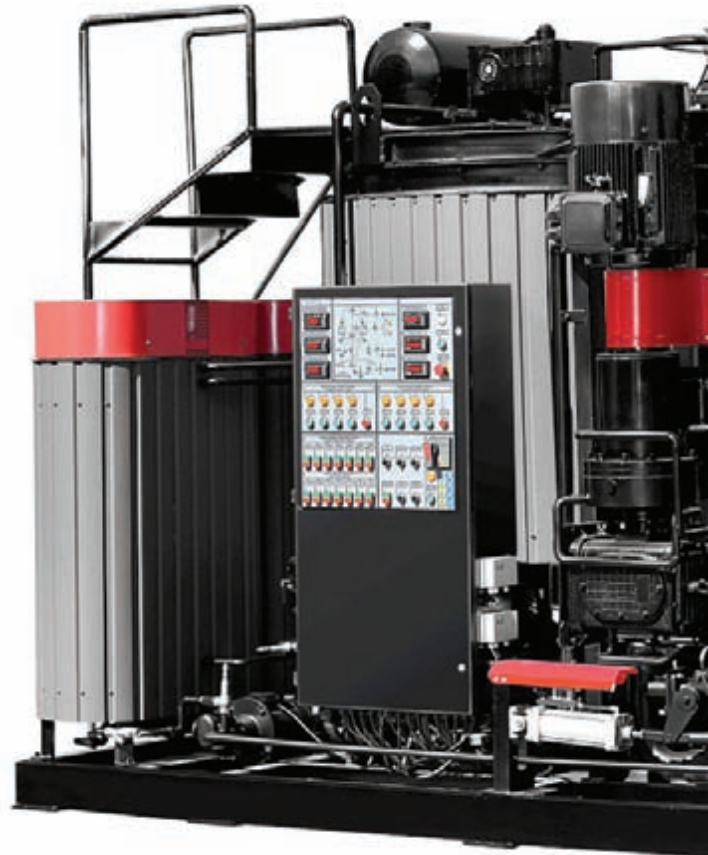
The 1 m³/hour and 2 m³/hour UVB-1 units are built in open containers and in containers with rolling doors. The 8 m³/hour UVB-1 units are built in open containers and in containers with rolling doors and anti-vandal containers.

UVB-2 | Bitumen modification unit 4 m³/hour production capacity

The UVB-2 bitumen modification units are designed to modify bitumen by adding polymers, adhesion additives, and plasticizers into viscous road bitumen. Modified bitumen is used in production of asphalt/concrete top layer, cement protection layers, and as crack sealant.

The use of modified bitumen, instead of regular bitumen in asphalt concrete mixes extends the operating temperature range of asphalt concrete layer applications without the concern of seasonal temperature fluctuations. It also ensures load “deformation resistance” (crack and rut formation) and extends the useful service life of highways and roadway systems.

The unit is designed for efficient implementation of virtually any bitumen modification process using a wide range of polymer modifiers (polymers and waxes).



UVB-2 unit, 4 m³/hour production capacity



Specifications	Value
Minimum production capacity, m ³ /hour/cubic yards per hour	4/5.2
Amount of polymer per 1m ³ of bitumen, kg/lbs	10 to 100/22.1 to 221
Operation mode	Batch/consecutive
Number of reactors	2
Nominal power, kW	
• mill	45
• bitumen to mill supply pump	5,5
• bitumen supply/output pump	11.0
• agitator drive	2×5.5
• heater power (total)	4×27
• heat carrier supply pump	3
• control systems	0.8
• plasticizer supply pump	3
• adhesion additive supply pump	0.25
• total	190
Power supply:	
• voltage, V	380
• AC frequency, Hz*	50
Dimensions without components removed for transportation (L/H/W), mm/inches	5200/3200/2400 204.7"/126"/94.5"
Max weight, kg/lbs	5600/12,376

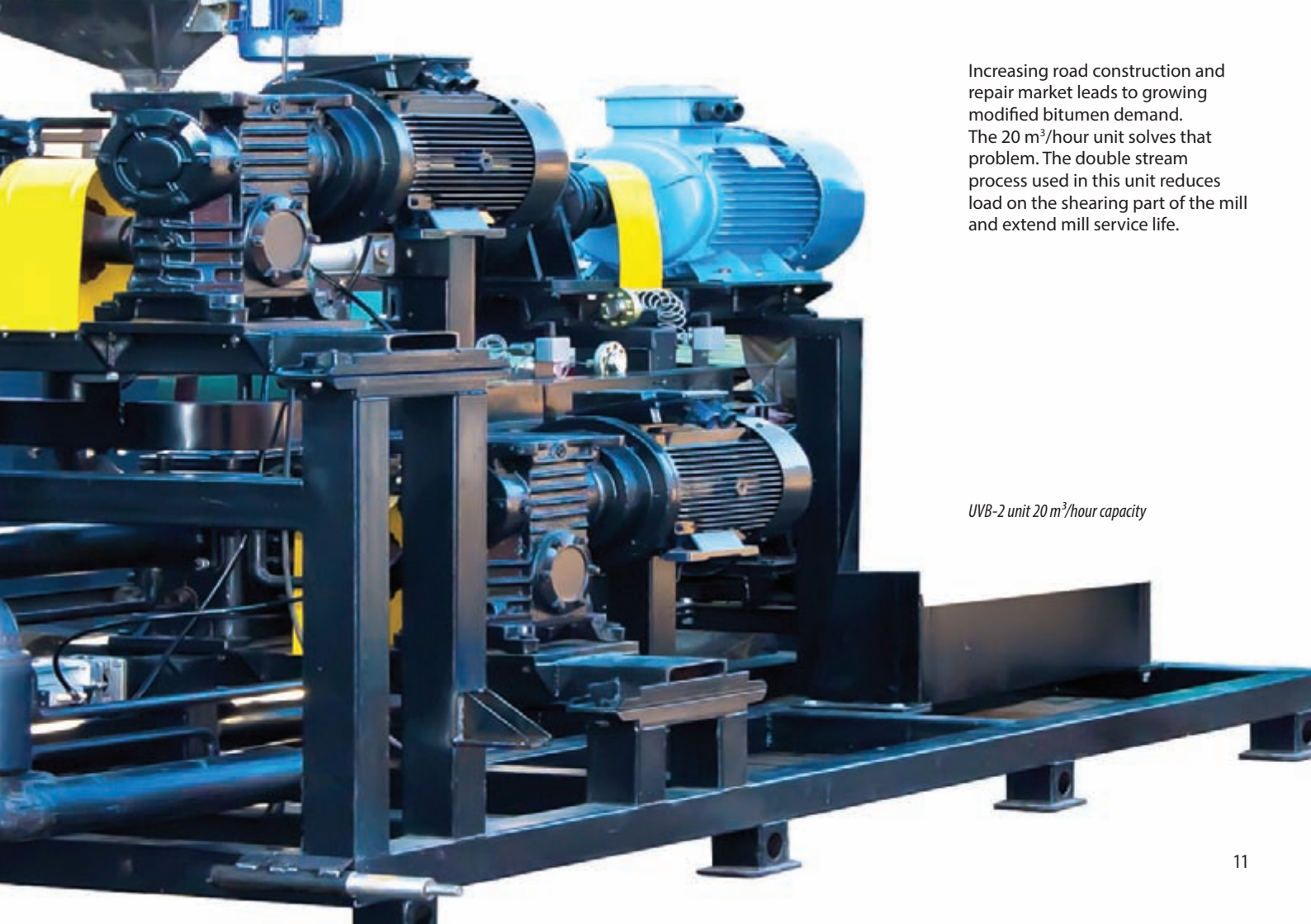
*All equipment for use in North America is designed to operate on 60 Hz

UVB-2 Bitumen modification unit 20 m³/hour production capacity (26 cubic yards)

Specification	Value
Minimum production capacity, m ³ /hour/cubic yards per hour	20/26
Amount of polymer per 1m ³ of bitumen, kg/lbs	10 to 60/22.1 to 132.6
Amount of plasticizer per 1 m ³	10–100
Amount of adhesive additive per 1 m ³ of bitumen, liters (max)	10
Operation mode	Continuous
Nominal power, kW	
• mill	2 x 55 = 110
• bitumen pumps	2 x 18 = 36
• plasticizer pump	1.1
• adhesion additive pump	0.25
• screw elevator drive	3
• weight elevator and screw elevator driver	0.43
• screw mixer drive	5.5
• total	157
Power supply:	
• voltage, V	380
• AC frequency, Hz*	50
Dimensions without components removed for transportation (L/H/W) mm/inches,	6050/2570/3360 238.25"/109.25"/132.25"
Max weight, kg/lbs	5860/12,950

*All equipment for use in North America is designed to operate on 60 Hz





Increasing road construction and repair market leads to growing modified bitumen demand. The 20 m³/hour unit solves that problem. The double stream process used in this unit reduces load on the shearing part of the mill and extend mill service life.

UVB-2 unit 20 m³/hour capacity



*Collid mill **KLM-05.3** (UVB-1)*



*Colloid mill **KLM-22.2** (UVB-2)*



Colloid mill **KLM-18.1** (UVB-1)



Colloid mill **KLM-4.1** (UVB-1)

SBE-30 | Modified bitumen collection tank (UVB-1)

The SBE bitumen emulsion collection and storage tank is designed for storage of bitumen emulsion produced with the UVB-1 bitumen emulsion unit. It can be supplied with or without an agitator and with a circulation pump collector. The system is equipped with Dinel and Wika temperature and level sensors as well as overflow sensors.

Specifications	SBE-15	SBE-30
Minimum total volume, m ³ /cu. yds	16/20.8	33/42.9
Minimum usable volume, m ³ /yds	15/19.5	30/39
Electric power		
• voltage, V	380	380
• AC frequency, Hz*	50	50
Dimensions (L/W/H), mm/inches	2100/2100/6400 82.7"/82.7"/252"	2448/2400/11700 96.5"/94.5"/461"
Max weight, kg/lbs	3000/6630	7000/15470
Max full loaded weight, kg/lbs	18000/39780	37000/81770

*All equipment for use in North America is designed to operate on 60 Hz

SBE-30 bitumen emulsion collection and storage tank



SBM-15 | Modified bitumen collection tank (UVB-2)

The SBM modified bitumen collection and storage tank is designed for storage of modified bitumen produced with the UVB-2 unit. It can be supplied as a stand-alone product and be retrofitted into existing modified bitumen production equipment. The product is equipped with automatic agitator and heating circuit. The system is equipped with *Dinel* and *Wika* temperature and level sensors as well as overflow sensors.

Specifications	SBM-15	SBM-30
Minimum total volume, m ³ /cu. yds.	16/20.8	33/42.9
Minimum usable volume, m ³ /cu. yds.	15/19.5	30/39
Agitator type	Vane	Vane
Agitator RPM	36	400
Heat exchanger square area, m ²		18
Insulation thickness, mm/inches	200/8"	200/8"
Nominal power, kW	11.3	30
Electric power		
• voltage, V	380	380
• AC frequency, Hz*	50/60	50/60
Dimensions (L/W/H), mm/inches	3250/2500/7200 128"/98.5"/283.5"	2440/2400/12500 96"/94.5"/492"
Max weight, kg/lbs	3800/8398	11000/24310
Max full loaded weight, kg/lbs	18800/41548	41000/90610

*All equipment for use in North America is designed to operate on 60 Hz

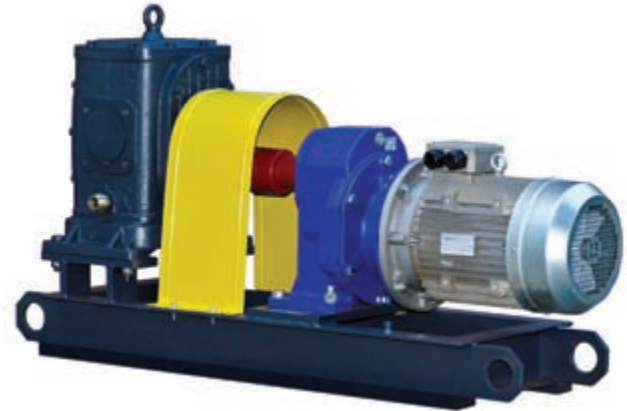


SBM-15 modified bitumen collection tank

SN-1 | Pump assembly

Specifications	Value
Pump type	Gear pump
Nominal capacity, m ³ /hour/gals per hour	28/7411.6
Nominal shaft RPM	389
Nominal drive power, kW	5.5
Power voltage, V	380/220
Nominal mean suction diameter, mm	80
Nominal mean heat carrier input diameter, mm	25
Max allowable heat carrier pressure, MPa	0.78
Max heat carrier temperature, °C/°F	180/356
Operating pressure at nominal feed, MPa	0.59
Minimum suction head, m	1
Dimensions (L/W/H), mm/inches	1270/430/745 50"/17"/29.5"
Max weight, kg/lbs	300/663

The SN-1 Pump Assembly is designed for the pumping of high viscosity organic binding materials with viscosity up to 3,500 mm²/second and temperatures up to +180°C/356°F. This pump is used for pumping of waterproofing, roofing, asphalt repair mastics and emulsions, as well as for the pumping of oil, tar and bitumen emulsions.



Pump assembly SN-1

FBS-1 | Bitumen filter

The FBS-1 Bitumen filter is designed to remove solid contaminants from bitumen and other non-corrosive liquids.

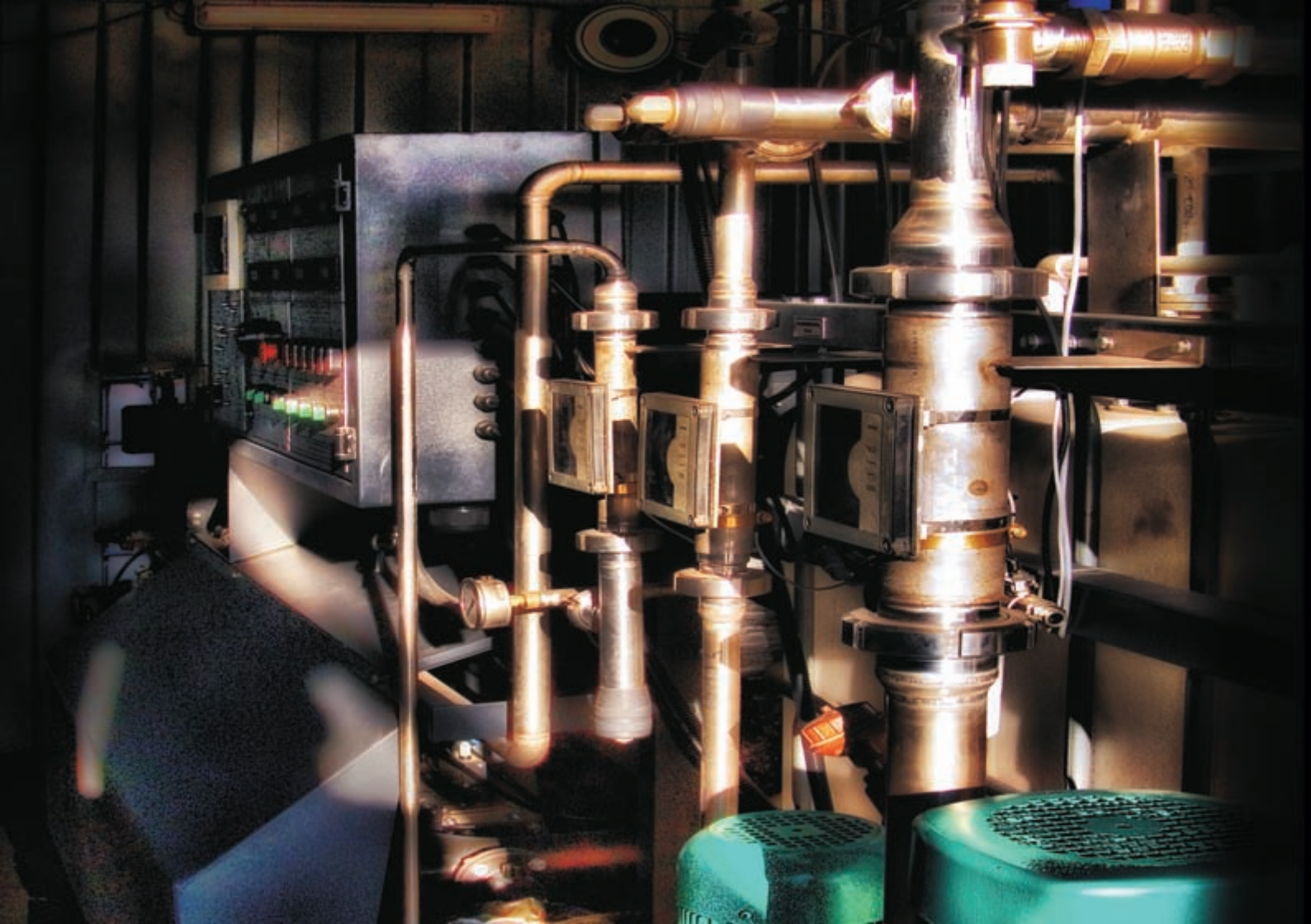
The filter is intended for integration into the input, storage and output processes involving regular or modified bitumen, bitumen emulsions and other high viscosity liquids that require heating.

This filter has two filter cartridges that allows it to operate continuously. It also features temperature and pressure sensors for increased reliability and safety.

Specification	Value
Mean nominal diameter, mm/inches	80/3.2"
Capacity, m ³ /hour/cu yds. per hour	15/19.5
Filtration fineness, mm	5/1
Bitumen input pressure, kg/cm ² , (MPa)	2 (0.2)
Heat carrier operating pressure, kg/cm ² , (MPa)	4 (0.4)
Bitumen input temperature, °C/°F	140–160/284–320
Heat carrier temperature, °C/°F max	200/392
Dimensions without control cabinet (L/W/H), mm/inches	925/380/1100 36.5"/15"/43.3"
Max weight, kg/lbs	170/376



FBS-1 bitumen filter



UVB-2-L Bitumen modification laboratory system

The UVB-2-L bitumen modification laboratory system is designed for preparation of small samples (no more than 10 liters/2.5 gals. per batch) of modified bitumen. The system uses a continuous bitumen mixing process with further dispersion of bitumen and polymer in the mill. Unit design allows for addition of other liquid components in the process of bitumen modification.

Specifications	Value
Main load vessel volume, liters/gals	24/6.25
Minimum bitumen load in vessel, liters/gals	10/2.6
Maximum bitumen load in vessel, liters/gals	12/3.12
Modified bitumen preparation process	Dispersion of bitumen and polymer in mill
ump capacity, l/min/gal per min	30/7.8
Max temperature of bitumen preparation, °C/°F	190/374
Minimum bitumen input temperature, °C/°F	160/320
Heating of liquid in the tank and pipelines	By heat carrier
Heater power, kW	4.8
Controls	Manual
Component controls	Automation assisted
Max power consumption, kW	15
Dimensions (L/W/H), mm/inches	1630/770/1800 64.2"/30.4"/71"
Max net weight, kg/lbs	420/928.2

The unit can be used by petrochemical facilities for the optimization of the modified bitumen production process, determining the required amount of modifying additives, and using the prepared bitumen as a laboratory sample.



UVB-2-L laboratory system

UVB-1-L Bitumen emulsion laboratory system



Bitumen emulsion laboratory system UVB-1-L

Bitumen emulsion laboratory system is designed for:

- preparation of laboratory samples of bitumen emulsions;
- testing and refining of the bitumen emulsion recipe with given emulsion components and intended emulsion application.

This unit can be supplied in addition to UVB-1 bitumen emulsion production unit or as a stand-alone product.

Specifications	Value
Max production capacity, $dm^3/hour$	20
Bitumen to mixer pressure, MPa	1.6
Bitumen temperature, $^{\circ}C/^{\circ}F$	140–160/284–320
Water phase temperature, $^{\circ}C/^{\circ}F$	40–60/104–140
Max power consumption, kW	6
Power voltage, V	380/220
Dimensions (L/W/H), $mm/inches$	1500/700/1350 59.1"/27.5"/53.2"
Max weight, kg/lbs	200/442

UVB-1-V | Foam bitumen laboratory system

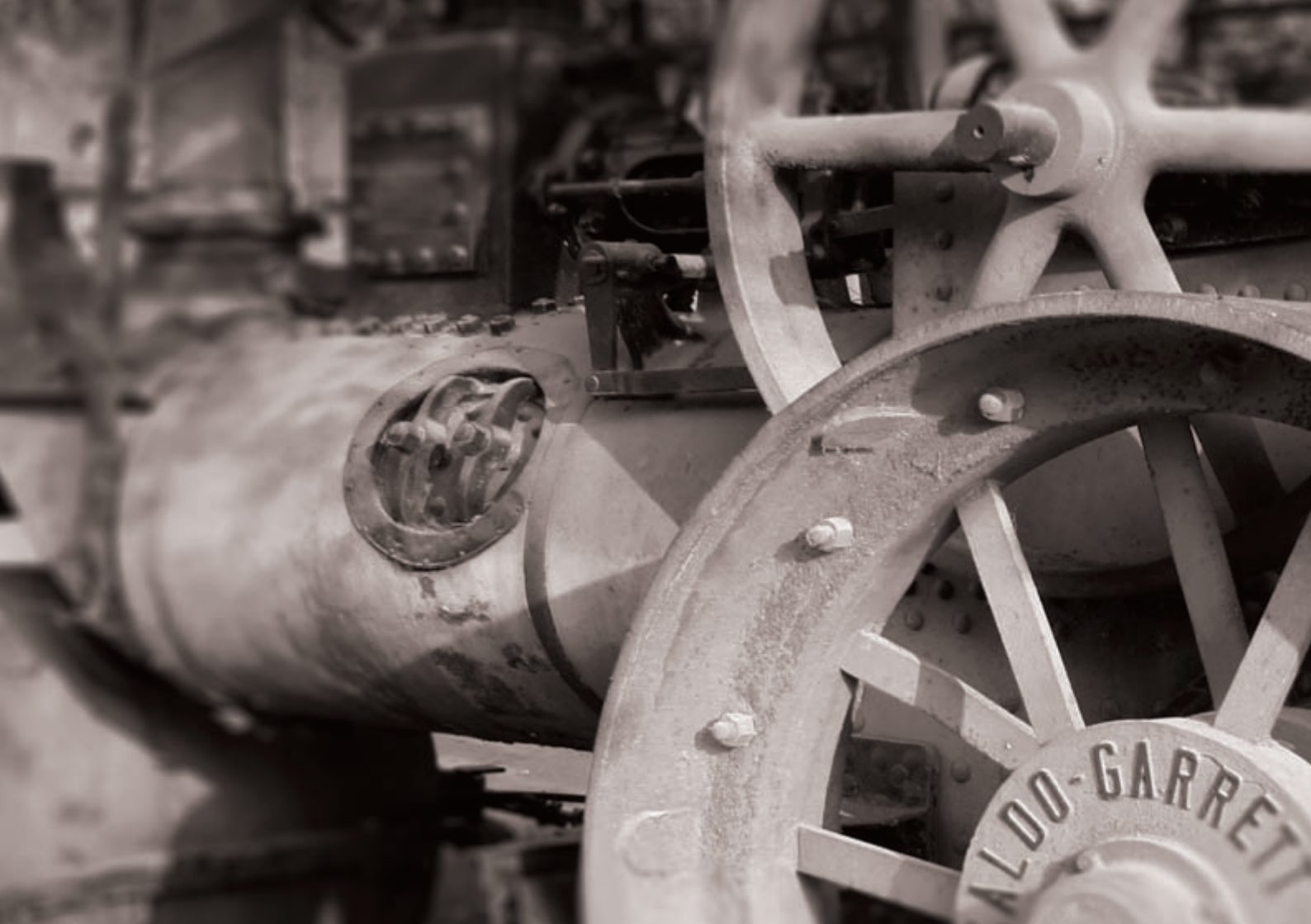
The UVB-L unit is designed for refining of foam bitumen recipes. It can be used by asphalt-concrete mix production facilities, as well as construction and road repair facilities.

The unit is designed for indoor use.



UVB-1-V laboratory system

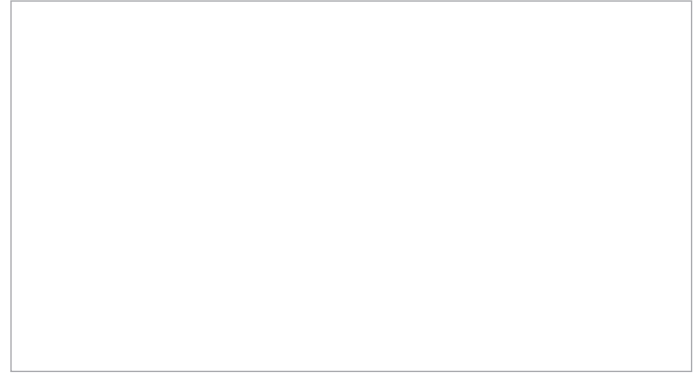
Specifications	Value
Minimum mixer capacity for bitumen, l/hour/gals per hour	600/158.5
Water consumption, l/hour, min/max (gals per hour)	6/30 (1.5/7.85)
Air consumption, l/hour, min/max	0/100
Bitumen pressure, max, MPa	1.6
Water pressure, max, MPa	0.6
Compressed air pressure (to mixer), max, MPa	0.6
Compressed air pressure (to controls), min/max, MPa	0.4/0.63
Bitumen temperature, °C/°F min/max	140–160/284–320
Water temperature, °C/°F, min/max	20–60/68–140
Oil temperature (for heating) °C/°F, min/max	120–180/248–356
Nominal power, kW	10.4
Power voltage, V	380/220
Bitumen tank volume, liters/gals	15/3.9
Water tank volume, liters/gals	15/3.9
Volume of oil for heating, liters/gals	10–15/2.5–3.9
Dimensions (L/W/H), mm/inches	1250/970/1490 49.3"/38.25"/57.7"
Max weight, kg/lbs	400/884



ALDO-GARRETT



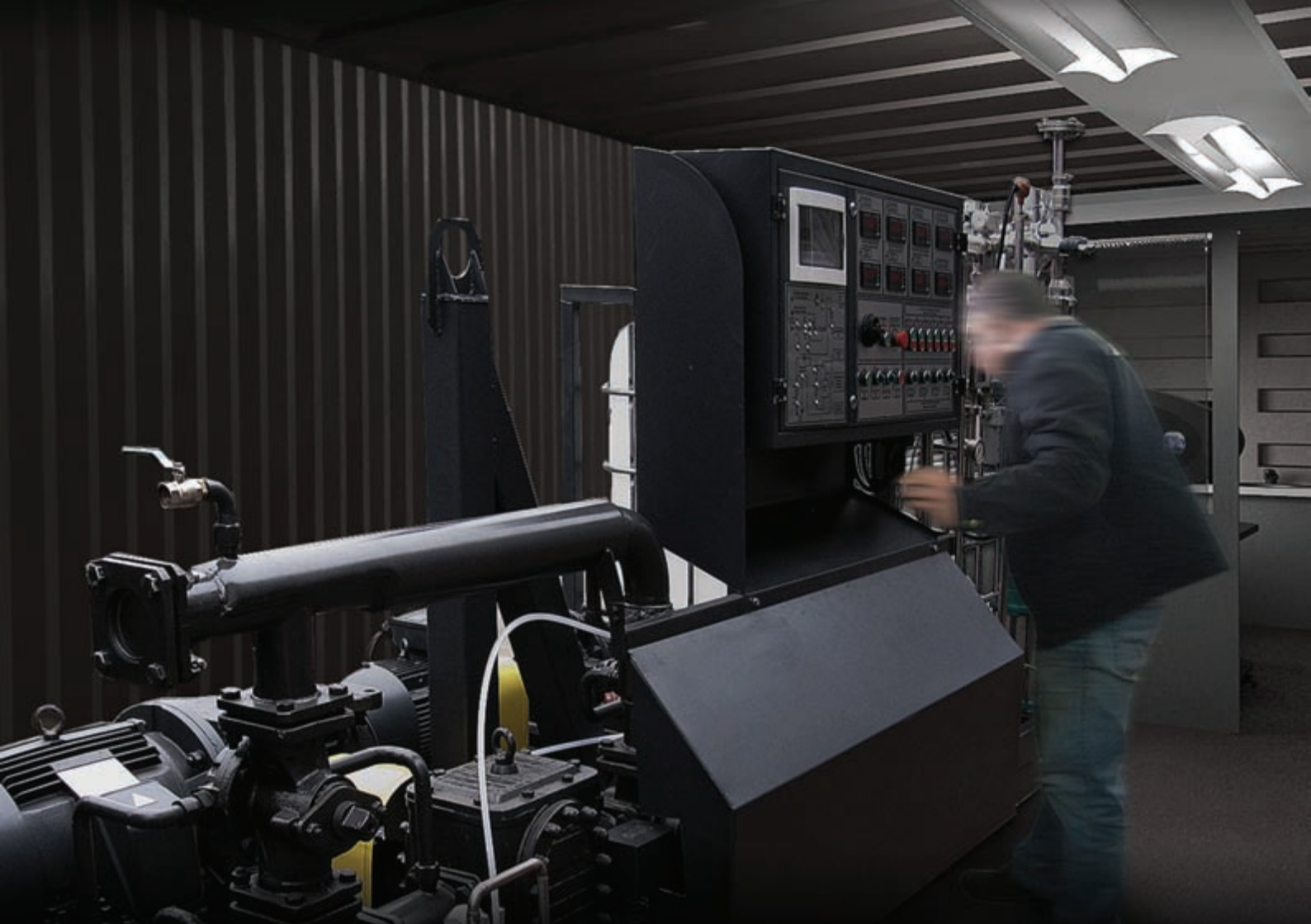
The manufacturer reserves the right to improve equipment, alter its specification and appearance.



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