

ICHEMAD  
P R O F A R B

INSTALLATIONS FOR PAINTS AND VARNISHES



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## SUBJECT MATTER

This catalogue refers to information presented in the company's image catalogue concerning optimisation of dispersion and deagglomeration of solids in a liquid.

Machines and equipment, such as dissolvers, mills, dispersers and mixers, are basic elements of chemical installations, in which the "wet" grinding operations of pigments and fillers are carried out in a liquid.

These operations are very time-consuming and affect production costs, which can reach up to 30% of manufacturing costs.

This is why the selection of the equipment necessary at this stage of production is subject to thorough testing and optimization performed by the users of the device before the product is launched. The scale of the problem is exacerbated by a large variety of physico-chemical properties of crushed solids.

This catalogue is intended to present a number of devices and machines that are adjusted to application of different raw materials (semi-finished products). Based on the results of the aforementioned tests, the customer can select the right device.

The Research and Application Department of ICHEMAD-Profarb constantly conducts research on the construction of new machines and equipment. In the course of research, cooperating research units share their knowledge of chemical engineering.

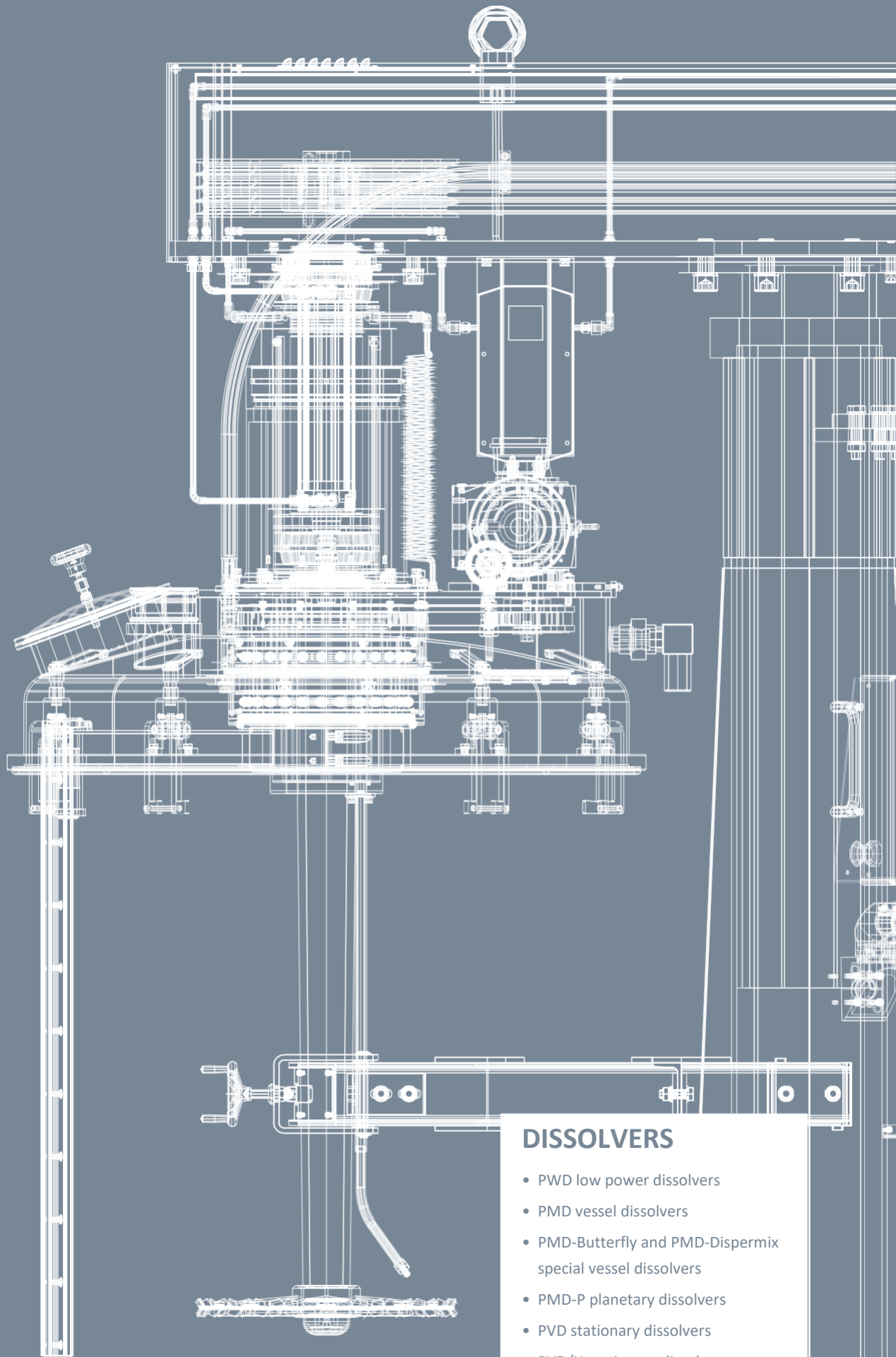
We use Fluent Ansys software to model processes, among others.

Before transferring a task to the macro scale, micro-scale modelling of operations is performed.

As part of operation optimisation, the investors' technological lines are also verified. Then, the most burdensome technological problem is often defined and eliminated with the most appropriate solution.

We can help you optimize the operation of individual production lines.





## DISSOLVERS

- PWD low power dissolvers
- PMD vessel dissolvers
- PMD-Butterfly and PMD-Dispermix special vessel dissolvers
- PMD-P planetary dissolvers
- PVD stationary dissolvers
- PVD/H stationary dissolvers
- PVT three-shaft dissolvers
- PMM multi-vessel dissolvers



## PWD LOW POWER DISSOLVERS

PWD dissolver is a small industrial device for dispersing solid particles in a liquid. The dispersion process is conducted in mobile vessels. They can be equipped with scrapers and vacuums.

The use of a frequency converter enables stepless adjustment of the speed of rotating serrated disc.



Small dissolver that can be attached to the wall or pillar of the production hall, saving space. The PWD Dissolver is also available in a free-standing version.

### TECHNICAL SPECIFICATIONS: PWD low power dissolvers

model	main engine power (kW)	working capacity of the vessel (litres)	rotational speed of the disc (rpm)	diameter of the dissolver's disc (mm)	L x W x H (mm) (max. height)	total weight (kg)
PWD-250/5.5F	5.5	100 ÷ 300	1000 ÷ 2600	150	670 x 660 x 2000 x (2500)	250
PWD-500/7.5F	7.5	100 ÷ 500	800 ÷ 2000	250	880 x 855 x 3100 x (3250)	500
PWD-500/11F	11	100 ÷ 500	0 ÷ 1500	300	880 x 855 x 3100 x (3250)	550



PWD-1000/15F

15

100 ÷ 1000

0 ÷ 1500

350

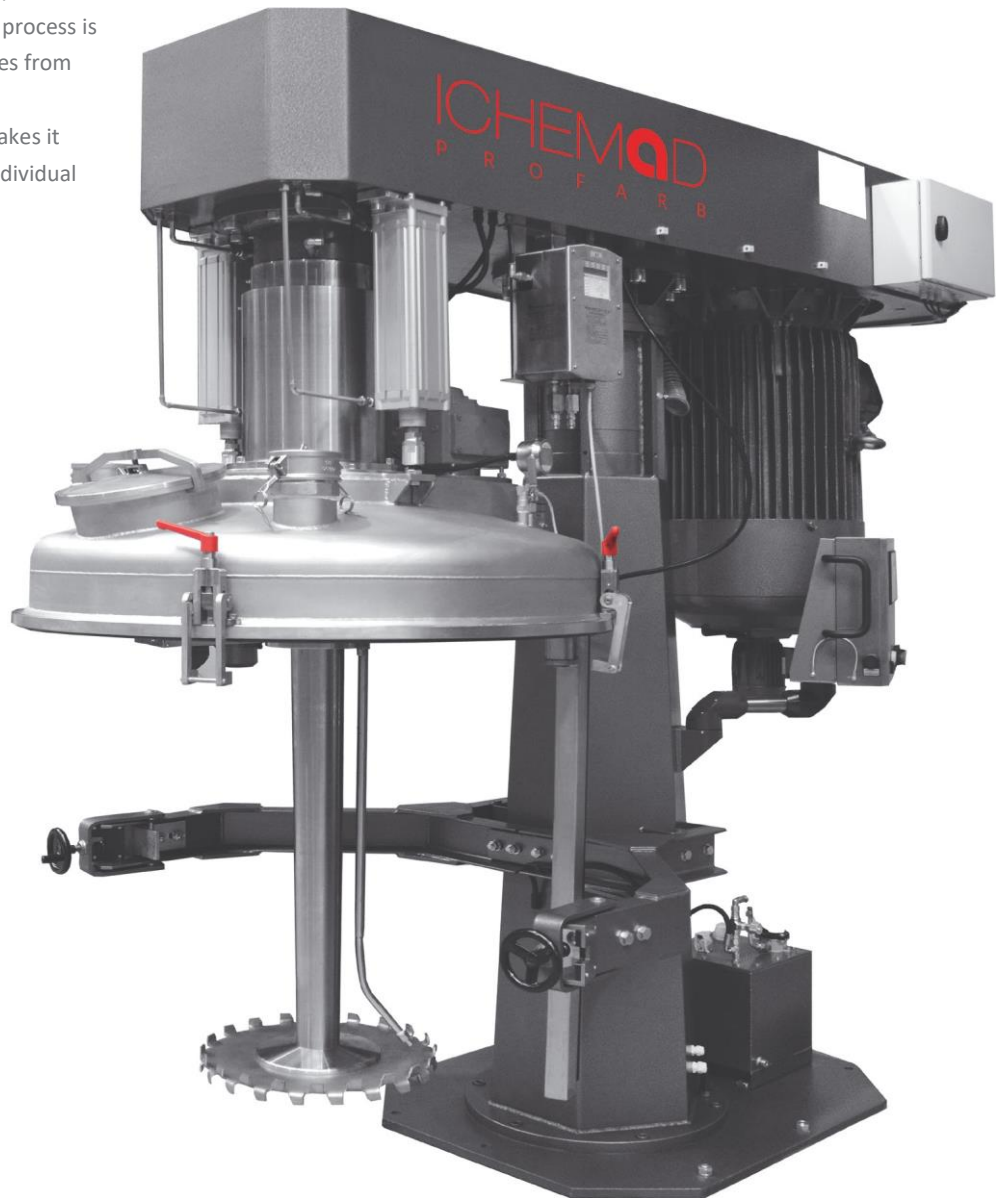
880 x 955 x 3100 x (3250)

600

## PMD VESSEL DISSOLVERS

PMD vessel dissolvers are designed for dispersion of solid particles in liquids. The dispersion process is carried out in mobile vessels with capacities from 500 to 2000 l.

The variety of options and device types makes it possible to find the optimal solution for individual applications.



### Options:

- scrapers
- oscillating disc
- vacuum
- scales

### TECHNICAL SPECIFICATIONS:

#### PMD vessel dissolvers

model	main engine power (kW)	working capacity of the vessel (litres)	rotational speed of the disc (rpm)	diameter of the dissolver's disc (mm)	L x W x H (mm) (max. height)	total weight (kg)
PMD-500/18.5F	18.5	500 ÷ 1000	140 ÷ 1400	350	2310 x 1220 x 2200 x (3300)	1450
PMD-500/22F	22	500 ÷ 1000	140 ÷ 1400	350	2310 x 1220 x 2200 x (3300)	1470
PMD-500/30F	30	500 ÷ 1000	140 ÷ 1400	350	2310 x 1220 x 2200 x (3300)	1600
PMD-500/37F	37	500 ÷ 1000	140 ÷ 1400	400	2310 x 1220 x 2200 x (3300)	1670
PMD-500/45F	45	500 ÷ 1000	140 ÷ 1400	400	2310 x 1220 x 2200 x (3300)	1675
PMD-1000/22F	22	1000	140 ÷ 1400	350	2600 x 1455 x 2200 x (3300)	1780
PMD-1000/30F	30	1000	140 ÷ 1400 ÷ 1400	350	2600 x 1455 x 2200 x (3300)	1880
PMD-1000/37F	37	1000	0 ÷ 1400	400	2600 x 1455 x 2200 x (3300)	1920
PMD-1000/45F	45	1000	0 ÷ 1400	400	2600 x 1455 x 2200 x (3300)	1970
PMD-1000/55F	55	1000	0 ÷ 1400	450	2600 x 1455 x 2200 x (3300)	2070
PMD-1000/75F	75	1000	0 ÷ 1400	450	2600 x 1455 x 2200 x (3300)	2260
PMD-1500/55F	55	1500	0 ÷ 1400	450	2600 x 1455 x 2300 x (3500)	2400
PMD-1500/75F	75	1500	0 ÷ 1400	450	2600 x 1455 x 2300 x (3500)	2550
PMD-2000/55F	55	2000	0 ÷ 1100	500	3100 x 1750 x 2740 x (4240)	2700
PMD-2000/75F	75	2000	0 ÷ 1100	550	3100 x 1750 x 2740 x (4240)	2800



## SPECIAL VESSEL DISSOLVERS

### PMD-BUTTERFLY PMD-DISPERMIX

PMD-DISPERMIX and PMD-BUTTERFLY dissolvers are used to disperse highly viscous substances. The design of these devices is based on the solutions used in PMD dissolvers.

PMD-BUTTERFLY and PMD-DISPERMIX dissolvers are perfect for the production of highly viscous substances.



#### TECHNICAL SPECIFICATIONS: PMD-BUTTERFLY special dissolvers

model	main engine power (kW)	working capacity of the vessel (litres)	rotational speed of the disc (rpm)	diameter of the dissolver's disc (mm)	butterfly agitator engine power (kW)	butterfly agitator rotational speed (rpm)	L x W x H (mm) (max. height)	total weight (kg)
PMD-BUTTERFLY – 800/22F/22F	22	800	138 ÷ 1380	305	22	10 ÷ 104	2540 x 1400 x 3000 x (4200)	2600
PMD-BUTTERFLY – 800/22F/37F	22	800	138 ÷ 1380	305	37	11 ÷ 118	2540 x 1400 x 2600 x (3600)	2750
PMD-BUTTERFLY – 800/30F/30F	30	800	138 ÷ 1380	305	30	11 ÷ 117	2540 x 1400 x 3000 x (4200)	2660
PMD-BUTTERFLY – 800/37F/22F	37	800	138 ÷ 1380	305	22	10 ÷ 104	2540 x 1400 x 3000 x (4200)	2680
PMD-BUTTERFLY – 800/37F/37F	37	800	138 ÷ 1380	305	37	11 ÷ 118	2540 x 1400 x 3000 x (4200)	2680

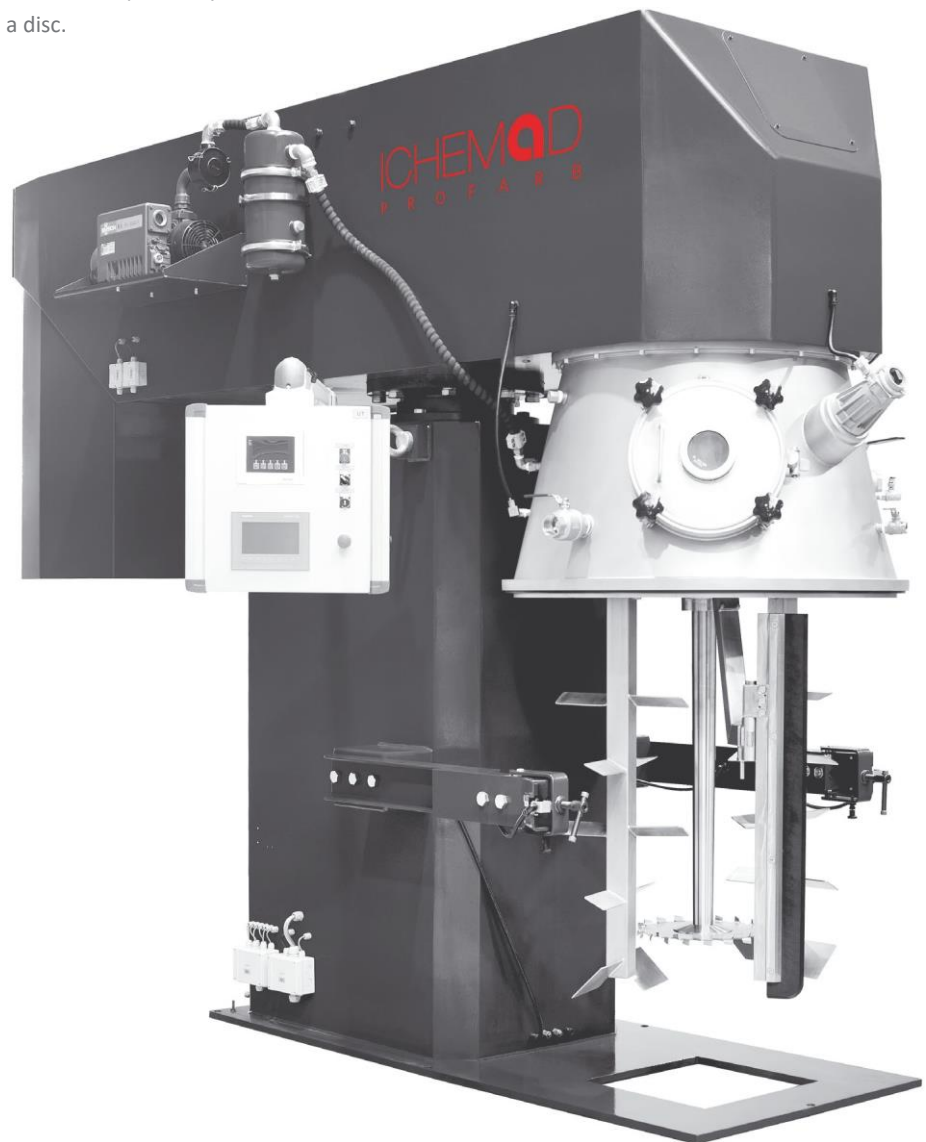
#### TECHNICAL SPECIFICATIONS: PMD-DISPERMIX special dissolvers

model	main engine power (kW)	working capacity of the vessel (litres)	rotational speed of the disc (rpm)	diameter of the dissolver's disc (mm)	butterfly agitator engine power (kW)	butterfly agitator rotational speed (rpm)	L x W x H (mm) (max. height)	total weight (kg)
PMD-DISPERMIX – 450/45F	45	450	140 ÷ 1400	400	-	-	2350 x 1350 x 2700 x (3700)	2400
PMD-DISPERMIX – 450/45F/R	45	450	140 ÷ 1400	400	2.2	12	2350 x 1350 x 2700 x (3700)	2500

## PMD-P PLANETARY DISSOLVERS

PMD-P dissolvers are used to disperse and mix highly viscous substances, i.e. silicones, putties etc. Planetary dissolvers have two drives: a central drive with a disc and a two-blade planetary drive spinning around a central shaft with a disc.

Planetary dissolvers are equipped with a vacuum generation system, allowing air to be removed from inside the vessel.



Perfect equipment for the production of adhesives, putties and other dense masses.

### TECHNICAL SPECIFICATIONS: PMD-P planetary dissolvers

model	main engine power (kW)	working capacity of the vessel (litres)	L x W x H (mm) (max. height)	total weight (kg)
PMD-P-450/37F/15F	37 + 15	450	1300 x 800 x 500	4500
PMD-P-800/55F/22F	55 + 22	800	3220 x 1630 x 2600	4900
PMD-1000/55F/30F	55 + 30	1000	3400 x 1650 x 2900	5200

## PVD STATIONARY DISSOLVERS

The design of stationary dissolvers is highly advanced technologically. The dissolver is equipped with a central dispersing disc and an anchor agitator with scraper. Versatile device, perfect for the production of substances which are difficult to disperse.

Thanks to the split shaft that drives the disc and an anchor agitator with scrapers, the best production results are obtained.



### TECHNICAL SPECIFICATIONS: PVD stationary dissolvers

model	main engine power (kW)	working tank capacity (litres)	anchor agitator engine power (kW)	rotational speed of the disc (rpm)	anchor agitator rotational speed (rpm)	diameter of the dissolver's disc (mm)	diameter x height (mm)	total weight (kg)
PVD-2500/55F/5.5F	55	2.5	5.5	90 ÷ 900	10 ÷ 20	450	Ø1700 x 3400	2860
PVD-3000/75F/7.5F	75	3	7.5	80 ÷ 800	10 ÷ 20	650	Ø1700 x 3650	3700
PVD-3000/90F/7.5F	90	3	7.5	80 ÷ 800	10 ÷ 20	650	Ø1700 x 3650	3800
PVD-3000/110F/7.5F	110	3	7.5	80 ÷ 800	10 ÷ 20	650	Ø1700 x 3650	3900
PVD-4000/110F/7.5F	110	4	7.5	80 ÷ 800	10 ÷ 20	700	Ø1900 x 3850	3800
PVD-4000/132F/7.5F	132	4	7.5	80 ÷ 800	10 ÷ 20	700	Ø1900 x 3850	3900
PVD-5000/55F/7.5F	55	5	7.5	80 ÷ 800	10 ÷ 20	650	Ø1900 x 4010	3700
PVD-5000/90F/7.5F	90	5	7.5	70 ÷ 700	10 ÷ 20	750	Ø1900 x 4010	3900
PVD-5000/110F/7.5F	110	5	7.5	70 ÷ 700	10 ÷ 20	750	Ø1900 x 4010	4000
PVD-5000/132F/7.5F	132	5	7.5	70 ÷ 700	10 ÷ 20	750	Ø1900 x 4010	4050
PVD-5000/160F/7.5F	160	5	7.5	70 ÷ 700	10 ÷ 20	750	Ø1900 x 4010	4090
PVD-5000/200F/5.5F	200	5	5.5	80 ÷ 800	6 ÷ 12	700	Ø2000 x 4400	5600
PVD-5000/200F/15F	200	5	15	80 ÷ 800	9 ÷ 18	2 x 650	Ø2000 x 4400	5900

## PVD/H STATIONARY DISSOLVERS



Dissolvers are equipped with a hydraulic system for lifting the dispersing agitator.

### TECHNICAL SPECIFICATIONS: PVD/H stationary dissolvers

model	main engine power (kW)	working tank capacity (litres)	anchor agitator engine power (kW)	rotational speed of the disc (rpm)	anchor agitator rotational speed (rpm)	diameter of the dissolver's disc (mm)	diameter x height (mm)	total weight (kg)
PVDH-3000/90F/5.5F	90	3	5.5	0 ÷ 930	10 ÷ 20	600	Ø1800 x 4500	7000
PVDH-3500/110F/5.5F	110	3.5	5.5	0 ÷ 930	10 ÷ 20	600	Ø1800 x 4500	7000
PVDH-5000/132F/7.5F	132	5	7.5	0 ÷ 700	10 ÷ 20	750	Ø1900 x 4500	8000
PVDH-5000/160F/7.5F	160	5	7.5	0 ÷ 700	10 ÷ 20	750	Ø1900 x 4500	8000
PVDH-6000/160F/7.5F	160	6	7.5	0 ÷ 700	10 ÷ 20	750	Ø2000 x 4600	9000
PVDH-10000/250F/7.5F	250	10	7.5	0 ÷ 700	6 ÷ 16	800	Ø2400 x 4900	10,000

## PVT THREE-SHAFT DISSOLVERS

Three-shaft dissolvers are designed to disperse solids in medium and high viscosity liquids. The devices are equipped with a disc, screw and anchor agitator with scrapers.

### Agitator functions in PVT dissolver:

1. Disc agitator – dispersion
2. Screw agitator – vertical movement of product
3. Anchor agitator with a scraper – horizontal movement of the product, emptying the tank, cleaning the walls



### TECHNICAL SPECIFICATIONS: PVT three-shaft dissolvers

model	working tank capacity (litres)	main engine power	rotational speed of the disc (rpm)	screw agitator engine power (kW)	screw agitator rotational speed (rpm)	anchor agitator engine power (kW)	anchor agitator rotational speed (rpm)	diameter x height (mm)	total weight (kg)
PVT-2500/37F/7.5F/5.5F	2.5	37	130 ÷ 1300	7.5	120 ÷ 240	5.5	9 ÷ 19	Ø1600 x 3800	3700
PVT-3000/45F/11F/7.5F	3	45	130 ÷ 1300	11	120 ÷ 240	7.5	9 ÷ 19	Ø1600 x 3800	4300
PVT-3000/45F/22F/15F	3	45	130 ÷ 1300	22	120 ÷ 240	15	9 ÷ 19	Ø1600 x 3800	4600
PVT-5000/55F/15F/11F	5	55	100 ÷ 1000	15	102 ÷ 204	11	11 ÷ 22	Ø2100 x 4700	5800
PVT-5000/75F/18.5F/15F	5	75	100 ÷ 1000	18.5	102 ÷ 204	15	11 ÷ 22	Ø2100 x 4700	6000
PVT-6000/75F/15F/7.5F	6	75	100 ÷ 1000	15	102 ÷ 204	7.5	11 ÷ 22	Ø2100 x 4800	6500
PVT-6000/75F/18.5F/15F	6	75	100 ÷ 1000	18.5	102 ÷ 204	15	11 ÷ 22	Ø2100 x 4800	6650



## PMM MULTI-VESSEL DISSOLVERS

Dissolvers with rotating column, working with one, two, four or five vessels.  
An economical solution that guarantees high production efficiency.



vessel 1: solids loading/dispersion  
vessels 2, 3: quality control/vessel emptying  
vessel 4: unloading  
vessel 5: washing and preparation for production

### TECHNICAL SPECIFICATIONS: PMM multi-vessel dissolvers

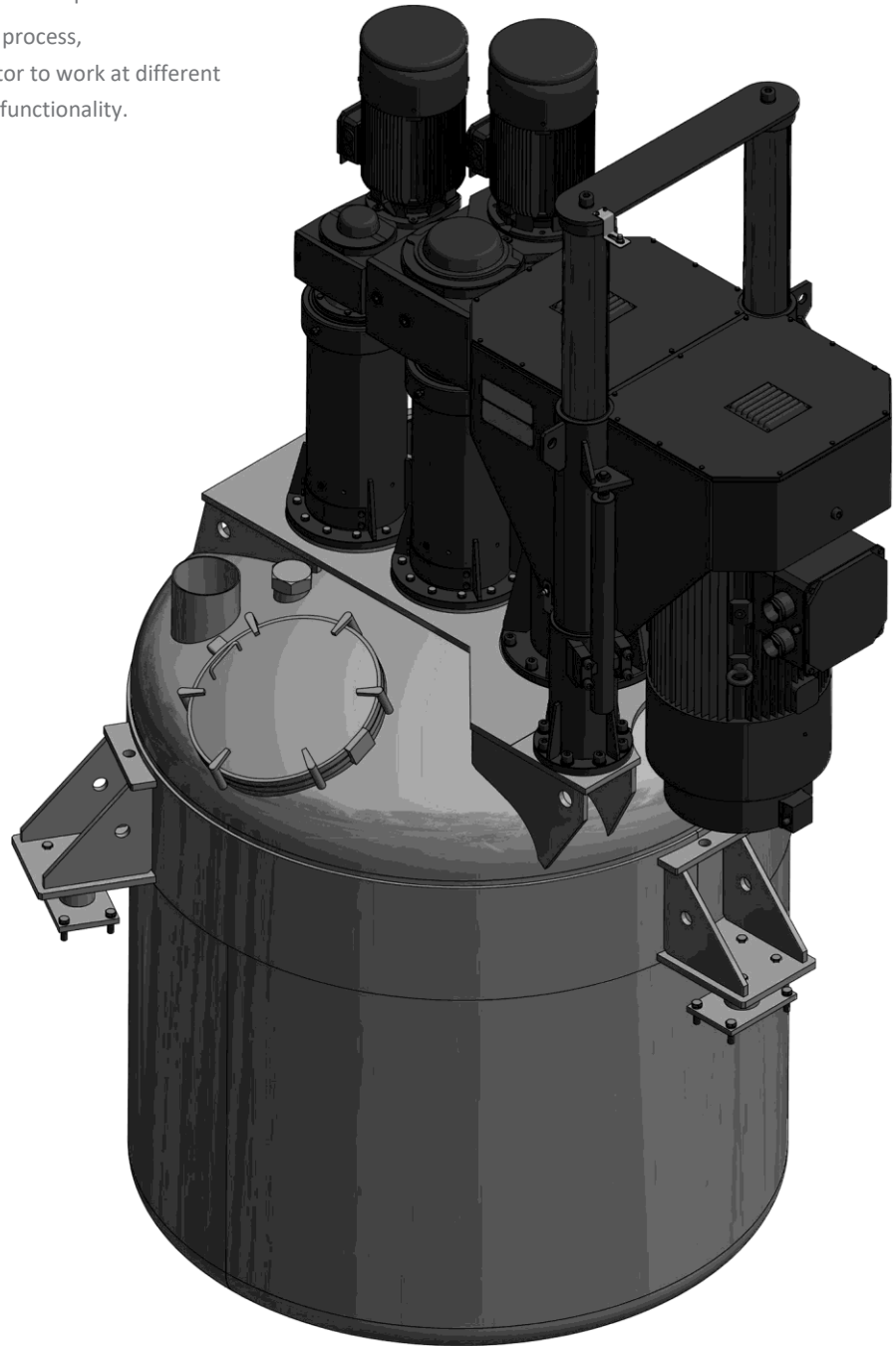
model	main engine power (kW)	working capacity of the vessel (litres)	rotational speed of the disc (rpm)	diameter of the dissolver's disc (mm)	L x W x H mm (max. height)	total weight (without tank) (kg)
PMM-1000/45F	45	1000	0 ÷ 1400	400	3100 x 2900 x 2750 x (3850)	1850
PMM-2500/75F	75	2500	0 ÷ 900	500	3760 x 3450 x 3850 x (5500)	4580
PMM-2500/90F	90	2500	0 ÷ 900	600	3760 x 3450 x 3850 x (5500)	4700
PMM-3000/75F	75	3000	0 ÷ 900	500	4300 x 3950 x 3850 x (5850)	4950
PMM-3000/90F	90	3000	0 ÷ 900	600	4300 x 3950 x 3850 x (5850)	5000
PMM-4000/110F	110	4000	0 ÷ 900	600	4550 x 4220 x 3850 x (5850)	5050
PMM-5000/132F	132	5000	0 ÷ 900	600	4630 x 4290 x 3850 x (5850)	5100
PMM-5000/160F	160	5000	0 ÷ 800	700	4630 x 4290 x 3850 x (5850)	5500
PMM-10000/250F	250	10,000	0 ÷ 750	800 (1000)	4560 x 4340 x 6665 x (9515)	12,050

## PVTH THREE-SHAFT DISSOLVERS

Universal dissolvers designed to produce a wide range of products.

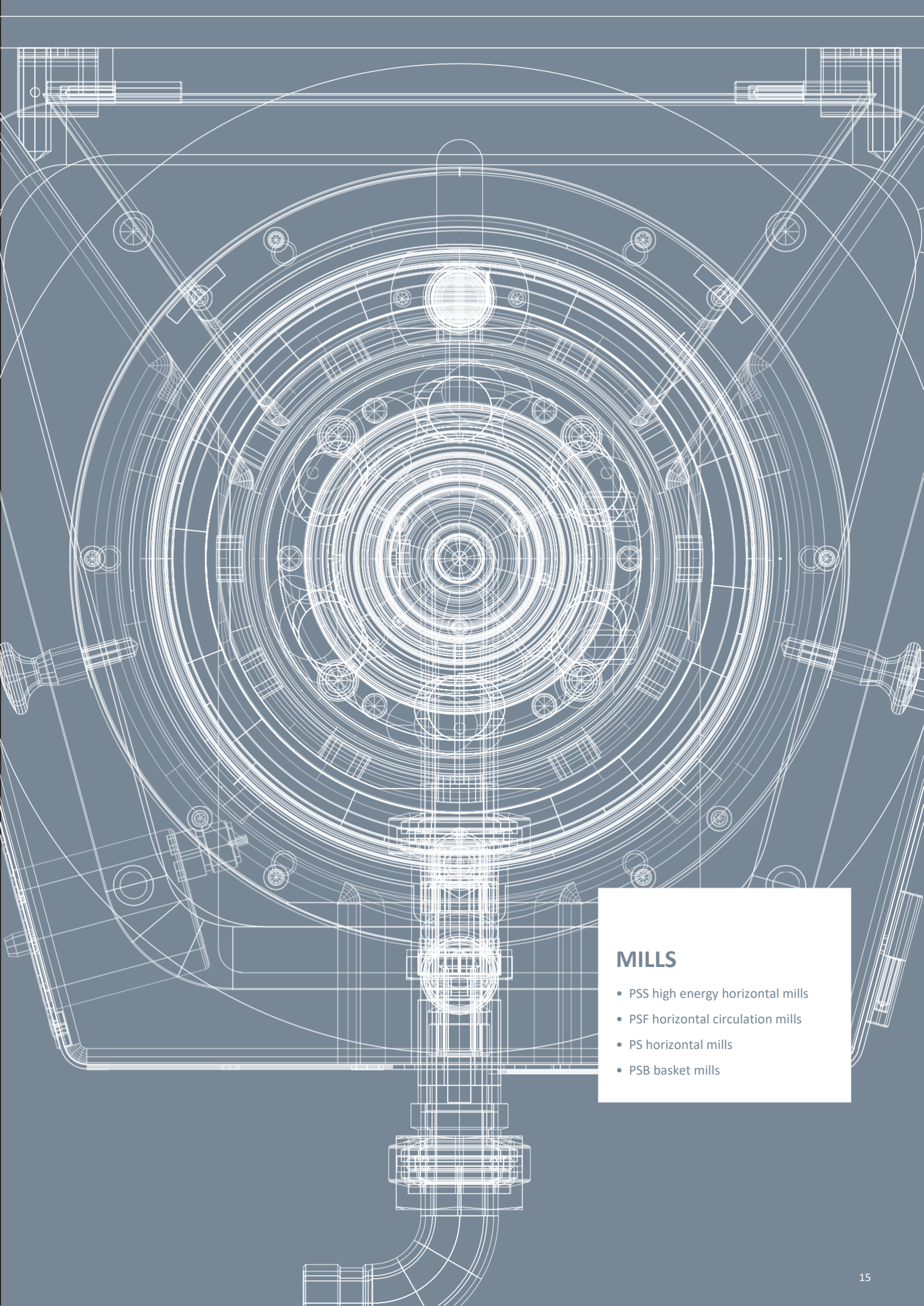
They have 3 independently controlled agitators:

- central anchor agitator to support mixing, clean the walls and prevent sedimentation
- side screw agitator for vertical movement of the product
- side disc agitator for intensive dispersion process, hydraulic lifting system enables the agitator to work at different depths of immersion, which increases its functionality.



### TECHNICAL SPECIFICATIONS: PVTH three-shaft dissolvers

model	working tank capacity (litres)	main engine power	rotational speed of the disc (rpm)	anchor agitator engine power (kW)	screw agitator rotational speed (rpm)	anchor agitator engine power (kW)	anchor agitator rotational speed (rpm)	Inner tank diameter (mm)	total weight (kg)
PVTH-6000_110F_18.5F_22F_NE	6000 l	110 kW	400-980	18.5	85-204	22	10 ÷ 22	Ø2100	7830



## MILLS

- PSS high energy horizontal mills
- PSF horizontal circulation mills
- PS horizontal mills
- PSB basket mills

## PSS HIGH ENERGY HORIZONTAL MILLS

The design of PSS high energy horizontal mills is an extension and improvement of the well-known PS series of mills. The introduced modifications allowed to maintain simple design, but – at the same time – enabled the use of very fine balls.

Extremely effective cooling enables grinding different products at low process temperatures. This feature is particularly important in the production of delicate pigments, for which high temperatures are destructive.



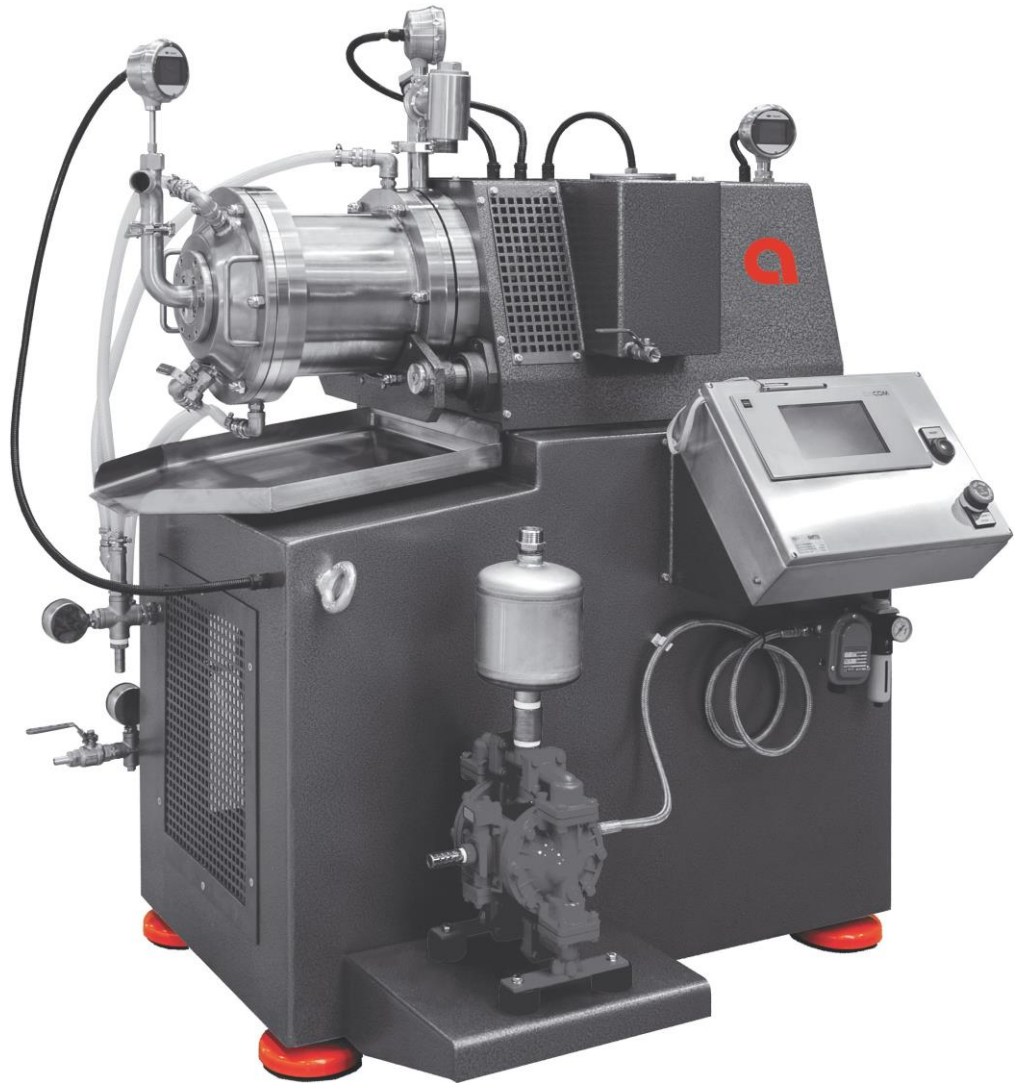
The engine is powered by a frequency inverter with adjustable shaft speed. Discs and chamber can be made of ceramics.

### TECHNICAL SPECIFICATIONS: PSS high energy horizontal mills

model	engine power (kW)	net capacity of the mill's working tank (litres)	L x W x H (mm)	total weight (kg)
PSS-20	22	20	1300 x 800 x 500	720
PSS-50	45	44	1490 x 890 x 1780	1250
PSS-100	55	113	1170 x 1250 x 1780	1950

## PSF HORIZONTAL CIRCULATION MILLS

PSF high energy horizontal ball mills with frontal separation are intended for grinding and crushing pre-dispersed pigment pastes or other substances requiring fine grinding in a liquid environment.



PSF horizontal circulation mills are used to process concentrated pigment pastes. Discs and chamber can be made of ceramics.

### TECHNICAL SPECIFICATIONS: PSF horizontal circulation mills

model	engine power (kW)	net capacity of the mill's working tank (litres)	L x W x H (mm)	total weight (kg)
PSF-1.5	3	1.5	950 x 560 x 380	140
PSF-10	22	7.4	1200 x 870 x 1500	974
PSF-30	45	31	1250 x 890 x 1730	1600
PSF-100	55	113	2381 x 1250 x 2287	2100

## PS HORIZONTAL MILLS

PS horizontal ball mills are used to grind and shred pre-dispersed pigment pastes or other substances requiring fine grinding in a liquid environment.



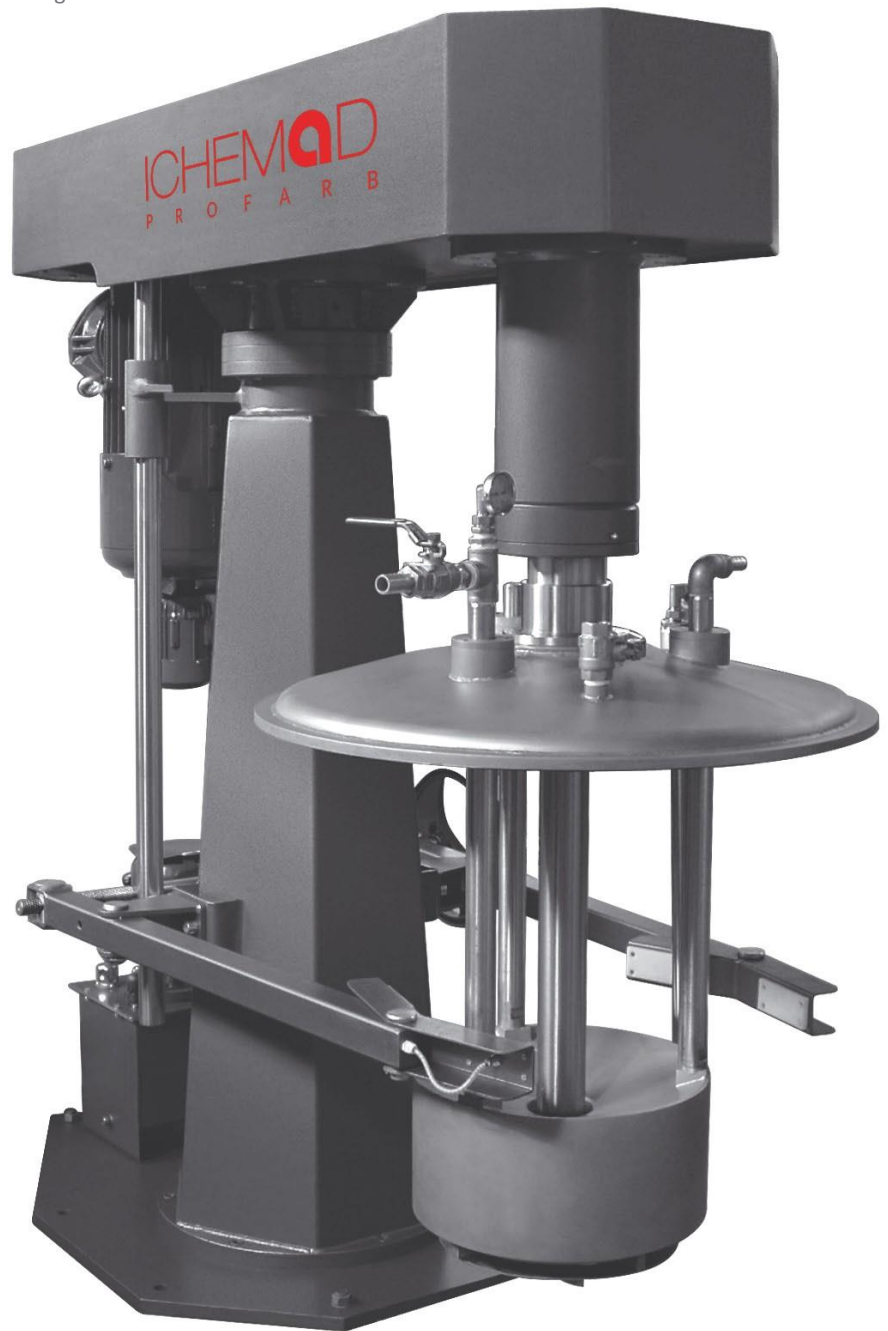
Traditional, highly reliable device. High flexibility of operational parameters. Capacity up to 5000 kg/h.

### TECHNICAL SPECIFICATIONS: PS horizontal mills

model	engine power (kW)	net capacity of the mill's working tank (litres)	L x W x H (mm)	total weight (kg)
PS-1/1.5/2	3	1; 1.5; 2	1100 x 570 x 500	150
PS-20	22	20	1400 x 890 x 1450	720
PS-50	45	44	2050 x 1170 x 1650	1260
PS-100	55	113	2270 x 1250 x 1780	1900
PS-200	90	195	2400 x 1940 x 1800	2880
PS-500	200	500	5600 x 1110 x 1600	4800

## PSB BASKET MILLS

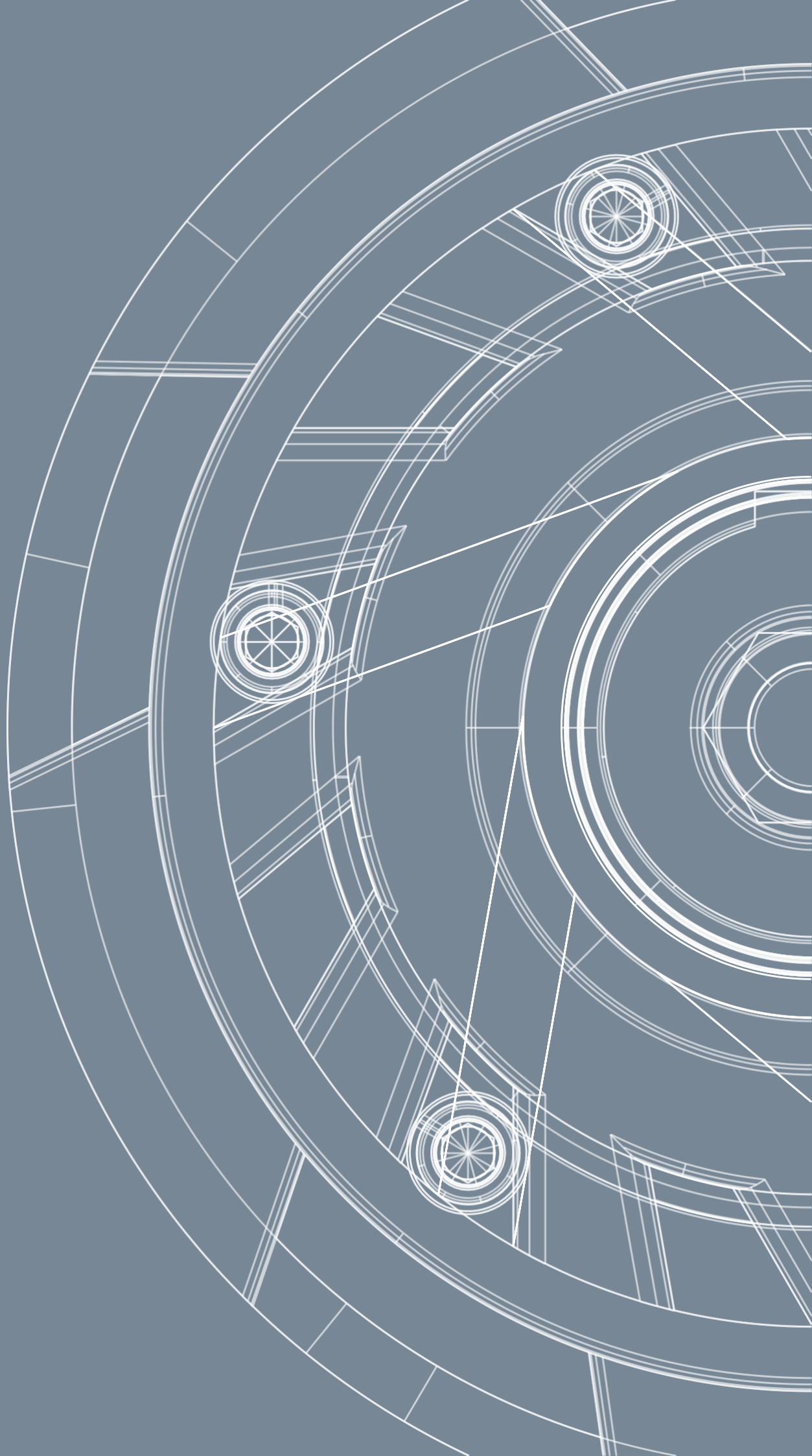
PSB mills with cooled basket are used for wet grinding of pigments and other solids in mobile vessels.



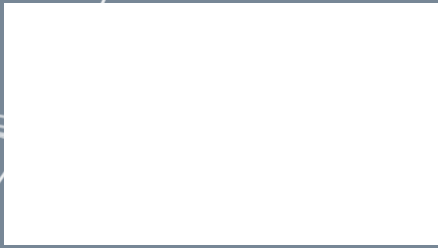
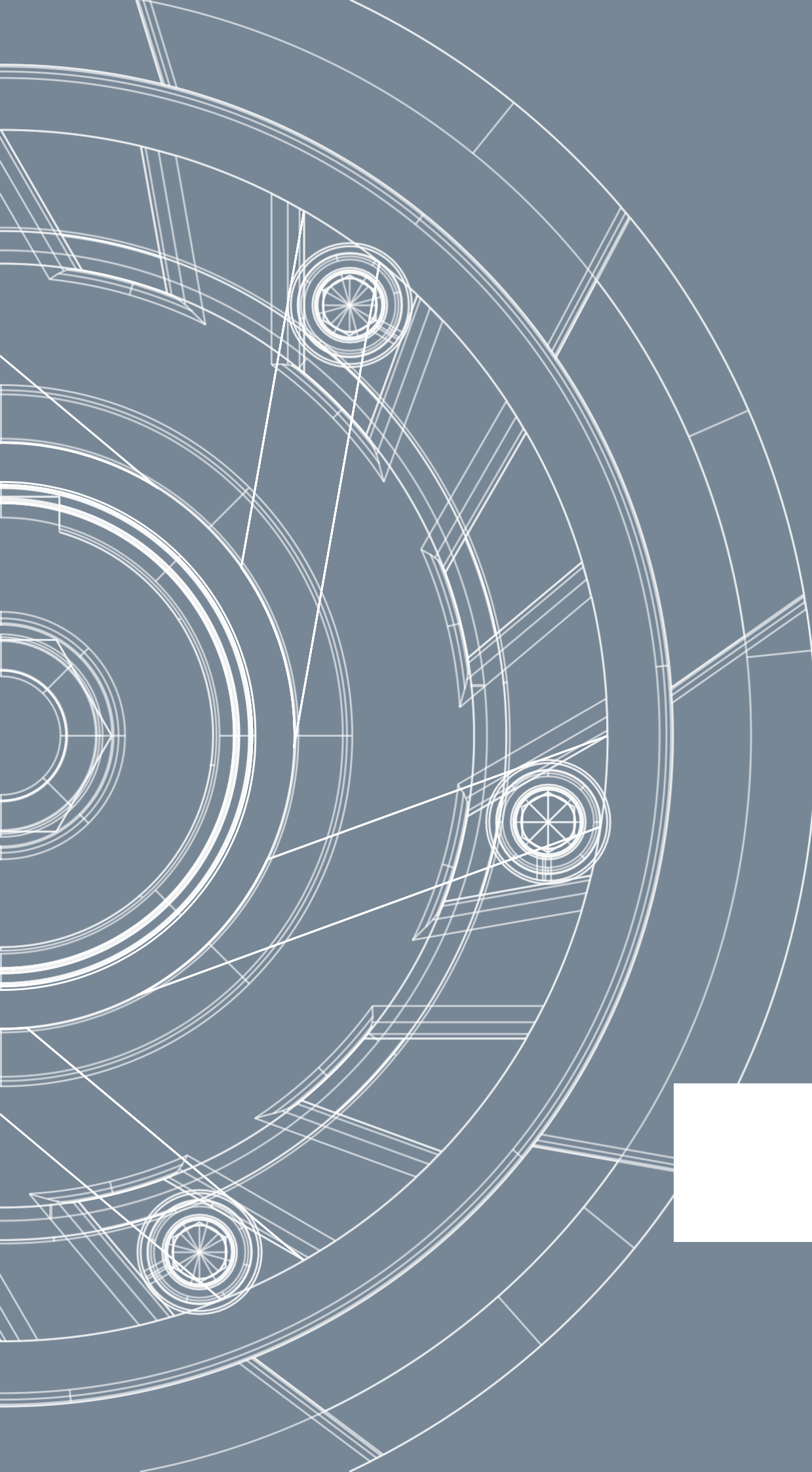
Easy to clean mill for periodic operations. It does not require vessel cooling.

### TECHNICAL SPECIFICATIONS: PSB basket mills

model	main engine power (kW)	working capacity of the vessel (litres)	basket capacity (litres)	weight of zirconia balls 1.6 ÷ 2.5 mm (kg)	shaft rotational speed (rpm)	L x W x H (mm) (max. height)	total weight (kg)
PSB-2	1.5	1-15	2	1.5	140 ÷ 1400	925 x 600 x 935 (1335)	200
PSB-10	11	50 ÷ 150	3.7	9.3	140 ÷ 1400	1675 x 1025 x 2570 (3100)	760
PSB-20	15	600	13.2	34	90 ÷ 900	2100 x 1150 x 2100 (3200)	1850
PSB-50	37	1000	33	68	66 ÷ 660	2600 x 1455 x 2300 (3500)	2000





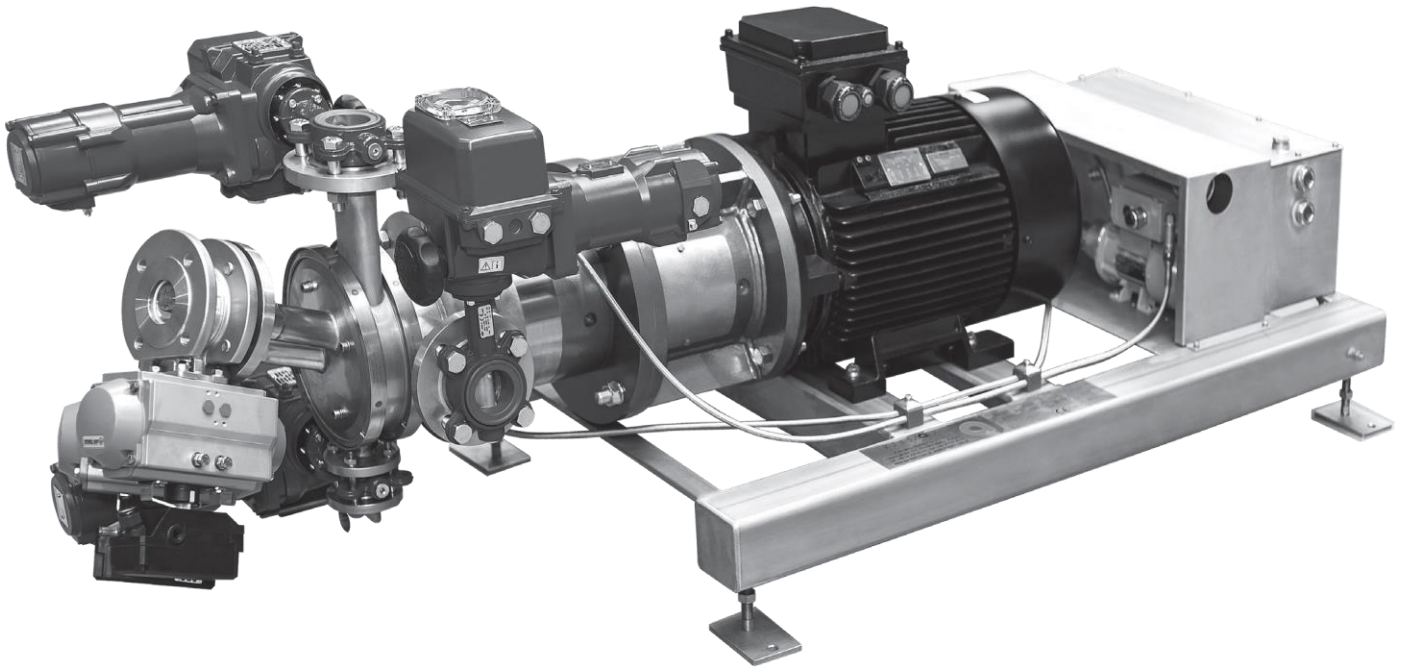


## PDI FLOW DISPERSERS

Flow dispersers are devices, in which dispersion is conducted in a continuous (flow) manner in a small amount of liquid. This operation results in very permanent suspensions.

Production application for:

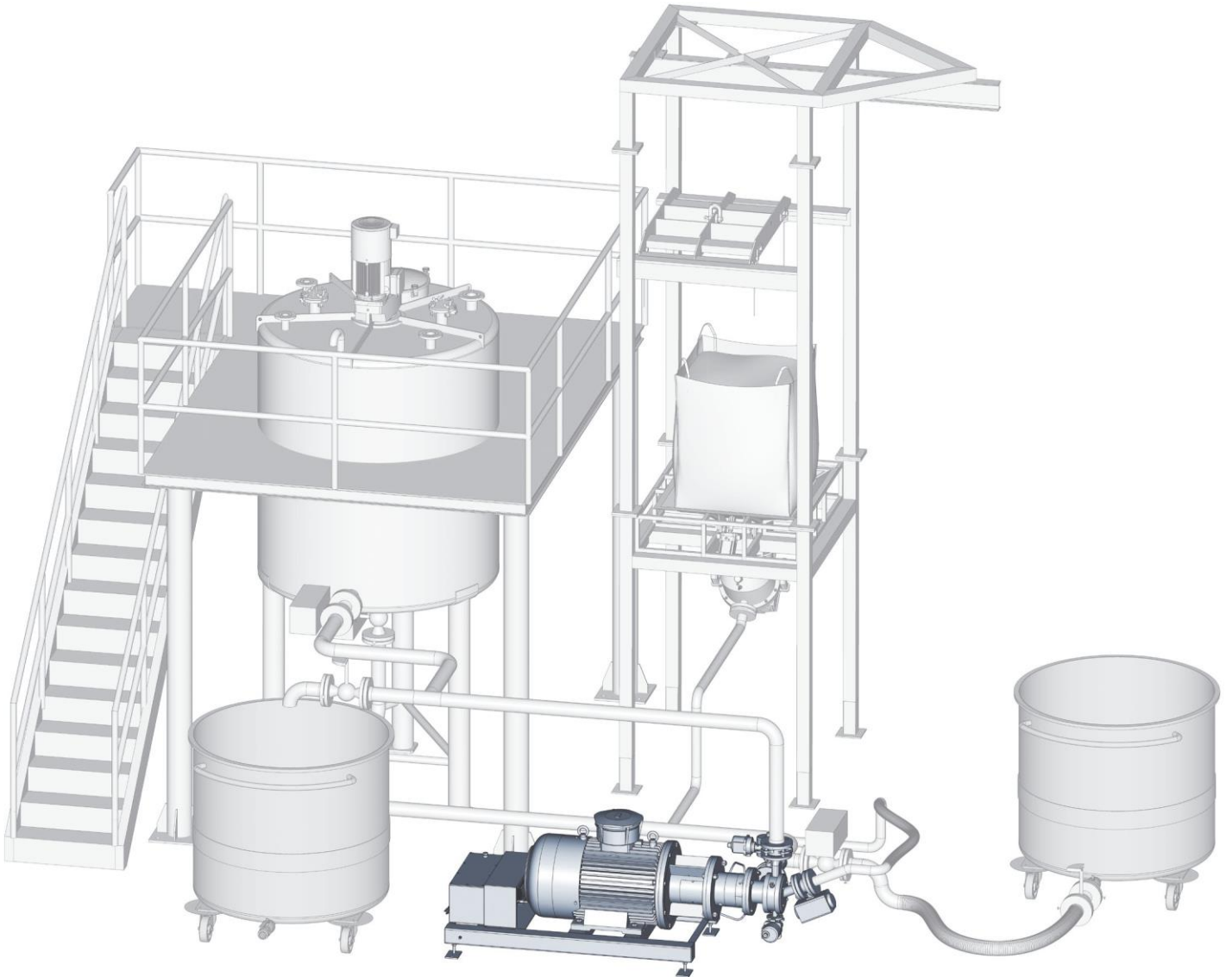
- paints and varnishes,
- enamels,
- coatings,
- adhesives, binders and waxes,
- additives and lubricants,
- plant protection products,
- fungicides,
- microbiological products,
- cosmetics,
- photographic emulsions,
- drugs requiring dispersion.



It operates on the rotor principle with fixed and rotating toothed rims. It creates a very large suction vacuum exactly in the area of greatest abrasion. This means that the flow disperser performs all production processes:

- it pumps liquids to fill the tank,
- it transports powders by suction, eliminating feed and the necessary ventilation and air filtration in this process,
- it combines powders and liquids in the working chamber, supports intensive mixing.

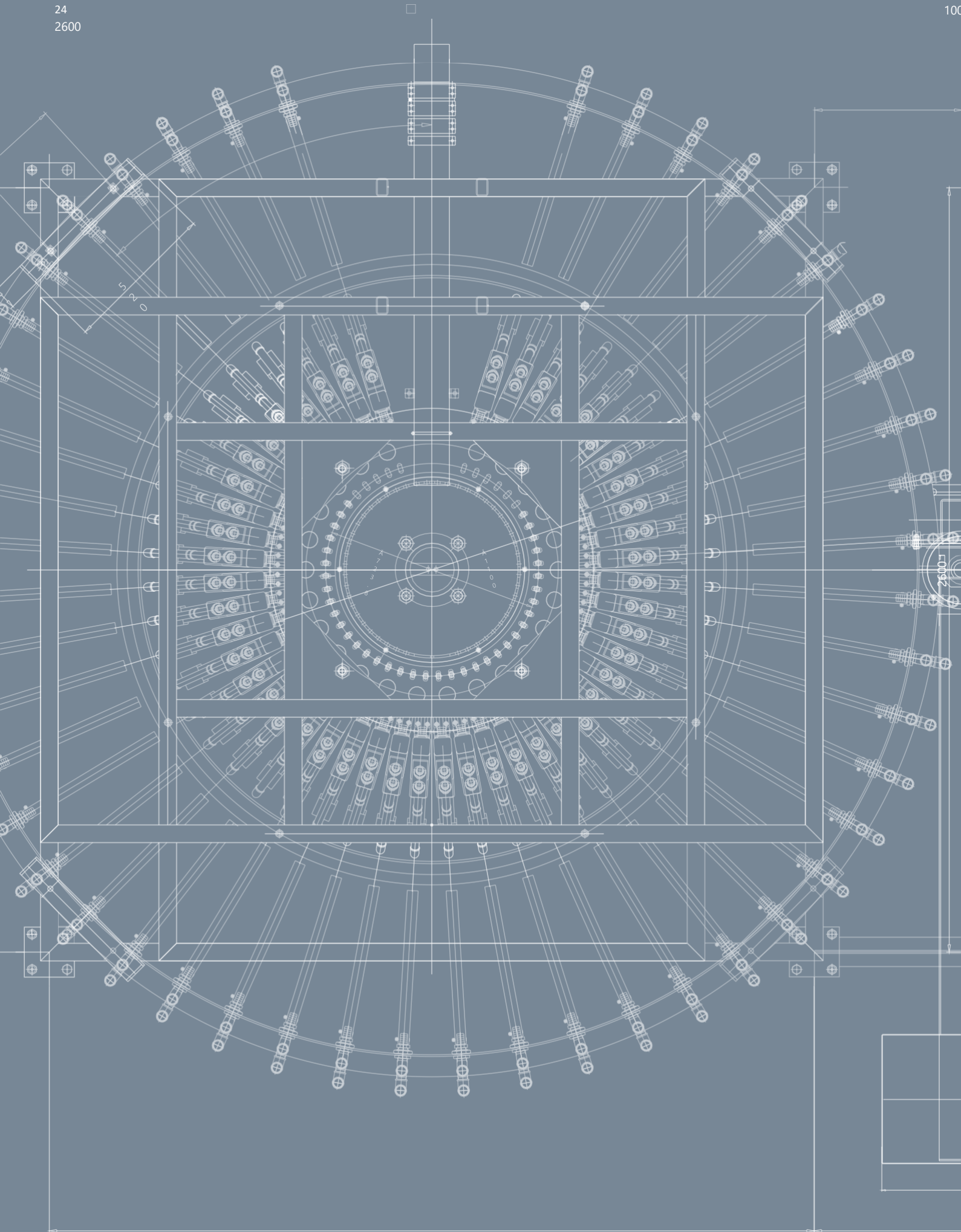




**TECHNICAL SPECIFICATIONS:**  
**Diagram of installation with PDI flow disperser**

model	engine power (kW)	rotor speed (rpm)	L x W x H (mm)	total weight (kg)
PDI-15/F	15	400-3600	930 x 472 x 620	242
PDI-22/F	22	400-3600	2150 x 860 x 710	533
PDI-55/F	55	300-3000	2320 x 880 x 880	860
PDI-90/F	90	300-3000	2700 x 1000 x 940	1300







**PDS PROPORTIONING  
STATIONS**





## PDS PROPORTIONING STATIONS

PDS proportioning stations are used for precise dosing of liquid substances according to a given recipe. In particular, the stations are used for industrial colouring of paint products.

The proportioned products (e.g. pigment pastes, colourants) are stored in storage tanks with stirrers. Storage tanks are connected with a set of diaphragm pumps that are used for:

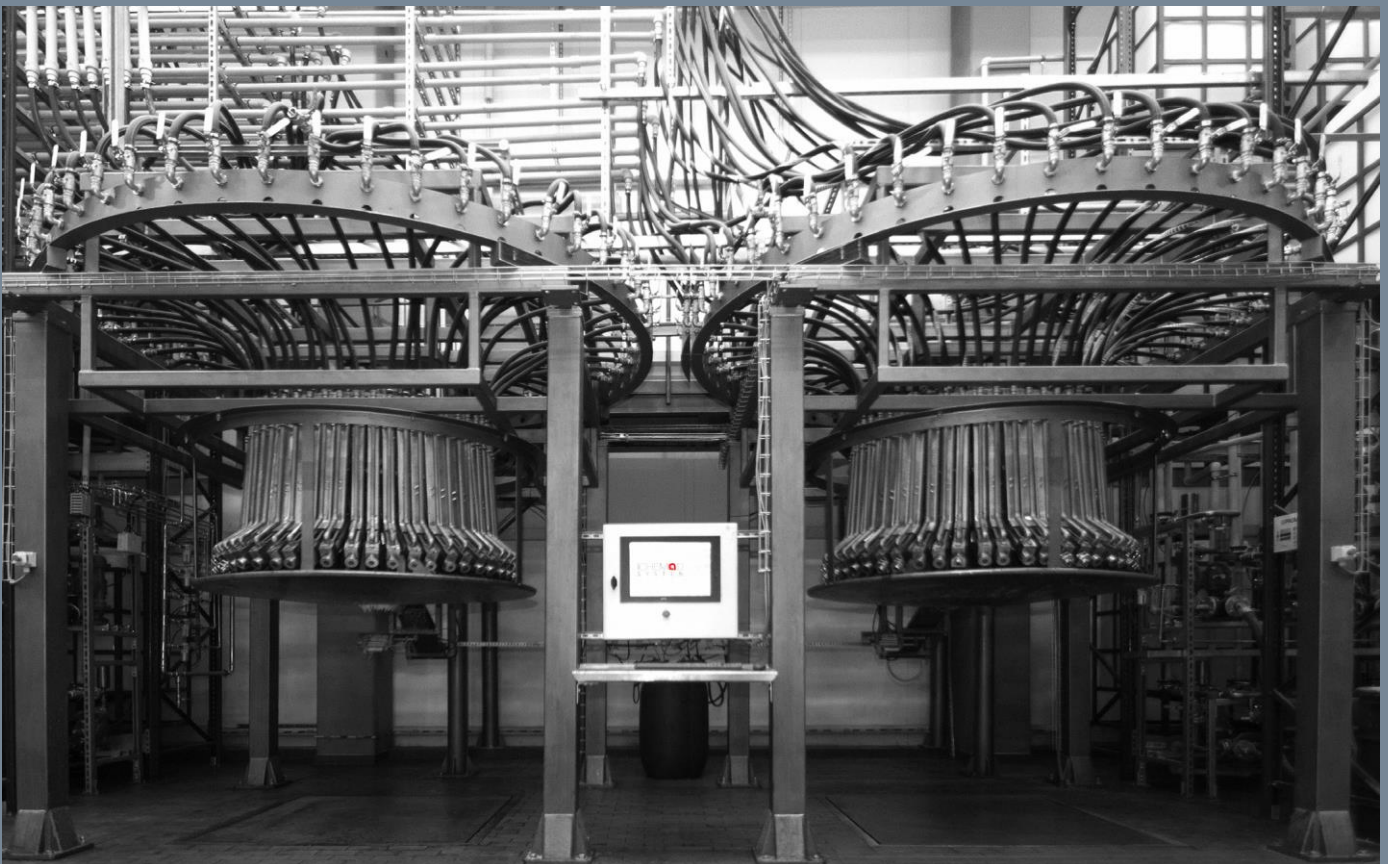
- filling tanks with proportioned products,
- feeding the products to the dosing valves of the proportioning station,
- closed circuit circulation of products: storage tank – dosing valve.

Proportioning is done in three modes: coarse/accurate/drip. The machine operator selects the product code from the database corresponding to the recipe.

After selecting the code, the system proportions appropriate quantities of products. This enables accurate and fast execution of customer orders.

PDS proportioning stations are used for:

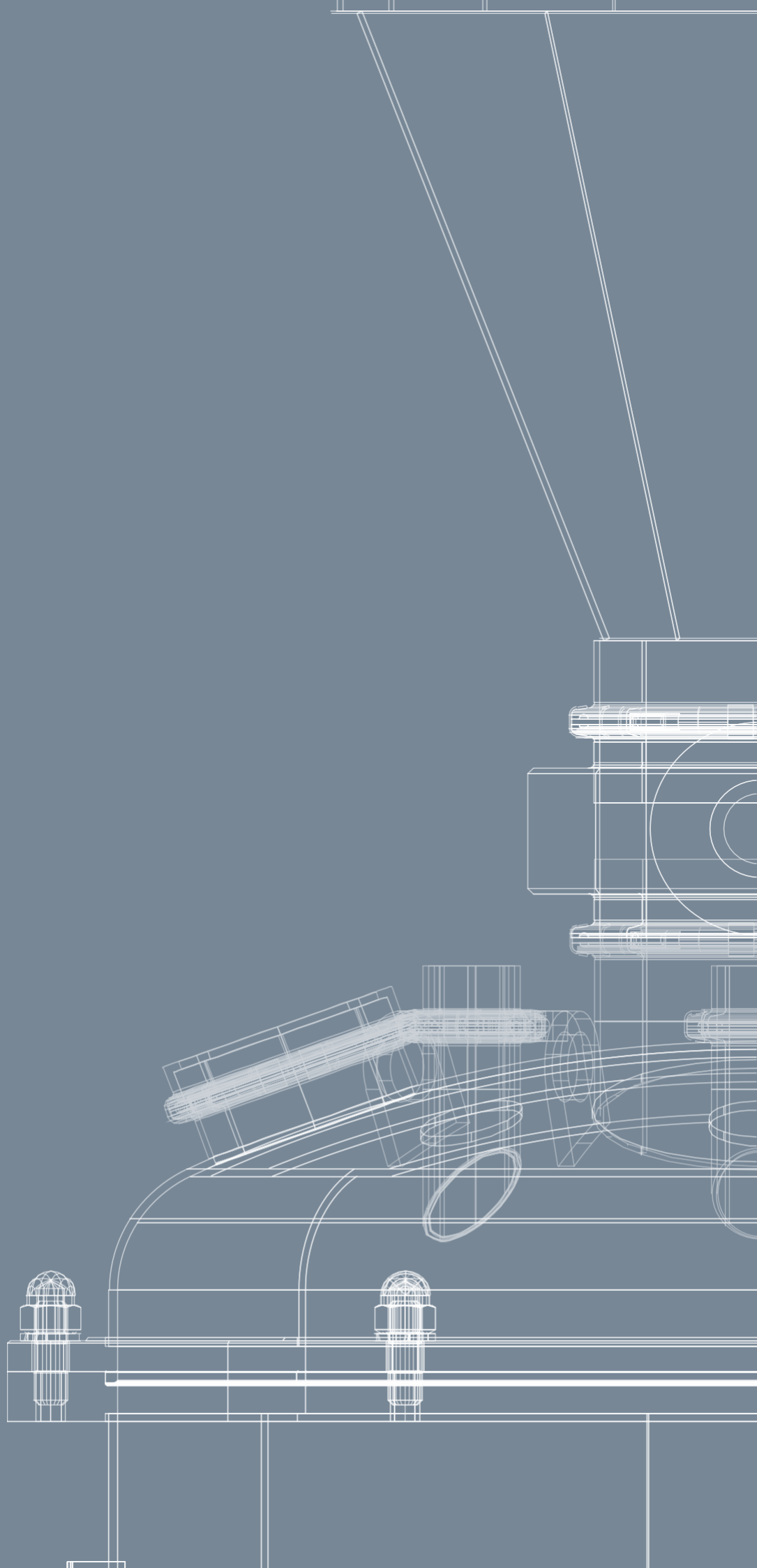
- colouring products,
- precise proportioning of liquid products,
- production of mixtures of liquid materials.

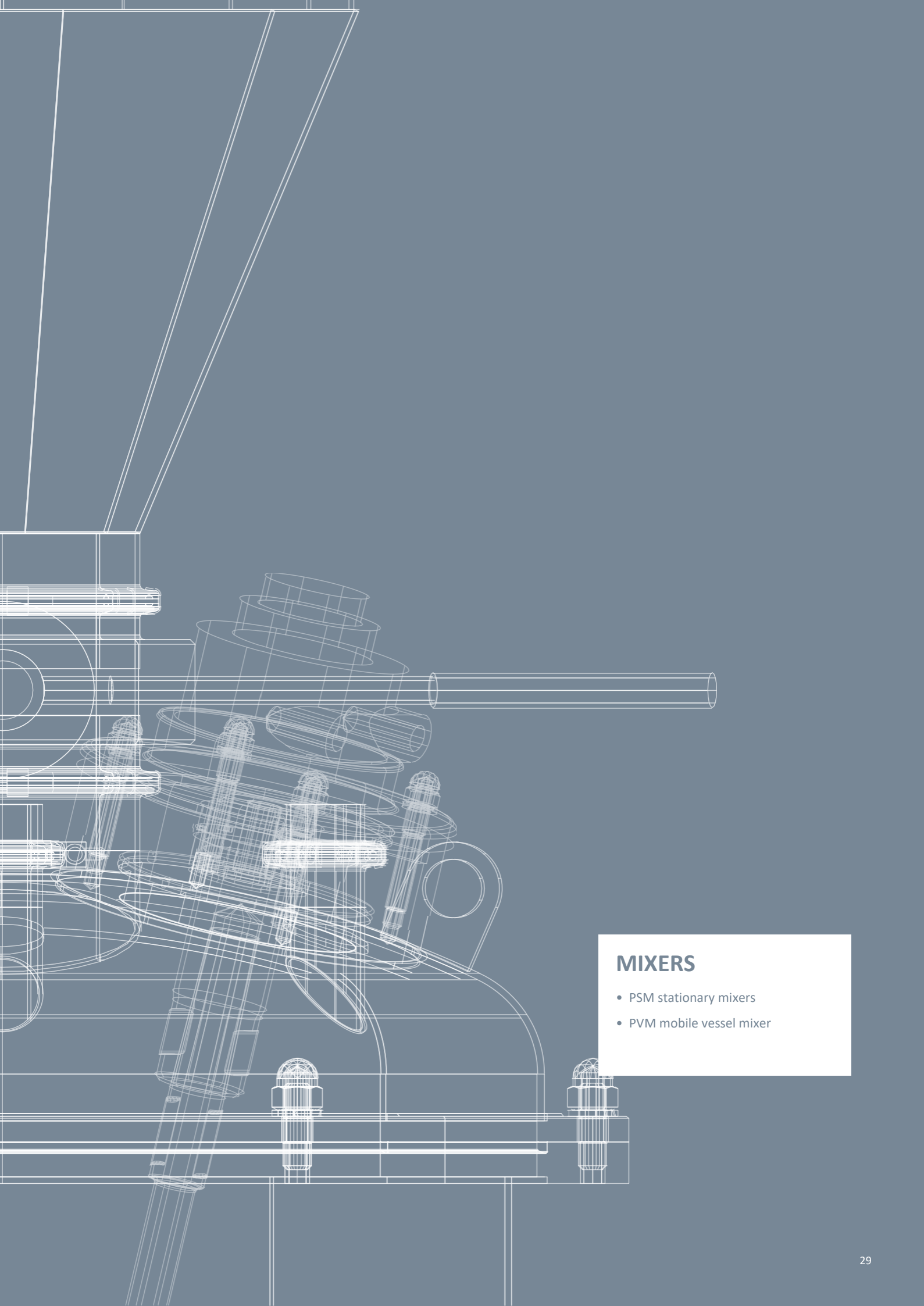




## TECHNICAL SPECIFICATIONS: PDS proportioning stations

model	maximum number of dosing valves	stationary valves	mobile valves	packaging size		height x width x length (HxWxL)
				MAX (mm)	MIN (mm)	
PDS-48	48	-	-	H=1250 Ø=1200	H=400 Ø=100	4000x3500x3500
PDS-32	32	+	-	H=1250 Ø=1200	H=600 Ø=600	2250x2250x900
PDS-24	24	+	+	H=1250 Ø=1200	H=600 Ø=600	2250x2250x900
PDS-16	16	+	+	H=100 Ø=900	H=400 Ø=400	2100x1650x1000





## MIXERS

- PSM stationary mixers
- PVM mobile vessel mixer



## PSM STATIONARY MIXERS

PSM stationary mixers are used to mix liquids and dispersion systems in stationary tanks. Mixers are offered as equipment intended for storing, equalizing or colouring products.

Mixers are available in sizes from 100 l to 35 000 l.



## TECHNICAL SPECIFICATIONS:

### Single-drive mixers

model	engine power (kW)	working capacity (litres)	standard agitators	agitator rotational speed (rpm)	diameter x height (mm)	total weight (kg)
PSM-1000/1.1-120	1.1	1	1 x propeller agitator	120	Ø1200 x 1900	290
PSM-1000/1.5-125	1.5	1	1 x propeller agitator + 1 x anchor-deck agitator	125	Ø1200 x 2000	370
PSM-2000/2.2-108	2.2	2	2 x propeller agitators + 1 x anchor-deck agitator	108	Ø1400 x 2500	490
PSM-4000/5.5-48	5.5	2	2 x propeller agitators + 1 x anchor-deck agitator	48	Ø1800 x 3120	1500
PSM-6000/7.5-34	7.5	6	2 x propeller agitators + 1 x anchor-deck agitator	34	Ø2000 x 4500	1600
PSM-10000/11-27	11	10	2 x propeller agitators + 1 x anchor-deck agitator	27	Ø2000 x 4800	2100
PSM-35000/30-26	30	35	2 x propeller agitators + 1 x anchor-deck agitator	26	Ø3234 x 4800	5000

## TECHNICAL SPECIFICATIONS:

### Single-drive equalizers and special mixers (for equalizing and colouring products)

model	engine power (kW)	working capacity (litres)	standard agitators	agitator rotational speed (rpm)	diameter x height (mm)	total weight (kg)
PSM-1000/4.0F-120	4	1	2 x propeller agitators	0 ÷ 120	Ø1200 x 2000	290
PSM-2000/5.5-60	5.5	2	1 x propeller agitator + 1 x anchor-deck agitator	60	Ø1400 x 2500	1000
PSM-3000/7.5F-180	7.5	3	2 x propeller agitators	0 ÷ 180	Ø1800 x 2800	1440
PSM-3200/18.5F-30	18.5	3.2	2 x propeller agitators + 1 x anchor-deck agitator	0 ÷ 30	Ø1800 x 3500	1160
PSM-3200/11-135	11	3.2	2 x propeller agitators	135	Ø1800 x 3500	1100
PSM-4000/7.5-150	7.5	4	2 x propeller agitators	150	Ø1800 x 2800	1440
PSM-4000/15-48	15	4	2 x propeller agitators + 1 x anchor-deck agitator	48	Ø1800 x 3100	1650
PSM-4000/18.5-38	18.5	4	1 x ribbon agitator + 1 x anchor-deck agitator	38	Ø1800 x 3470	1810
PSM-5000/5.5F-100	5.5	5	3 x propeller agitators	0 ÷ 100	Ø1800 x 3000	1420
PSM-5000/17.5 (13.5)192(92)	13.5/17.5	5	2 x propeller agitators	92/192	Ø2000 x 4900	2000
PSM-5000/22-30	22	5	2 x propeller agitators + 1 x anchor-deck agitator	30	Ø2000 x 3350	1330
PSM-6000/11F-96	11	6	1 x propeller agitator + 1 x anchor agitator	0 ÷ 96	Ø2000 x 3250	1730
PSM-6000/15F-80	15	6	2 x propeller agitators + 1 x anchor-deck agitator	0 ÷ 80	Ø2000 x 3250	1790
PSM-6000/22F-13	22	6	2 x propeller agitators + 1 x anchor-deck agitator	0 ÷ 13	Ø1800 x 4600	1900
PSM-6000/22F-54	22	6	2 x propeller agitators + 1 x anchor-deck agitator	0 ÷ 54	Ø2000 x 4600	1900
PSM-6300/15-118	15	6.3	2 x propeller agitators	118	Ø2000 x 4900	2080
PSM-10000/37F-44	37	10	2 x propeller agitators + 1 x anchor-deck agitator	0 ÷ 44	Ø2400 x 5500	2300
PSM-20000/22F-200	22	20	3 x propeller agitators	0 ÷ 200	Ø2800 x 6480	2800

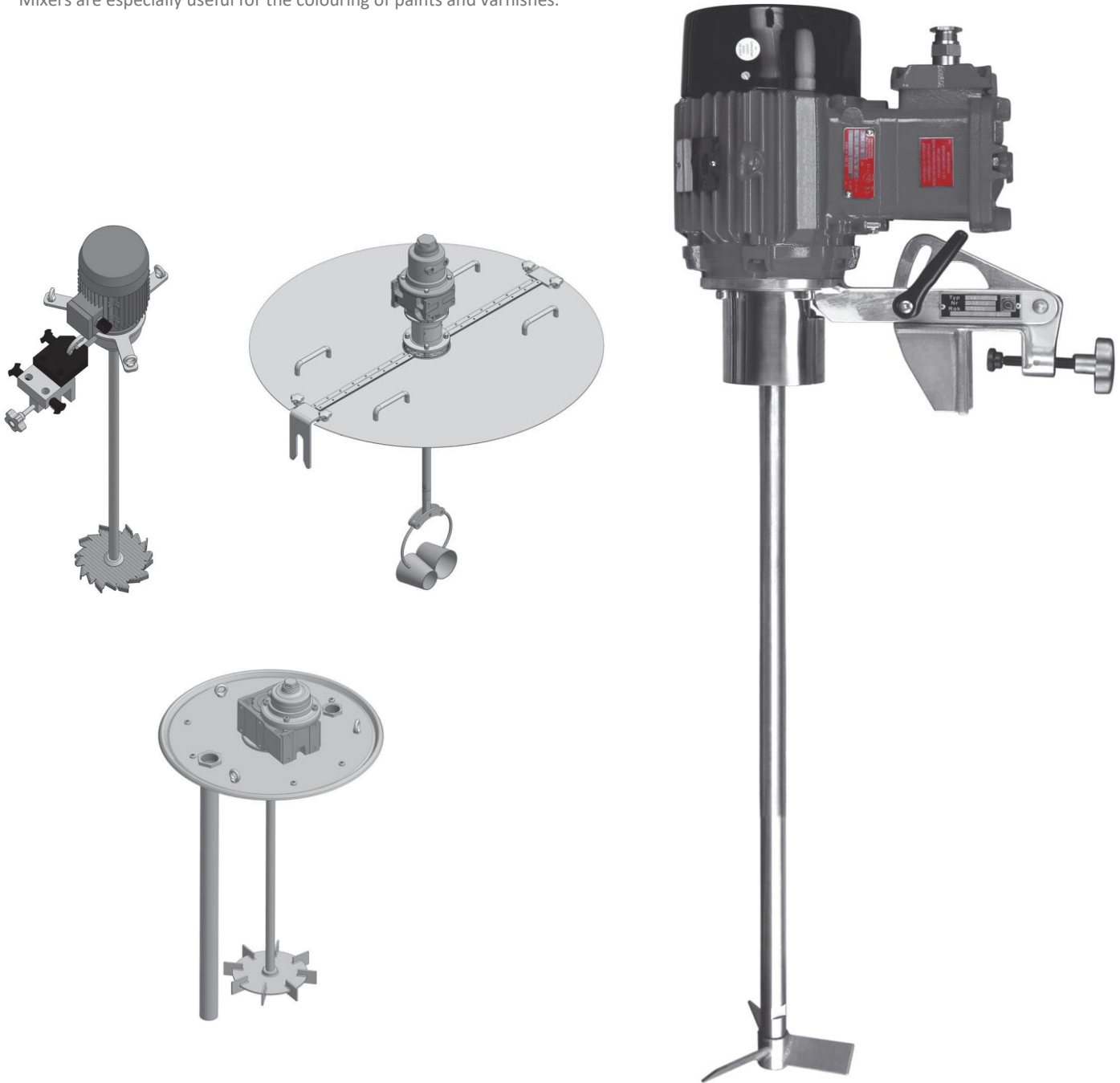
## TECHNICAL SPECIFICATIONS:

### Double-drive special equalizers (for colouring products)

model	engine power (kW)	working capacity (litres)	standard agitators	agitator rotational speed (rpm)	diameter x height (mm)	total weight (kg)
PSM-2000/15F-500/3-11	15 and 3	2	dispersing agitator / anchor agitator with scraper	0 ÷ 500 and 11	Ø1200 x 3400	1800
PSM-6300/22F-500/4-10	22 and 4	6.3	dispersing agitator / anchor agitator with scraper	0 ÷ 500 and 10	Ø2000 x 4730	2890
PSM-10000/18.5-140/11-25	18.5 and 11	10	2 x propeller agitators / anchor agitator with scraper	140 and 25	Ø2200 x 4800	3440

## PVM MOBILE VESSEL MIXER

PVM mobile vessel mixers are used for mixing liquids and dispersion media. Mixers are especially useful for the colouring of paints and varnishes.

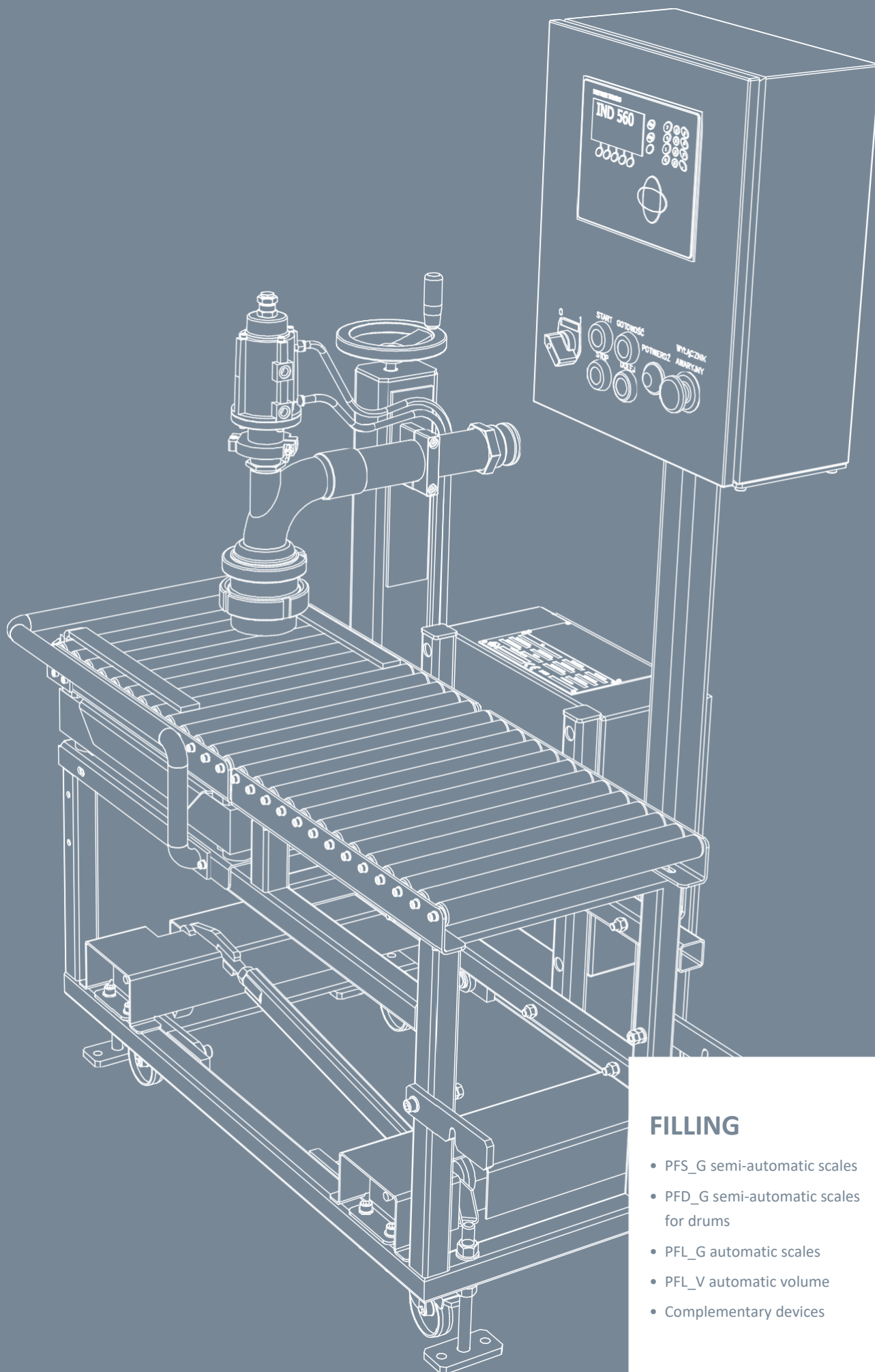


Small dimensions and easy assembly enable the use of a portable mixer in any place.

### TECHNICAL SPECIFICATIONS: PVM mobile vessel mixer

model	main engine power (kW)	engine type	tank type / working capacity (litres)	agitator rotational speed (rpm)	agitator diameter (mm)	total weight (kg)
PCM-D/0.5/P	0.5	pneumatic	Drum/200	250	Ø250 x 960	28
PCM-IBC/1.1/P	1.1	pneumatic	IBC-type container/1000	up to 500	Ø20 x 220	50
PCM-IBC/2.5/P	2.5	pneumatic	IBC-type container/1000	up to 500	Ø500 x 1400	70





## FILLING

- PFS\_G semi-automatic scales
- PFD\_G semi-automatic scales for drums
- PFL\_G automatic scales
- PFL\_V automatic volume
- Complementary devices

# FILLING

In technical terms, packaging is everything that helps you sort, group, wrap and label the product according to customer requirements.

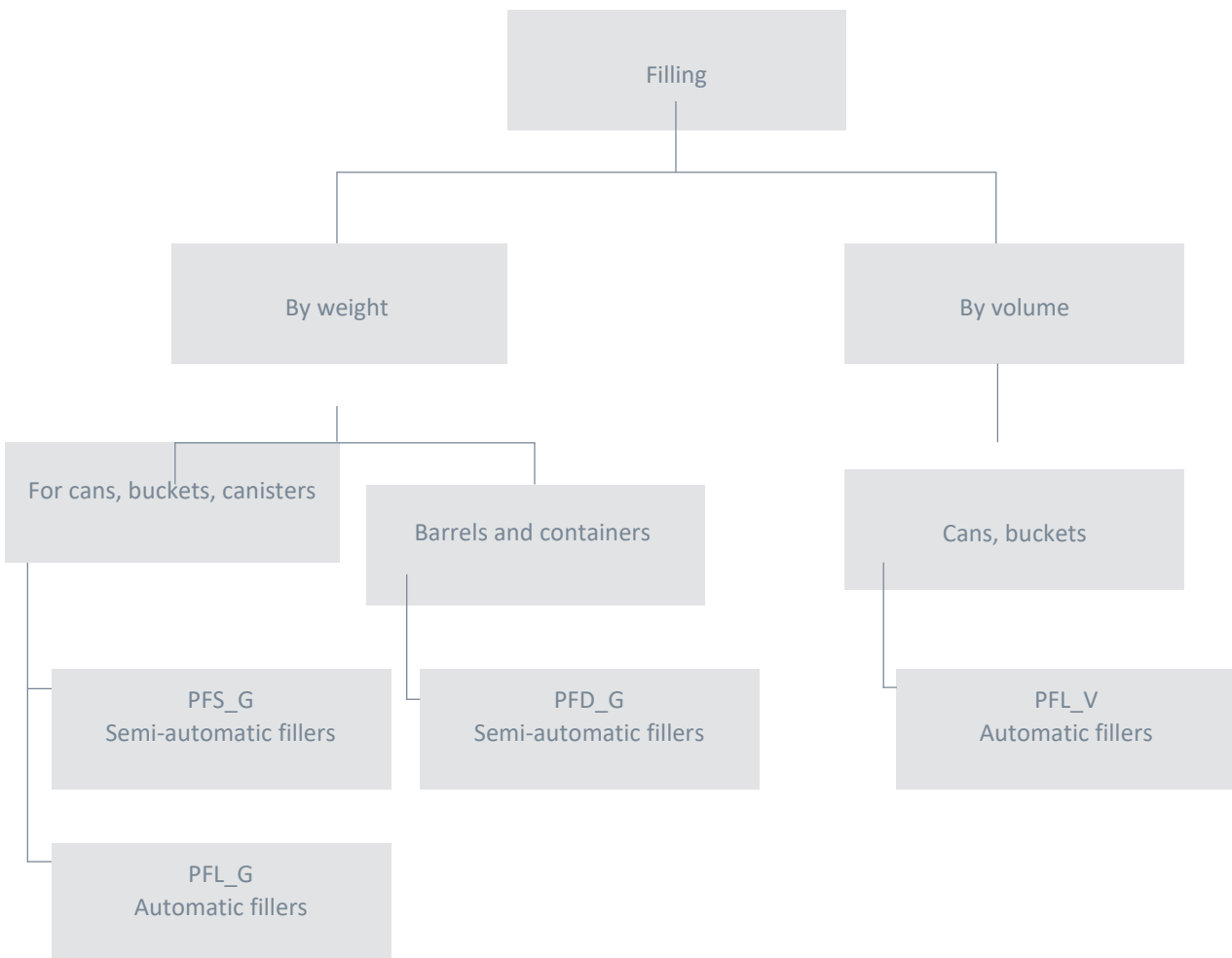
In the paint industry, this means that the product is produced separately and placed in buckets, cans or canisters to be sent to the customer or shop.

The filling process is subject to strict standards and the quantity of the measured product must be controlled and verified.

Fillers are used to measure liquid products.

Depending on the nature and size of production, we select machines that allow manual, semi-automatic or automatic production.

The products filled with our fillers include paints, varnishes, plasters, primers, adhesives.



## PFS\_G SEMI-AUTOMATIC WEIGHT FILLERS

They are used in small and medium series production, mainly to measure the required amount of liquid to buckets, cans or canisters. The requirement is for the product to have a liquid consistency enabling its pumping into the filler with a pump.

Design advantages of PFS\_G filler:

- Compact design
- Easy connection to the tanks from which the medium is fed
- Possibility of direct connection of the feed pump
- Easy cleaning of the dosing valve
- The use of wheels helps move the device to the filling site.



### TECHNICAL SPECIFICATIONS: PFS\_G semi-automatic weight filler

model	Size of installed valve [mm]	Estimated flow rate (for water) [m <sup>3</sup> /h]	Accuracy of weight indication [g]	Packaging size [L]	Estimated weight of the device [kg]
PFS_G-32_SA...	32	21.4	+/- 10	1÷5	170
PFS_G-50_SA...	50	48.8	+/- 20	2÷20	178
PFS_G-65_SA...	65	58	+/- 20	2÷30	196
PFS_G-80_SA...	80	70	+/- 20	2÷35	205

## PFD\_G SEMI-AUTOMATIC DRUM WEIGHT FILLERS

Used mainly for measuring the required amount of liquid into containers or barrels.

Design advantages of PFD\_G filler:

- rigid stable construction
- Easy connection to the tanks from which the medium is fed
- Possibility of direct connection of the feed pump
- Easy cleaning of the dosing valve
- Adjustment of the position of the valve over the scales allowing the packaging to be placed anywhere on the scales.



### TECHNICAL SPECIFICATIONS: PFD\_G Semi-automatic drum weight filler

model	Size of installed valve [mm]	Estimated flow rate (for water) [m3/h]	Load capacity of scales [kg]	Accuracy of weight indication [g]	Packaging size [L]	Estimated weight of the device [kg]
PFD_G-40_SA...	40	38.1	1500	+/- 500	20+1000	200
PFD_G-50_SA...	50	48.8	1500	+/- 500	20+1000	210

## PFL\_V AUTOMATIC VOLUMETRIC FILLER

PFL\_V automatic filler is used for medium and large production batches. It is used to measure the required amount of liquid to buckets, cans or canisters. The requirement is that the product must have liquid consistency enabling suction through the volumetric cylinder of the filler. The range of packaging used from 0.25 to 5 litres provides great flexibility in the packaging of products.

Design advantages of the PFL\_V volumetric filler:

- Easy connection to the tanks from which the medium is fed
- Two modes of table-by-table packaging movement, for small and large packaging
- Easy cleaning of valve and cylinder
- The use of a PLC ensures easy and quick machine calibration.



### TECHNICAL SPECIFICATIONS: PFL\_V automatic volumetric filler

model	Size of installed valve [mm]	Estimated flow rate (for water) [m <sup>3</sup> /h]	Packaging size [L]	Estimated weight of the device [kg]
PFL_V-0.25÷5	50	6	3÷30	1000

## PFL\_G AUTOMATIC WEIGHT FILLER

The filler is used to measure the desired amount of liquid in canned buckets or canisters.

Design advantages of PFL\_G weight filler:

- Easy connection to the tanks from which the medium is fed
- Possibility of direct connection of the feed pump
- Easy cleaning of dosing valves
- The use of a PLC ensures easy and quick machine calibration.



Automatic bucket feeder



### TECHNICAL SPECIFICATIONS: PFL\_G automatic weight filler

model	Size of installed valve [mm]	Estimated flow rate (for water) [m3/h]	Accuracy of weight indication [g]	Packaging size [L]	Estimated weight of the device [kg]
PFL_G-3÷30	65	6	+/- 20	3÷30	900

## COMPLEMENTARY EQUIPMENT

### 1) PHP hydraulic presses

They are used for pressure emptying of vessels from high viscosity products. Hydraulic press significantly reduces emptying time and ensures clean operation.



### TECHNICAL SPECIFICATIONS: PHP hydraulic press

model	working capacity of the vessel (litres)	pressure of the pressed medium [max] (MPa)	hydraulic power unit engine power (kW)	L x W x H (mm)	total weight (kg)
PHP-250	250	0.6	3.0	1900x1000x4000	1400
PHP-450	450	0.6	3.0	1900x1000x4000	1500
PHP-800	800	0.4	3.0	2100x1000x4550	2120

## COMPLEMENTARY EQUIPMENT

### 2) PPF/PGF pumping and filtering units / liquid filters

The pumping and filtering units are designed to pump and filter liquids simultaneously, in particular paints, before packaging. The unit is mounted on a trolley, which makes it easy to transport and use in various places.



#### TECHNICAL SPECIFICATIONS:

#### PPF/PGF pumping and filtering units / liquid filters

model	filter tank capacity (litres)	operating pressure (Mpa)	pump type	pump size	1 cP (m <sup>3</sup> /hour) pump flow rate for liquids	total weight (kg)
PPF-PGF	25	0.6	Diaphragm pump pneumatically driven	1"	15	80
				1.5"	20	
				2"	25	



## SERVICES

### CONTROL OF OPERATIONS

The technological equipment presented in the catalogue is equipped with control systems, together with control of technological operations.

They were developed and manufactured in the company's Control Systems and Control and Measurement Equipment Production Department.

We also develop and deliver operation and process control systems, which we customize according to the customer's needs.

### MAINTENANCE

We guarantee ongoing maintenance of all machines and equipment purchased from us with regard to mechanical operation, as well as control and measurement equipment.

We ensure delivery of all spare parts of technological equipment purchased from us.



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We are a global company.

We will answer to your inquiry within 48 hours in any language.





