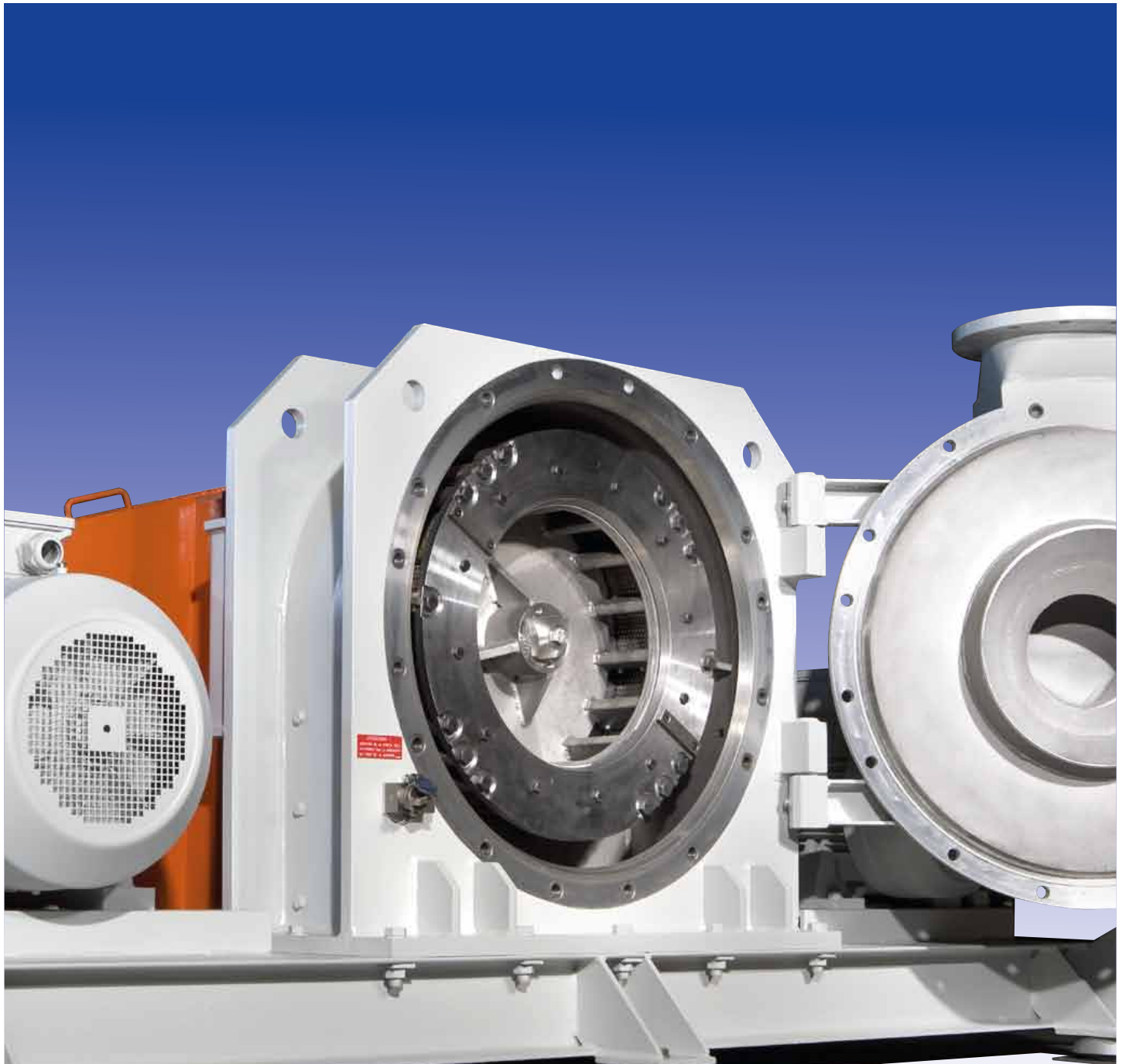


# PALLMANN

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## Contra-Selector Mill PPS



# Contra-Selector Mill PPS

Contra-Selector Mills, type PPS and PPSR are preferably used for pulverization of greasy, sticky and moist products as well as for grinding and drying of the materials in a single step.

## Foodstuffs

Sea salt, chewing gum, broken cookies, pasta and food additives.

## Thickening agents

Agar-agar

## Vegetables

Mushrooms, carrots, onions, soybeans, olive pits, asparagus, pumpkin seeds.

## Grain milling products

Grain of any kind, hops, malt bran, corn gluten, and wheat starch.

## Fruit

Orange peels, lemon peels, raspberry leaves, rose hips.

## Spices

Nutmeg, mace, mustard seeds, paprika seeds, marjoram, pepper, coriander, thyme, ginger, cinnamon, mint, celery seeds, lupines seeds, fenugreek seeds, fennel.

## Feedstuff

Pig bone meal, greaves, poultry meal, dried chicken meat, animal meal, dried fish, press cakes.

## Cellulose

Paper and paper sludge, cardboard, moist waste from plasterboard, newspapers, brush cuttings, biomass.

## Cellulose ether

HPMC, MC, CMC dry-grinding

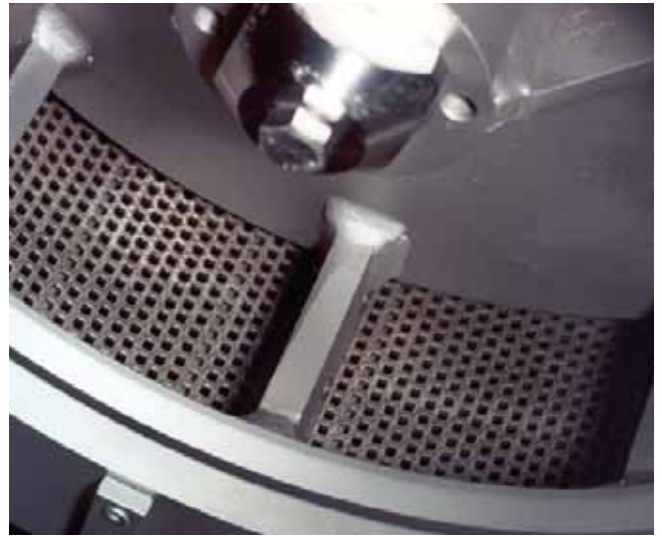
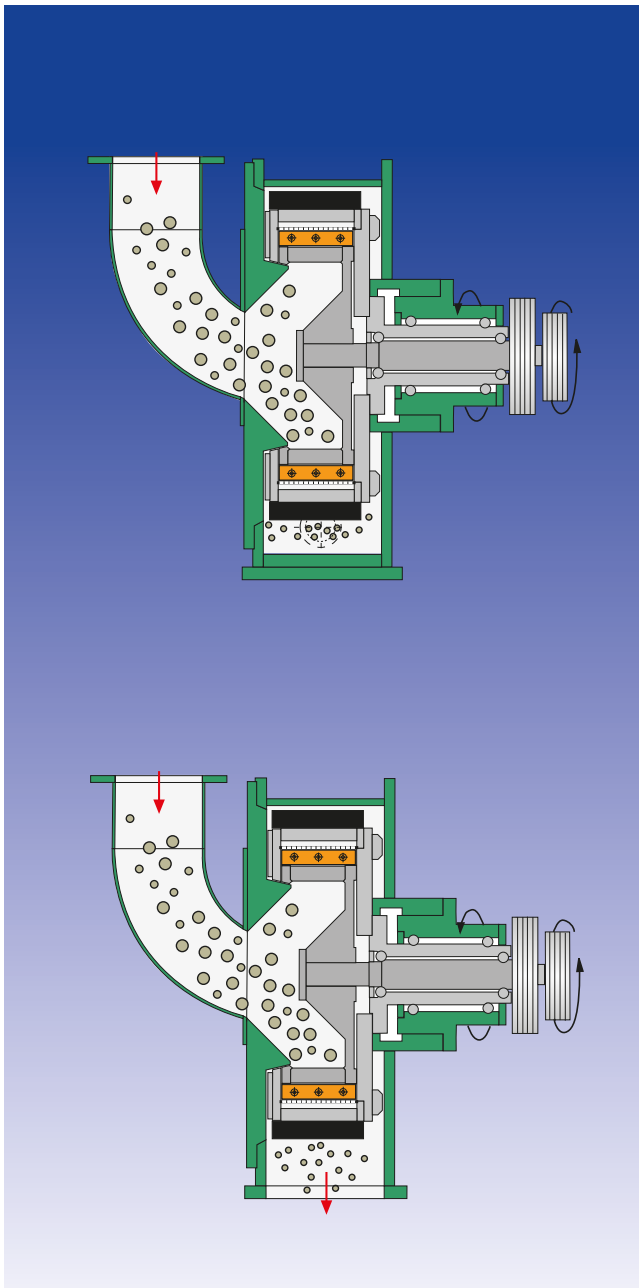
## Pharmaceutical products

Drugs, leaves, roots, flee seed, black alder tree bark, collagen, protein, palmitic acid.

## Others

Oversized detergent particles, tensides, peat, color pigment preparations.





In order to achieve the necessary finenesses, small screen perforations are often necessary in the screen basket of the mill.

When using conventional mills with stationary screen baskets, there is the risk of the screens clogging quickly and therefore variation of material fineness and caking to the interior wall of the housing. In such cases, safe and continuous pulverization is no longer possible.

The Contra-Selector Mill offers an economical solution. The unique operation of the mill allows for reliable production. Additional areas of application are in the dry grinding field.

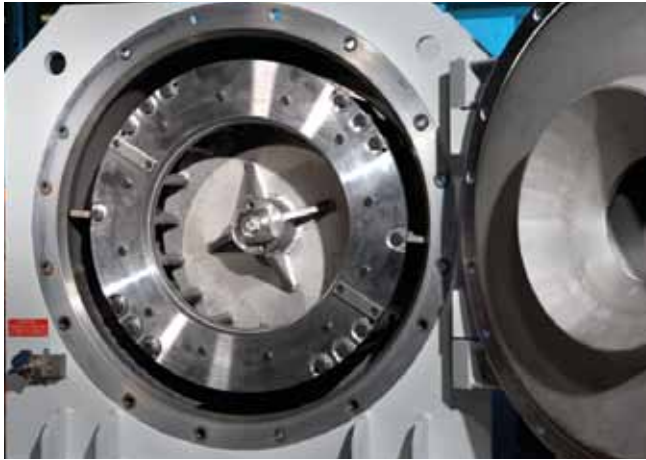
The drive energy of the mill as well as the high airflow is thereby used for the size reduction- and simultaneous drying –process.

## Area of application

Moist, greasy and sticky products are reliably prepared with the Contra-Selector Mill, type PPS and PPSR.

With conventional mills it is very difficult or often not possible at all to grind materials such as detergents, nutmeg or moist products such as cellulose ether, paper or peat into fine powders at normal temperatures.

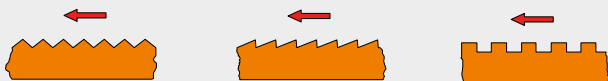
## Outstanding technical solutions



### Unique method of operation

The main characteristic of the mill is a rotating screen basket. The rotation of the screen basket results in centrifugal forces which keep the screens clean. Due to the rotation, the screens are evenly used over the entire circumference. Scrapers free the housing wall from any deposits thereby reliably avoiding any clogging. The material is continuously fed via a dosing chute. Depending on the requirement, a heavy gravity sifter can be installed in front of the infeed that separates impurities from the feed material. Size reduction is performed between the exchangeable wear plates of the impeller and the grinding elements, respectively of the screen insert.

Profiles of the grinding elements



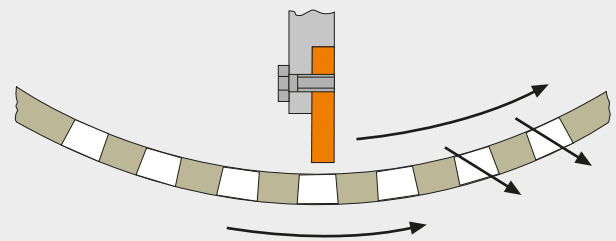
The Contra-Selector Mill allows for flexible adaption to different fineness demands and an optimum adjustment of the grain size. This is performed by adjustment of the rotational speed and/or of the screen perforations, respectively the selection of the grinding elements. Choosing the rotational

direction of the screen basket (counter-rotational- or unidirectional with the impeller) determines if gentle grinding or a high-energy transfer into the material to be ground is achieved.

### Unidirectional principle

If the screen basket and the impeller rotate in the same direction (unidirectional principle), the relative velocity and thereby the impact load are reduced. This adjustment is chosen for gentle grinding if a product with a low percentage of fines is to be obtained.

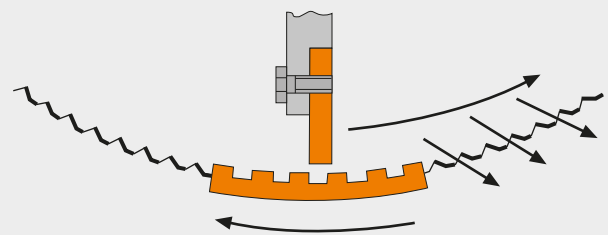
Unidirectional principle, series PPS

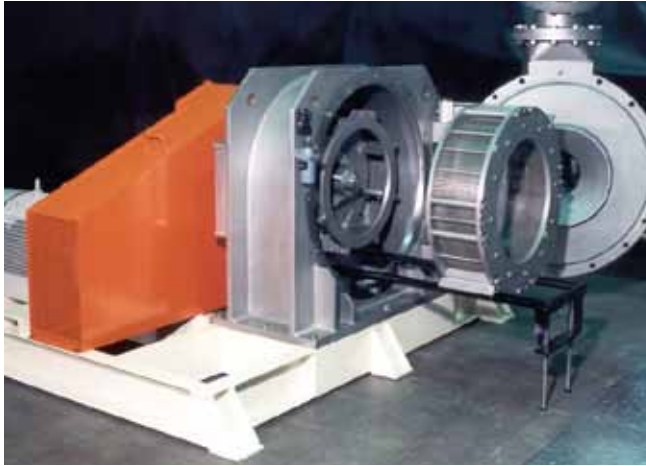


### Counter-rotating principle

For focused grinding where a high percentage of fines is desired, the screen basket turns the opposite direction to the impeller and thereby creates a high relative velocity and a high impact load that is necessary for the production of fine powders. A separate re-screening which is always problematic for moist or greasy products can be avoided.

Counter-rotating principle, series PPSR





### **Easy cleaning**

The interior of the Contra-Selector Mill is easily accessible after opening the door of the mill and can be quickly cleaned and maintained. Special devices facilitate dismantling of the impeller and screen basket.

### **Material feeding**

Even material feeding is necessary in order to achieve maximum capacity and constant quality. Depending on the material, different dosing systems are available such as vibratory feeders, rotary discs, screw-conveyors and belt feeders. We deliver the complete system, depending on the requirement.

### **Special designs**

As a standard, the Contra-Selector Mill is delivered with discharge to below. Depending on the system configuration, it is possible to order the mill with suction trough or lateral discharge. Stainless steel and gas-tight designs are also available as well as pressure shock resistant systems up to 10 bar.

As an option, the wide chamber housing can be designed for either heating or cooling.

### **Decisive advantages:**

- Cool- and product-gentle grinding
- Safe, continuous operation
- No product caking
- Grinding and drying in a single step
- Single step pulverization to end fineness
- High flexibility upon product change
- Profitable and economical

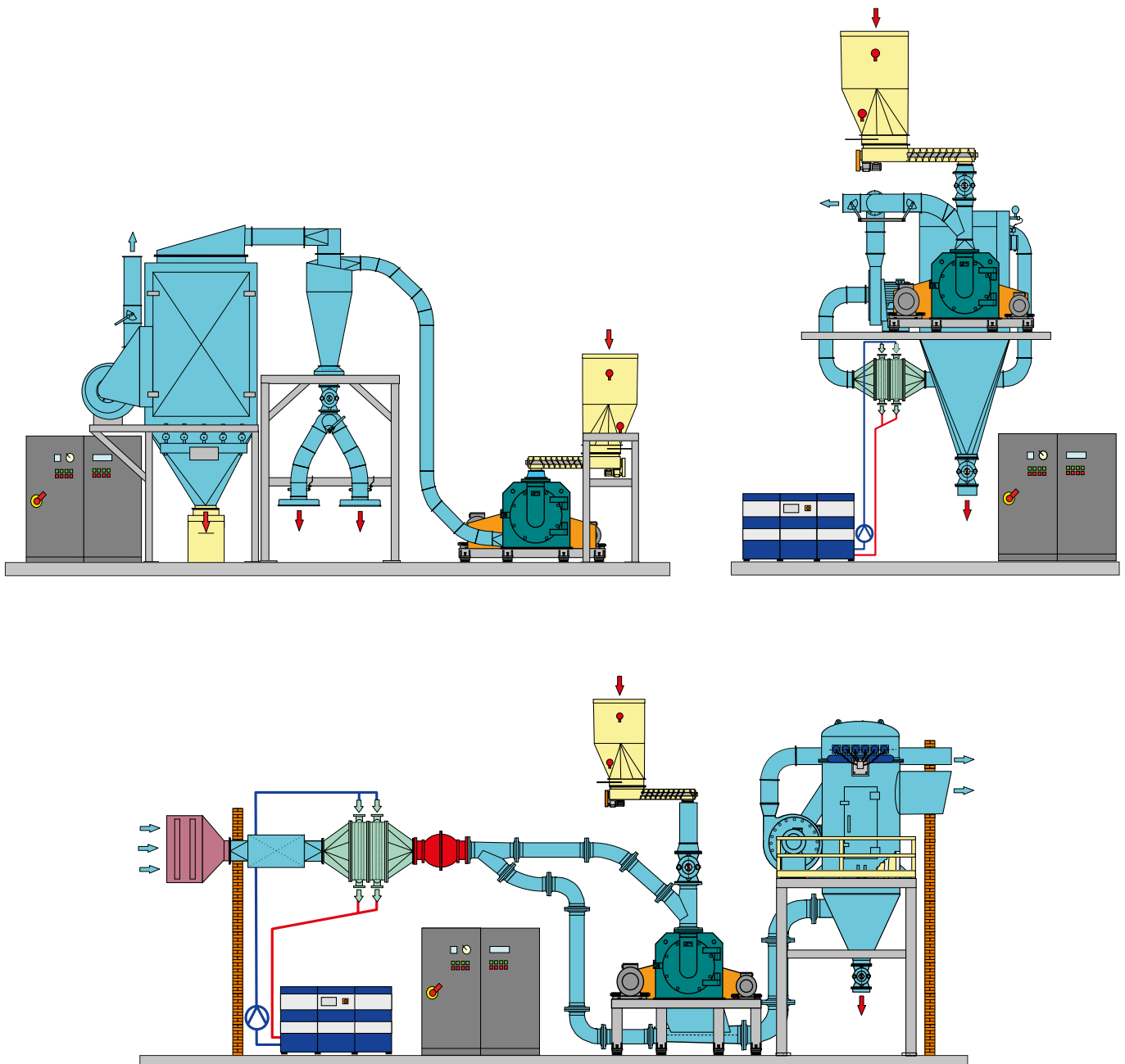


## Performing Systems

### Proper installation guarantees optimum machine efficiency

Contra-Selector mills, type PPS and PPSR should always be fed by means of vibratory- or screw conveyors in order to guarantee continuous material feeding and optimum use of the installed electric power. It is recommended to install either a plate- or a drum magnet or even better a metal separator between the conveyor and the material infeed.

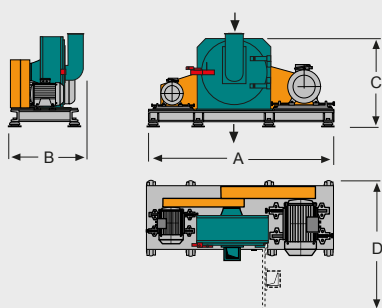
The airflow generated by the Contra-Selector mill, type PPS and PPSR should be taken care of by installing an aspiration system with dust collector. The mill can be installed on a flat concrete floor if lateral product discharge has been chosen, or on a steel frame or concrete foundations, if standard design has been chosen with product discharge straight down.



## Technical data:

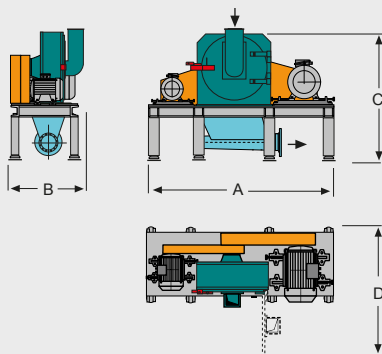
Type	PPS + PPSR	4-120	6-180	8-240	10-300	14-420
Scale-up factor	F=ca.	0.4	1	1.7	2.7	5.2
Diameter of grinding track	mm	400	600	800	1000	1400
Width of the screen basket	mm	120	180	240	300	420
Recommended motor, impeller	kW	15 - 22	30 - 55	55 - 110	110 - 160	200 - 315
Recommended motor, screen basket	kW	7.5 - 11	15 - 30	30 - 55	55 - 90	110 - 160
Weight (machine without motors)	Kg ca.	1750	3300	5250	7650	11500
Shipping space	m <sup>3</sup>	2.9	8.9	12.3	26.3	40.3
Air displacement of machine	m <sup>3</sup> /min ca.	25	60	100	150	300

### Standard version with bottom discharge



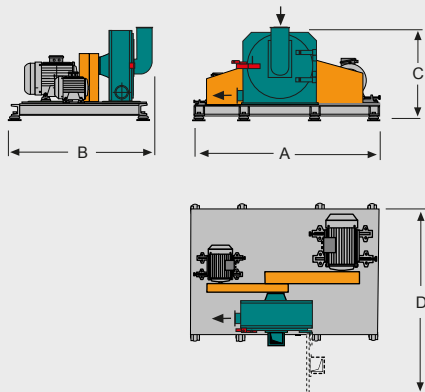
A	mm	2000	2800	3300	4000	4700
B	mm	850	1500	1600	2000	2500
C	mm	900	1400	1600	2100	2700
D	mm	1400	2200	2400	3200	3900

### Design with suction trough



A	mm	2000	2800	3300	4000	4700
B	mm	850	1500	1600	2000	2500
C	mm	1600	2000	2200	2900	4000
D	mm	1400	2200	2400	3200	3900

### Design with lateral product discharge



A	mm	2300	2200	3000	4000	4600
B	mm	1000	1900	2200	2800	3900
C	mm	900	1400	1600	2100	2700
D	mm	1500	2600	3000	4000	5400



## The PALLMANN Group of Companies

The PALLMANN Group of companies is a leading manufacturer for size reduction machines and systems for the process industries. PALLMANN Maschinenfabrik develops and manufactures machines and complete systems according to customer requirements or as standard solutions for the preparation of almost any material as well as recycling products. In its head-quarters in Zweibrücken, PALLMANN operates one of the world's largest research and technology centers as well as a training- and service center. More than 130 different test machines are available for the preparation of a wide variety of materials. A downstream laboratory analysis of the test material as well as the preparation on a production scale is possible. In addition to the manufacturing facilities in Europe, North- and South America, the PALLMANN group of companies operates a world-wide spare parts- and service network.



## The PALLMANN Program

### Engineering and Service:

Design and manufacturing  
Research and development  
Production scale testing  
Laboratory analysis  
Worldwide service  
Spare parts  
Controlling  
Process Control  
Installation & Start-up  
Overhaul & Repair

### System solutions for:

Pulverizing  
Granulating  
Agglomerating  
Recycling

### Products:

Agglomerators  
Pulverizing Systems  
Disc Mills  
Turbo Mills  
Pin Mills  
Laboratory Mills  
Classifier mills  
Universal Mills  
Complete Grinding Systems  
Knife Mills  
Profile Shredders  
Rubber Granulators  
Pipe Crushers  
Air-Swept Mills  
Impact Mills  
Industrial Granulators  
Cryogenic Grinding Systems

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