STOLZ

Du végétal à la vie

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Pelletizing

Standard conditioner

PEP

The conditioner is designed for mixing steam and flour thoroughly and heating the product at the suitable temperature for a proper granulation.

Its adjustable paddles are designed to control the direction of product.

It may receive directly a small percentage of molasses. It is entirely made of stainless steel.

Depending on the use, capacity and specific weight of the products to be compressed, the formulation will be handled by one of STOLZ conditioners. Depending on its design and content, each conditioner offers steam intake or other, a treatment and a residence time suiting best the products characteristics at dies inlet (temperature, moisture, etc...)

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Standard conditioner PEP

Features and options

Features

- Rotor with blades with adjustable step
- Lateral steam inlet
- Temperature sensors

Options

- Liquids incorporation rack (molasse, proteinal, sulfite lye)
- ATEX compliance

Mixer Conditioner

It has a very important part in the pelletizing process.

The best output and quality of pellets will be obtained on the press by means of a thoroughthanks to a deep and acurate mixing of steam and flour.

Feed Screw

It ensures a sure, regular and controlled supply of the pellet mill in order to reduce the operation of safety devices and controls of the pellet mill:

- Opening of the clogging flap on the feeding duct when the intensity increases too much. Exceeded intensity thus opening of duct valve
- Delayed stop of feeding operation
- Possible failure of safety pins

PEP 450R conditioner

Feeding screw with adjustable speed + conditioner + pellet mill

Range	Length	Width	Height	Diameter	Useful length	Power	Speed (50 Hz)
	mm	mm	mm	mm	mm	kW	rpm
PEP 315	2600	450	630	315	2175	7.5	320
PEP 400	3000	500	700	400	2456	11	272
PEP 450	3000	600	800	450	2175	11	272
PEP 550	3000	700	800	550	2456	15	245
PEP 680	3500	800	1160	680	2900	18.5	168
MD 420	2900	840	730	450	2425	18.5	308

Long residence time horizontal conditioners

MLD

The long residence time horizontal conditioner is designed is to increase the residence time of the heated meal and to improve the parameters required to obtain a high quality pelleting results. The processing temperatures range from 60°C to 100°C for a treatment time of 30 seconds up to 6 minutes.

Such heat treatment is designed to increase the flow rate on the pellet mill and to improve pellets durability. It also kills the pathogenic germs, improves digestibility of products resulting from this process, limits wearing, energy consumption and shrinkage.

The regulated feeding of the pellet mill is achieved via a special valve with adjustable speed.

The screw feeding the conditioner is called “clogging” screw.

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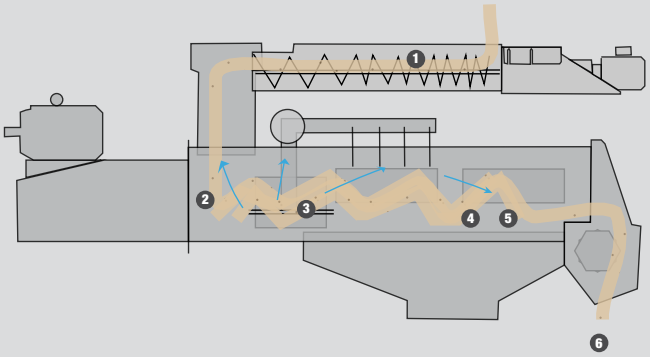
Long residence time horizontal conditioner MLD

Features

- Body heating by electrical wire
- Body insulation
- Liquids incorporation
- Temperature sensors
- Fabrication stainless steel

Operating principle



Meal is introduced via a special screw ❶ or “clogging” screw that provides a safe, steady and controlled feeding.
The product enters the conditioner ❷ where the heat treatment is carried out by direct steam injection ❸ according to set parameters and depending on the product to be treated.
The product which is introduced by gravity and blended by rotors ❹ is affected by a shearing effect and is stopped at the outlet until the instruction is given by a certain temperature and residence time.
The paddles ❺ are adjusted to optimize the homogeneity of the residence time, the mixing of the product and the control of the absorbed torque.
Finally the mixture is guided to a feed chute for extraction ❻

Long residence time horizontal conditioner

Long residence time horizontal conditioner on pellet mill

Range	Length	Width	Height	Diameter	Useful length	Power	Speed (50 Hz)
	mm	mm	mm	mm	mm	kW	rpm
MLD 550	3150	900	1000	550	2450	18,5	70
MLD 680	3700	1100	1160	680	3000	30	60

Pellet mill
LYDERIC

The pellet mill is designed to process a powdery product into pellets through the combined action of heat, moisture, and compression.

Features

- Belt drive
- Single or dual transmission
- Robustness and reliability over time
- High flow rates
- Very good value for money
- Low maintenance costs
- Flexibility of options

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Pellet mill LYDERIC

Options and safety devices

Options

- Product chute with by-pass flap
- Dual transmission (DT)
- Special unclogging ring on hollow shaft
- Valve box under outlet

Safety devices

- Micro contacts on opening
- Shearing pin
- Static magnet
- Belt slipping control of drive belts
- Clogging detection

Tipping
unclogging chute

Safety device
on electrical doors

Magnet plate
on feed chute

Regulation

Pelleting line
supervision

STOLZ provides a system guaranteeing automation, supervision, and control of the pelleting line components.
The system is provided with the following functions :

- Formula control,
- Load and temperature instructions,
- Self-adapting density variations,
- Additives injection control,
- Dies control,
- Accessible parameters with password,
- Loading shapes and regulation can be linked to formulas.
- Remote maintenance

Fixed knives
supports

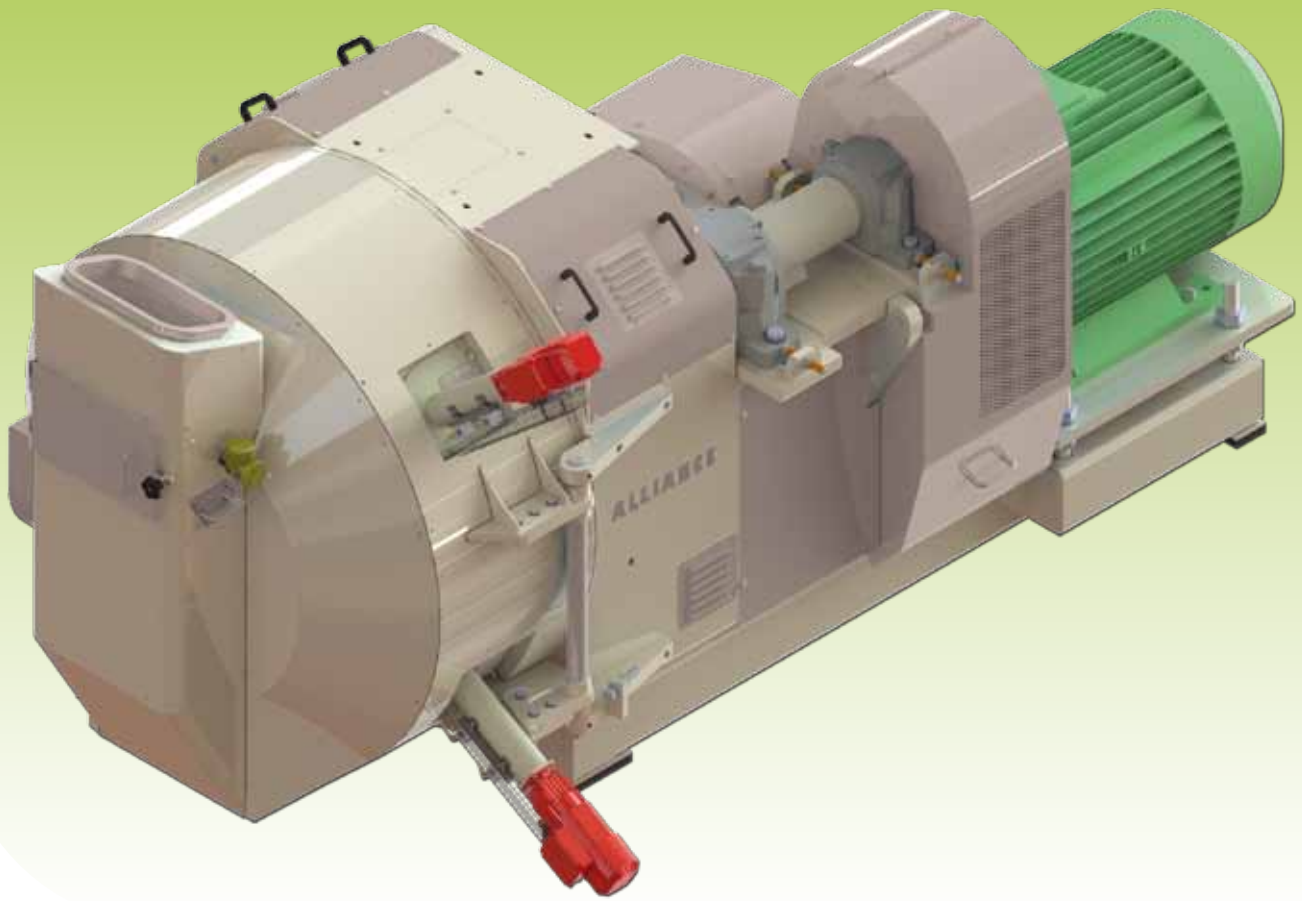
Pellet
Cutting

Built-in winch
for die handling

Range	Die Ø	Die width / useful width	Motor power	Motor speed	Die speed	Linear speed	Working area	Approx. capacity
	mm	mm	kW	rpm	rpm	m/s	dm²	t/h
Lyderic 40.10	400	175/99	55/75	1000	281	5,8	12,4	4 to 5
Lyderic 40.13	400	220/129	90/110	1000	281	5,8	16,2	5 to 6
Lyderic 52.14	520	182/138	132	1000	254	6,9	22,5	7 to 9
Lyderic 52.18	520	222/178	160	1000	254	6,9	29,1	8 to 11
Lyderic 66.18	660	236/178	200	1000	214	7.4	36.9	10 to 14
Lyderic 66.18 DT*	660	236/178	200	1500/1000	142/214	4.9/7.4	36.9	10 to 14
Lyderic 66.23	660	286/230	200/250	1000	214	7.4	47.7	13 to 18
Lyderic 66.23 DT*	660	286/230	200/250	1500/1000	142/214	4.9/7.4	47.7	13 to 18

*DT = Dual Transmission

Pellet mill
ALLIANCE



Pellet mill range designed for the compression of powdery products for animal nutrition meeting health, safety and normative requirements, or for the compression of anl kind of product.

Features

- Transmission using a double set of belts designed for a modulation of the die speed according to the type of product (3,8 to 6,7 m/s)
- Restricted vibration level : guarantees a long life of the pellet mill
- Height compact construction making the replacement of an existing pellet mill easier
- Absorption of shocks in case of a sudden overload
- Low noise level
- Limited risk of contamination
- Easy and limited cleaning

Pellet mill central system largely sized guaranteeing long-lasting rollers and die while improving operation control.

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Pellet mill ALLIANCE

Options

The Alliance pellet mill can include several options to optimize and secure its operation while limiting the operating and maintenance costs.

All the options can be added up and set up in the future :

- Rollers temperature control
- Ultra slow two-way die speed
- Forced feeding by screw
- Limited contamination by draining the used grease
- Automatic distance between rollers and die
- Motorized pellet knives
- Heated door
- Regulation of meals and steam feeding

Ultra slow die speed

Slow rotation by gearmotor

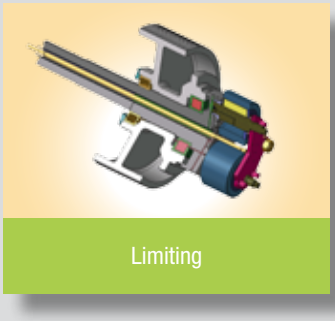
- Slow disengageable motorized rotation.
- Two-way die rotation.
- Ultra low speed (1 rpm) and strong available torque.

Advantages:

Helps to release the product.

Easy repositioning of the safety pin.

Automatic Lubrication



Limiting

Design allowing the recovery of used grease.

Automatic distribution on :

- The roller bearings
- The main shaft bearings with collection of the used grease at the rear of the pellet mill.

Advantages:

Limits the pellet contamination with grease.

Lower costs : the use of food grade grease is required

Range	Die Ø	Die width / useful width	Motor power	Motor speed	Die speed	Linear speed	Working area	Approx. capacity
	mm	mm	kW	rpm	rpm	m/s	dm²	t/h
Alliance 80-22	800	347/220	250	1500	91/154	3,8/6,5	55	10 to 21
Alliance 80-25	800	347/250	315	1500	91/154	3,8/6,5	63	12 to 24
Alliance 90-25	900	381/250	315	1500	81/138	3,8/6,5	71	15 to 27
Alliance 90-28	900	381/280	355	1500	81/138	3,8/6,5	79	18 to 30
Alliance 90-31	900	381/310	355	1500	81/138	3,8/6,5	87	20 to 33

Pellet mill
RC 500

Specifically designed for the production of pellets with «heavy» density (minerals, shrimp feed).

This robust and long-lasting machine has a limited maintenance thanks to its slow speed (4.2 m/s) and 3 rollers.

The main raw materials that can be used are : wheat, broken rice, wheat bran or rice bran, soya flour, lime, fish meals and scale meals, minerals, fish oils, premix, etc... Oils and molasses can also be used.

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Pellet mill RC 500

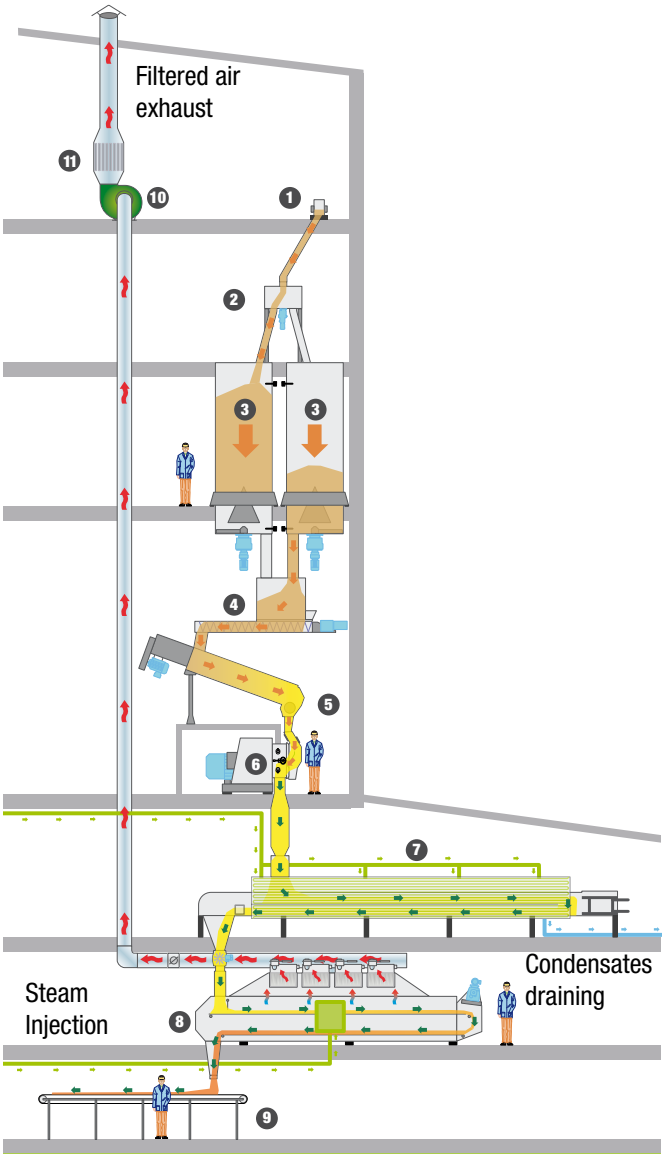
Options and safety devices

Options

- Product chute with by-pass flap
- Valve box under outlet

Safety devices

- Micro contacts on opening
- Shearing pin
- Static magnet
- Belt slipping control on transmission belts
- Clogging detection



Aquafeed peletizing line (example : shrimp feed)

Operating principle

The RC 500 pellet mill is not a standard machine for every use, but it is designed for production of feed with small diameter holes dies for aquaculture specific formulas (with super fine grinding on STOLZ RMPF line and turbo sifter, without specific microniser).

The feeding of the RC 500 pellet mill with a CPIS super conditioner meets the current conditioning requirements.

Downstream the RC 500, STOLZ has designed a post-conditioner, a specific machine, which improves the quality of the final products before final drying and cooling.

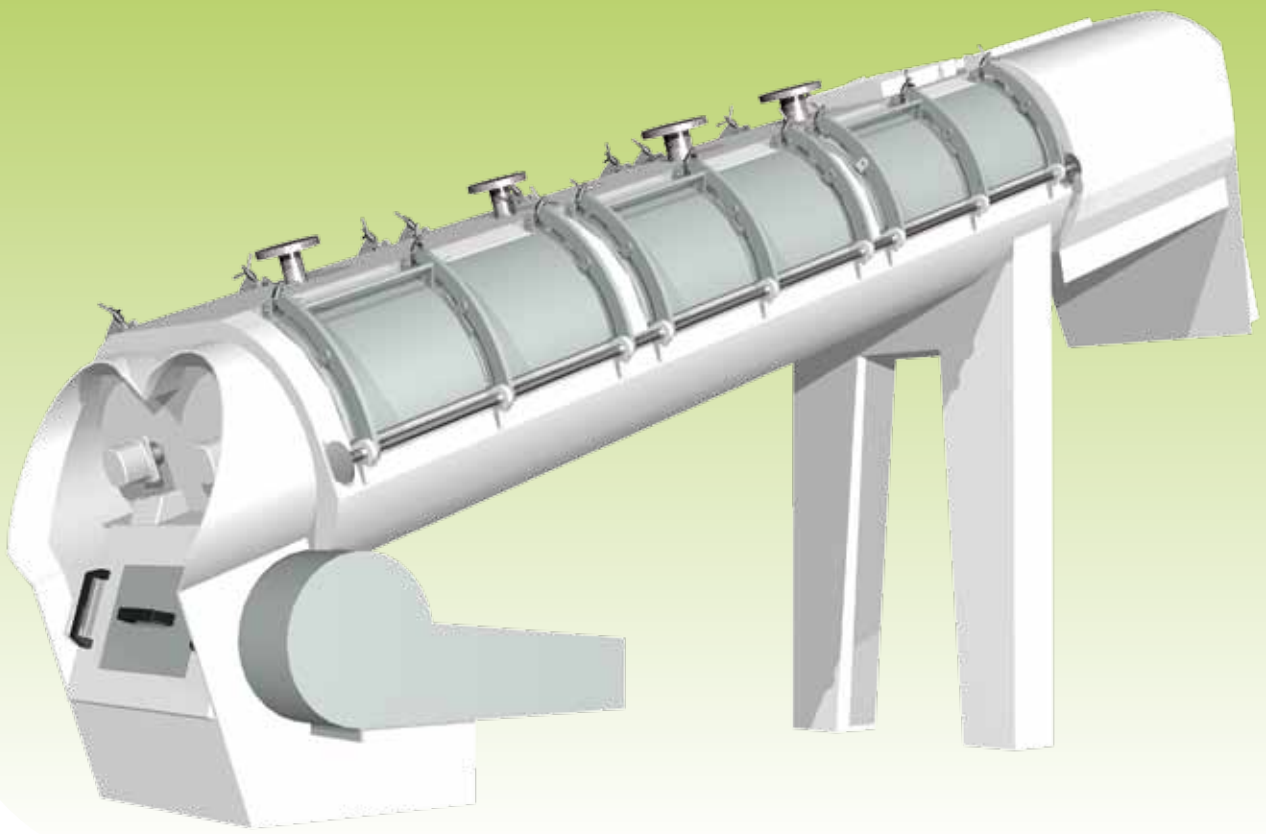
Key

1. Chain conveyor
2. Rotary feeder
3. Hopper
4. Conveying screw
5. Thermal conditioner
6. RC 500 pellet mill
7. Post-conditioner (heated by steam)
8. Horizontal dryer-cooler
9. Reclaiming handling
10. Suction fan
11. Silencer

Range	Die Ø	Die width / useful width	Motor power	Motor speed	Die speed	Linear speed	Working area	Approx. capacity
	mm	mm	kW	rpm	rpm	m/s	dm²	t/h
RC 500 DT*	500	206/113	132/160	1500/1000	158/254	4,2/6,9	17,7	3 to 8

*DT = Dual Transmission

Super Conditioners
CPIS/CPID



The super conditioner mounted upstream the pellet mill is designed to increase the pellet mill capacity and to improve its PDI significantly.

Such thermal treatment provides the same benefits as the long residence time horizontal conditioner.

The super conditioner has an angle of inclination to further increase the filling and the residence time.

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Super Conditioner CPIS/CPID

Principle

Operating principle

The meal is inserted into the body via a feed screw always ensuring a complete filling of the conditioner.

The product is mixed by the rotor blades. It is submitted to a shearing effect and a residence time before discharge until the opening order is given according to the temperature and the selected treatment time.

Such treatment ensures a direct steam injection and a homogeneous cooking of the product. The long lasting treatment capacity (up to 6 minutes) of this unit guarantes a perfect mixing of starch and gluten molecules.

The transverse and horizontal shearing suffered by the product increases water addition options into meal thus improving the quality of pellets produced by the pellet mill and decreasing the energy consumption.

The outlet valve is designed for a regular feeding and a quick response time of the pellet mill. It is designed to be cleaned easily and to avoid any leak-off steam leakage.

Steam unit on CPID 700

Super conditioner with steam injection

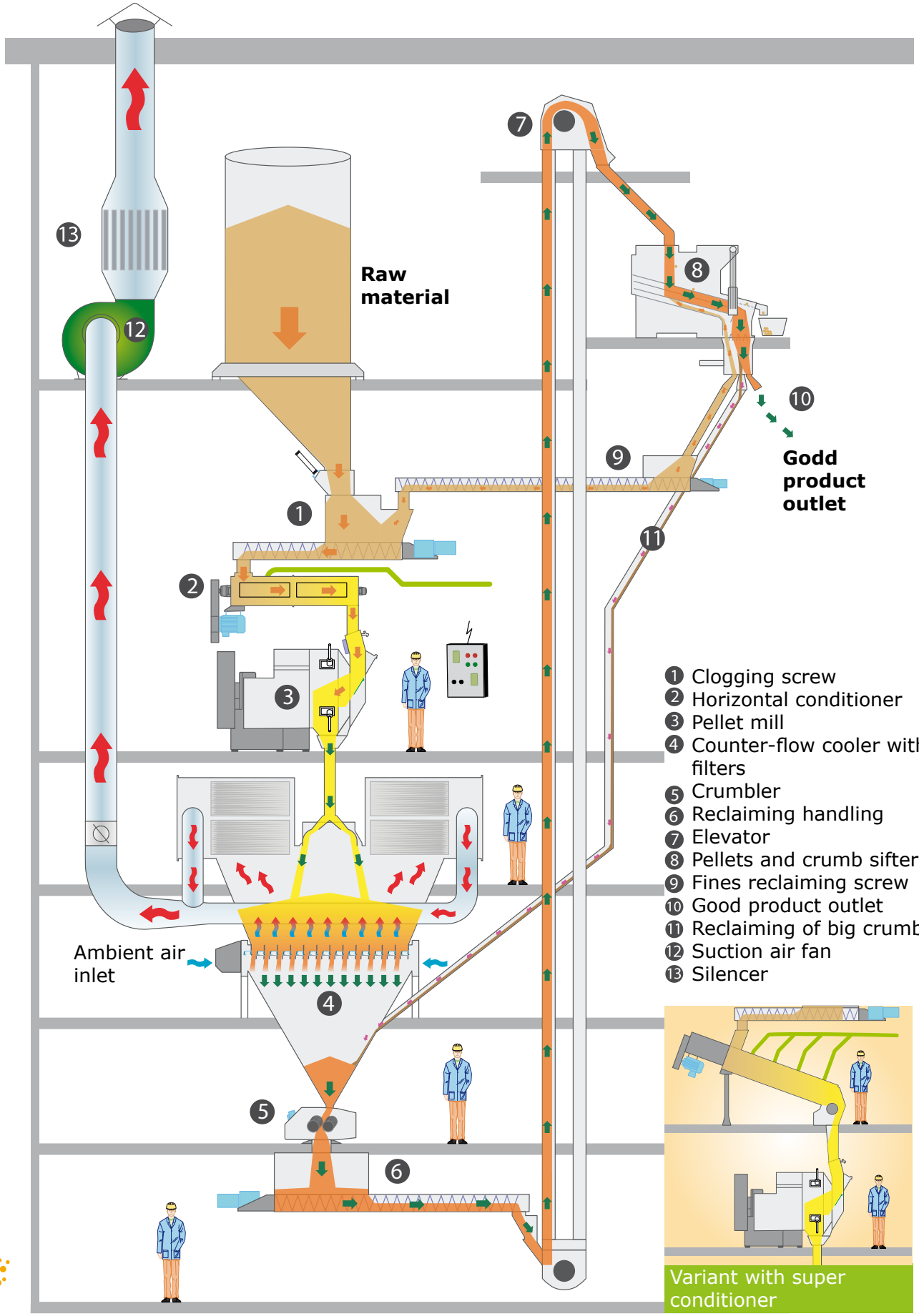
Super conditioner on a pellet mill

Super conditioner under on pellet mill preparation

Rotors detail on CPID 700

Range	Number of rotors	Length	Width	Height	Capacity	Power	Speed (50 Hz)
		mm	mm	mm	L	kW	rpm
CPIS 520	1	4491	1095	2028	450	22	73
CPIS 680	1	4500	1100	2950	1000	30	52
CPID 520	2	4600	1170	2380	1160	2x15	50
CPID 700	2	5700	1450	2722	2200	2x30	47

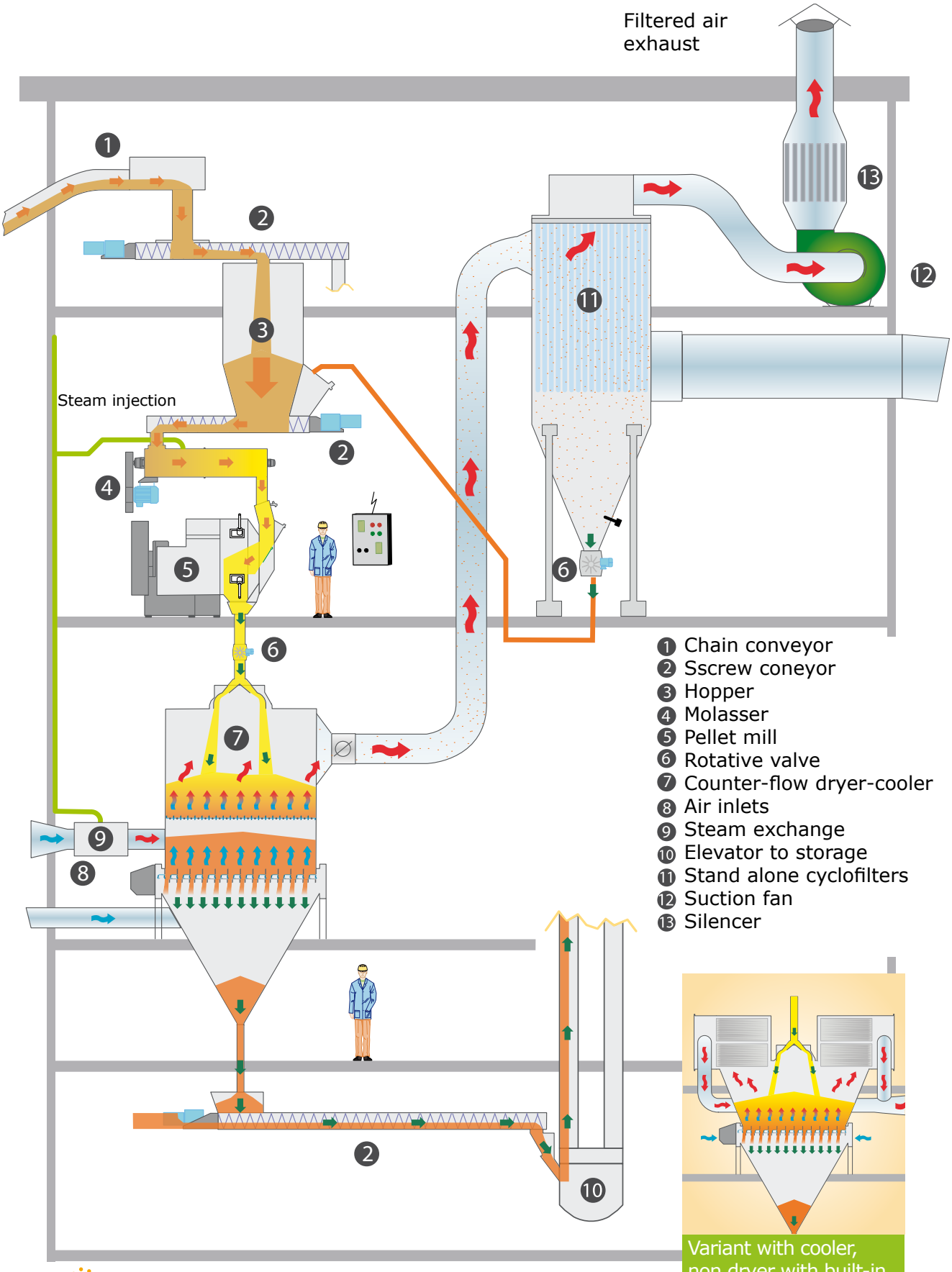
Pelletizing line : Animal feed



1. Clogging screw
2. Horizontal conditioner
3. Pellet mill
4. Counter-flow cooler with buil-in filters
5. Crumbler
6. Reclaiming handling
7. Elevator
8. Pellets and crumb sifter
9. Fines reclaiming screw
10. Good product outlet
11. Reclaiming of big crumbs
12. Suction air fan
13. Silencer

Variant with super conditioner

Oil mill pelletizing line: meal



1. Chain conveyor
2. Sscrew coneyor
3. Hopper
4. Molasser
5. Pellet mill
6. Rotative valve
7. Counter-flow dryer-cooler
8. Air inlets
9. Steam exchange
10. Elevator to storage
11. Stand alone cyclofilters
12. Suction fan
13. Silencer

Variant with cooler, non dryer with built-in filters

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