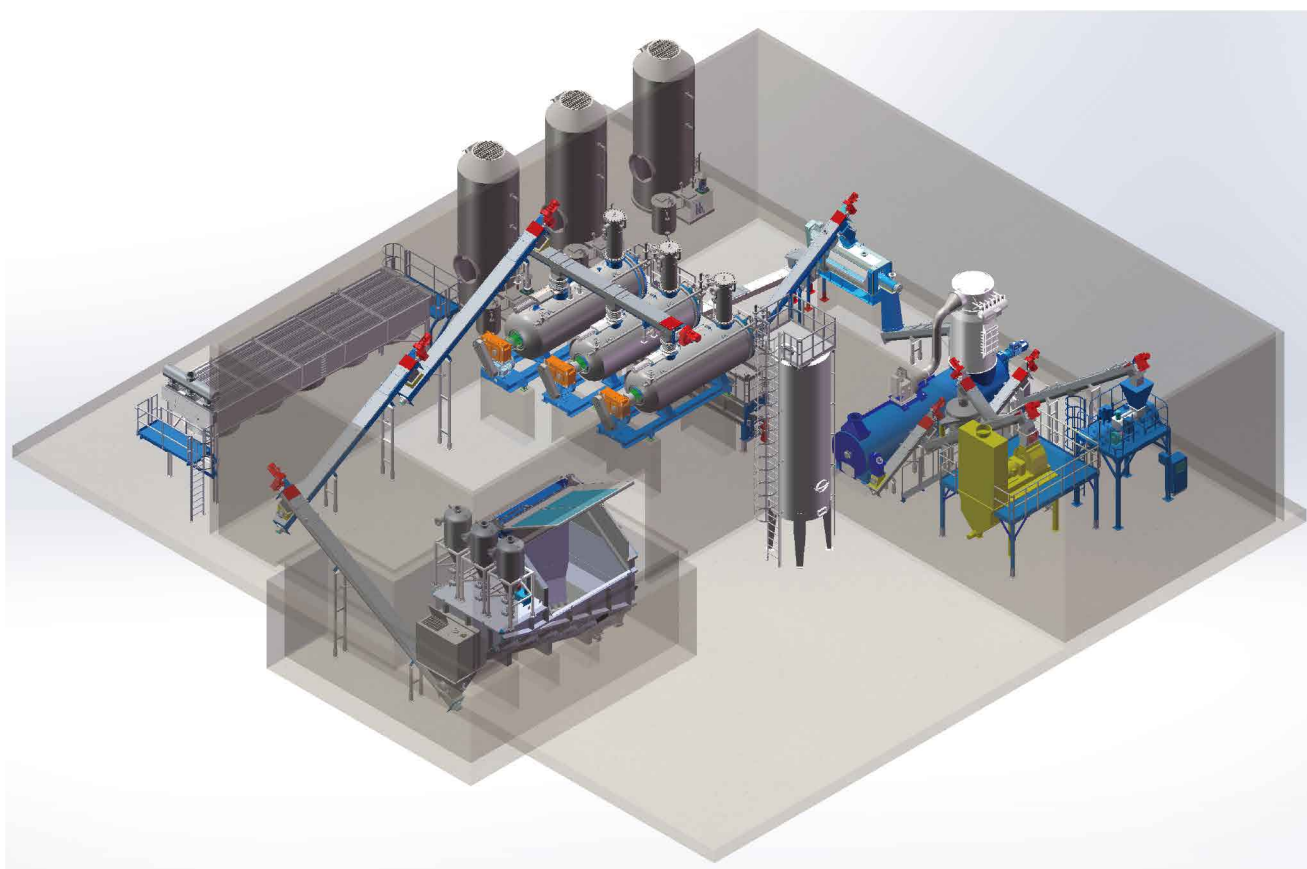




**SENSITAR**  
**鑫正达**

[www.sensitar.com](http://www.sensitar.com)



**山东鑫正达机械制造有限公司**  
SHANDONG SENSITAR MACHINERY MANUFACTURING CO., LTD.

## 山东鑫正达机械制造有限公司 Shandong Sensitar Machinery Manufacturing Co. LTD

### MEET SENSITAR---FROM WASTE TO VALUE

Sensitar has been helping the world turn organic waste into valuable proteins and other products we all depend on. It is simple - Instead of simply throwing out leftovers from meat, poultry and fish production, break this waste down into its constituent parts – including proteins, minerals, ingredients and fuels we can use.

### INDUSTRIES SERVE

Sensitar provides solution design, equipment manufacturing and service process systems for many of today's important recycling and renewable energy industries, including:

1. Animal Waste Rendering Plant
2. Fish Meal And Fish Oil Plant
3. Meat & Bone Meal Plant
4. Feather Meal Plant
5. Shrimp Meal Plant
6. Blood meal Plant

.....

(All the waste from slaughter, including blood, guts and feathers, can be converted into proteins, minerals, raw materials and fuel)



## Bin

No matter what kinds of meat, poultry or fish by-products you process, you will always need simple, rugged bins for moving, parking and storing everything from raw material and other inputs to your finished output.

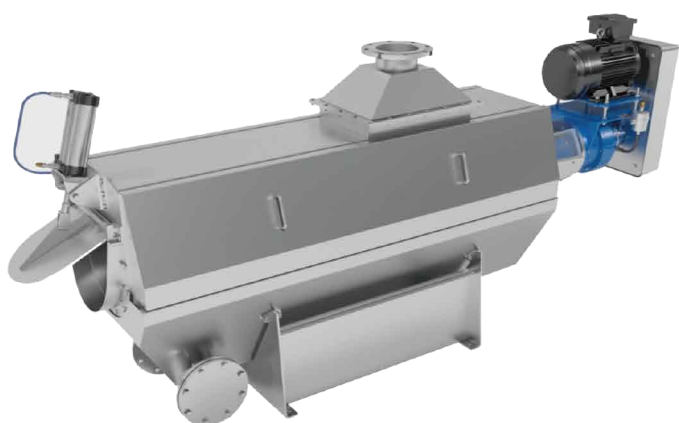
Sensitar product programme for rendering comprises various types of bins. The size and design of the bins will depend on the amount of material, on the process in the subsequent plant, and on the kind of material to be handled.

We supply all kinds of bins, from small charging/ dosing bins (2-5m<sup>3</sup>) to large storage bins of approximately 150-200m<sup>3</sup>.



## Feather Press

The Feather Press effectively removes water from chicken, goose and turkey feathers, enabling you to achieve a consistent 55% moisture level.



The feather presses can be installed downstream from a normal feather separator in a slaughterhouse, or can receive feathers plus their transport water straight from a slaughterhouse pumping system. This type of press normally removes about 350 liters of water per 1,000 kg of wet feathers from the feather separator

| TYPE   | CAPACITY(kg/h)         |                       |                      |                     | WATER FLOW (m <sup>3</sup> /h) | WEIGHT (kg) | DIMENSIONS (mm) |      |      | INSTALLED POWER (kW) |
|--------|------------------------|-----------------------|----------------------|---------------------|--------------------------------|-------------|-----------------|------|------|----------------------|
|        | BROILERS (live weight) | TURKEYS (live weight) | WET BROILER FEATHERS | WET TURKEY FEATHERS |                                |             | L               | H    | W    |                      |
| FP408W | < 30,000               | < 40,000              | < 3,900              | < 2,400             | 60                             | 1400        | 3810            | 1720 | 1070 | 15                   |

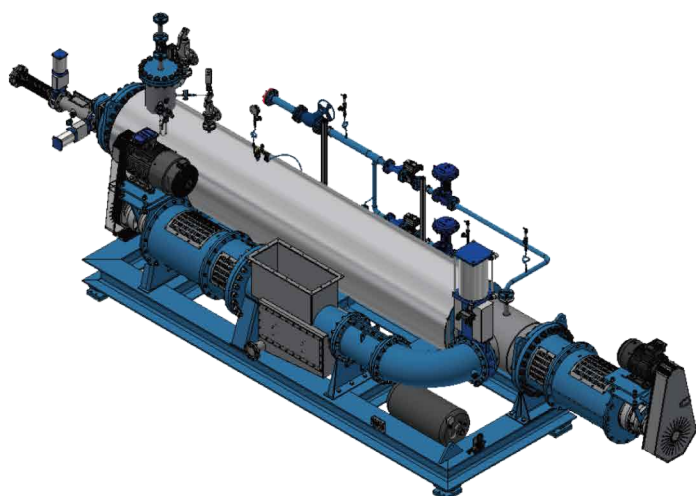
## Crusher



Sensitar Crusher is particularly rugged and hardwearing, designed for breaking down all types of offal and bones from meat and poultry slaughterhouses. Crushers are used for the breaking down of input material into particles of less than 30 mm in size. They enable you to align overall efficiency requirements for your process, based on particle size.

| Type  | Capacity(t/h) | Anvil Gap(mm) | Power/motor,up to(kw) | Weight(kg) |
|-------|---------------|---------------|-----------------------|------------|
| PB10  | 15            | 30            | 22                    | 3200       |
| PBG15 | 25            | 40            | 45/22                 | 4500       |
| PB15  | 35            | 48            | 55                    | 7300       |

## Hydrolyzer



If you have a supply of wet feathers you want to process into higher-value feed meal, the Hydrolyzer is the most advanced, easy-to-operate way to do it, by injecting both direct and indirect steam into a heavily compressed plug of feathers. This breaks down the cellular structure of the feathers, and makes the fibers disintegrate and dissolve.

| TYPE   | CAPACITY (t/h) | A inlet (mm) | DIMENSIONS (mm) |           |            | Power, feeder (kw) | Power, hydroliser (kg) | WEIGHT (kg) |
|--------|----------------|--------------|-----------------|-----------|------------|--------------------|------------------------|-------------|
|        |                |              | Length (L)      | Width (W) | Height (H) |                    |                        |             |
| CFH-50 | 5              | 925×405      | 9250            | 3100      | 2600       | 37                 | 18.5                   | 15000       |

# Batch Cooker



Sensitar Batch cooker is a product that sterilizes, hydrolyzes and dries for a variety of animal and poultry as well as fish by-products. The Batch cooker is one of the most important components of a dry rendering plant and is available in 5 standard sizes to suit a variety of factory capabilities.

## Application:

- 1.Mixed meat offal and bones
- 2.Raw blood
- 3.Wet feathers
- 4.Mixed poultry offal
- 5.Dead pigs, cattle,sheep, etc



| Type     | Capacity(Kg/batch)     |           |              |                     |
|----------|------------------------|-----------|--------------|---------------------|
|          | Mixed meat offal,bones | Raw bLood | Wet feathers | Mixed poultry offal |
| XBC5000  | 3000                   | 2000      | 2700         | 3000                |
| XBC6500  | 4000                   | 2500      | 3500         | 4000                |
| XBC8500  | 5000                   | 3400      | 4600         | 5000                |
| XBC10000 | 6000                   | 4000      | 5400         | 6000                |
| XBC16000 | 10000                  | 7000      | 9000         | 10000               |

| Technical specifications         | Unite          | Type   |        |        |         |         |
|----------------------------------|----------------|--------|--------|--------|---------|---------|
|                                  |                | BC5000 | BC6500 | BC8500 | BC10000 | BC16000 |
| Dimension A                      | mm             | 5450   | 7100   | 7425   | 8400    | 9000    |
| B                                | mm             | 2070   | 2070   | 2305   | 2035    | 2500    |
| C                                | mm             | 1600   | 1600   | 1775   | 1775    | 2100    |
| Design pressure jacket and rotor | Bar            | 10     | 10     | 10     | 10      | 10      |
| Design pressure cooker           | Bar            | 5      | 5      | 5      | 5       | 5       |
| Heating surface                  | m <sup>2</sup> | 27     | 35     | 41     | 49      | 63      |
| Power                            | kw             | 37     | 45     | 55     | 75      | 110     |
| Shipping weight                  | kg             | 12000  | 13500  | 19000  | 22000   | 36000   |

# Pre-heater



Sensitar Pre-heater is ideal for rendering and fishmeal processing, with inputs of varying quality and composition, requiring minimal pre-cooking preparation. Customers can freely choose the type of equipment in the production range of 2-50t/h, and the steam supply regulator can easily handle even small volumes of steam when needed.

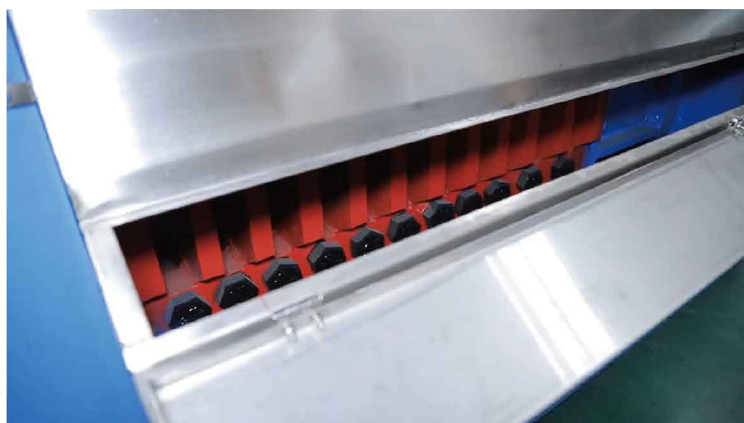
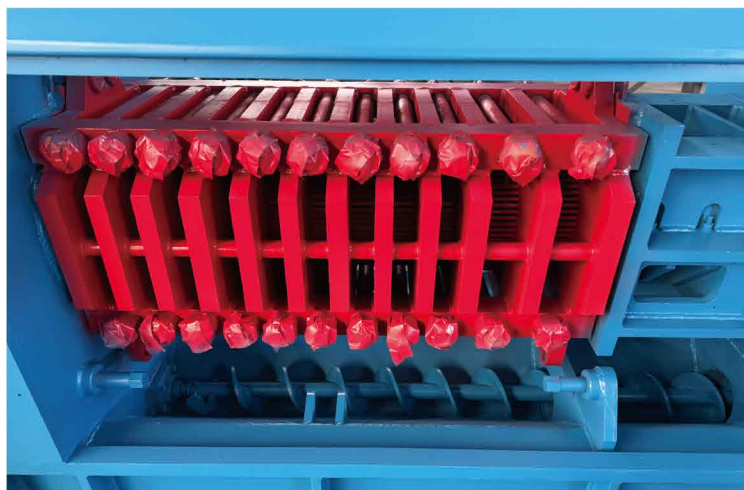
| Type   | Capacity(t/h) | Dimensions(mm) |        |       | Weight<br>(metric ton) |
|--------|---------------|----------------|--------|-------|------------------------|
|        |               | Length         | Height | Width |                        |
| FC0605 | 2.6-3.5       | 3350           | 1050   | 1200  | 4                      |
| FC0806 | 6.4-8.0       | 8250           | 1850   | 1850  | 12                     |
| FC0808 | 8.8-11.0      | 10200          | 1850   | 1850  | 14                     |
| FC1108 | 12.8-16.0     | 10900          | 2350   | 2200  | 20                     |
| FC1110 | 16.0-20.0     | 12800          | 2350   | 2200  | 23                     |
| FC1112 | 20.0-25.0     | 14850          | 2350   | 2200  | 27                     |
| FC1310 | 20.0-25.0     | 13050          | 2450   | 2200  | 32                     |
| FC1312 | 24.0-30.0     | 15050          | 2450   | 2200  | 36                     |
| FC1314 | 28.0-35.0     | 17050          | 2450   | 2200  | 40                     |
| FC1612 | 30.4-38.0     | 15150          | 3450   | 2400  | 40                     |
| FC1614 | 35.2-44.0     | 17150          | 3450   | 2400  | 47                     |
| FC1616 | 40.0-50.0     | 19150          | 3450   | 2400  | 55                     |

# Oil Press



Sensitar Oil Press provides highly effective mechanical extraction of the fat content from cooked and dried animal and poultry by-products, in a continuous flow. This enables you to achieve a hard cake with a low fat content.

As the greaves pass along the single conical screw, the fat is pressed out into the surrounding enclosure, and the greaves are discharged as press cake. The fat runs into a collector trough, where a screw moves it to the outlet.

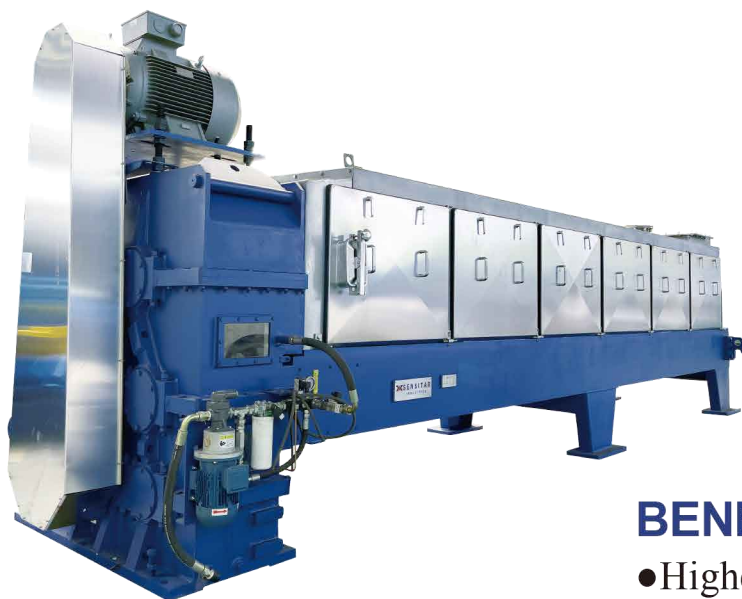


## BENEFITS

- High compression rate ensures efficient continuous fat extraction
- Rugged and reliable equipment, with a long service life
- Low maintenance costs

| Type   | Capacity  | Capacity | Residual fat in cake | Power      | Weight | Dimensions (mm) |      |      |
|--------|-----------|----------|----------------------|------------|--------|-----------------|------|------|
|        | Kg/h      | T/24h    | %                    | KW         | Kg     | A               | B    | C    |
| ST1000 | 600-1200  | 50       | 9-15                 | 45         | 4000   | 3170            | 1720 | 1600 |
| ST2500 | 1800-2800 | 150      | 9-15                 | 75-90      | 6900   | 3990            | 2210 | 1800 |
| ST4500 | 2400-5000 | 200      | 9-15                 | 90-110-132 | 10500  | 4270            | 2620 | 1960 |

# Twin-screw Press



The twin-screw presses are often used to extract liquid from cooked fish or meat as part of low-temperature wet rendering processes.

They can also be used in high-capacity feather plants.

## BENEFITS

- Higher solids content in press cake than with decanter centrifuges
- Efficient continuous fat extraction
- Easy to operate and monitor using advanced control system
- Easy to connect to odor control system, to minimize impacts
- Exceptional service life
- Easy to refurbish when they finally wear out

| Type  | Capacity (t/h) | Dimension(mm) |           |            | Weight (mt) | Power (kW) |
|-------|----------------|---------------|-----------|------------|-------------|------------|
|       |                | Length (L)    | Width (W) | Height (H) |             |            |
| TP 24 | 2.5            | 4400          | 1250      | 1030       | 3           | 7.5-11     |
| TP 35 | 5              | 5460          | 1800      | 1300       | 7           | 11-18.5    |
| MS 41 | 13             | 4600          | 2000      | 1500       | 9.5         | 22-37      |
| MS 49 | 18             | 5700          | 2400      | 1950       | 15.5        | 30-55      |
| MS 56 | 25             | 6700          | 2500      | 1870       | 23          | 45-75      |
| MS 64 | 40             | 7400          | 2800      | 2100       | 31          | 90-110     |
| RS64  | 50             | 8350          | 2800      | 2100       | 34          | 110-132    |
| XS88F | 60             | 8400          | 2850      | 2165       | 46          | 95-132     |

# Disc Dryer



Sensitar Disc Dryer is the ideal solution for removing as much water as possible, as gently as possible, from coarser fish, animal or poultry by-products with a low fat content.

## Application:

Sensitar disc dryers are ideal for drying products that include:

1. Defatted animal by-products
2. Defatted fish by-products
3. Hydrolyzed feathers
4. Mechanically dewatered blood



| Type | Heating surface(m <sup>2</sup> ) | Power(kw) | Shipping data (mm) |       |       |        |
|------|----------------------------------|-----------|--------------------|-------|-------|--------|
|      |                                  |           | Length             | Width | Hight | Weight |
| 1228 | 60                               | 30        | 7750               | 2050  | 2600  | 22     |
| 1242 | 90                               | 45        | 9700               | 2050  | 2600  | 26     |
| 1537 | 110                              | 45        | 9050               | 2200  | 3200  | 30     |
| 1542 | 130                              | 45        | 9750               | 2200  | 3200  | 31     |
| 1551 | 150                              | 55        | 11100              | 2200  | 3200  | 37     |
| 1850 | 215                              | 75        | 11100              | 2560  | 3500  | 52     |
| 2050 | 260                              | 75        | 11300              | 2800  | 3650  | 59     |
| 2064 | 320                              | 90        | 13250              | 2800  | 3650  | 68     |
| 2264 | 375                              | 110       | 14000              | 3000  | 3850  | 79     |
| 2550 | 400                              | 110       | 12200              | 3300  | 4150  | 84     |
| 2564 | 515                              | 132       | 14150              | 3300  | 4150  | 99     |
| 2578 | 595                              | 160       | 16150              | 3300  | 4150  | 120    |
| 2864 | 650                              | 160       | 14150              | 3600  | 4500  | 116    |
| 2878 | 730                              | 200       | 16150              | 3600  | 4500  | 135    |

# Cooler



Sensitar Cooler adopts rapid flow type to cool powder and small granular materials.

While cooling the material, it can screen different particles according to different requirements.

## Working Principle

Cooler is a continuously working machine with a cooling principle based on the counter flow of cooling air and hot product. The hot dried product is continuously fed into the cooler through the inlet chute at the driving end of the machine.

The rotor, rotating between 17 and 28 rpm, is equipped with agitating arms and paddles lifting the product up into the stator drum where it is cooled by the contact with the air stream that is drawn through the stator by the centrifugal fan.



| Type    | Dimensions<br>(D*L in m) | Nominal Capacity<br>(kg/h) | Stator Volume<br>(m³) | Motor Drive/Fan<br>(kw) | RPM |
|---------|--------------------------|----------------------------|-----------------------|-------------------------|-----|
| AC-1207 | 1.2x7.0                  | 1700                       | 8                     | 11.0/5.5                | 28  |
| AC-1606 | 1.6x6.5                  | 2600                       | 12                    | 15.0/5/5                | 25  |
| AC-1609 | 1.6x9.5                  | 3350                       | 17                    | 18.5/11.0               | 25  |
| AC-2009 | 2.0x9.0                  | 5250                       | 24                    | 30.0/15.0               | 21  |
| AC-2012 | 2.0x12.0                 | 7000                       | 32                    | 37.0/18.5               | 21  |
| AC-2909 | 2.9x9.0                  | 10500                      | 49                    | 45.0/37.0               | 19  |
| AC-2912 | 2.9x12.0                 | 14500                      | 66                    | 55.0/37.0               | 19  |

# Air Condenser

Sensitar Air Condenser uses a flow of air to condenses vapors from cooking or drying fish or meat by-products to help ensure effective odor reduction.

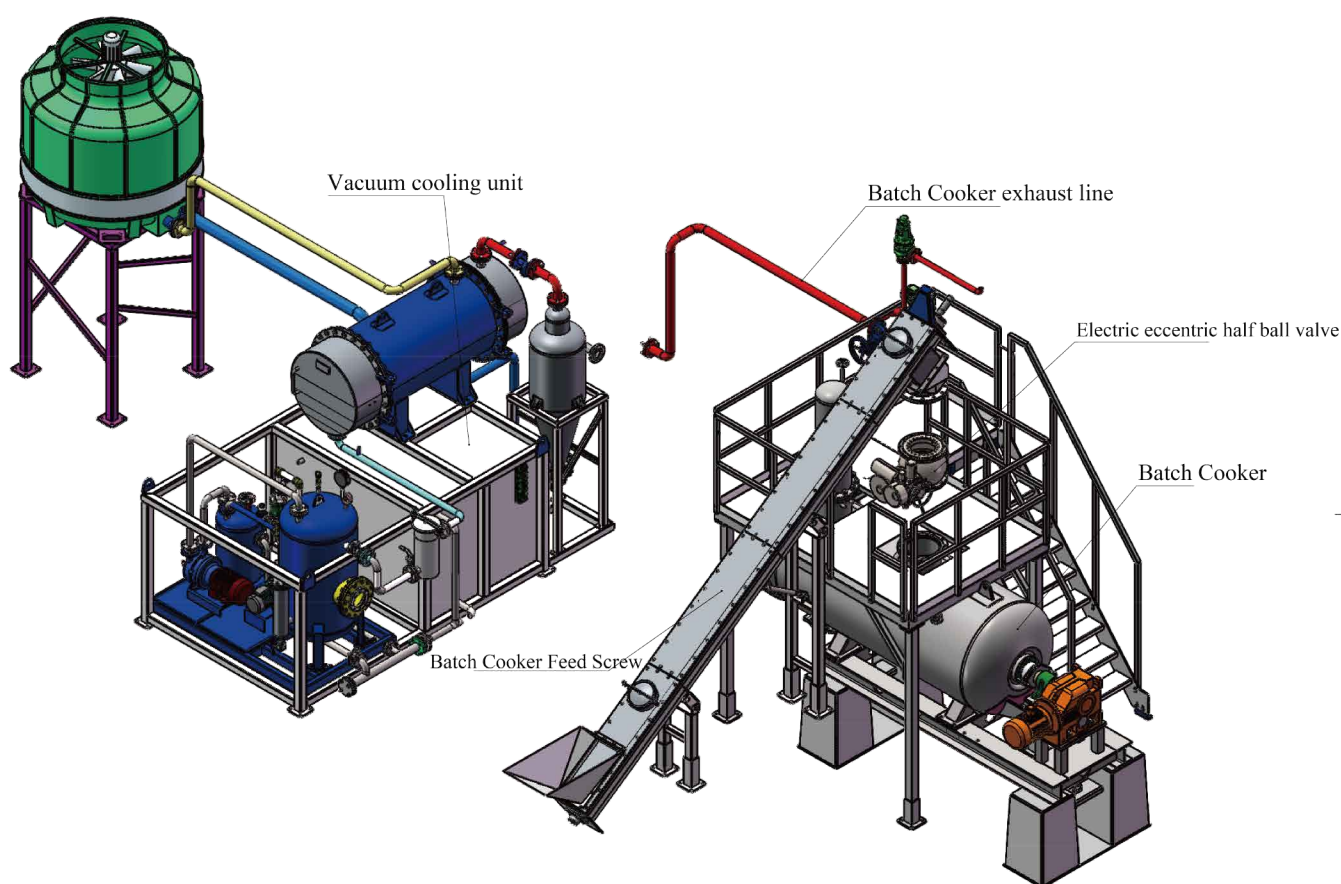


Air condensers are also available in twin-pass configurations in which vapors condense in one direction, and then perform cooling duties while returning in the other direction. This provides maximum thermal efficiency.

| Type   | Condensing capacity | Dimension(mm) |           |            | Power/motor(kW) | Weight(kg) |
|--------|---------------------|---------------|-----------|------------|-----------------|------------|
|        |                     | Length (L)    | Width (W) | Height (H) |                 |            |
| ACV015 | 900                 | 50            | 1800      | 3950       | 1×7.5           | 2200       |
| ACV021 | 1300                | 3900          | 1805      | 4050       | 2×5.5           | 2750       |
| ACV030 | 1800                | 4450          | 2300      | 4150       | 2×7.5           | 3350       |
| ACV034 | 2000                | 4450          | 2300      | 4150       | 2×7.5           | 3400       |
| ACV042 | 2500                | 6400          | 2300      | 4050       | 3×5.5           | 4600       |
| ACV055 | 3300                | 6400          | 2300      | 4050       | 3×11            | 4800       |
| ACV072 | 4300                | 8350          | 2300      | 4150       | 4×11            | 5700       |
| ACV090 | 5400                | 10300         | 2300      | 4200       | 5×11            | 7000       |
| ACV160 | 9600                | 10300         | 5250      | 5300       | 2×30            | 17000      |
| HM3000 | 3000                | 5110          | 3000      | 4045       | 2×11            | 5700       |
| HM5000 | 5000                | 9120          | 3000      | 4045       | 3×11            | 8500       |
| HM7000 | 7000                | 10580         | 3000      | 4145       | 4×11            | 11300      |

# COMPACT RENDERING PLANT

1t/ batch and 2T / batch are designed and developed for farms and slaughterhouses. The heating mode is divided into electric heating, high temperature and high pressure (140 C,0.35Mpa) drying treatment. The whole set of equipment includes: feeding system,pre crusher, high temperature and high pressure drying machine, exhaust gas condenser, cold water tower and other systems. The unit has the advantages of full-automatic control, simple operation,no need to add auxiliary materials in the processing process, green environmentalprotection, etc.



## Screw Conveyor



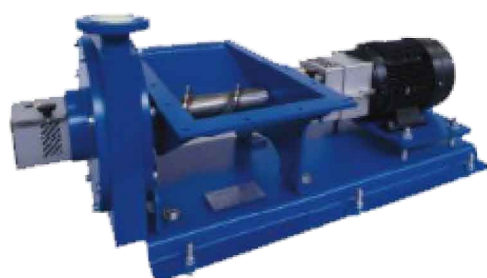
The Screw Conveyor is specially designed to help you move material from one step to the next in your processing setup, coping easily with often-considerable height differences by operating reliably with an incline of as much as 30 degrees. This helps ensure processing continuity and higher overall outputs, by eliminating bottlenecks and “weak links” between the efficiency of individual processes.

## Lamella pump



The lamella pump is specifically designed to transfer flows that contain large particles, such as pre-broken animal by-products, pet food or fish, with as little as 20% liquid in the flow. It is ideal for filling all types of cookers and other processing equipment in a closed system that ensures good hygiene and limits odor issues.

## Fat pump



The Fat Pump is a centrifugal pump equipped with a feed screw, specially configured to pump animal fat containing a large proportion of smaller, solid particles. This buffer/feed screw is essential for making sure the pump consistently runs at peak efficiency.

## Decanter

Decanter is three-phase separation, can achieve a good solid-liquid separation effect.



## Milling Plant

Milling Plant effectively reduces the size of particles in the not-yet-finished meal after fat extraction, helping you meet customer specifications about particle size.



## Fat Filtrator

The Fat Filtrator removes solids (fines) present in the fatty sludge from the screw presses in your operation, and is often installed upstream from a decanter centrifuge that separates the tallow still further.



## Tube Condenser

Tube Condenser is designed for condensing the processing vapours emitted from cooking or drying of meat or fish by products. The condensed water can be recycled to other machine. Its heat transfer area range of 30-200 m<sup>2</sup>.



## Scrubber

Using the high pressure spray equipment, atomized liquid, full contact with the smelly gas, thus realized the purification, deodorization, cooling effect.



## Ionization Tower

Ionization tower uses high voltage electrode to produce high voltage electric field, bombards with high voltage electric energy odor, organic material molecular chain, changes the material structure, damage odor, organic molecular structure, organic compounds into small molecules, neutrons, atoms, the use of ozone produced for oxidation, deodorization and purification purposes.



