



凡翔机械
FANXIANGJIXIE

浙江凡翔机械设备有限公司

ZHEJIANG FANXIANG MECHANICAL EQUIPMENT CO.,LTD

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企业简介

浙江凡翔机械设备有限公司成立于2017年，注册资本1580万元，座落于浙江省舟山群岛新区，毗邻上海、宁波等经济发达城市，占地面积达30000多平方米。公司主要成员均为从事鱼粉设备研发与制造20多年的资深人员，在针对不同国家、不同原料鱼种，量身定制出适用的鱼粉设备方面有着丰富的经验，在国内外享有较高的知名度。公司依靠专业的研发队伍，采纳广大客户的意见与建议，不断的对设备进行升级换代，致力于提供更先进、更适用的鱼粉加工设备来满足客户的需求。同时也吸纳了一批经验丰富的安装调试和售后服务技术人员，以提供优质的服务需求。

公司本着“以质量求生存，以创新求发展”的宗旨，以优质的产品、更新的技术来满足并超越客户的期望；公司愿以良好的信誉与社会各界同仁竭诚合作、共同发展。

以质量求生存

以创新求发展

Company Profile

Zhejiang Fanxiang Mechanical Equipment Co., Ltd. was founded in 2017. The registered capital is 15.8 million CNY, covers an area more than 30000m². We located in the first National Marine Economic Zone, Zhoushan City, which near to developed cities like Shanghai, Hangzhou and Ningbo. The main members of our company are those who have done fishmeal machine R&D and manufacturing more than 20 years, we have rich experience in custom-made suitable fishmeal equipments while facing different kinds of fish in different countries, enjoying high reputation in abroad and domestic market. Based on professional R&D team and customer advice, we will continuously making innovation, focus on supplying more advanced and suitable fishmeal equipment to meet all customers' requirements. We also have a group of experienced installation and after-sales service team to supply a qualified service to all the customers.

Adhering to the purpose of “Survive on quality, development on creativity”, we are looking forward to mutual cooperation and development with all the customers based on our high-quality products, innovative technology and good credit.



产品介绍

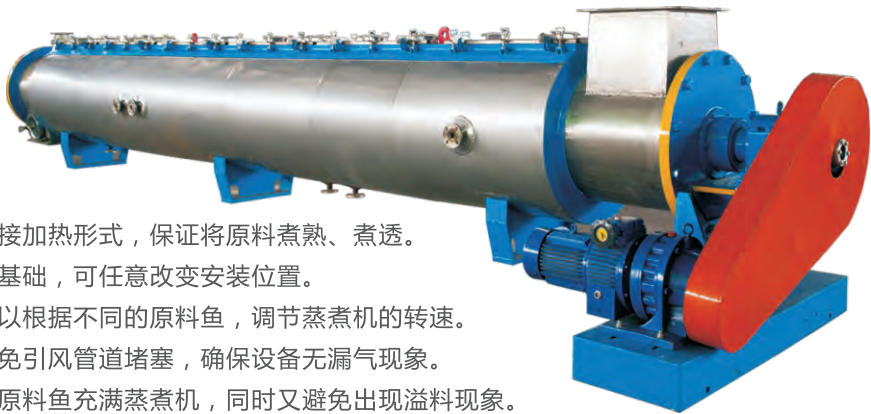
Products

鱼粉生产系统

Fish Meal Production System

蒸煮机

Cooker

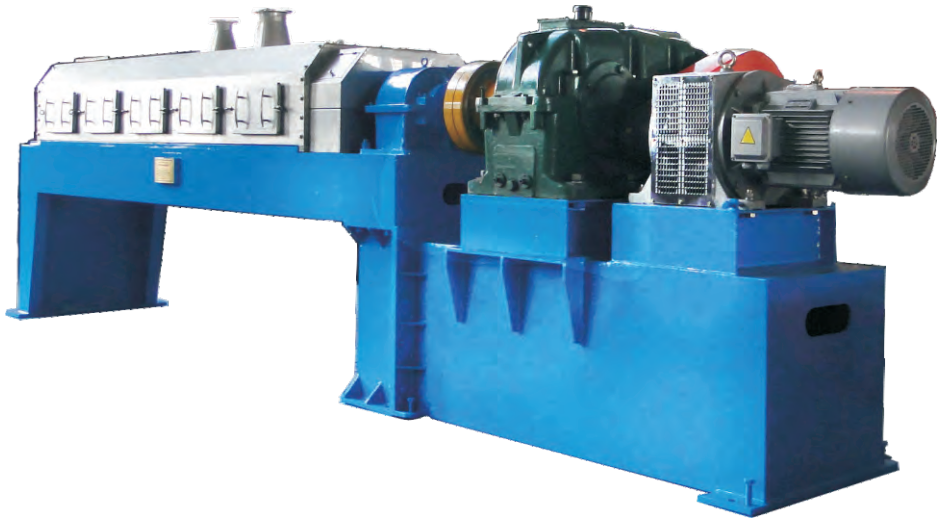


- 采用内轴加热及壳体夹层间接加热形式，保证将原料煮熟、煮透。
 - 钢结构底座，不需要混凝土基础，可任意改变安装位置。
 - 动力采用无级调速电机，可以根据不同的原料鱼，调节蒸煮机的转速。
 - 出汽口采用废汽缓冲罐，避免引风管道堵塞，确保设备无漏气现象。
 - 配套自动控制进料斗，确保原料鱼充满蒸煮机，同时又避免出现溢料现象。
 - 进出料口、上盖采用优质不锈钢板，结构紧凑，开合使用方便。
- With combination of central shaft and jacket indirect steam heating to assure the raw material well cooked.
 - With steel foundation instead of concrete foundation, changeable installation location.
 - With speed variable motor to adjust the rotating speed freely as per the different raw fish species.
 - Equipped with vapor buffer tank to avoid ducting pipeline block and vapor leakage.
 - Match with auto-feeding hopper, make sure the cooker is full of raw fish, also avoid over-feeding situation.
 - Inlet, outlet part and top cover in Stainless Steel; with compact structure and easy to operate.

常规型号 Normal Model	处理量 Capacity (t/h)	外形尺寸 Dimensions (mm)			功率 Power (kw)
		L	W	H	
SZ-50T	>2.1	6600	1375	1220	3
SZ-80T	>3.4	7400	1375	1220	3
SZ-100T	>4.2	8120	1375	1220	4
SZ-150T	>6.3	8520	1505	1335	5.5
SZ-200T	>8.4	9635	1505	1335	5.5
SZ-300T	>12.5	10330	1750	1470	7.5
SZ-400T	>16.7	10356	2450	2640	18.5
SZ-500T	>20.8	11850	2720	3000	18.5

压榨机

Screw Press



- 采用双螺杆挤压形式，压榨和脱脂效果更佳。
 - 整体式结构，安装、移位方便。
 - 采用电磁调速电机，调速范围大，适用于不同的原料鱼种。
 - 配套工作电流自动跟踪调节系统，确保榨饼水分处于最佳状态。
 - 优质不锈钢罩壳及网板，耐腐蚀效果更好。
- Double screw design ensures excellent squeezing performance.
 - Integrated structure, easy for installation and shifting.
 - Electromagnetic speed variable motor, with wide range of speed is suitable for various raw fish species.
 - Match with working current auto-tracking & adjusting system, make sure the press cake moisture content is in best condition.
 - Stainless Steel crust and mesh plates with better corrosion resistance.

常规型号 Normal Model	处理量 Capacity (t/h)	外形尺寸 Dimensions (mm)			功率 Power (kw)
		L	W	H	
SY-50T	>2.1	5500	1400	1770	15
SY-80T	>3.4	5550	1500	1775	15
SY-100T	>4.2	5620	1500	1775	18.5
SY-150T	>6.3	6100	1665	1880	22
SY-200T	>8.4	6440	1665	1880	22
SY-300T	>12.5	7700	1930	2085	37
SY-400T	>16.7	8671	1780	2481	55
SY-500T	>20.8	9300	1780	2481	75



干燥机
Drier

- 加热面积大，干燥效果佳，充分保证成品鱼粉质量。
 - 耐磨型加热盘管（圆盘）设计，使用寿命长。
 - 压紧式窗盖，配有带灯观察窗，无须打开窗盖就可观察干燥机内的物料运行状况。
 - 挡粉板支架采用矩形管，特殊位置设计，避免机内鱼粉堆积现象。
 - 配备钢结构底座，不需要提供混凝土基础，并且可任意改变安装位置。
 - 采用优质硬齿面齿轮箱，噪音低，使用寿命长。
 - 配套液力耦合器，可实现重载起动。
 - 不锈钢上顶结构，耐腐蚀效果好。
- Large heating surface area and perfect drying performance to well assure the quality of finished fish meal.
 - Wear-resistant heating coil (disc) to prolong the life time.
 - Observation window is equipped with light that enable of checking the material without opening.
 - Using rectangular tube as stand of blades fixed in special position to prevent fishmeal from stacking.
 - With steel foundation instead of concrete foundation, changeable installation location.
 - Equipped with gear surface hardened reducer, low noise and longer lifetime.
 - With hydraulic clutch enable of restarting with load.
 - Stainless steel top structure with better corrosion resistance.

常规型号 Normal Model	加热面积 Heating Surface Area (m ²)	外形尺寸 Dimensions (mm)			功率 Power (kw)
		L	W	H	
SG-Ø1300*7800	88	11015	2600	2855	37
SG-Ø1600*7800	140	10120	2600	3105	45
SG-Ø1600*8700	158	11020	2600	3105	55
SG-Ø1850*10000	230	12326	3000	3425	75
SG-Ø2250*11000	370	13913	3353	3882	90

连续真空低温式干燥机
Continuous Vacuum Drier

目前市场上广泛使用的常温连续式干燥机虽然已经能满足物料烘干的需要，但是该设备在使用过程中有不足之处，如蒸发温度较高，蒸发时间较长，从而引起了物料营养成份的氧化及变性，降低了成品的各项营养成份指标，而且造成了热能的大量损耗。

针对该问题，本公司自主研发了连续真空低温式干燥机，该设备不仅实现了可连续生产的作业方式，而且由于采用真空低温干燥工艺，大大改善了上述存在的问题，使得成品的品质得到大幅度提升，并且节能效果明显。该设备既适用于鱼粉产品生产加工，也可用于其它物料的生产加工。

Although the standard Drier that is widely used in current market could meet the requirement of drying the material, there are still some disadvantages during working. Such as high evaporation temperature and long evaporation duration, which results in the oxidation and deterioration of the nutrition ingredient. Meanwhile it not only reduces the various nutrients, but also causes huge heat loss.

With a view to solve the above problems, we have ressearched and developed the Continuous Vacuum Drier on our own. The Drier could continuously run under the vacuum condition, meanwhile it can improve the quality of the finished product as well as energy-saving effect bucause of the necessary improvement. The Vacuum Drier is suitable for both the fish meal and other materials.



真空低温式干燥机与常温式干燥机对比

COMPARISON BETWEEN VACUUM DRIER AND STANDARD DRIER

对比项目 Items	连续真空低温式干燥机 Vacuum Drier	连续常温式干燥机 Standard Drier
工作方式 Working Mode	可实现连续的工作方式 Working continuously	可实现连续的工作方式 Working continuously
物料水份蒸发温度 Evaporation Temperature	70℃左右 Around 70℃	98℃左右 Around 98℃
机内压力 Pressure Inside Drier	-0.7Mpa	常压 Normal
成品质量 Quality of Finished Product	蒸发温度在70℃左右，可避免物料在高温烘干过程中发生急剧的蛋白氧化或变性现象，提高成品的各项营养成份及全面性 Under evaporation temperature at 70℃, avoid the protein oxidation or deterioration of material during drying process ; Improve various nutrition element.	蒸发温度高，会引起物料的蛋白氧化及变性现象，降低成品各项营养成份 High evaporation temperature result in protein oxidation and deterioration of material,Reduce various nutrition element.
能 耗 Energy Consumption	蒸发温度低，热能损耗减少，节能效果明显 Low evaporation temperature Leads to energy-saving.	蒸发温度较高，延长干燥时间，造成热能的大量损耗 High evaporation temperature cause larger energy consumption because of long drying time.
废气处理方式 Waste vapours Treatment	因设备处于密闭状态，外界空气无法进入干燥设备，减少了废气的处理量，大大减少废气环保处理成本 Because the machine is hermetic,the air is unable to flow into machine. That could cut a lot of deodorizing cost.	因设备不完全密闭，造成蒸发的气体与进入机内的外界空气相混合，无形中增加了废气的处理量，增加了废气环保处理成本 Because the machine is not exactly hermetic, making the waste vapours mix with air.That virtually increase the deodorizing cost.

筛粉机

Sieve Screening

- 筛除鱼粉中细小的鱼骨头、鱼眼等杂物，提高成品鱼粉均匀度。
- 上罩采用滚轮结构，当需要检查机内筛分运行情况时，开合十分方便。
- 筛网板采用螺栓夹紧固定，便于拆卸和更换筛网板，省时省力。
- 筛粉筒体为全封闭式结构，杜绝粉尘对工作环境的影响。
- 采用整体组合式结构，安装移位方便。

常规型号：SJ-Ø1000*4M、SJ-Ø1000*5M、SJ-Ø1000*7M、 SJ-Ø1000*8M

- Designed to screen these tiny fish bones and eyes and other impurities, improve fish meal quality.
- Top cover is designed with roller, for easy open and check running status.
- Meshes are fastened by bolts; convenient to remove and change that saves time and man.
- Compact structure keeps dust away from the working environment.
- Integrated structure, easy to move and installation.

Normal Model：SJ-Ø1000*4M、SJ-Ø1000*5M、SJ-Ø1000*7M、 SJ-Ø1000*8M



筛粉机

Sieve Screening

- 筛除混在鱼粉中的垃圾（网绳、贝类和鱼骨头）。
- 采用整体组合式结构，移位、安装方便。
- 与物料接触部件全部采用不锈钢材料，耐腐蚀，使用寿命更长。
- 采用可调节网孔大小尺寸的筛网结构设计，达到不同的筛分效果。
- 全封闭式结构，杜绝粉尘对工作环境的影响。

常规型号：SJ1000

- Designed to screen impurities mixed in meal.(net, shells and bones etc.)
- Integrated structure, easy for installation and shifting.
- All the part contact with meal are manufactured in Stainless Steel, corrosion-resistance and longer lifetime.
- With the design of adjustable hole size mesh plate,can achieve different separation effect.
- Closed structure keeps dust away from the working place.

Normal Model: SJ1000



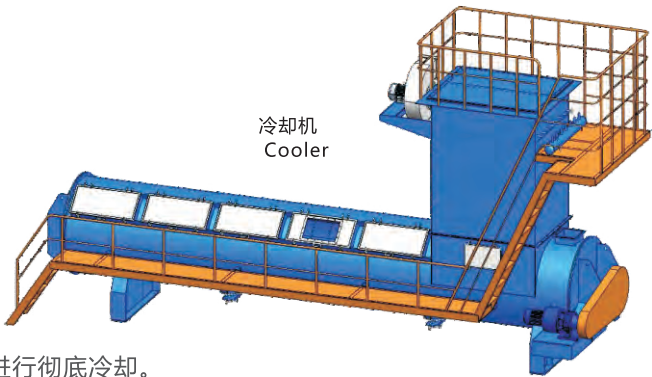
粉碎机
Grinding Machine

- 配备多种规格的冲孔网板，满足鱼粉颗粒度的要求。
- 粉碎刀片全部经过表面处理，硬度高，不易磨损。
- 上壳体和冲孔网板采用不锈钢，抗腐蚀性更强。

常规型号：HDSF56*40、HDSF56*50、HDSF56*60、
HDSF56*60加强型

- With different size of mesh plates, so as to meet the different requirement of fish meal fineness.
- Grinding blades with special treatment, high hardness and wear-resistant.
- Top shell & punching plate are manufactured in Stainless Steel, better corrosion resistant.

Normal Model: HDSF56*40、HDSF56*50、HDSF56*60、
HDSF56*60 enhanced



冷却机（配套脉冲除尘器）
Cooler (with Pulse Dust Collector)

- 采用水冷与风冷相结合的冷却工作方式，对鱼粉进行彻底冷却。
- 冷却过程均匀连续，自动化程度高。
- 配套脉冲除尘器，以达到最佳的除尘效果。
- 结构紧凑，无须混凝土基础，可自由调整安装位置。

常规型号：FSLJ-Ø1300*8700、FSLJ-Ø1500*8700

- Using water & air mix cooling way to cool down the fishmeal completely.
- Continuous and homogeneous cooling process, with high automation.
- Using pulse dust collector to reach best dust collecting effect.
- Compact structure, no need concrete foundation, can change the installation foundation freely.

Normal Model: FSLJ-Ø1300*8700、FSLJ-Ø1500*8700

水冷机组
Water-chilling Unit

- 配套冷却机使用，用于降低冷却循环水温度，提高鱼粉的冷却效果，并实现冷却水循环使用。
 - 运行稳定，使用寿命长。
- 常规型号：LSF-22、LSF-50

- Install with Cooler, used to reduce the cooling circulating water temperature, so as to improve the cooling performance, and circulation of cooling water.
 - Stable operation and long life time.
- Normal Model：LSF-22、LSF-50



自动包装机
Automatic packing machine

- 系统结构紧凑，自动化程度高，包装速度快。
 - 采用自动称重系统，计量精确、误差小。
 - 皮带输送机配备称重及显示装置，实现包装重量复检功能。
- 常规型号：TCS-50
- Compact structure, high automation, quick packing.
 - With automatic weighing system, accurate calculation and small errors.
 - Belt conveyor is equipped with weighing and display device, able to verify the weight.

Normal Model: TCS-50

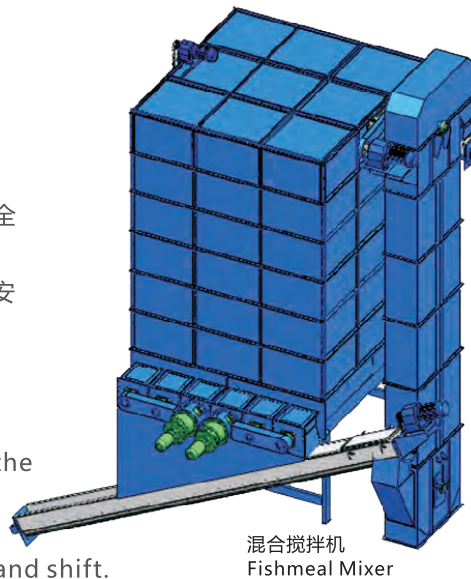
混合搅拌机
Fishmeal Mixer

- 针对不同品质的鱼粉，一次投料可达20多吨，经混合搅拌后达到完全均匀统一的要求。
- 采用立式结构设计，并配套提升送料机，结构紧凑，占地面积小，安装移位方便。
- 自动化工作方式，节省人工成本。

常规型号：JBC30、JBC45

- Can mix different quality fishmeal to the same quality, with the capacity of more than 20 tons once.
- Using vertical structure design, match with hoister feeding, with compact structure, small area occupied, easy to install and shift.
- High automation working way, save man power.

Normal Model: JBC30、JBC45



鱼油生产系统 Fish Oil Production System

碟式分离机
Centrifuge



碟式分离机
Centrifuge

- 分离转鼓转速7069转/分，达到良好的三相分离效果，成品鱼油品质高。
- 调整范围广，适用性强，满足各类原料鱼的分离要求。
- 采用PLC自动控制仪程控，自动化程度高，操作简单方便。
- 主机采用不锈钢，耐腐蚀。

常规型号: DHZ430、DHZ470

- With bowl rotation speed of 7069 rpm, ensure a better three phase separation and better fish oil.
- Wide speed range and flexible application to meet the different separation requirement of various fish species
- With PLC automatically control, high automation & easy operation.
- Stainless main body with best corrosion resistant effect.

Normal Model: DHZ430、DHZ470

蛋白水加热器
Protein Water Heater



蛋白水加热器
Protein Water Heater

- 加热从压榨机蛋白水箱进入卧式离心机的榨汁。
- 内部采用刮板结构，彻底清除加热表面结焦现象，确保榨汁良好的加热效果。
- 结构紧凑，节约安装空间，简化安装管路。
- 内筒体采用不锈钢材料制作，提高了防腐蚀能力，延长设备使用寿命。

常规型号: SJRQ-Ø219*3000、SJRQ-Ø219*4000

- Used for squeezed fish water from tank feeding to Decanter and Tricanter.
- The scraping structure inside enable of cleaning the choke on surface and proper heating efficiency.
- Compact and space saving structure that makes pipeline simple.
- Inner shell is made of stainless steel that leads to more corrosion-proof and longer service time.

Normal Model: SJRQ-Ø219*3000、SJRQ-Ø219*4000

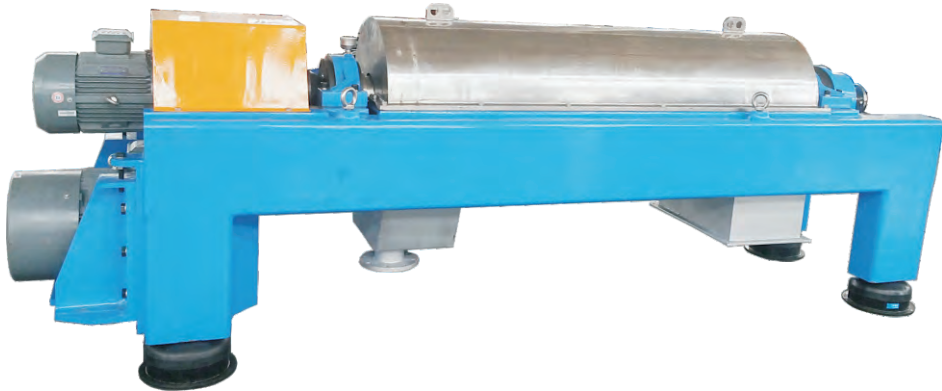
三相卧式离心机
Tricanter

- 实现固-液-液三相分离，减少碟式分离机工作量，避免碟离排渣时的鱼油流失，从而提高鱼油生产效率。
- 减少碟式分离机配套数量，降低投资成本，同时也减少碟式分离机周期性的拆洗频率，保证鱼油生产的连续性。
- 双变频驱动，运转平稳，性能可靠，操作便捷。
- 大长径比、高转速，具有多种角度的转鼓锥部结构，确保良好的分离效果。

常规型号:LWS355*1600、LWS420*1720、LWS500*2120、LWS580*2350

- For three phase of solid-liquid-liquid separation so as to reduce the workload of Centrifuge and avoid the fish oil loss during sludge discharging, meanwhile it could improve the fish oil production efficiency.
- Decrease Centrifuge quantity and investment, meanwhile reduce the frequency of dismantling and cleaning so as to ensure the continuous production.
- Double frequency converter, stable running, reliable performance and easy operation.
- Big draw ration and high rotating speed, rotor drum with cone structure in various angles to ensure good separation performance.

Normal Model: LWS355*1600、LWS420*1720、LWS500*2120、LWS580*2350

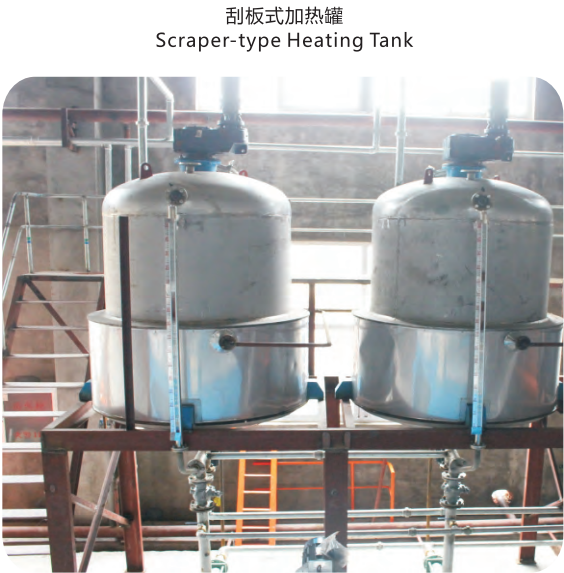


三相卧式离心机
Tricanter

加热系统及各种液罐

Heating system and Tanks

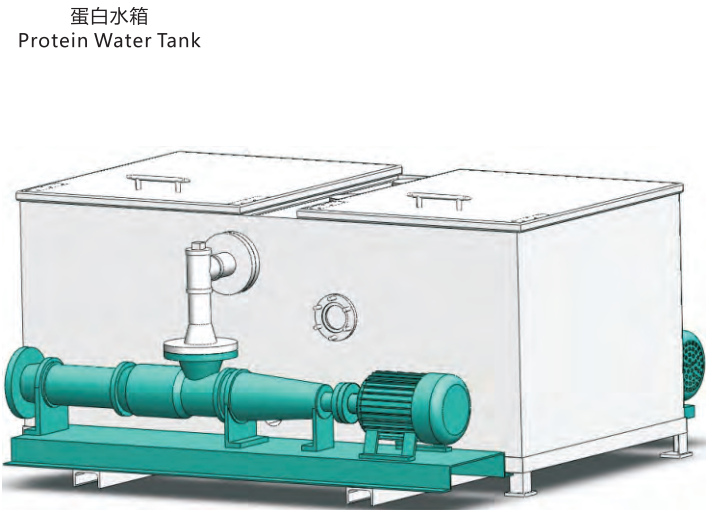
- 各种液罐与分离机配套使用，结构紧凑，移位、安装方便。
- 壳体采用不锈钢，耐腐蚀，外形美观且易于清洁。
- The tanks match with the oil separation system, compact structure and easy for shifting and installation.
- Stainless Steel body, corrosion resistant, good-looking and easy cleaning.



蛋白水箱

Protein Water Tank

- 全部采用不锈钢制作，防腐蚀，延长使用寿命，且易于清洗。
- 根据原料的特性，分别配备无堵塞排污泵或螺杆泵，避免出现堵塞现象。
- 无须再制作混凝土水池，移位安装非常方便。
- Completely manufactured in stainless steel, with corrosion proof, longer service time and convenient to clean.
- Equipped with block-free sewage pump or screw pump according to character of material, to avoid the block.
- No need of concrete tank, convenient to shift and installation.



浓缩系统 Evaporator System

浓缩设备的优点是最大化利用原料鱼，在减少能耗的同时提高生产得率，同时又能减轻对环境的影响。
The advantage of Evaporator is maximizing use of raw fish; increase yield in consuming less energy. Meanwhile, it could minimize the affection against environment.

- 浓缩鱼蛋白水，提高鱼粉出成率，增加经济效益，减少环境污染。
 - 整个生产过程在完全真空状态下进行，蒸发温度低，速度快。
 - 利用干燥机产生的废气作为加热源，降低生产成本，同时减轻废汽处理设备的工作量。
 - 浓缩器内的热交换管采用不锈钢内壁抛光管，不易结焦。
 - 所有循环泵采用不锈钢双端面机械密封，使用寿命长。
 - 配套自动进料阀，实现自动化进、出料控制。
-
- Evaporate the protein water, increase fish meal yield and profit, reduce the pollution
 - The evaporation process is carried out under the vacuum condition, enable of more efficient evaporation at lower temperature.
 - Utilize the waste vapors generated from Drier as heating energy, reduce production cost and the work of deodorizing system.
 - The inner surface polished stainless steel pipe is used as heating exchange pipe, less coking.
 - All circulating pumps are with stainless steel double mechanical sealed with long life time.
 - Equipped with auto-input valve that enable of automatic feeding and output.

废气降膜式浓缩机

Waste Vapors Falling-Film Evaporator

公司拥有两款不同系列的废气浓缩设备，根据客户工厂选址的不同，来选择最适合的浓缩设备。
According to the different location of plant, we will provide the most workable one for customers out of two Evaporator System.

- GNSJ系列浓缩设备
- GNSJ series Evaporator

对于能够提供大量冷却循环水的工厂（即选址靠近海、湖、河等水源），建议采用配套高位冷却塔，即GNSJ系列浓缩设备。

For the plants with large quantity of circulating cooling water (near by the sea, lake and river), we recommend GNSJ series Evaporator with high-position cooling tower.

常规型号Normal Model:
GNSJ-2500L、3500L、5000L、6000L、7500L、10000L、15000L、20000L



GNSJ 系列浓缩设备
GNSJ series Evaporator

废气降膜式浓缩机

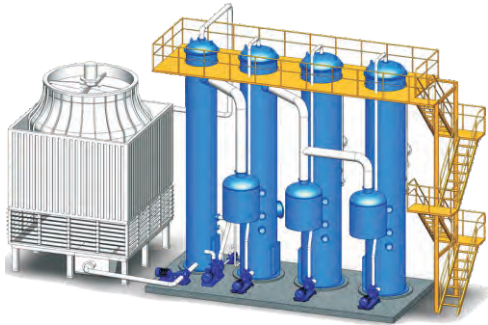
Waste Vapors Falling-Film Evaporator

- LNSJ系列浓缩设备
- LNSJ series Evaporator

对于无法提供大量冷却循环水的工厂，建议采用配套浓缩冷凝器，即LNSJ系列浓缩设备。该系列是将浓缩器蒸发产生的二次废气与冷凝器内的冷却循环水进行间接热交换，不仅使该冷却循环水始终保持洁净，无异味，而且减少冷却水的使用量。因此，特别适合于无法提供大量冷却水的工厂使用。

For the plants without large quantity of circulating cooling water, recommend LNSJ series Evaporator with condenser. the condenser achieve indirect heating exchange between cooling water and second generated vapors from evaporator, which not only keep the cooling circulating water clean without any smell, but also reduce the cooling water consumption. So this kind of the evaporator is especially for the plant which is unable to supply large quantity of cooling water.

常规型号Normal Model:
LNSJ-2500L、3500L、5000L、6000L、7500L、10000L、15000L、20000L



LNSJ 系列浓缩设备
LNSJ series Evaporator

蒸汽真空浓缩机

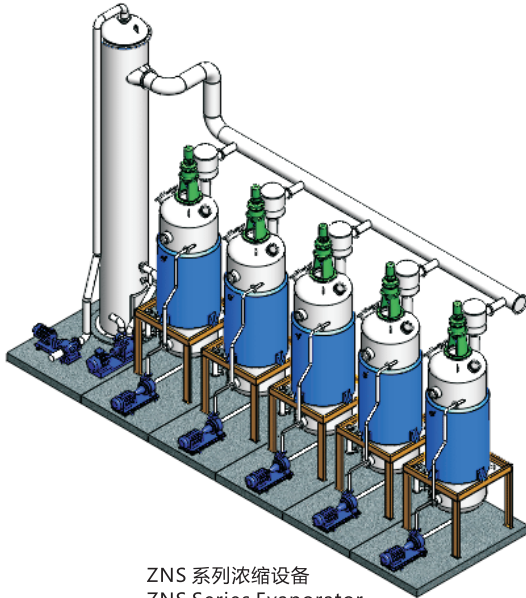
Steam Vacuum Evaporator

- 回收蛋白水，并进一步提浓，获得作为饲料引诱剂的鱼溶浆产品，增加经济效益。
- 利用高强度刮板周期性地刮去物料加热壁上的结焦，以保证良好的加热效果。
- 物料在真空状态下沸腾蒸发，蒸发温度低，能保证物料不变性，且水溶性蛋白不易氧化。
- 该机彻底解决了结焦问题，充分保证成品鱼溶浆的水分含量满足使用要求。

常规型号：ZNS-1000L

- Recycle protein water and further concentrate to get the fish soluble paste as the feed attractant, so as to increase the profit.
- Remove the deposits by high strengthened scraper to ensure better heating performance.
- The material will be evaporated under the vacuum condition, low evaporation temperature could ensure the material non deterioration and water-soluble protein not easily get oxidation.
- Thoroughly solve the problem of coking, fully ensure to meet the requirement for moisture content of fish soluble paste

Normal Model：ZNS-1000L



ZNS 系列浓缩设备
ZNS Series Evaporator

除臭系统处理工艺

Deodorizing System Treatment Plan

针对鱼粉工厂的实际工作情况，我们将废汽分为两大类，即有组织废汽和无组织废气。所谓有组织废汽就是来自蒸煮机、干燥机等设备在生产过程中产生的大量水蒸气，该废汽的特点是温度高达95℃以上，且浓度相当高。无组织废气是指来自原料池、生产车间及仓库的有味气体，该气体的特点是浓度较低，温度也不高，但气量相当大。

根据客户工厂的选址情况及具体条件，我们将有组织废汽处理工艺分成两种配套方案，以下是针对这两种废汽处理配套方案的工艺说明及流程方框图。

According to the real working situation in fishmeal plant, we divide he vapors into organized vapor and non-organized gas, the called organized vapor is from production line equipment like cooker, drier etc. with the feature of high concentration and high temperature, which can reach above 95℃. the called non-organized gas is from fish pond, workshop and warehouse, with the feature of low concentration and low temperature, but large volume.

According the plant location and itself real conditions, we have two plans for treating the organized vapor, the explanation and flowchart of two kinds treatment plan are as follows:

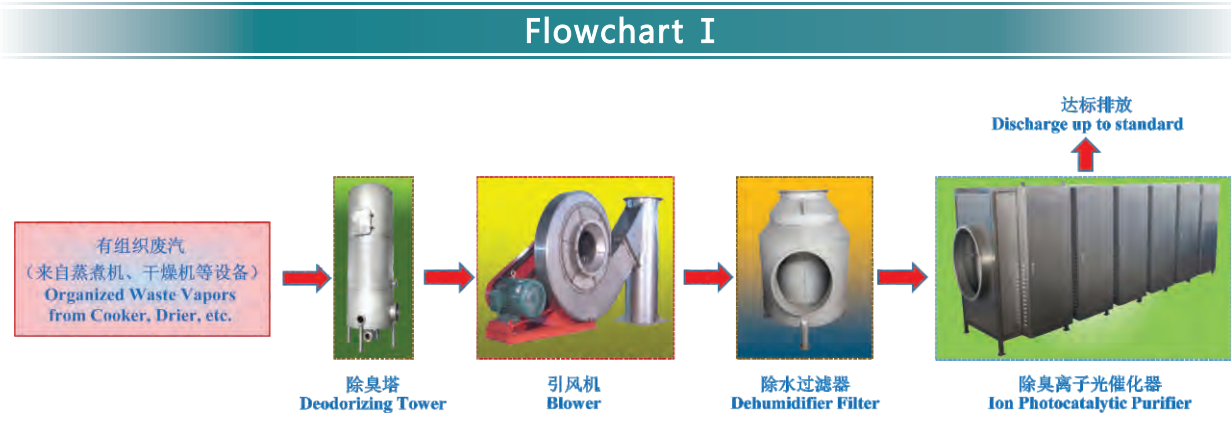
配套方案工艺说明一

Treatment Plan I

来自鱼粉生产设备的大量有组织高温废汽经密闭管道收集后，先集中进入除臭塔，在经过除臭塔的途径中，被大量的冷却水充分喷淋后，大部分的高温废汽迅速降温，马上冷凝成水，与冷却水混合后排放，同时废汽中的微粒粉尘也得以彻底洗涤。然后通过引风机的作用送入除水过滤器，去除掉剩余废汽中的水汽部分，最后集中送入除臭离子光催化器，在离子灯管和紫外线灯管的双重催化作用下，对废气中的臭气分子进行彻底分解，最终达到排放标准要求。

The organized high temperature vapors from equipment will be collected by closed pipe line and sent to deodorizing tower; After spaying by large quantity cooling water, most of vapor will become condensate and discharge with cooling water, meanwhile, the mixed dust in the vapor also will be washed. Then under the suction of blower, sent to dehumidifier filter to dehumidify. Finally, sent to ion photocatalytic purifier, by using ion and UV light-tubes to disintegrate the off-flavor molecule, making the vapor reach the discharging standard.

流程方框图一



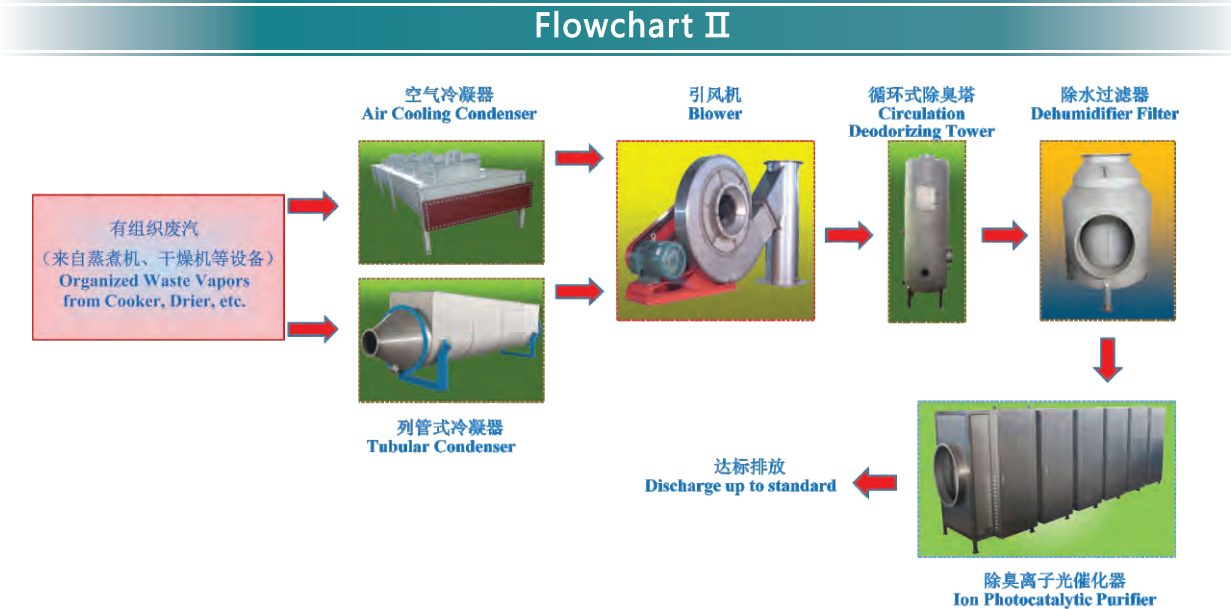
配套方案工艺说明二

Treatment Plan II

来自鱼粉生产设备的大量有组织高温废汽经密闭管道收集后，先进行降温冷凝处理，将高温废汽温度降至40℃。冷凝方式根据客户工厂的具体情况，分别可选用空气冷凝器和列管式冷凝器。空气冷凝器是利用大量的外界空气作为冷却介质与空气冷凝器热交换管内的高温废汽进行间接换热；而列管式冷凝器则是采用冷却循环水，对管内的高温废汽进行降温处理。该两种产品可独立配套，也可组合配套。废汽经降温冷却后，其中90%左右已冷凝成水，该废汽冷凝水送入工厂配套的污水处理系统，经处理达标后排放。冷却后的剩余废气在引风机的作用下，送入循环式除臭塔中，利用喷淋水对废气中的微粒粉尘进行洗涤处理，以防止粉尘影响除臭离子光催化器的处理效果。再通过除水过滤器去除水汽后，集中送入除臭离子光催化器，在离子灯管和紫外线灯管的双重催化作用下，对废气中的臭气分子进行彻底分解，最终达到排放标准要求。

The organized high temperature vapors from equipment will be collected by closed pipe line, first we have to cool the temperature to 40℃. According to the clients’ plant real situation, the condensing ways have air-cooling condenser and tubular condenser. Air-cooling condenser takes ambient air as cooling media to make indirect heat-exchanging with high temperature vapors through inside tubes; Tubular condenser takes circulation cooling water as cooling media to make indirect heat-exchanging with high temperature vapors through inside tubes. You can choose any of them or both. After cooling, 90% of the vapor will become condensate, which will be sent to factory ETP system to process, and discharged after reaching discharging-standard. Under the suction of blower, the rest vapor will be sent to circulation deodorizing tower, by spraying to remove the dust, which mixed in the vapor, to protect ion photocatalytic purifier effect. Then sent to dehumidifier Filter to dehumidify, after that, sent to ion photocatalytic purifier, by using ion and UV light-tubes to disintegrate the off-flavor molecule, making the vapor reach the discharging standard.

流程方框图二



引风、除臭系统 Blower & Deodorizing System

空气冷凝器
Air Cooling Condenser

- 利用外界空气作为冷却介质来实现降温工作，将从生产线中引出来的水蒸汽冷却凝结成水，达到良好的废汽降温效果。
- 针对不同型号的生产线，可选择多台并联组合的配套方式满足生产线的需求。
- 无需冷却水，尤其适用于水资源短缺的工厂。

常规型号：KSD8*1.8/6-BF8/6

- Use ambient air as cooling media to make the vapor becomes condensate, so as to achieve good cooling effect.
- As for different capacity production line, can choose more sets in parallel connection to meet the requirement.
- No need cooling water, it is suitable for plant, which is in scarcity of water.

Normal Model: KSD8*1.8/6-BF8/6



空气冷凝器
Air Cooling Condenser

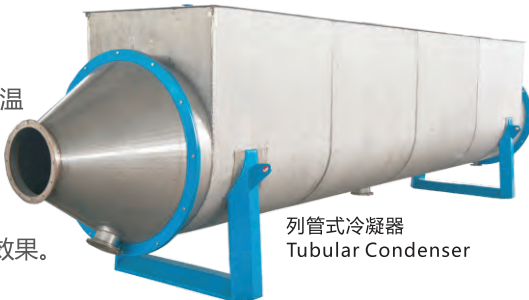
列管式冷凝器
Tubular Condenser

- 利用大量不锈钢管将废气与冷却水进行充分的间接热交换，降温幅度大，除臭效果好。
- 冷却循环水利用冷却塔作降温处理，实现循环使用，尤其适用于水资源短缺的工厂。
- 可方便的拆除热交换管进行彻底清洗，去除结垢，保持热交换效果。

常规型号：SCL-1200、SCL-1300、SCL-1500

- By using large quantity of stainless tubes, make sufficient indirect heat exchange between vapors and cooling water. Bigger temperature reduction and better deodorizing performance.
- The circulating water cooled down by cooling tower could be used repeatedly, which is especially suitable for factories lack of water.
- Heating pipes are easily to be taken apart for cleaning and removing coking.

Normal Model：SCL-1200、SCL-1300、SCL-1500



列管式冷凝器
Tubular Condenser



不锈钢引风机
Stainless Steel Blower

引风机
Blower

- 风叶采用动平衡仪校正，转动平稳，噪音小。
- 全部采用不锈钢制作，耐腐蚀，使用寿命长。
- The blades are Calibrated by dynamic balancer, rotating steadily and lower working sound.
- All S.S. made, with better corrosion proof and longer lifetime.

常规型号：9-19NO7C 9-19NO8.6C

Normal Model: 9-19NO7C 9-19NO8.6C

除臭塔
Deodorizing Tower

- 采用雾化喷头，使冷却循环水与废气充分进行热交换，除臭效果明显。
- 塔内放置耐腐蚀性十字环填料，增大降温接触面积，进一步提高除臭效果。

常规型号：SCT-1200、SCT-1400、SCT-2000

- With atomizing spray nozzle, assure circulating cooling water to contact waste vapors fully. Get obvious deodorizing performance.
- With corrosion proof porcelain rings, bigger cooling down area, achieve better deodorizing result.

Normal Model：SCT-1200、SCT-1400、SCT-2000

除臭塔
Deodorizing Tower



循环式除臭塔
Circulation Deodorizing Tower



除水过滤器
Dehumidifier Filter

除水过滤器
Dehumidifier Filter

- 塔内放置PP多面空心球填料，具有良好的除水功能。
- 全部采用不锈钢制作，耐腐蚀，使用寿命长

常规型号：CSQ-1000、CSQ-1200

- Inside the dehumidifier, placing PP Polyhedral ball, with better function of dehumidification and deodorization.
- The tower is fully made of Stainless Steel, with corrosion proof and long lifetime

Normal Model: CSQ-1000、CSQ-1200

除臭离子光催化器
Ion Photocatalytic Purifier

- 采用离子灯管与紫外线灯管相结合的方式，对废气中的臭气分子进行分解，以达到良好的除臭效果。
- 全不锈钢制造，结构紧凑，占地面积小，安装、移位方便。
- 电器采用独立模块，含断电、漏电及过压保护系统。

常规型号：LGC3300*40 LGC6300*100

- Using the combination of Ion and UV light-tubes to disintegrate the off-flavor molecule, achieving better deodorizing effect.
- All S.S. made, compact structure and small area occupied, easy to install and shift.
- With independent module electric appliance, including power-off, earth leakage and over-voltage protection system.

Normal Model: LGC3300*40 LGC6300*100



除臭离子光催化器
Ion Photocatalytic Purifier

输送系统 Conveying System

螺旋输送机
Conveyor



- 应用场合及作用：
 - 应用于鱼粉生产系统各设备之间的相互连接，从而实现输送物料的目的。
- 常规型号：Ø250、Ø300、Ø400
- Application occasion and function:
- Apply to the connection among the equipment in the fishmeal production system, so as to reach conveying purpose.
- Normal Model: Ø250、Ø300、Ø400

水平输送机
Horizontal Conveyor



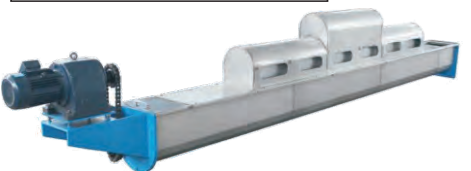
- 应用场合及作用：
- 应用于原料池底部，可存放一定数量的原料鱼，实现对蒸煮机连续均匀地进行供料，并可以根据原料加工情况进行速度调节。
- 常规型号：Ø350、Ø300*2
- Application occasion and function:
- Apply to locate at the bottom of fish pond, can store some quantity raw fish, can adjust the rotating speed to make sure continuously and evenly feeding.
- Normal Model: Ø350、Ø300*2

预压输送机
Pre-Press Conveyor



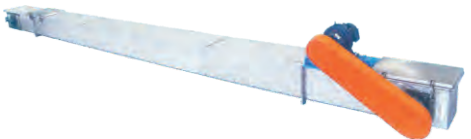
- 应用场合及作用：
- 应用于蒸煮机和压榨机之间的相互连接，在完成输送物料工作的同时，还可以挤压掉物料中部分的油脂和水份，从而提高压榨机的压榨效果。对于高脂肪和高水份的原料鱼，其作用效果明显。
- 常规型号：YYJØ300
- Application occasion and function:
- Apply to the connection between Cooker and Press machine, while conveying, it can press out some oil and water in the raw fish, and increase pressing effect of Press. It has better effect for the raw fish, which has high oil & water content.
- Normal Model: YYJØ300

风冷输送机
Air-Cooling Conveyor



- 应用场合及作用：
- 应用于干燥机之后的设备连接，从干燥机出来的高温鱼粉含有大量的水蒸汽，在通过风冷输送机的过程中，去除部分水蒸汽，起到良好的冷却鱼粉作用。
- 常规型号：Ø300、Ø400
- Application occasion and function:
- Apply to the connection after Drier, it can remove some steam vapor, which mix in the fishmeal with high temperature after Direr, with good cooling effect.
- Normal Model: Ø300、Ø400

刮板输送机
Scraper Conveyor



- 应用场合及作用：
- 应用于成品鱼粉的输送，尤其适用于长距离的连接输送。
- 常规型号：GBJ-250、GBJ-400
- Application occasion and function:
- Apply to conveying the finished fishmeal, especially suitable for long distance conveying.
- Normal Model: GBJ-250、GBJ-400

冰冻鱼破碎机
Frozen-fish Crusher

- 将整块冻板鱼破碎成均匀的小块，以确保良好的蒸煮效果。
 - 无须常温自然解冻，破碎后直接进入蒸煮机，保证了原料鱼的新鲜度。
 - 配套齿轮箱和加厚刀片，确保破碎过程的连续性，使用寿命长。
- 常规型号：QJB800、QJB1500
- Crushing the frozen-fish into small pieces, making sure the cooking effect.
 - No need normal temperature unfrozen, directly feeding in cooker after crushing, make sure the freshness.
 - Match with gear box and strong blades, making the crushing process continuous, with long lifetime.
- Normal Mode: QJB800、QJB1500



冰冻鱼破碎机
Frozen-Fish Crusher



破碎机
Crusher

破碎机
Crusher

- 将较大鱼体在进入蒸煮机之前切成小块，以确保物料形体均匀，从而稳定蒸煮速度，保证达到良好的蒸煮效果。
 - 双出料口设计，可针对不同原料鱼进行合理选择，决定是否需要进行破碎工序。
 - 设有检修口，方便维修保养。
- 常规型号：QJ-500-I、QJ-500-II
- To cut large fish into smaller pieces before feeding into Cooker so as to ensure the cut material in even size and a steady cooking speed and best effect of cooking.
 - Double outlet design, according to different kinds of raw fish, choose if using crushing process or not.
 - There is a service hole for the convenience of maintenance.
- Normal Mode：QJ-500-I、QJ-500-II

金属检测机
Metal Detector

- 超高的检测灵敏度，精确探测物料中的金属块并予以剔除，避免设备的非正常损坏。
 - 灵活的数字式灵敏度控制方式以及多种高级手动设置功能。
- 常规型号：DK3A-3030
- Super high detection sensitivity; accurately detect and remove the metal mixed in raw material, so as to avoid the abnormal damage to the machinery.
 - Flexible digital sensitivity control and multiple manual setting function.
- Normal Mode:DK3A-3030



金属检测机
Metal Detector

冷凝水回收机

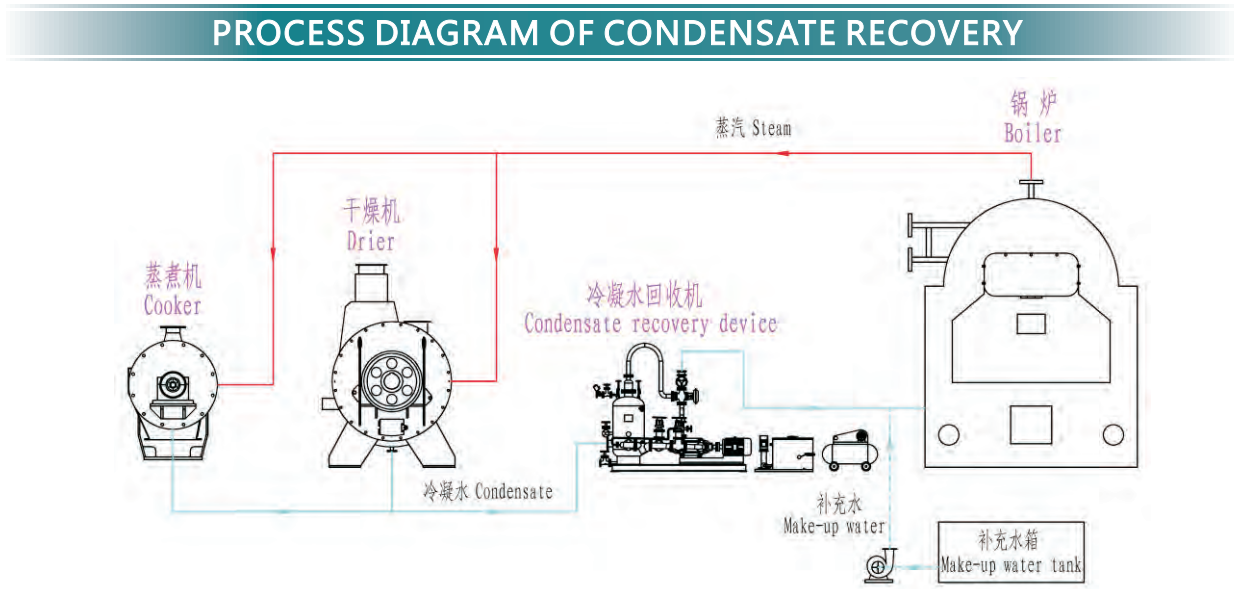
Condensate Recovery Device

- 节约锅炉燃料。因高温度的冷凝水直接进入锅炉，燃烧的燃料量可以适当降低。通过实践使用测试，可节约燃料10%~15%。
 - 燃料的降低可以减轻大气污染，也减少了烟尘和二氧化硫的排放。
 - 节约工业用水。冷凝水可以直接作为锅炉补给水。因为是全封闭的，没有水蒸汽的排放，不但减少了锅炉的用水量，而且改善了工作环境。
 - 提高锅炉实际执行效率。由于高温冷凝水的利用，使锅炉给水温度上升，节省燃料，使锅炉实际热效率提高，充分发挥了锅炉的潜力。
 - 可采用多缸与多泵的配套组合，并且热水泵利用变频器控制转速，达到理想的匹配效果，确保设备正常工作。
- 常规型号：ZHS-800

- Saving boiler fuel by pumping the high temperature steam condensate to the boiler directly. Practice has proven that it can save 10%-15% fuel.
 - Reduce the pollution, such as dust and SO₂ emission.
 - Save water consumption. it can be used as supplemental water of the boiler. It is complete closed, so there is no steam emission. Not only save the water but also improve the working environment.
 - Improve the boiler efficiency. Due to high temperature of condensate which increases the feed water temperature, thus save fuel and improve the heat efficiency of the boiler.
 - Can match with more tanks and pumps, the pump running speed is controlled by transducer to reach a ideal match effect, make sure the equipment can work normally.
- Normal Model: ZHS-800



冷凝水回收工艺流程图



电控系统 Electric Control Panel

- 可根据客户要求提供PLC控制方式
- 电控箱附带工艺流程图、电机运行指示灯及电器线路故障报警装置，便于观察设备的工作状态。
- 电控箱为前开启式门，便于安装、操作及维修。
- 电器元件采用国内名牌产品，性能可靠，故障率低。
- PLC type panel is available as per customer's requirement.
- With Production Flow Chart, Running indicator light, and electrical connection alarm device, easy to check the running status of the machine.
- Front-open design, convenient for installation, operation and maintenance.
- Electrical elements are all national famous brand, with reliable performance.



船用鱼粉生产线 Compact Fishmeal Plant

- 为了满足远洋捕捞和鱼粉、鱼油生产一体化作业的要求，我公司还可为捕捞船定制船用系列设备。
- 主要特点：
- 空间狭小，船舱空间极为有限，为把整套设备安装在船舱里，船用鱼粉设备须具有极强的紧凑性，这是与陆用设备不同点之一。
 - 稳固性区别，船用设备与陆用设备不同点之二在于船体是始终在不停的摇晃，要保证鱼粉、鱼油生产的顺利进行，船用鱼粉设备还须具有极强的稳固性。

- To meet the requirement of long range fishing and integrated processing of fishmeal & fishoil, our company has custom made fishmeal equipment for fishing ship.
- Main Features:
- Due to the limited space, we have to install the machine in a limited space on ship,which requires our equipment are of highly compactness,this is the first difference with land equipment.
 - Robustness, the ship on the sea is always shaking,which means our equipment must have strong robustness to make sure the normal production,this is the second difference with land equipment.

湿法鱼粉鱼油生产线工艺流程

Wet Fishmeal & Fishoil Production Line process Flow

湿法鱼粉鱼油生产系统对榨汁进行固杂、油水分离后,获得蛋白水。根据对分离机出来的蛋白水所采取的不同加工工艺,可以提供4种不同的鱼粉生产线配套方案。

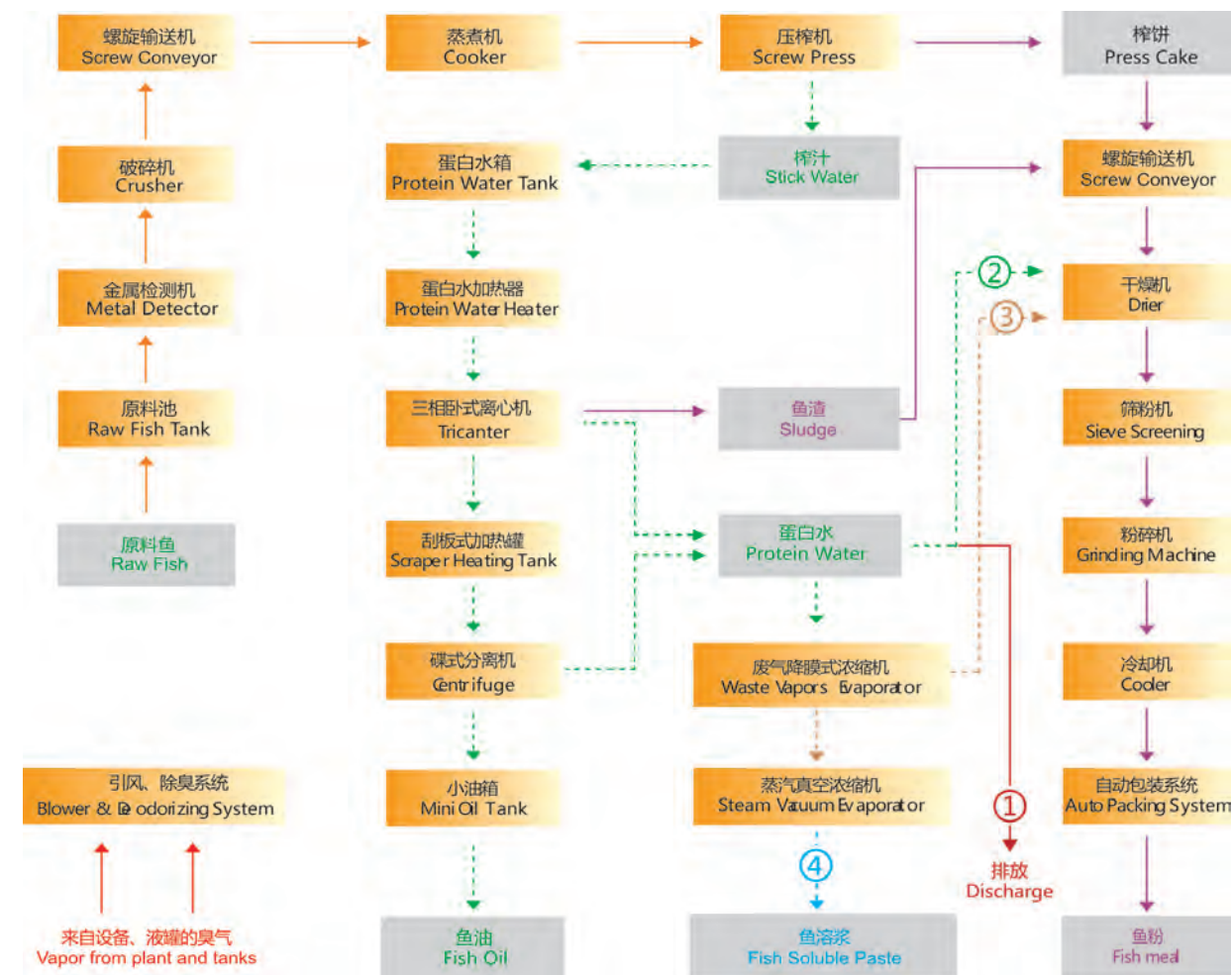
According to the different process for treating the protein water from Wet Fishmea I& Fishoil Production System, we could provide 4 plans for the fish meal plant layout for choice respectively.

方案1  蛋白水直接排放; 方案2  蛋白水直接回收到干燥机;

方案3  蛋白水经浓缩后回收到干燥机; 方案4  蛋白水浓缩生产鱼溶浆。

PLAN 1 —①—→	Discharge protein water directly;	PLAN 2 --②--→	Recycle all protein water back to Drier directly;
PLAN 3 ---③---→	Protein water back to Drier after Concentrated;	PLAN 4④....→	Concentrate protein water to make fish soluble paste.

PROCESSING BLOCK DIAGRAM OF WET FISH MEAL & OIL PLANT

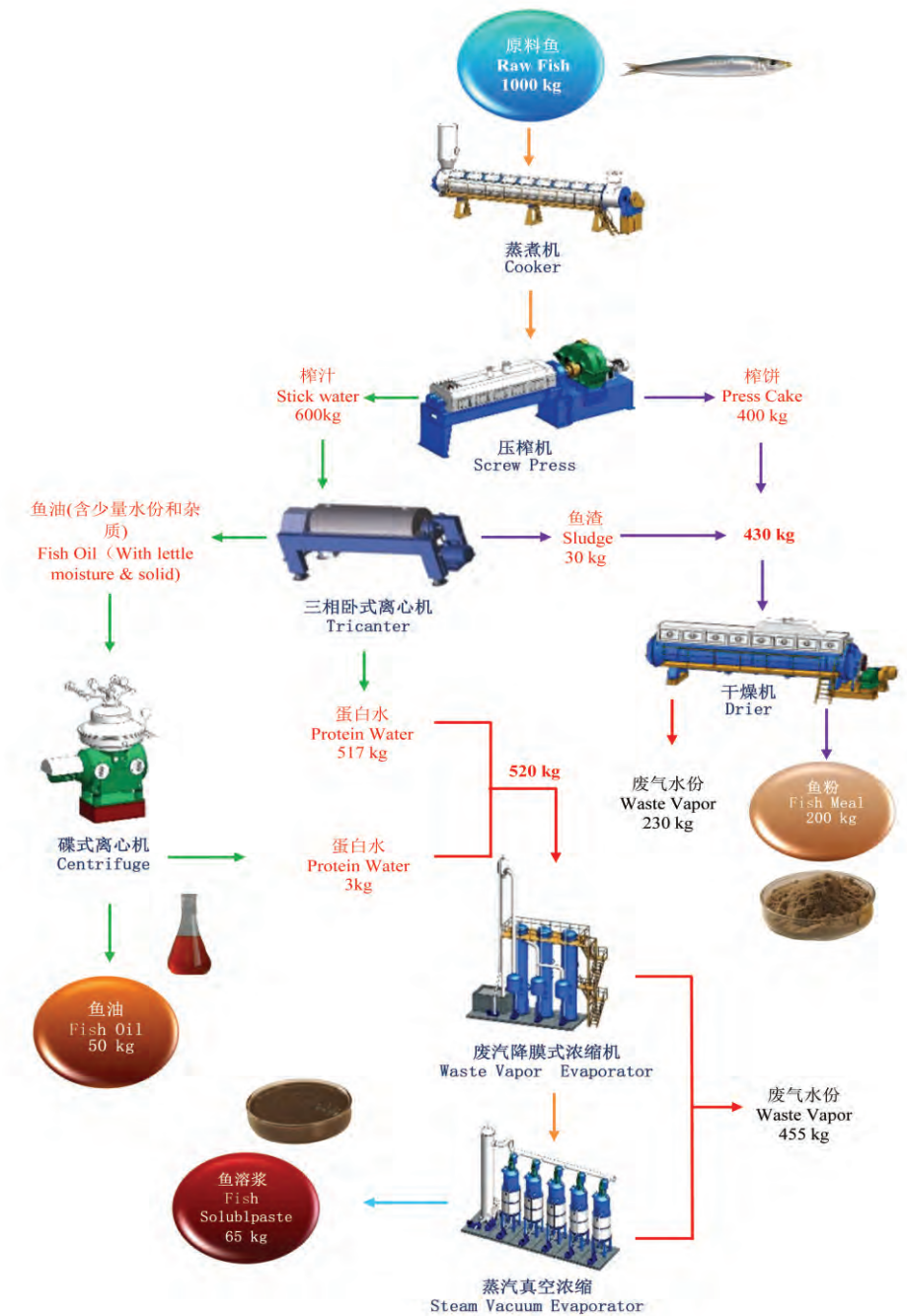


我们可以根据客户的投资规模, 工厂选址, 环保要求等条件, 为其选择最佳的工艺方案。现以第4种生产线配套方案为例作简要介绍, 同时结合相应的工艺流程图及物料平衡图, 供客户参考。物料平衡图中的数据, 尤其是鱼油的得率, 会因原料鱼种类及其捕获季节的不同而有所变化。

We could recommend all customers for the most suitable layout as per the investment, factory location, pollution requirement and so on. Herein take Plant 4 as an example to give a brief introduction for reference. Statistics of the balance, especially its fish oil yield rate would vary from raw fish species and fishing season.

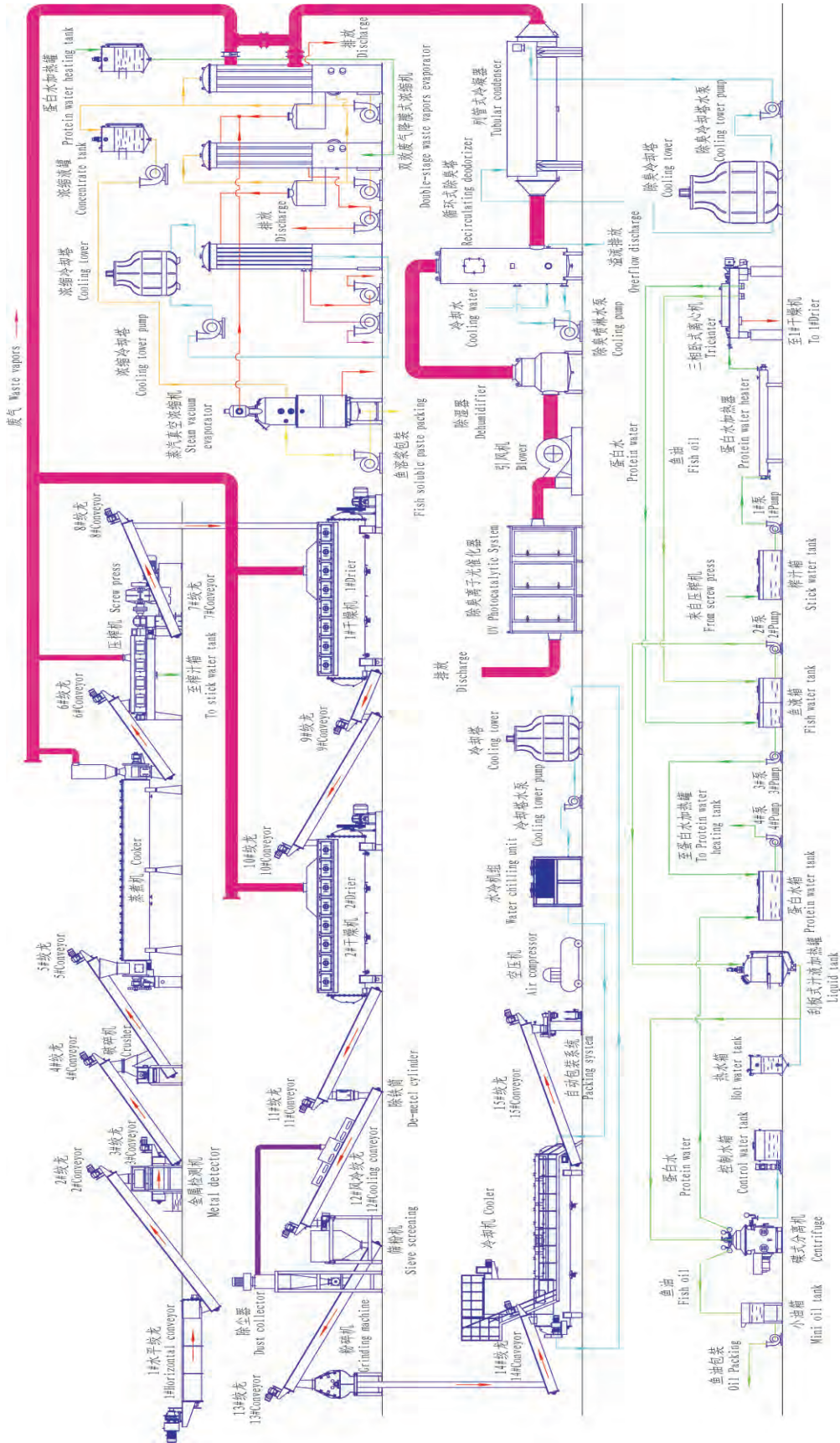
湿法全鱼粉鱼油生产线物料平衡图

MASS BALANCE OF WET FISH MEAL & OIL PLANT



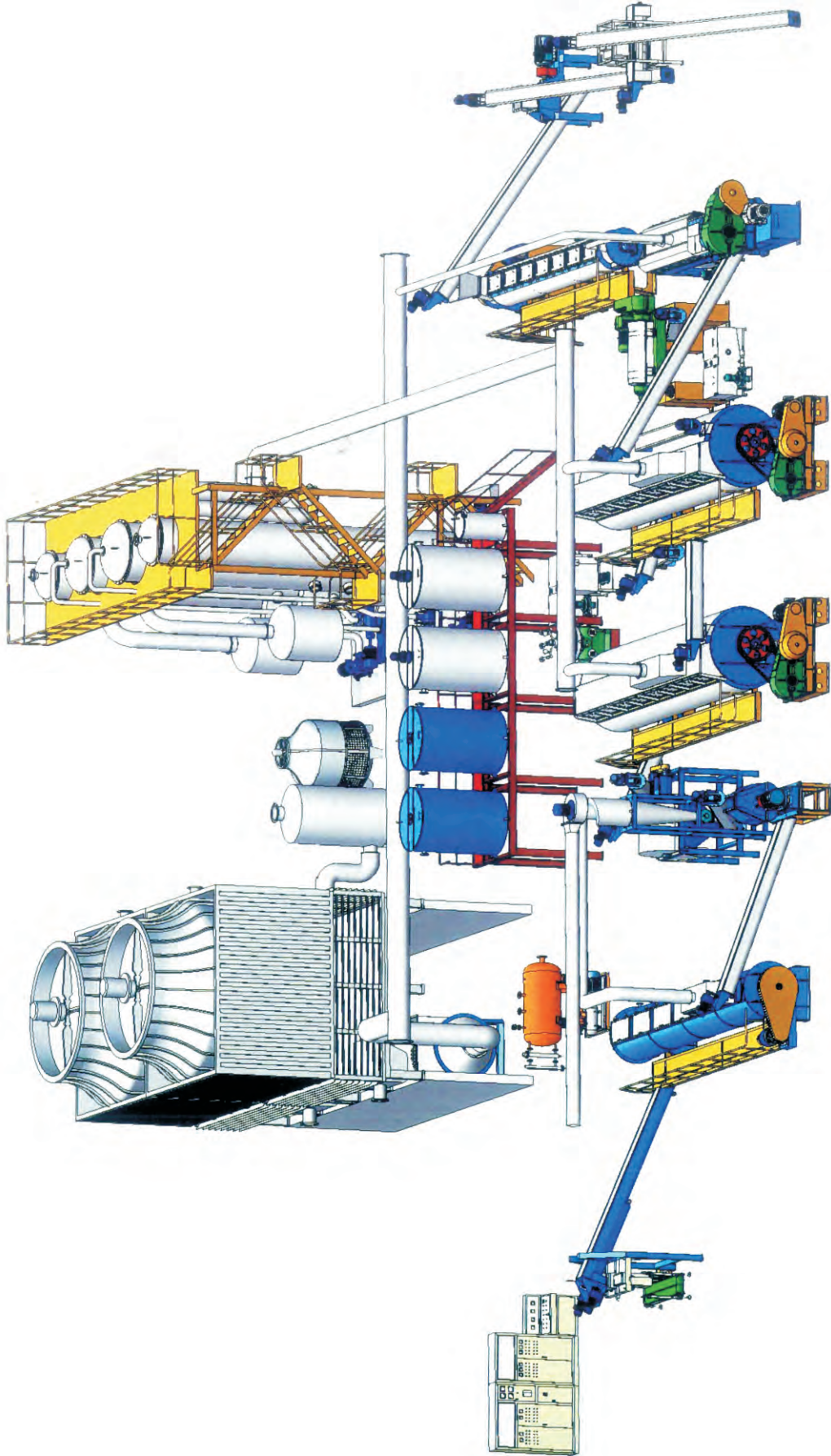
湿法全鱼粉鱼油生产线工艺流程图

PROCESSING FLOWCHART OF WET FISH MEAL & OIL PLANT



湿法全鱼粉鱼油生产线三维布置图

3D LAYOUT OF WET FISH MEAL & OIL PLANT



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