



**FAGGIOLATI®**



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## **FAGGIOLATI Decanter Centrifuge**



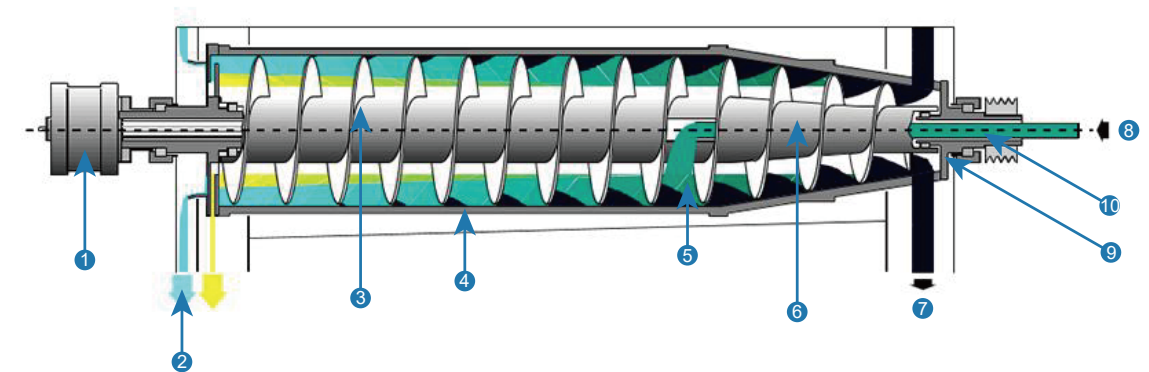
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FAGGIOLATI SDD series decanter centrifuges utilize centrifugal force to innovate and separate solids from liquids, playing a key role in countless industrial processes. Traditionally, many sewage treatment plants or other wastewater treatment businesses use clarifiers or settling tanks in which particles, sediments and solids are gradually deposited on the bottom due to gravity. But this settling is a very slow process with less controllable results.

In order to accelerate the process, the operation of decanter centrifuges utilizes the principle of centrifugal force, which can be up to 4,000 times more effective compared to the use of gravity, and the solid-liquid separation can also be controlled by adjusting the rotational speed.

FAGGIOLATI SDD series centrifuges consistently deliver superior performance while reducing total energy consumption by up to 40% and CO<sub>2</sub> emissions significantly, making a significant contribution to a sustainable environment. Our design focuses on cost-effectiveness, reliability, ease of operation and sustainability.



- |                   |                      |               |
|-------------------|----------------------|---------------|
| 1: gearboxes      | 5: inlet distributor | 9: outlet     |
| 2: fluids         | 6: tapered end       | 10: feed pipe |
| 3: screw conveyor | 7: solid             |               |
| 4: wall of a bowl | 8: feed opening      |               |

01

Fixed Structure

■ Feed

The material is added to the distribution chamber in the screw pusher through a fixed central feeding tube, then the material is smoothly accelerated in a circumferential direction and passes through the distribution holes in the distribution chamber of the screw pusher into the separation zone of the rotor.

■ Rotor

The drum is cylindrical and conical in shape, and operates at a speed set for the treatment of a particular material requirement. The material rotates with the rotor and forms a concentric liquid layer on the inner wall of the rotor. Under the action of centrifugal force, the solid particles contained in the slurry settle on the inner wall of the rotor. The length of the cylindrical drum and the cone angle of the cone are selected according to the user's requirements of the material to be processed.

■ Screw Conveyor

The screw conveyor rotates at a speed slightly different from the rotating speed of the drum and pushes the settled solids towards the conical end of the drum. The differential speed determines the residence time of the solids in the drum, which is an important parameter in determining the dry solids content. Optimum separation can be achieved by varying the differential speed of the screw conveyor. If the physical properties of the slurry change FAGGIOLATI can meet the process requirements by supplying a different screw conveyor or by modifying an existing screw design. The pitch of the screw and whether single or multiple screws are also important design parameters.

FAGGIOLATI's unrivaled innovations are based on proven reliability. The breakthrough of the new technology lies in the fact that the reduced diameter of the screw effectively increases the depth of the liquid pool inside the drum, where the material can be squeezed more vigorously, resulting in a drier sludge cake or the use of less polymer. This also ensures better performance and lower energy consumption, resulting in lower operating costs.

More and more wastewater treatment plants are discovering the benefits of a recycled, holistic approach to wastewater treatment. Cost savings, reduced environmental impacts and the creation of new revenue streams from recycled materials are just a few. Every wastewater treatment plant is unique and has its own set of challenges and opportunities. FAGGIOLATI can help you find the best solution for your particular project.

02

Typical application areas

■ Fruits And Vegetables / Food / Animal Raw Materials

alga	biogas	fish oil	lactose	carbohydrate	frozen surimi
animal fat	complex protein	fishwash	lignin	sorbets	Fruit and Vegetable Extraction
blood	cellulose derivative	Leather scraping	Meat	soy protein	vitamins
brewer's yeast	caffeine	juices	syrup	waste straw	Fruit and vegetable juice
biodiesel	Fermented products	gelatine	pectin	farina	vegetable oil
bioethanol	fleece	diatomaceous earth	potato	distiller's grain	Various wines

■ Chemicals/Pharmaceutical Products

aluminum hydroxide	calcium sulfate	epoxy resin	lead oxide	High-density polyvinyl chloride	salt	calcium phosphate
barium sulfate	pigments	fluorescent material	Phosphoric acid products	polypropylene	silicate	zinc carbonate
basic dye	cryolite	iron oxide	sodium pyrophosphate	polystyrene	common salt	zinc oxide
calcium fluoride CaF2	dimethyl terephthalate	emulsion	Plastic-derived add-ons	polyvinyl chloride (PVC)	titanium dioxide	zinc sulfate

■ Minerals

bauxite	soapstone	talc	carbonized sludge	clays	Copper extraction	plaster cast	plumbago
micas	loam	kaolin	magnesium hydroxide	silicate	carborundum	ferric hydroxide	

■ Environmental Protection/Recycling

drilling mud	industrial waste water	Municipal sewage	fertilizer
paint sludge	Plastic pelletizing	gravel wash water	Steelmaking wastewater

■ Mineral Oil

coal tar	oil sludge	Floor oil treatment
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# 03 Application

## Efficient separation of solids and liquids

Used in municipal and industrial wastewater treatment plants, it is designed to set higher standards for process performance and environmental impact in dewatering applications for sludge thickening.

- Reduction of sludge volume, thus reducing transportation and disposal costs
- Higher performance, lower energy consumption
- 10% increase in processing capacity
- Reduced life cycle costs
- More efficient biosolids processing
- Smarter process monitoring
- Design service life > 25 years



# 04 Advantages And Characteristics

## Faster separation in a single continuous process

Faggiolati decanter centrifuges are always in a continuous high speed process, separating solids from one or two liquid phases through a continuous process.

## Multiple protection devices for more reliable operation

FAGGIOLATI SDD series centrifuges are equipped with differential overload protection or torque limiting coupler and other protection devices. According to the need can also be equipped with vibration protection, temperature monitoring and protection, feed regulation and other safety protection devices, through automatic alarms, forced shutdown, etc. to protect the machine.

## Low vibration, low noise, high load capacity

The main bearings of SDD series decanter centrifuge are all imported brands, with high precision bearings and strong bearing capacity; the parts are manufactured with high precision, and the whole machine's double-rotor precision dynamic balancing guarantees the balance and reliability under high-speed operation. Centrifuge vibration is small, low noise, all the performance is better than the requirements of national standards. The rotating parts of the Faggiolati decanter centrifuge, which is subject to high stress, are machined from high-strength centrifugal cast stainless steel. This ensures that the castings have a uniform grain structure, free of defects and gaps, the product has greater strength, unparalleled reliability and long service life, the whole machine is designed to last > 25 years.

## Reliable performance of the differential system

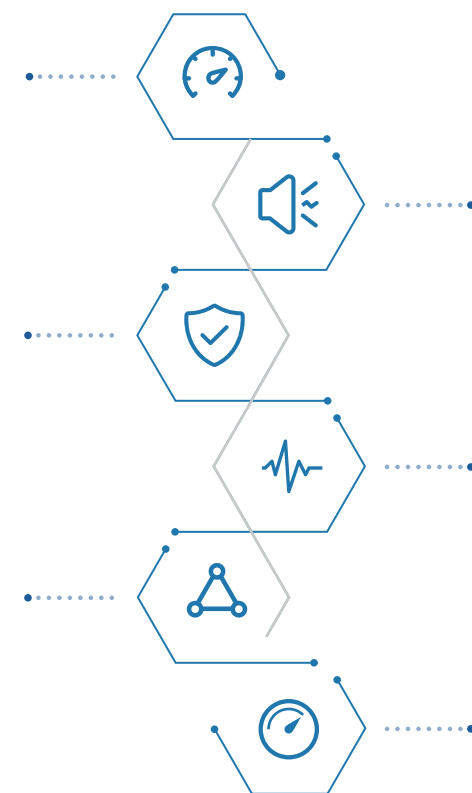
FAGGIOLATI SDD series centrifuges are equipped with planetary gear or cycloid differentials, and optional full hydraulic differential system according to the needs, with high manufacturing precision, good performance and reliable operation. Through frequency conversion and PLC control, it can meet the requirements of different materials and different working conditions for the control of differential speed between spiral and drum.

## Excellent performance, with a variety of drive, speed control methods

According to different requirements, the corresponding drive, differential speed and speed regulation can be selected to facilitate the adjustment of drum speed and differential speed to achieve better separation effect.

## Good corrosion and abrasion resistance

FAGGIOLATI uses high grade stainless steel for all parts in contact with the process to avoid any risk of corrosion due to the use of carbon steel. The decanter centrifuge screw blades are formed in a single pass using hot press molding, and the screw discharge ports are designed to be replaceable with carbide or coated with tungsten carbide. All wear-prone areas (feed zone, solids discharge output zone, drum and scroll disk) are protected by wear-resistant materials selected to match the wear pattern of each specific industrial process.





05

Technical  
Parameter

Model	Drum Diameter	Nlet Liquid Capacity	Power	Weight	Dimension
SDD-250	250	1-4	11/4	1200	2650×720×900
SDD-250E	250	1-4	11/4	1200	2650×720×900
SDD-250S	250	1-5	11/4	1300	2750×720×900
SDD-350	350	5-15	22/5.5	2000	3585×980×1238
SDD-350E	350	5-15	22/5.5	2000	3585×980×1238
SDD-350S	350	5-18	22/5.5	2200	3412×1090×950
SDD-350P	350	2-10	22/5.5	2000	3676×980×1238
SDD-450	450	5-20	30/11	3000	4380×1080×1360
SDD-450E	450	5-20	30/11	3000	4380×1080×1360
SDD-450S	450	5-28	30/11	3200	4380×1080×1360
SDD-450P	450	5-15	37/11	3200	4195×1080×1360
SDD-520	520	10-26	37/11	5000	4840×1160×1465
SDD-520E	520	10-26	45/15	5000	4840×1160×1465
SDD-520S	520	10-35	45/11	5000	4840×1160×1465
SDD-520P	520	10-20	55/15	5500	4340×1362×996
SDD-550W	550	10-45	55/11	6500	5038×1388×1578
SDD-650C	650	10-40	90/22	8500	5240×1780×1850
SDD-650W	650	20-60	90/15	8500	5100×1800×1560
SDD-720C	720	25-50	110/22	12000	5200×1900×1620
SDD-720W	720	35-85	110/22	12000	5200×1900×1620

In order to achieve better separation results, decanter centrifuges should be specially designed for specific separation requirements. Based on this concept of customization, FAGGIOLATI has customized products for each industry that are tailored to the customer's requirements.

06

Dosing  
System

■ Technical characteristics

- Fully automated PLC control, remote control management, saving labor costs
- Pharmaceutical dosage is precisely adjustable, treatment effect is guaranteed.
- All stainless steel (SUS304 or SUS316) box, strong corrosion resistance.
- No need for foundation and fixation, easy and reliable installation.
- Multi-functional machine, suitable for adding a variety of pharmaceuticals
- The system has high dissolution and maturation efficiency, which saves the cost of powder.
- All information is contact type output
- All the information is contact type output with idling and overflow protection during operation
- Strong technical support, can design the process according to the user's requirements



The device consists of three parts: powder supply, water supply and mixing. When the motor controlled by frequency converter is running, the spiral conveyor sends out the powder in the barrel evenly; the solenoid valve and flow meter form the water supply circuit, the dry powder and water are mixed in the cyclone and enter into the storage tank, and the solution is pumped to the centrifuge after being fully stirred in the three interconnected storage tanks.

■ Ordering guide

Please contact Faggiolati.

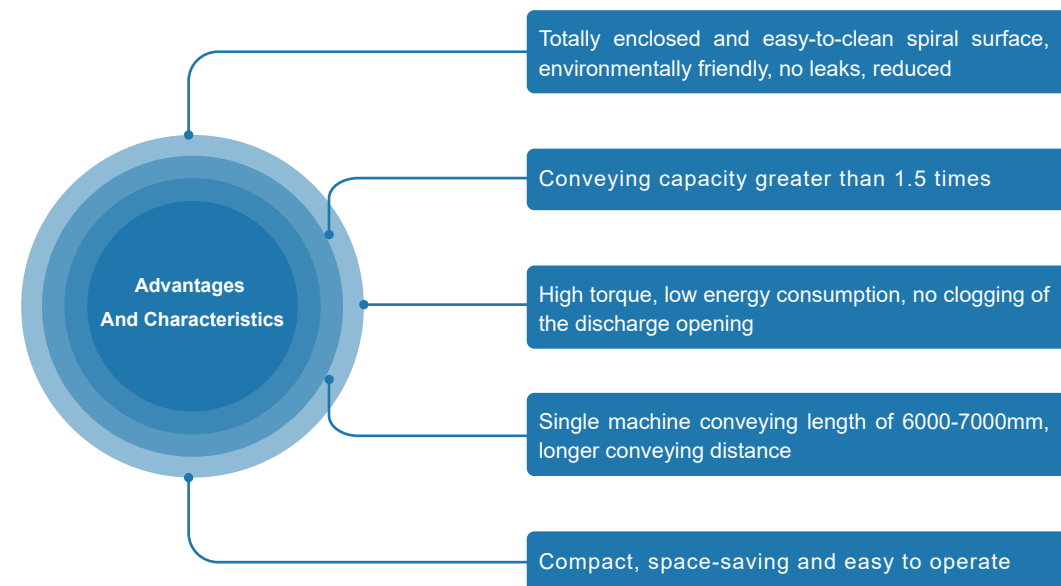
# 07

## Sludge Transportation System

### ■ Application

- Filtered and dewatered sludge from sewage treatment plants
- Domestic and industrial waste
- Paper and fiber industry strips, tapes, etc.
- Plant solid fuels and wastes

### Shaftless Screw Conveyor



### ■ Ordering guide

FAGGIOLATI can be customized according to user-specific dimensions and requirements, including operating characteristics, conveying media, mounting angles and conveying lengths, etc. Please contact FAGGIOLATI for details.

# 08

## Control System

### ■ Functions and features

#### Real-time monitoring

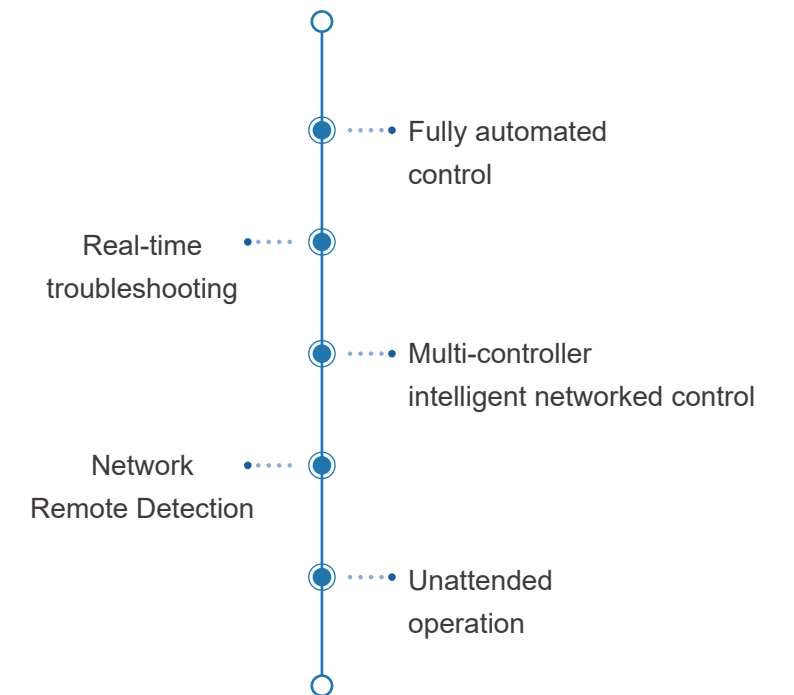
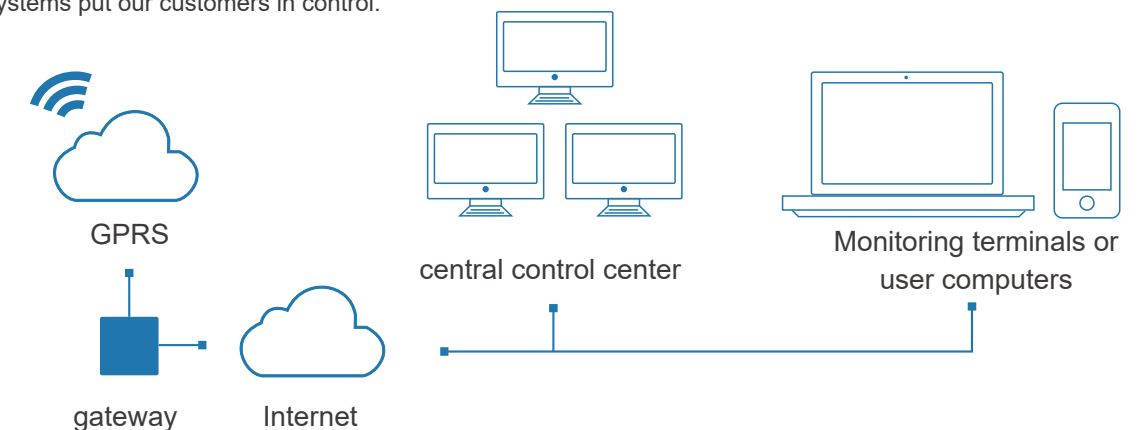
FAGGIOLATI control system is equipped with data acquisition module, which can carry out online monitoring of water quality and water quantity, and real-time or historical data can be accessed at any time. Through the central control, the operation of each system can be displayed, providing users with timely and accurate data.

#### Local and remote control

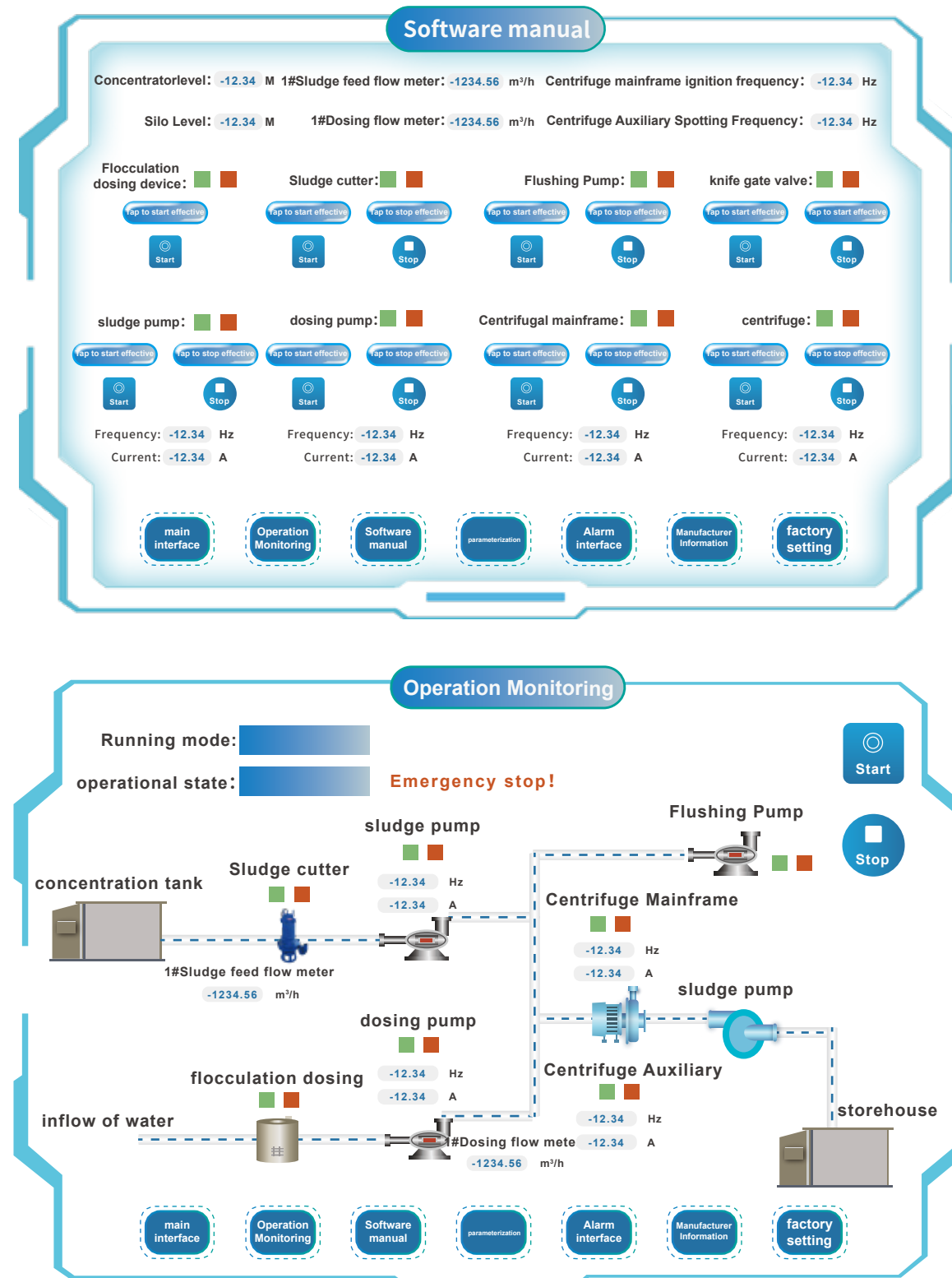
FAGGIOLATI SDD series decanter centrifuges can be controlled both locally and remotely. Key parameters are set based on customer requirements, and the equipment is automatically turned on and off. Users can remotely control and send commands from cell phones and PCs, truly realizing unattended operation and providing more convenience for the operation and management of the equipment.

#### fault prediction

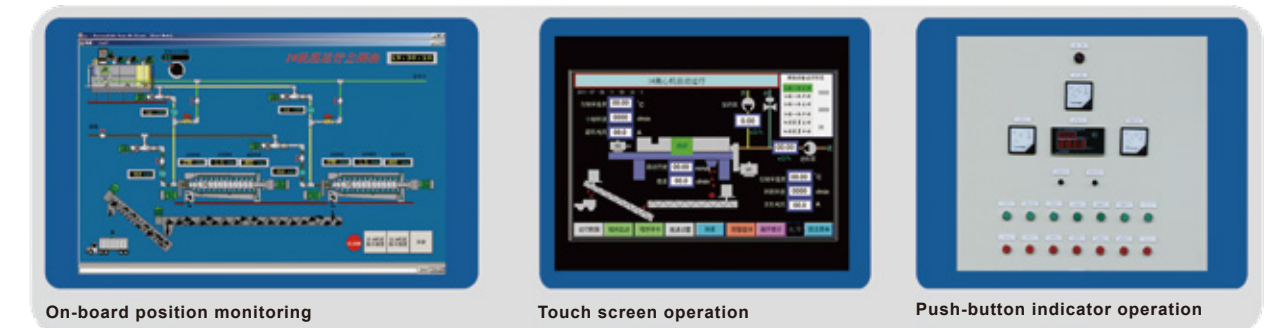
FAGGIOLATI's intelligent control system is designed to collect and analyze the alarm management and telemetry systems of the equipment, enabling automatic fault prediction and pinpointing, and real-time notification to authorized management and daily maintenance personnel for a quick response. Our systems put our customers in control.



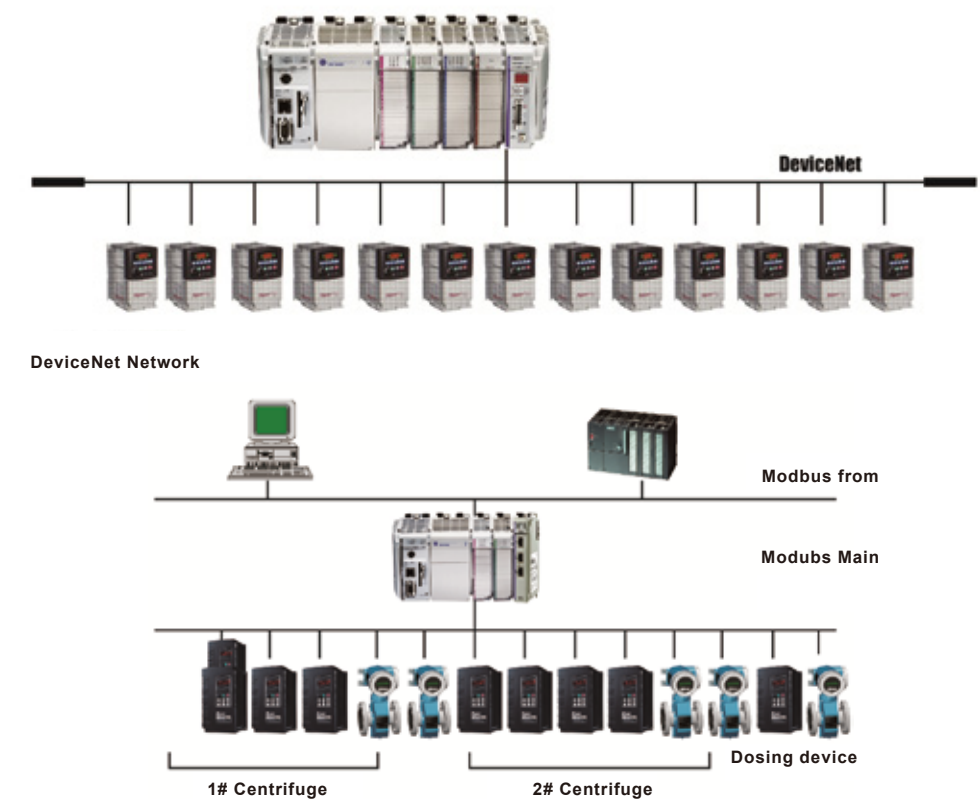
## Control Panel



## Multiple operation interfaces for users to choose



- Higher reliability: the number of modules and cables are reduced exponentially, redundant control
- High real-time: high-speed data communication to meet the various control requirements of centrifuges
- Monitoring objects: real-time monitoring of frequency, current, torque accumulated running time, inverter status and other dozens of data
- Convenient maintenance: ADR function, redundant wiring
- Bus selection: Modbus, Devicenet, Profibus or according to user requirements.
- Remote monitoring of the Internet of things can be realized



# A range of services to extend the life of your equipment

We offer a range of services to extend the life of your equipment, from simple plant maintenance services to full program operations and maintenance. All of our services are characterized by high quality procedures, high health and hygiene standards, and a high degree of flexibility to meet the needs of your business.

FAGGIOLATI always maintains a collaborative relationship with the client's staff so that all work can be done efficiently and with minimal disruption to the site. Our work includes:

- On-site maintenance and repair
- On-site equipment testing
- Energy Management Services

A reliable service partner

Our goal is to be a business partner that provides specific solutions to improve the operating conditions of our users. The key to our success is our loyalty to consistently serve our customers.

Reliability

The reliability of your equipment lies in the longevity of replacement parts and repaired damaged and worn parts, and you can rely on our expert advice and our commitment to ensuring that every job is done the right way every time. The dedication of our service team is well known in the industry, and customers can rely on us to solve those unexpected and difficult problems.

Rapid Response

When the customer has a special need, willingness or emergency, we will make a solution in a short time and quickly put it into practice. We are available 24 hours a day, 7 days a week, for urgent calls from our customers. We are not only experts in meeting the needs of our customers' equipment, but also customize service and maintenance plans to meet the needs of our customers throughout the life cycle of their equipment.

Factory Spare Parts

FAGGIOLATI keeps critical spare parts on hand and immediately available when maintenance personnel need them - a key element of an effective maintenance strategy. FAGGIOLATI has a well-stocked centralized inventory of spare parts and an efficient logistic system that ensures fast delivery of commonly used spare parts. Our software systems, with the technical assistance of our product specialists, can help you with equipment identification and parts selection. We have an extensive network of jobs strategically located close to our customers for quick response. Our factory has a team of senior engineers and is fully equipped to repair and rebuild all types of pumps and water treatment equipment. Senior engineers have direct access to technical support from the Faggiolati manufacturing center. Factory repairs utilize original spare parts to increase the value of the equipment - improving reliability and reducing energy consumption. In most markets, we offer:

- ✓ Maintenance of FAGGIOLATI equipment
- ✓ Maintenance of non-FAGGIOLATI equipment
- ✓ Installation and disassembly
- ✓ Commissioning and testing after repair



Replacement and Upgrade

Due to the gradual aging of equipment, operating costs gradually rise and naturally pale in comparison to brand new products. Our technical support staff can help customers identify and prioritize which parts to replace or upgrade and when. We will help select the most appropriate replacement product, provide selection assistance and technical support, and also take full responsibility for installation and commissioning as may be required.

Installation and Commissioning

Installation and commissioning of equipment can sometimes be a complex task. Incorrect or poor quality installations may not be easily detected, but are often the root cause of high operating costs, low reliability and shortened equipment life. FAGGIOLATI's equipment installation services are carried out by specially trained engineers who know how to work safely and who have all the experience required for installation and commissioning. Our service engineers can also demonstrate to your service team how to operate the equipment and recommend more cost effective maintenance programs. These services include:

- ✓ Installation of machinery and equipment
- ✓ Installation of electrical equipment
- ✓ On-site commissioning and testing
- ✓ Remote monitoring and maintenance

Regular Maintenance

Regular maintenance of equipment reduces the probability of major breakdowns and emergency downtime. This translates into lower costs and greater predictability to reduce complaints and increase customer satisfaction. FAGGIOLATI scheduled maintenance services include comprehensive technical support activities, including routine site visits to monitor equipment conditions and scheduled equipment overhauls to restore efficient operations. These efforts will enable:

- ✓ Reduced downtime, saving customers' costs and time consumption
- ✓ Efficient, energy-saving operation of equipment
- ✓ Low wear and tear on equipment
- ✓ Parameters, early warning reasonable settings
- ✓ More security

# FAGGIOLATI®

*Always Be Better*