PHEDCO

PHEDCO

Advanced Industrial/Lab Centrifuges
Design & Manufacturing

About PHEDCO

PHEDCO, established in 2014, designs, engineers, and manufactures industrial/lab centrifuges for petroleum and gas industries, as well as biotech and medical companies. Our diverse development processes and expert team give you the opportunity to develop and deliver innovative centrifuges custom made for your specific industry. Upon your request PHEDCO's consultants will also provide you with valuable insight toward a unique solution to keep your project within budget, time and highest quality standards.

PHEDCO main activities

- Design and manufacturing industrial centrifuges for Oil, Gas and Petrochemical Industries
- Design and manufacturing Industrial/Lab Centrifuges
- for health and medication Industries
- Carrying out research and development projects and innovation initiatives
- Supplying spare parts and consuming materials

PHEDCO main Departments and Units

- Research and Development Department
- Design and Engineering Department
- Production Section
- Assembly and commissioning Group
- Electrical and I&C Lab
- Quality Control Lab

Certificates

- ISO 9001:2015 Quality management systems
- BS EN 12547 Centrifuges - Common safety requirements
- ISO 13485 Medical devices - Quality management systems

Certificates

PHEDCO

License


جمهوری اسلامی ایران
وزارت صنعت، معدن و تجارت
پـــــروانه پژوهش
شرکت: اندیشه سازان سلامت پارسیان
بموجب این پـــروانه براساس آئین نـــامه مصوب با
تاسیـــس مرکـز پژوهشهـــای صنعتی ومعـــدنی
به مسئولیت: آقای سیدامیر مویدعلائی
در زمینـــه: مکانیزمها وتجهیزات دوارآزمایشگاهی وتولیدی
موافقت می شـــود.


جمهوری اسلامی ایران
وزارت صنعت، معدن و تجارت
پروانه فنی مهندسی
با توجه به تخصص ، سوابق تجربی و پروژه های انجام شده
بموجب این پروانه
شرکت: اندیشه سازان سلامت پارسیان
واقع در استان: تهران شهرستان: تهـــران
در زمینه تخصصی: صنایع ماشین سازی و تجهیزات
مجاز به ارائه فعالیت های مهندسی در بخش صنعت ومعدن می باشد.
محمدرضا مس فروش
رئیس سازمان صنعت، معدن و تجارت استان تهران


جمهوری اسلامی ایران
وزارت صنعت، معدن و تجارت
جواز تاسیس

Patent


گواهی نامه ثبت اختراع


گواهی نامه ثبت اختراع


گواهی نامه ثبت اختراع

Certificates


IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
CISQ/IMQ has issued an IQNet recognized certificate that the organization:
ANDISHEH SAZAN SALAMAT PARSIAN
NO 32, SANAT ST., BABAYIAN BLVD., HAKIMIYE - THE END OF ZAINUDDIN HIGHWAY, TEHRAN IRAN
has implemented and maintains a
Quality Management System
for the following scope:
Production of medical and laboratory centrifuges
which fulfills the requirements of the following standard:
ISO 13485:2016
Issued on: 2021 - 12 - 15
Expires on: 2024 - 12 - 14
This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document
Registration Number: IT - 135005
Alex Stoichitoiu
President of IQNET
Ing. Mario Romersi
President of CISQ


IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
CISQ/IMQ has issued an IQNet recognized certificate that the organization:
ANDISHEH SAZAN SALAMAT PARSIAN
NO 32, SANAT ST., BABAYIAN BLVD., HAKIMIYE - THE END OF ZAINUDDIN HIGHWAY, TEHRAN IRAN
has implemented and maintains a
Quality Management System
for the following scope:
Production of medical and laboratory centrifuges
which fulfills the requirements of the following standard:
ISO 9001:2015
Issued on: 2021 - 12 - 15
Expires on: 2024 - 12 - 14
This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document
Registration Number: IT - 135004
Alex Stoichitoiu
President of IQNET
Ing. Mario Romersi
President of CISQ

Products

Decanter Centrifuge

Water/Oil Purifier Skid

Disc Stack Centrifuge

Tubular Centrifuge

PHEDCO

Benchtop Centrifuge

Ultra Centrifuge

Continuous Zonal Centrifuge

Floor Standing Refrigerated Centrifuge

Rock Core Centrifuge

Tubular Centrifuge

Tubular Centrifuges have many applications in the field of separation of solid/liquid, liquid/liquid in petroleum, pharmaceutical and food industries. These centrifuges come in variety of rotation speeds and different sizes that are applicable to all purposes from research to mass production. Also, tubular centrifuges are capable of 8 to 500 Liters/Hour inlet flow.

Advantages of Using Centrifuges vs. Filtration Systems

- Costly wearable membranes are not used in centrifuges making them more economic choices with less expensive maintenance cost.
- Given equal area and volume, centrifuge systems perform faster.
- Filtration systems produce residues that remain in hard to access filtering layers while there is no waist residue in centrifuges.
- Efficiency of filtration system decreases over time while centrifuge' efficiency remains constant.

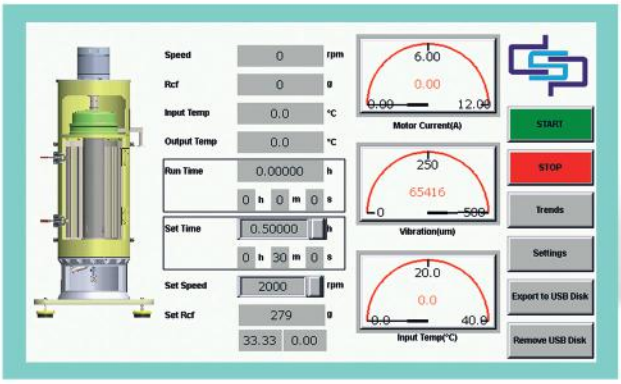
PHEDCO

Technical Specification

Rotor inner diameter	125-140 mm
Effective length	750 mm
Rotor Inner volume	8-10 liter
Max. rotor speed	16,000 rpm Maximum
Separation force	18,000 × g Maximum
Injection nuzzle diameter adjustable range	0.5 mm to 8.5 mm
Injection pressure	0.5 to 1.5 bar
Flow	determined by injected fluid type
Motor type	Direct coupled permanent magnet DC motor
Machine dimension	75 cm × 75 cm × 160 cm
Machine weight	480 kg
Motor specifications	4 KW/10 A/ three phase (convertible to 32 A/single phase by transformer)

Control and Monitoring System Specifications

- Capable to record test specifications; operator name, substance type, etc.
- Automatically save temperature and rotor speed during the test, input current On/Off capability
- Machine controls, speed and running time, via monitoring system
- Vibration protection (warning & trip)
- Display all machine operating conditions
- Create reports after each run
- Touch screen interface



PHEDCO

Tubular Centrifuge

Designed per cGMP health standards

- Contact surfaces are electropolished to less than 0.4 micron roughness.
- Contact surfaces are made of AISI 316L stainless steel
- All O-rings and gaskets are made of vayton or EPDM that could be sterilized with saturated steam of 120°C, 1 Atmosphere, against environmental bacteria to BL-1-LS level.

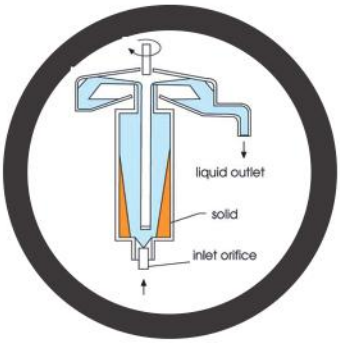
Applications

- collecting biomass
- processing animal blood
- clarifying and purification
- separation in biotechnology fields
- separation process of beans, fibers and crystals
- Clarification of paint, beverage, vegetable oil, butter, cocoa, etc.

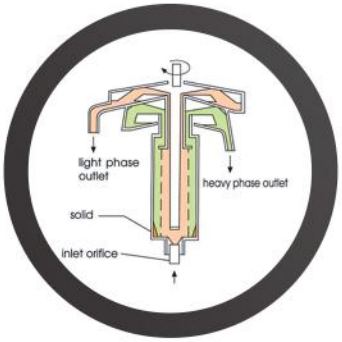
Properties

- Rotation speed of up to 16,000 rpm to produce separation force up to 18,000 RCF
- Direct coupling motor instead of belt, resulting in decreased particle releasing, noise and increased stability
- Capable of processing high density solid particles up to relative density of 1.4 g/cm^3
- Monitoring and control system
- Eliminating small particle releasing off belt by using direct coupling technology.
- Custom order rotors
- safe and fast commissioning, operation and maintenance
- Compatible with different type of rotor and rotational speed
- long lasting bearings
- powerful three-phase motor

Applications (by rotor types)



Separation of
Solid from Liquid



Separation of
Liquid from Liquid

PHEDCO

Disc Stack Centrifuge

A disc stack centrifuge separates solids and one or two liquid phases from each other in one single continuous process, using extremely high centrifugal forces. When the denser solids are subjected to such forces, they are forced outwards against the rotating bowl wall, while the less dense liquid phases form concentric inner layers. Inserting special plates (the “disc stack”) provides additional surface settling area, which contributes to speeding up the separation process dramatically. It is the particular configuration, shape and design of these plates that make it possible for a disc stack separator to undertake the continuous solids phase formed by the particles can be removed continuously, intermittently or manually, depending on separator type and the amount of solids involved in the specific application.

TYPICAL APPLICATIONS

CHEMISTRY / BIOTECHNOLOGY

- Process waste water
- Production of vitamins
- Pigments
- Solvents
- Algae (food, cosmetics)
- Fermentation broths (industrial biotechnology)

BEVERAGE INDUSTRY

- Fruit and vegetable juices
- Pectin
- Citrus fruits and tropical fruits
- Essential oils
- Coffee and tea

INDUSTRIAL / MINERAL OILS

- Processing slop oil and oil residues
- Reservoir water

Technical Specifications

- Basic design according to purchaser's demands
- Direct integrated drive
- Automatic CIP
- Cooling jacket capable
- Capability of pressurized discharge of separated liquid via built-in impeller
- Discharge method: manual/ intermittent with adjustable time/ continuous with nozzles
- Noise level (d BA): ≤80 (at maximum speed)
- Power supply: 3 phase
- Equipped with electronic protection Fuse
- All product-wetted internal bowl parts are in high-grade stainless steel
- Complete drainability
- Equipped with vibration sensor and a speed sensor supplying signals to the control equipment
- Capable for valve test (VT) and pressure hold test (PHT)
- Electrical sensors for control and adjustment of rotor speed, temperature and run time
- Mass flow meter (for liquid flow controlling), Pressure gauge and online temperature sensors on inlet and outlet to supervise the temperature

Models based on performance

Pharmaceutical Industries	Model	IDPC-225	IDPC-215	IDPC-210	IDPC-208	IDPC-205	IDPC-202
	Bowl Speed (RPM)	6250	6500	7700	8000	8650	9500
	Motor Power (kW)	18.5	17	15	11	7.5	2.2
	Max. Capacity (m^3/h)	25	15	10	8	5	2
Chemical Industries	Model	SROP-250	SROP-210	SROP-205	SROP-203	SROP-202	SROP-201
	Bowl Speed (RPM)	4950	7800	9510	8100	8570	9500
	Motor Power (kW)	37	5.5	4	3.5	3.4	2.2
	Max. Capacity (m^3/h)	50	10	5	3	2	1
Food Industries	Model	IDFP-250	IDFP-230	IDFP-220	IDFP-210	IDFP-205	IDFP-202
	Bowl Speed (RPM)	4950	6250	6500	8000	8650	9500
	Motor Power (kW)	37	18.5	17	11	7.5	2.2
	Max. Capacity (m^3/h)	50	30	20	10	5	2
Multipurpose Industries	Model	CDVP-225	CDVP-220	CDVP-215	CDVP-210	CDVP-205	CDVP-202
	Bowl Speed (RPM)	6000	6500	7000	7800	9550	10500
	Motor Power (kW)	17	15	11	7.5	4	3.4
	Max. Capacity (m^3/h)	25	20	15	10	5	2

PHEDCO

Water/Oil Purifier Skid

Removing solid and liquid pollutants from oil and hydrocarbon products is one of the basic requirements of production lines. The existence of pollution in lubricants reduces the life and increases the cost of equipment repairs. Also, in the production lines of hydrocarbon products, the removal of solid and liquid impurities is one of the basic requirements. The use of disk stack centrifuge technology provides the possibility of continuous and online purification. Compared to older methods such as filtration, the centrifuge method has significant technical and financial advantages.

Features and benefits:

- Continuous and permanent performance
- Simultaneous removal of solid and liquid contaminants (such as water) from the final product (oil and hydrocarbon products)
- Quick and easy setup
- Possibility of setting up and using independently from other factory's lines.
- Low operating and executive costs
- Low running costs
- Cheap and accessible maintenance
- Long life and high reliability, compared to other methods
- Suitable for operation with ATEX considerations
- Simple and integrated design on the skid
- Suitable for production lines with limited space
- Possibility of fixed or portable use

Mechanism of action

By using a feeding pump, the input product enters the separator device (disk stack) with a set flow rate and pressure. Depending on the properties of the product, the separator device is of the clarifier or purifier type and one of the nozzle types, with the possibility of automatic solid discharge or closed chamber. According to the application and in order to achieve the best separation quality, an electric heater heats the product to the desired temperature before entering the separator. The product circulation mechanism in the heater and separator is automatic with two or three-way automatic valves. The start-up mechanism, the use of equipment components and the control of process parameters are controlled by an integrated control system.

Components of the equipment

- Disc stack separator for separating solids and water (with electric motor)
- Inlet liquid electric heating system (if needed)
- feed pump
- Set of gauges and sensors (vibrations, pressure, vibrations)
- Two or three-way automatic valves
- Skid piping lines
- Control and commissioning system
- Skid body (fixed or removable)

PHEDCO

Decanter Centrifuge

Decanter Centrifuges are frequently used in pharmaceutical, food, and petroleum industries. This equipment is capable of separating solids from liquids or two-phase separation of liquids from 1 ton per hour to 140 tons per hour.

The rotor speed is up to 4800 RPM with capability of continues separation.

Applications

- Processing of liquid oils
- Water treatment systems
- Drilling mud treatment in oil & gas industries
- Recovery of reservoir's residual oil
- Industrial wastewater treatment
- Clarification
- Dewatering
- Water and oil separation

General Technical Specification

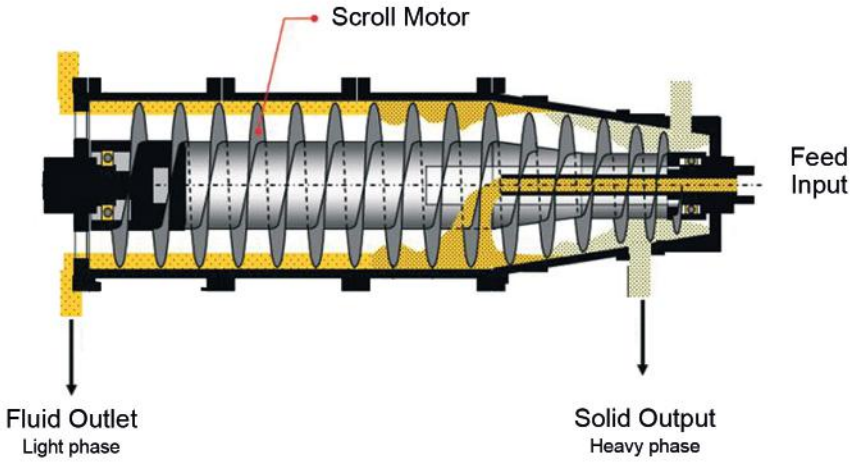
Flow rate	1 to 140 m^3/h
Rotor inner diameter	22 to 86 cm
Rotor total Length	Length per Diameter 3.5 to 5
Main Rotor rotational speed	up to 4800 rpm
Separation gravitational force	3000 to 4200 g
Maximum depth of the pond	6 to 14 cm
Scroll design	Pseudo-axial to create a perfectly layered (axial stream)
Differential speed between rotor and scroll Main	Adjustable
motor power	22 to 160 kw
Motor for Scroll drive	4 to 55 kw
Material of construction	All parts in contact with product are made of high grade stainless steel such as 1.4463 (Duplex) and 1.4571 (AISI 316Ti)

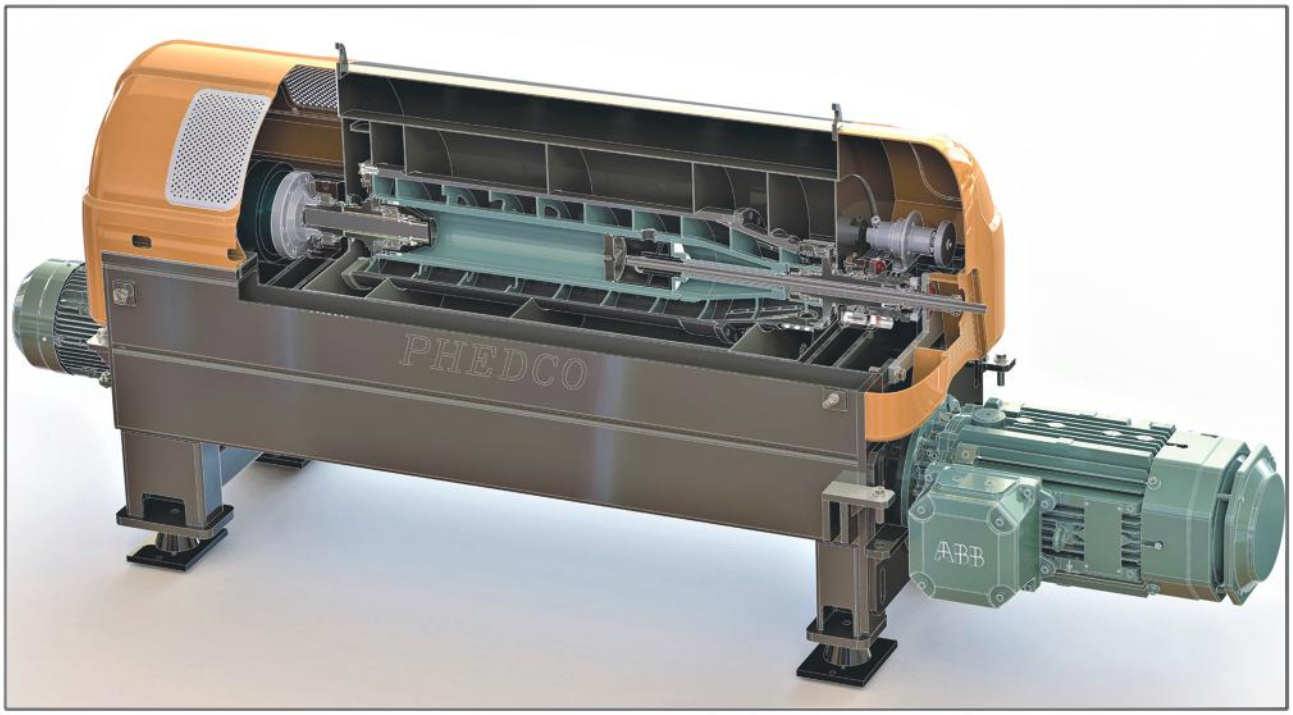
Specification of Materials

- Based on application, Sintered Tungsten Carbide plates on scroll edges could be offered.
- Feed nozzles are corrosion protected.
- Rotary parts material is 316 -Stainless-Steel.
- Body material is 304 -Stainless-Steel.

Driver System

PHEDCO Decanter Centrifuges are equipped with two separate motors (main chamber and scroll motors). By providing a variable speed frequency for each motor, differential speed of main chamber and scroll is manually adjustable. This differential speed, determines the amount of moisture in the discharged solids and the transparency level of clarified liquid.





PHEDCO

Control and Monitoring System Specification

- Receiving Input material information/condition and recording the operator identification
- Controlling the rotational speed of Main cylinder and relative speed of main cylinder to inner scroll
- Machine condition monitoring, such as system vibration and bearing temperature Input
- flow modulating and On/Off control
- Automatic washing control
- Logging/reporting capability

Model	DCEN-W238	DCEN-W350	DCEN-W450	DCEN-W530	DCEN-W650	DCEN-W820
Bowl diameter (mm)	238	350	450	530	650	820
Bowl speed (RPM)	4400	3500	3000	2800	2800	2500
G-force (RCF)	2600	2400	2270	2350	2850	2900
Dimensions (L x W x H)(cm)	270x84x75	385x130x95	480x160x130	550x170x165	580x175x170	640x200x150
Gross weight (kg)	900	1210	3000	6200	9230	15000
Motor (bowl drive) (kW)	7.4	22	37	55	75	160
Motor (scroll drive) (kW)	4	7.5	15	11	22	55
Max. Capacity* (m^3/h)	0.4 - 1.5	4 - 9	10 - 25	20 - 50	25 - 100	50 - 150
Materials of construction	All product wetted parts are made of high grade austenitic stainless steel (AISI 316 and superior) and Duplex					

* actual capacity depends on type and composition of raw material

PHEDCO

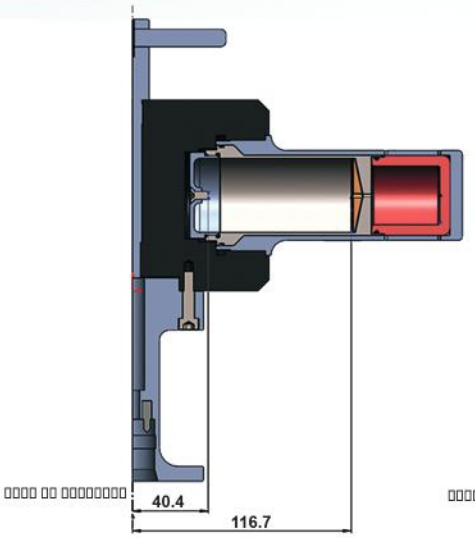
Rock Core Centrifuge

The Rock Core Ultra Centrifuge **UCEN-110MV** is available to the core analysis laboratories. This model is the latest generation of rock core centrifuges made by **PHEDCO** and can be used for precise determination of capillary pressure curve, relative permeability and wettability.

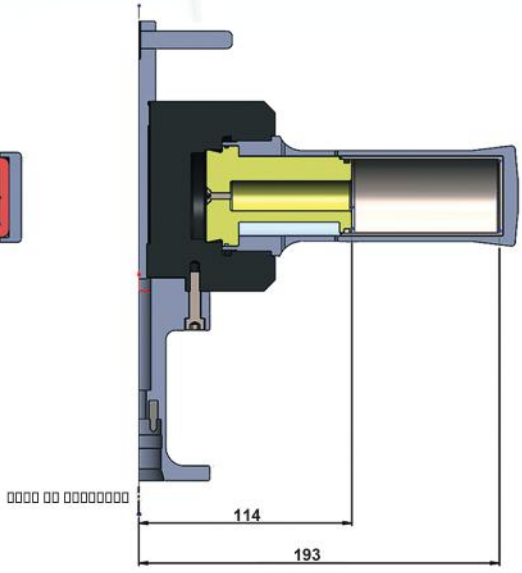
Features

- Rotor Speed 500-14000 rpm (depending on the type of rotor)
- High precision measurement
- Standard and inverted rotors
- Rotor temperature up to 80°C
- Automated data acquisition system
- High resolution industrial camera
- Vacuum capability to below 10 micron using mechanical and diffusion pumps
- Image analysis system
- Data analysis system for generation capillary pressure and relative permeability curves

Rotor Design



Drainage type



Imbibition type

PHEDCO Company can provide the customers with high precision Three-place rotors compatible with 2″ or 3″ long samples (with 1.5″ diameter)

High accuracy components are fabricated and tested under the restrictive supervision.

Data Sheet

Parameters	Unit	Description
Rotational specification		
Max rpm	RPM	14,000*
Max sample length	Inch	3
Sample numbers	-	3
Capillary pressure drainage	psi	405
Capillary pressure imbibition	psi	520
Receiving tube capacities	cm^3	23,12,6
Receiving tube material	-	Polyether sulfone
Rotor material	-	Aluminum alloy
Control & Process specifications		
Rotor heating system	-	✓
Max rotor temperature	°C	80
Vacuum system	-	Rotary - Diffusion
Control panel	-	Touch screen
Six-place rotor compability	-	Optional
Imaging System specifications		
Image capturing	-	Automatic-Manual
Measurement system	-	Automatic-Visual
Result saving	-	Automatic
Measurement accuracy	cc	0.02
Protection & Safety		
Imbalance warning system	-	✓
Vibration protection	-	✓
Vacuum protection	-	✓
Automatic rotor detection	-	✓
Post Processing System		
Simulation software	-	✓
Data acquisition software	-	✓
Report generation	-	✓
General Specifications		
Dimension (L×W×H)	cm	125×82×110
Weight	Kg	450

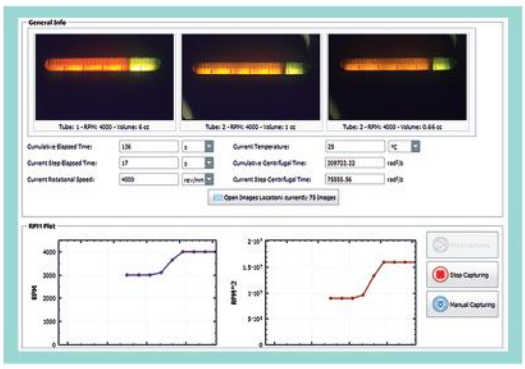
* Depending on the type of rotor

Rock Core
Centrifuge

PHEDCO

Software Futures

- Data acquisition system
- Image processing (Automatic/manual)
- Online connection to centrifuge
- Automatic image capturing
- Displaying last results on screen
- Flow simulation in drainage and imbibition processes
- Simulation method selection
- Optimization method selection
- Permeability curve calculation
- Automatic report generator module



PHEDCO

Ultra Centrifuge

Ultra Centrifuge is one of various Centrifuges, designed for high rotational speed. As a result of rapid rotation, a centrifugal force (separation force) thousands of times greater than earthly gravitational force is introduced into the samples. This centrifugal force can be used to separate two-component materials with close density, and is applicable in production of (human or animal) vaccines, biotechnology purposes or specialized laboratories of the other industries. In this type of machines, rotor rotation performed in vacuum, so they are equipped to vacuum system.

UCEN-90

Suspension system and Electrical motor

An advanced suspension system is exploit to apply high rotational speed to the rotor in vacuum, to meet the requirements of safe and reliable operation condition.

Cooling System

The special cooling system is used to keep the sampels cool. The motor and dampers are also being cooled. The rotor temperature can be controlled in the range of 0°C to 25°C.

Rotor

The rotor is made of aluminum or titanium with special grade, the appropriate rotor capacity is selectable.

Vacuum System

The task of vacuum system is to diminish the rotor-air friction (in high rotational speeds).

Control and Monitoring System

The main functions of Control and Monitoring system are Temperature, Vacuum, Vibration and Speed control. Condition monitoring and measurement are performed using special sensors.
Moreover, the operator can save and reuse 10 different separation program.

Ultra Centrifuge

Ultra Centrifuge - Technical specifications

	UCEN-90	UCEN-100
Rotor capacity	≥1380 ml	Selectable by the buyer from the list of customizable rotors
Max. speed	24,000 rpm	40,000 rpm
Max. Acceleration	40,000 ×g	175,000 ×g
Speed indication accuracy	1 rpm	
Temperature range	0°C to +30°C	
Max No. of steps to increase the speed	10 steps	
Max No. of steps to decrease the speed	10 steps	
Rotor type	Angle Rotor	
Monitoring Display type and available information	Digital type, RPM, RCF, Time, Temp. limit, Program, Accel/Decel Time, Rotor Number, rotor radius	
Power Supply	220V, 60Hz, single Phase, 4.0 kW (it depends on customers)	
Dimensions	880(W) x 980(L) x 1090(H) mm	
Weight	440kg	

PHEDCO

Rotors' capacity list

Rotors				
Cat. No.	UCEN 2.0U-24	UCEN 10U-12	UCEN 13.5U-8	UCEN 13.5U-12
Hole Angle	∠40°	∠26°	∠26°	∠26°
Max. Capacity	24 x 1.5/2.0 mL	12 x 10 mL	8 x 13.5 mL	12 x 13.5 mL
Size Ø x H (mm)	180 x 88	180 x 90	165.5 x 91.3	189 x 90.5
Rotor Hole Bore Ø x L (mm)	11 x 37.5 mm	17 x 70 mm	16.3 x 83 mm	16.3 x 83.4
Radius (mm)	82	85	73	87
Max. Height for Tube Fit (mm)	47.1	71.5	84.4	83.4
Rotor Hole Bottom Type	Conical	Round	Round	Round
Tube capacity	1.5/2.0 mL	10 mL	13.5 mL	13.5 mL
Max. RPM (rpm)	32,000	36,000	40,000	40,000
Max. RCF (xg)	93,870	123,150	130,580	155,620
Machine Type	UCEN-100	UCEN-100	UCEN-100	UCEN-100

Rotors				
Cat. No.	UCEN 38.5U-6	UCEN 50U-8	UCEN 65U-6	UCEN 230U-6
Hole Angle	∠ 29°	∠ 30°	∠ 24°	∠26°
Max. Capacity	6 x 38.5 mL	8 x 50 mL	6 x 65 mL	6 x 230 mL
Size Ø x H (mm)	198 x 112	213 x 110	220 x 117	300 x 175
Rotor Hole Bore Ø x L (mm)	25.6 x 92	29 x 100.5	38.5 x 94	61 x 88
Radius (mm)	91	98	99.4	139
Max. Height for Tube Fit (mm)	98.9	107.3	107.3	126.9
Rotor Hole Bottom Type	Round	Round	Round	Flat
Tube capacity	38.5 mL	50 mL	65 mL	230 mL
Max. RPM (rpm)	40,000	24,000	30,000	16,000
Max. RCF (xg)	162,780	63,220	100,190	40,000
Machine Type	UCEN-100	UCEN-100	UCEN-100	UCEN-90

Continuous-flow Zonal Centrifuge

Continuous-flow zonal centrifuge is one of the most sophisticated industrial centrifuges with a strategic function in the pharmaceutical production.
The technology used in the equipment allows a continuous injection of material into the rotor rotating in a vacuum chamber. Separation of the product takes place based on the density variation in the gravitational field with a force of sixty thousand times more than the gravity of the earth.

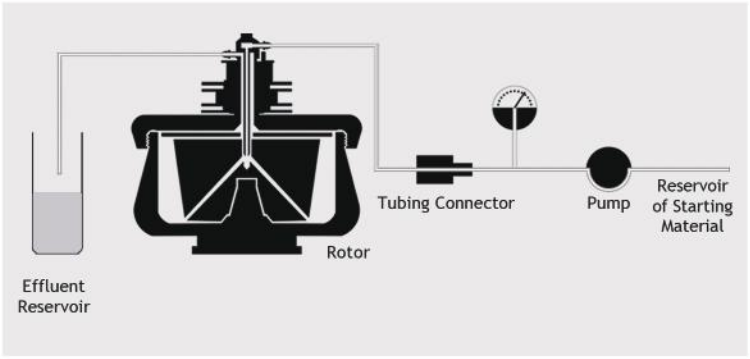
Continuous-flow zonal centrifuge has always been of great use in the production of antiviral vaccines, vaccines for meningitis, hepatitis B. Rabies and influenza. One outstanding merit of the equipment compared to other centrifuges is a significant improvement in the quality of the product and the possibility of increasing capacity in the pharmaceutical production line.

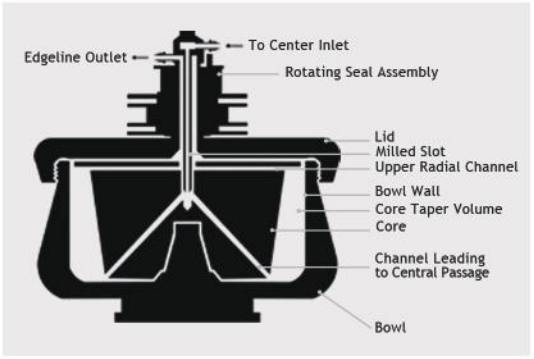
Applications

- Production of specific medicines
- Mass production of low cost vaccines
- Layered separation of multiphase liquids

Attributes

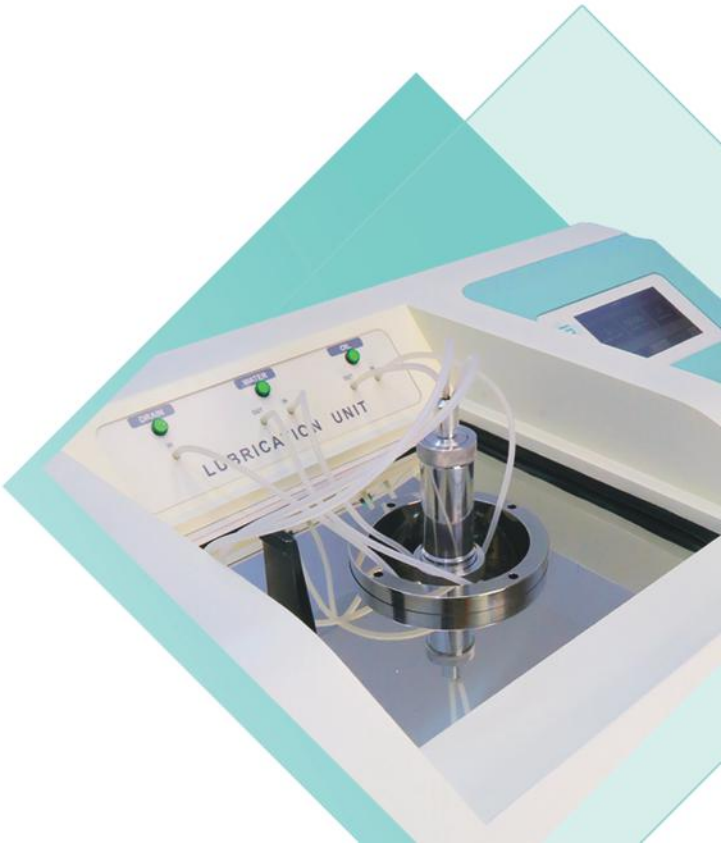
- High rotational speed, up to 25,000 rpm, to apply separation force up to 60,000 g
- Use of direct coupling bipolar motor to reduce loss and increase stability
- Rotor with a diameter of 180 mm made of titanium/aluminum
- Temperature control within the range of 0 to +25 degrees Celsius
- Vacuum system, automatic lubrication and cooling
- Equipped with monitoring and control system, controlling the completeness and desirability of the device by measuring temperature, vacuum, vibrations, inlet and outlet flow and electrical parameters.





Control system

The advanced control system of this centrifuge, which is based on high-speed microprocessors, monitors and adjusts the critical parameters of the machine such as temperature, vibrations, input current, rotor speed and lubrication conditions of the router suspension. Those items such as maintaining the temperature of the material inside the rotor rotating in a vacuum environment, and controlling the stability of the rotor during material injection are critical to the quality of the product.



High Capacity Refrigerated Centrifuge

Refrigerated centrifuge model FCEN-45R in the category of Batch Type centrifuges has the highest capacity among the company's products. This machine can accommodate various buckets, it has a total separation capacity of 12 liters (as six two-liter buckets).

This centrifuge can rotate at a maximum speed of 4,500 rpm (6,000 g) and its chamber temperature can be adjusted from -10 to +30 degrees Celsius.

This equipment, which is equipped with a barcode reader system, is able to connect to the central control system of the machine and transfer the information of each batch along with other process parameters. Moreover, the equipment's control system is capable of storing and running 100 different programs for the rotation.

The product, equipped with the vibration, temperature and motor current protections alongside with using its automatic control system, can meet the needs of consumers in the pharmaceutical, food and chemical industries as a safe, efficient and optimal machine.

Refrigeration System Specifications

- Equipped with chamber and engine cooling system
- Refrigerant gas CFC free R404
- The temperature of the centrifuge chamber can be adjusted from -10 to +30 degrees Celsius.

PHEDCO

Technical specifications

Maximum Speed	4500 rpm
Maximum Separation Force	6000 times the gravitational acceleration of the earth
Maximum Capacity	12 liters (in six two-liter buckets) with a variety of volumes and buckets
Temperature Range	-10 / +30
Protection and Safety	Has electric door lock to protect temperature, vibrations, motor current and compressor parameters. Has a glass window on the door to calibrate the speed
General Requirements	Full compliance with GMP requirements and standard tests
L*W*H Dimensions	102*98*83 cm
Weight	400 kg

Swing Rotor

Custom buckets

Blood bag bucket (500 or 750 gr)

2 liter bucket

Control system specifications

- Has a CPU to automate and control the operation of the device
- Capable of being programmed by the user regarding parameters of time, speed, temperature, stop time (braking) and start time (acceleration time)l
- Can store 100 different useful applications for easy operation of the equipment
- Can be adjusted with up to 10 usernames and passwords for different users
- Protection and safety of the device maintained by measuring and displaying of temperature and vibrations, audible alert to the user if needed and finally the equipment shutdown

PHEDCO

Bench-top Centrifuge

Centrifuge is one of the most usable lab equipment that uses for separation of the materials with different density such as emulsions, suspensions and blood serum.

Specifications

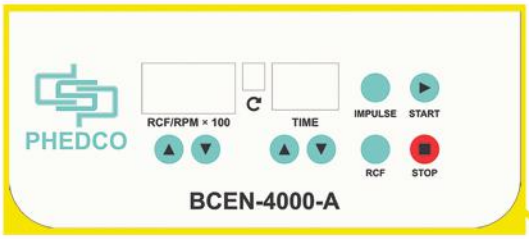
- Low voice below 60 dB
- Auto Detection Discontinuity
- Intelligent control system
- Inductive Brushless motor
- 24-month warranty and after-sales service within the country
- Use the closed loop controller to adjust the speed and unnecessary speed calibration

BCEN-4000-A Technical Specification

Max. Speed	4,000 rpm augmentable to 6,000 rpm
capacity	24*15 ml augmentable to 4*100 ml
Rotor type	Swing-Out 90°
Motor type	Energy efficient Brushless motor
Speed setting type	RPM / RCF
Output power	300 W
Input voltage	220 V
Input power flow	1/4 A

Buckets capacity list

				
Capacity	**6 x 15 ml**	**50 ml (Falcon)**	**100 ml**	**4 x 15 ml (Falcon)**



Control & Monitoring System

- Start/Stop button
- Adjust and display speed based on RPM / RCF
- Possibility to set the running time and view the remaining time

PHEDCO

No. 122, University of Tehran Science
and Technology Park, Shahid Farshi St.,
Kargar St., Tehran, Iran.
Tel: +98 21 86095016
Fax: +98 21 86093186

www.Iranphedco.com
Info@Iranphedco.com