



WASTEWATER TREATMENTS

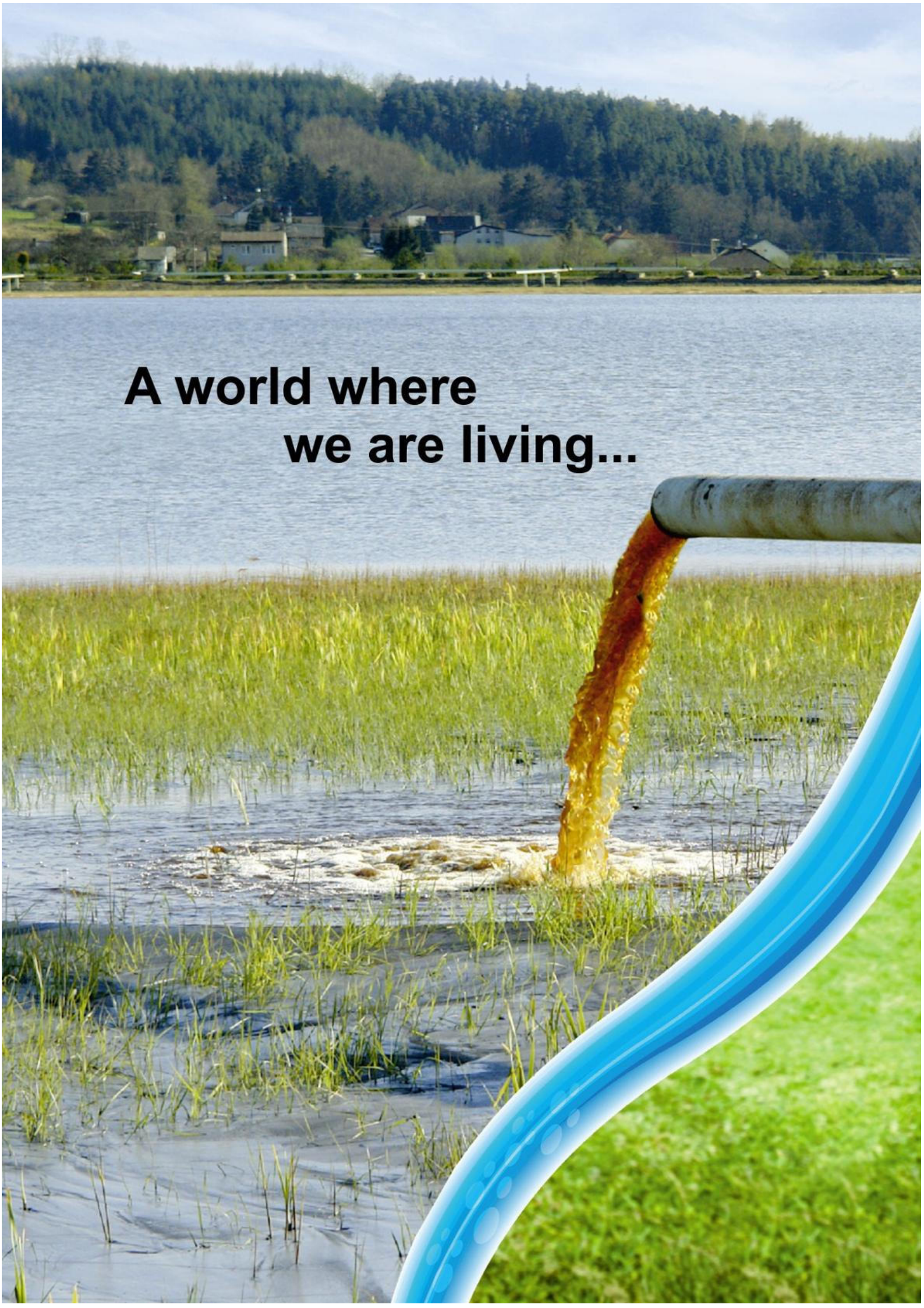
WET SCRUBBER TREATMENTS

WATER TREATMENTS

SPECIAL APPLICATIONS

E.P.C. CONTRACTOR

**A world where
we are living...**





**A world where
we can live...**



GESU Environment Engineering Company is proud to be an integrated water and wastewater management solution provider. We provide Waste water Treatment, Wastewater Recycling, Air treatment (air treatment) and Integrated Meat Processing across many regions, including Turkey, Iraq, Ethiopia and Algeria.

At the same time, based on almost 20 years of experience in Wastewater Treatment Plant project management that covers commissioning, performance guarantees and operation and other engineering industries.

GESU is also a manufacturer which manufactures equipment used in this treatment sector.

GESU has earned a rightful title in environmental technologies by winning the complete confidence of its customers since 1996. We are proud of our expert team and the advanced technologies that we use.

Our Mission:

We are committed to creating technology that works in harmony with nature. Within this time, our mission is to maximize client value through best in class products and services while providing a positive experience to our clients that is delivered safely, ethically and of the highest quality.

Our Vision:

We endeavour to conserve water resources by recycling, reusing waste water and adopting better technological options for water and waste water treatment. We strive to provide our customers with the most efficient and cost-effective water and waste water treatment solutions.

PHOTOS OF GESU ENVIRONMENTAL TECHNOLOGIES





BURSA Office views



IRAQ Office



MULTI-FACETED NATURE

CONTINUOUS IMPROVEMENT

LATEST TECHNOLOGY AND R & D

SPECIFIC PRODUCTION

CUSTOMER SATISFACTION

QUALITY CONCEPT

E.P.C. CONTRACTOR



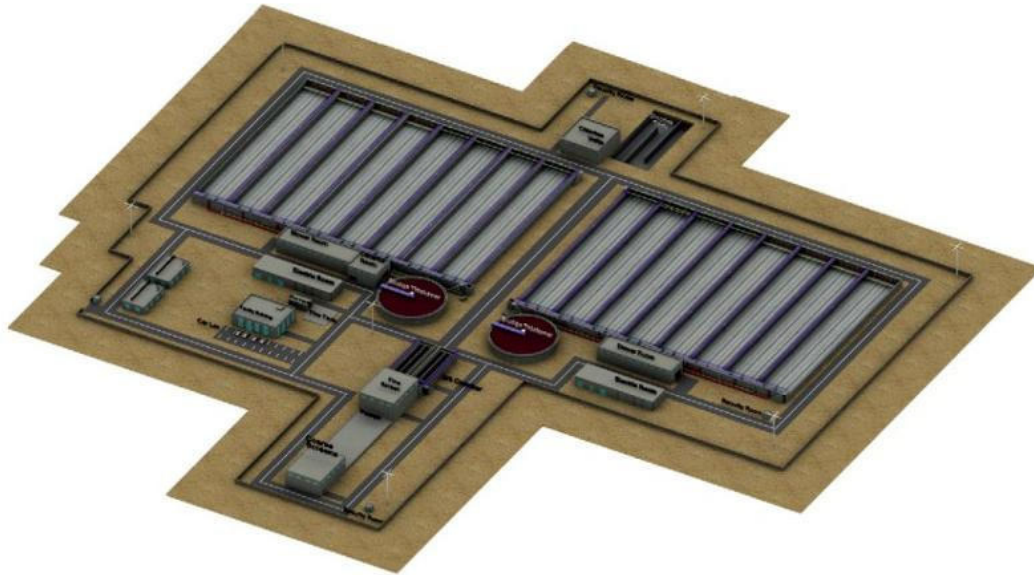
ENVIRONMENTAL TECHNOLOGIES

GESU

**TREATMENT
SAMPLES**

CITY TREATMENT

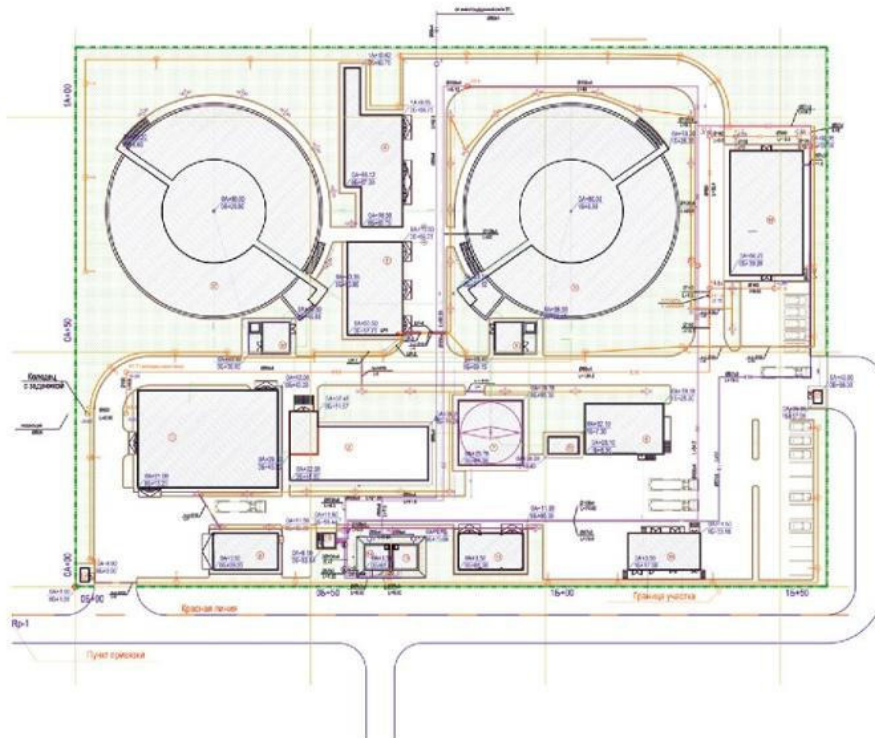
IRAQ 120.000 m³ /day



INSTALLING THE PROJECT OF TURKMENISTAN

for 10.000 m³/day

Babadayhan Obasi 10.000 m³ lagim
arassalama desgasi - Tecen Ahal Vilayet



TURKMENISTAN WORKSITE



**The mechanical equipments manufacturing and assembling work of
“Buysanç” Gurluşyk, Babadayhan Plain 10.000 m³/day waste water treatment
plant in Tecen Ahal Province / Turkmenistan.**





The mechanical equipments manufacturing and assembling work of “Buysanç” Gurluşyk, Babadayhan Plain 10.000 m3/day waste water treatment plant in Tecen Ahal Province / Turkmenistan.





The mechanical equipments manufacturing and assembling work of “Buysanç” Gurluşyk, Babadayhan Plain 10.000 m³/day waste water treatment plant in Tecen Ahal Province / Turkmenistan.



The mechanical equipments manufacturing and assembling work of “Buysanç” Gurluşyk, Babadayhan Plain 10.000 m³/day waste water treatment plant in Tecen Ahal Province / Turkmenistan.

WASTEWATER TREATMENT

DOMESTIC TREATMENT

DOMESTIC TREATMENTS FOR THE LOCAL MUNICIPALITIES



INDUSTRIAL TREATMENT

BURSA ORGANIZED INDUSTRIAL ZONE

(CEO, PROJECT COODINATOR)



INDUSTRIAL BIOLOGICAL TREATMENT SAMPLES



**INTEGRATED MEAT AND SLAUGHTERHOUSE
TREATMENT SAMPLE BANVİT KIRMIZI-BALIKESİR / TURKEY**



**INTEGRATED MEAT TREATMENT SAMPLE
BEŞLER ET GIDA SAN- İSTANBUL / TURKEY**

INDUSTRIAL BIOLOGICAL TREATMENT SAMPLES



**FOOD FACTORY TREATMENT SAMPLE
PENKON - DENİZLİ / TURKEY**



**INTEGRATED MEAT TREATMENT SAMPLE
NAMET - KOCAELİ / TURKEY**

-ALCALI ZINC PLATING FACILITY TREATMENT

-ACIDIC ZINC PLATING FACILITY TREATMENT

-NICE PLATING FACILITY TREATMENT

-CHROME (+6) PLATING FACILITY TREATMENT

-COPPER PLATING FACILITY TREATMENT

-GALVANO PLATING FACILITY TREATMENT

-PHOSPHATE PLATING FACILITY TREATMENT

-CYANIDE WATER TREATMENT

-TEXTILE WASTEWATER TREATMENT

-PACKING WASTEWATER TREATMENT

-WASTEWATER RECOVERY

-R.O. SYSTEMS

-DEIONIZED SYSTEMS

-OTHER INDUSTRIES

INDUSTRIAL CHEMICAL TREATMENT SAMPLES



**ALCALI ZINC TREATMENT
AXOR PLATING - UKRAINE**



**HARD CHROME TREATMENT
MAYSAN MANDO AUTOMATIVE - BURSA /TURKEY**

INDUSTRIAL CHEMICAL TREATMENT SAMPLES



**ABIYES PLATING TREATMENT
BODO PLATING - BURSA / TURKEY**



**ACIDIC ZINC TREATMENT
EJOT TEZMAK - İSTANBUL / TURKEY**

INDUSTRIAL CHEMICAL TREATMENT SAMPLES



**NICKEL TREATMENT
FIRAT PLASTIC - İSTANBUL / TURKEY**



**GALVANO TREATMENT
ÇAYIROVA BORU - KOCAELİ / TURKEY**

INDUSTRIAL CHEMICAL TREATMENT SAMPLES



**TEXTILE WASTEWATER TREATMENT
MARTUR - KÜTAHYA / TURKEY**



**COPPER PLATING TREATMENT
ŞİŞECAM / DÜZCAM - MERSİN / TURKEY**

FILTRATION SYSTEMS



**REVERSE OSMOSIS UNITE
MARTUR AUTOMOTIVE - KÜTAHYA / TURKEY**



**ULTRAFILTRATION UNITE
FIRAT PLASTIC İSTANBUL / TURKEY**

WET SCRUBBER TREATMENT



**WET SCRUBBER SYSTEM - HDPE BODY
BALTIMANI İSKİ - İSTANBUL / TURKEY**



**WET SCRUBBER SYSTEM - PP BODY
BOYÇELİK - KAYSERİ / TURKEY**

WET SCRUBBER TREATMENT

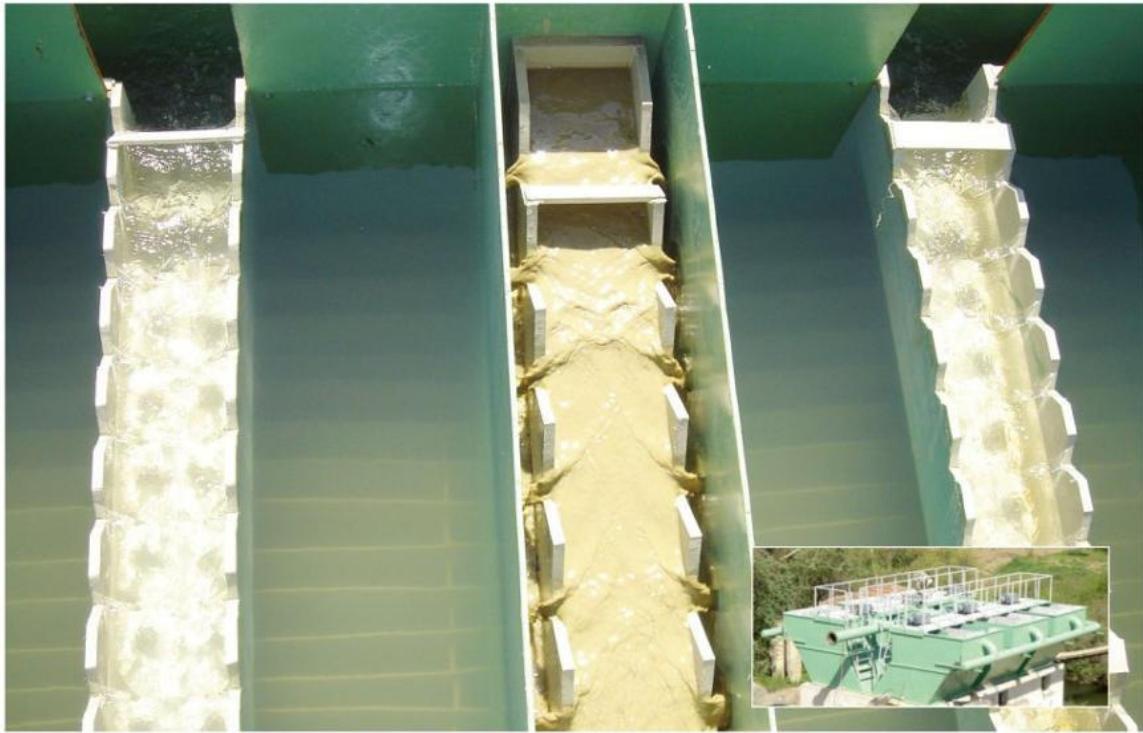


WET SCRUBBER SYSTEM - PVC BODY



WET SCRUBBER SYSTEM - CTP BODY
ÇANAKKALE BELEDİYESİ / EGEMBORU ÇANAKKALE / TURKEY

OTHER INDUSTRIES



CHROME MINE TREATMENT (LAMELLA)
ŞETAT BURSA / TURKEY



DEIONIZED SYSTEMS
KIRIKKALE / TURKEY

OTHER INDUSTRIES





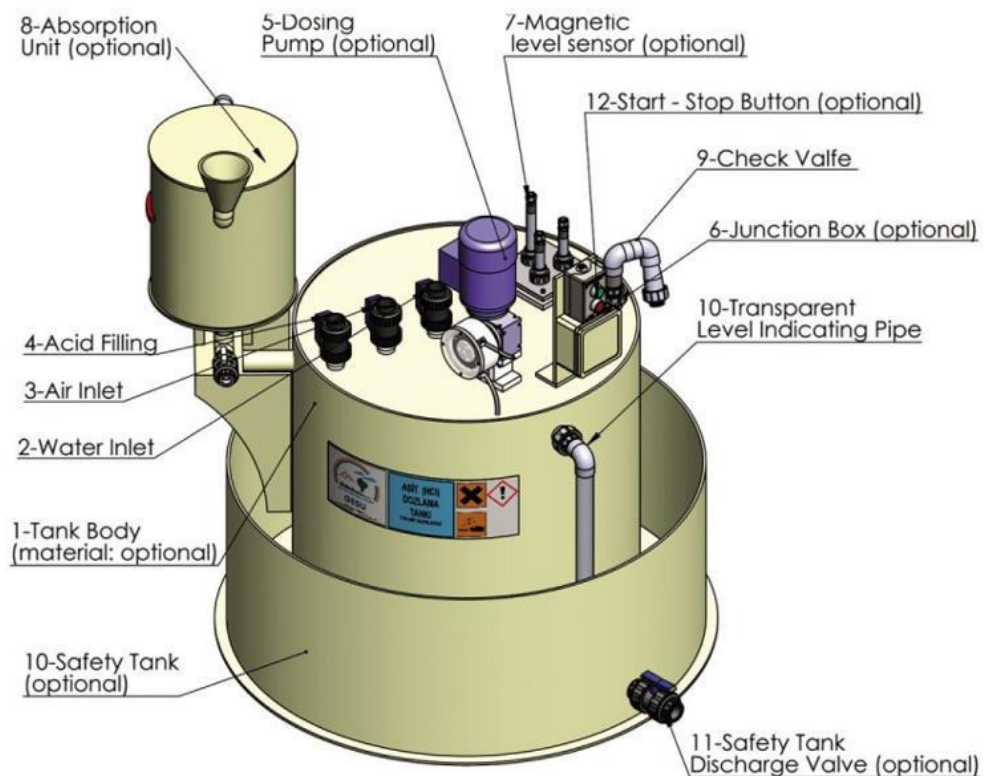
GESU

**TREATMENT
EQUIPMENTS**

Hydrochloric Acid (HCl) Dosing Unit Hydrogen Peroxide (H₂O₂) Dosing Unit Sodium Hypochlorite (NaClO) Dosing Unit



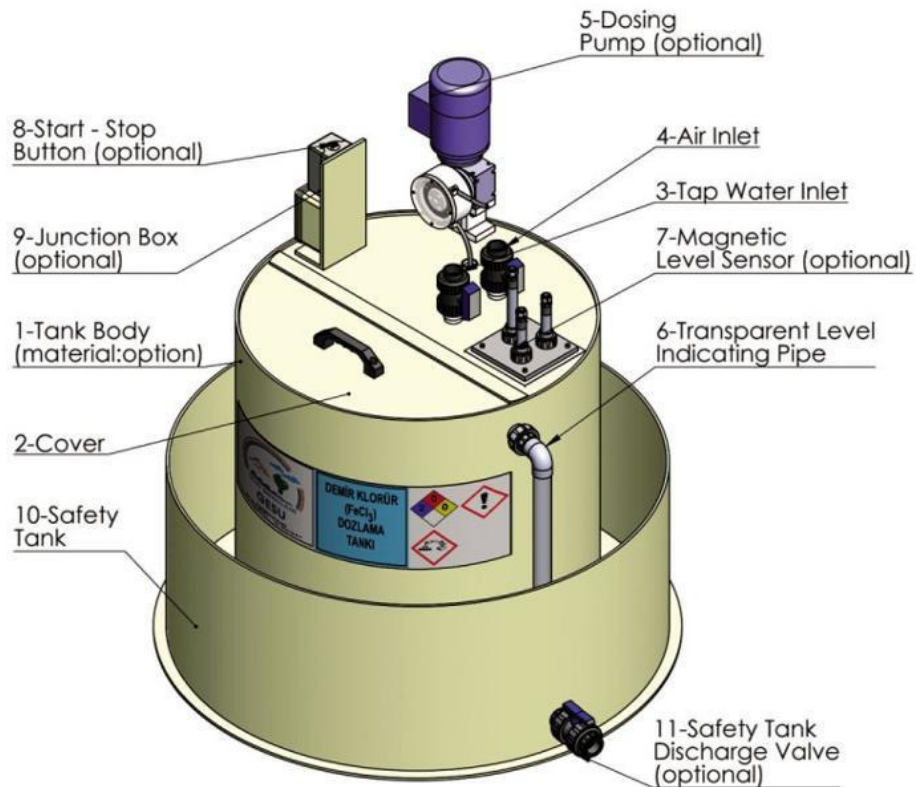
- Manufactured from massive PP plate
- Transparent level indicating pipe or can include magnetic level sensor if required
- Absorption unit for prevention of corrosion risk caused by chemical vapor
- Nonclogging electrical dosing pump, if required frequency convertor can be added to set-up the pump flow.
- Safety tank for potential leak of the chemicals (optional)
- Tap water, air and chemical filling valves
- Tank Material can be: PP, HDPE, U-PVC
- Magnetic Level Sensor can be: 2,3,4 levels
- Tank Volumes are, 300 lt, 500 lt, 1000 lt, 1500 lt, 2000 lt



Caustic (NaOH) Dosing Unite Ferric Chloride (FeCl₃) Dosing Unite



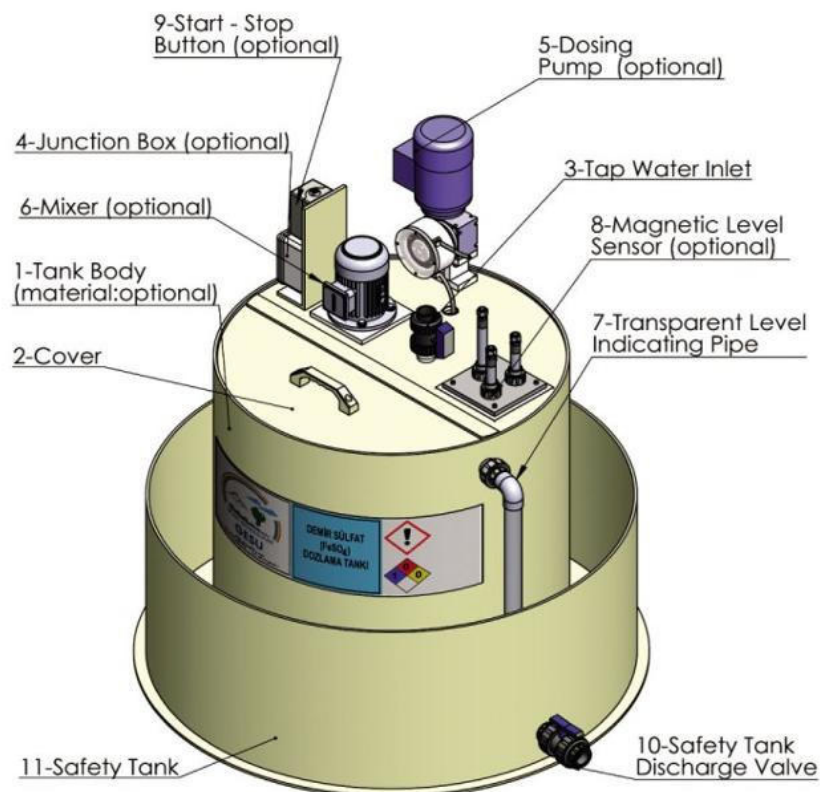
- Manufactured from massive PP plate
- Transparent level indicating pipe or can include magnetic level sensor if required
- Nonclogging electrical dosing pump, if required frequency convertor can be added to set-up the pump flow.
- Safety tank for potential leak of the chemicals (optional)
- Tap water and air valves
- Tank Material can be: PP, HDPE, U-PVC
- Magnetic Level Sensor can be: 2,3,4 levels
- Tank Volumes are, 300 lt, 500 lt, 1000 lt, 1500 lt, 2000 lt



Polyelectrolyte (Poly) Dosing Unit
Sodium Metabisulphite ($\text{Na}_2\text{S}_2\text{O}_5$) Dosing Unit
Ferrous Sulphate (FeSO_4) Dosing Unit
Aluminium Sulphate ($\text{Al}_2(\text{SO}_4)_3$) Dosing Unit
Barium Chloride (BaCl_2) Dosing Unit



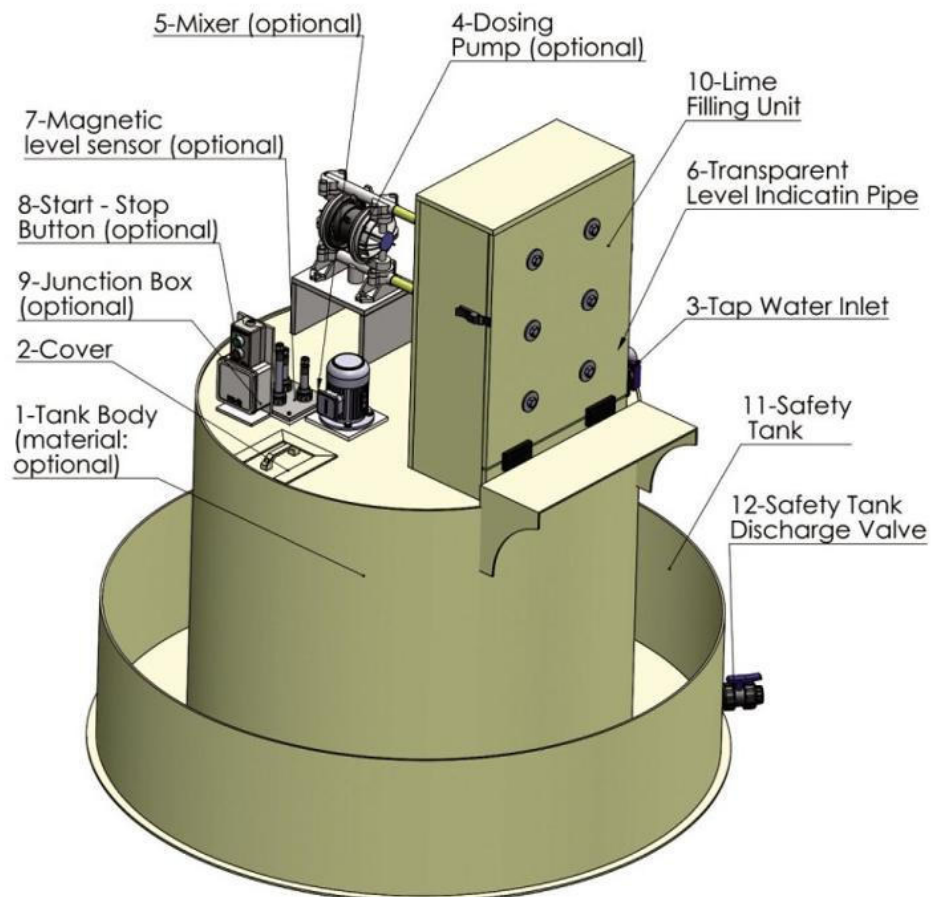
- Manufactured from massive PP plate
- Transparent level indicating pipe or can include magnetic level sensor if required
- Nonclogging electrical dosing pump, if required frequency convertor can be added to set-up the pump flow.
- Safety tank for potential leak of the chemicals (optional)
- Tap water and air valves
- Tank has a mixer (optional)
- Tank Material can be: PP, HDPE, U-PVC
- Magnetic Level Sensor can be: 2,3,4 levels
- Tank Volumes are,
300 lt, 500 lt, 1000 lt, 1500 lt, 2000 lt



Lime Preparing and Dosing Unite



- Manufactured from massive PP plate
- Transparent level indicating pipe is standart, can include magnetic level sensor if required
- Magnetic Level Sensor can be: 2,3,4 levels
- Nonclogging electrical dosing pump, if required frequency convertor can be added to set-up the pump flow.
- Safety tank for potential leak of the chemicals (optional)
- Tap water and air valves
- Tank has a mixer (optional)
- Tank Material can be: PP, HDPE, U-PVC
- Tank Volumes are, 300 lt, 500 lt, 1000 lt, 1500 lt, 2000 lt

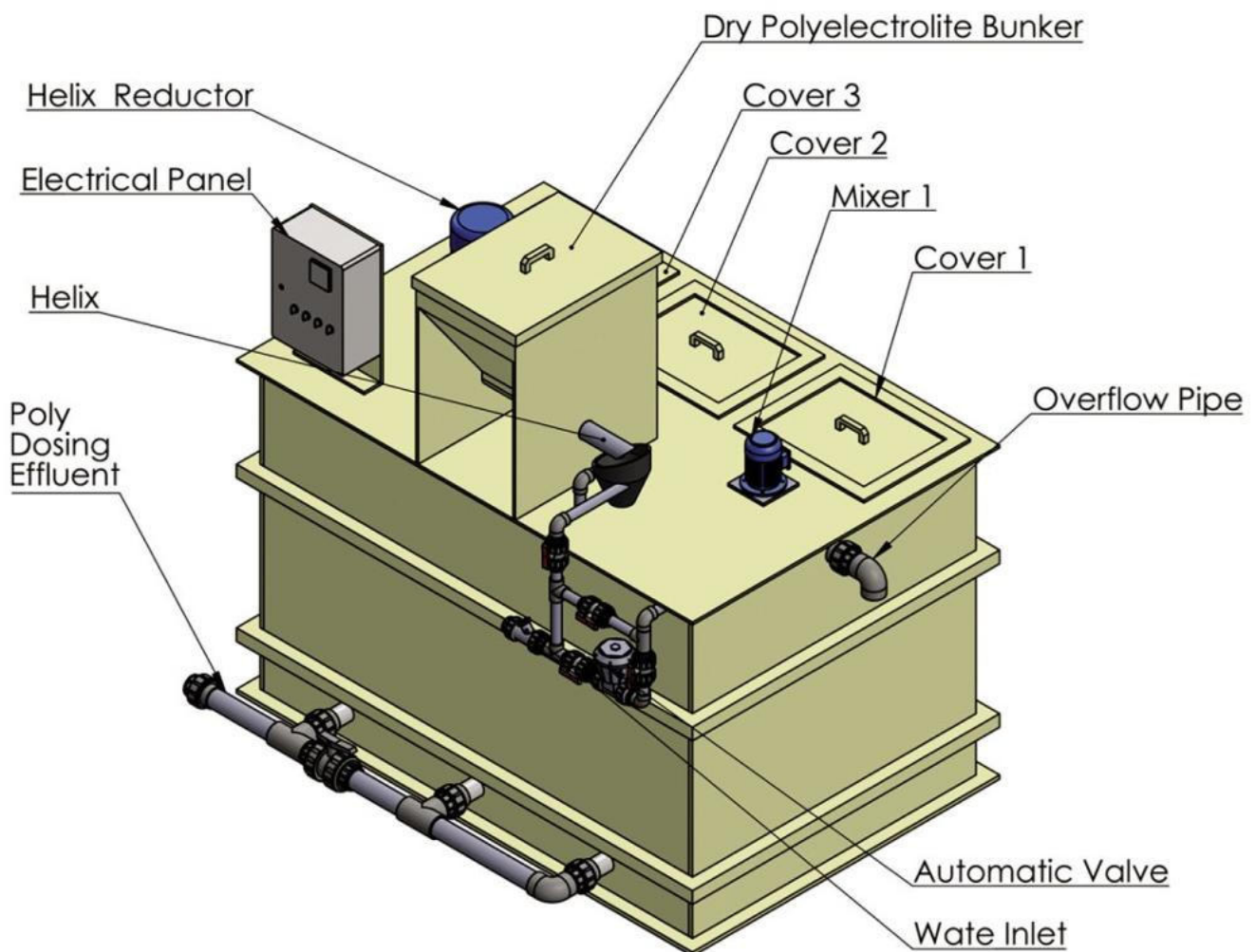


Polyelectrolite Dosing Unite

This unit mainly consists of dissolution, aging and storage sections. Water which enters the system is controlled by pressure control device.

Powder polyelectrolite dissolves when mixes the water. After this, solution enters the aging section where is mixed to provide complete homogeneous mixture. Finally the solution enters the storage section. In this section magnetic level sensor is used to control the system.

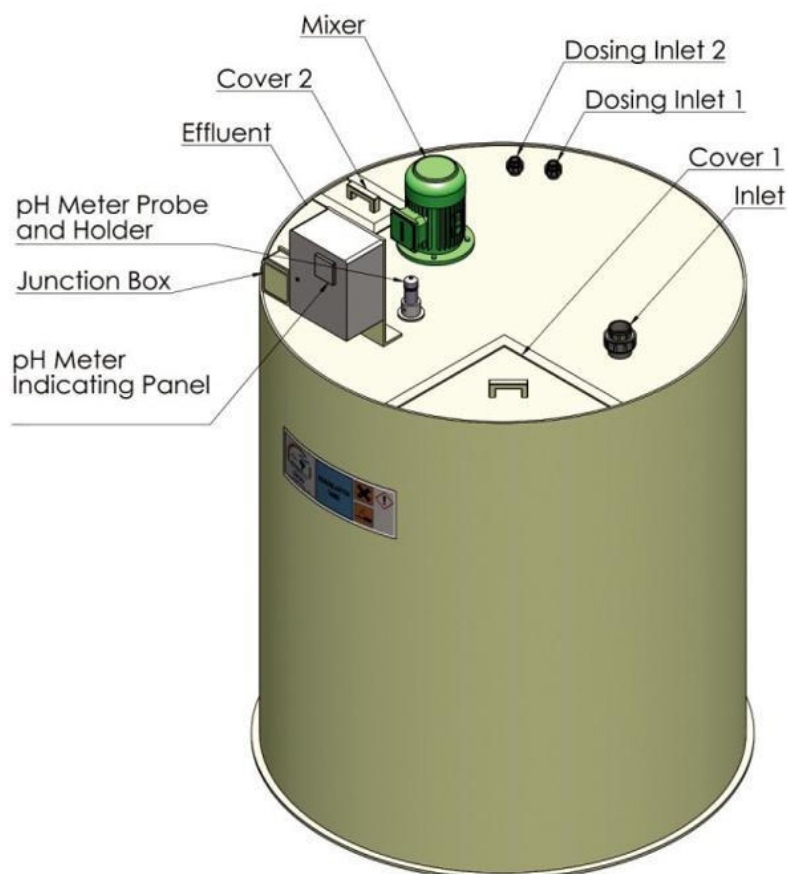
- tank material: PP
- Piping material: PVC
- Includes all apparatus
- Pe Coated St-37 based mixer included
- Electrical Panel included.



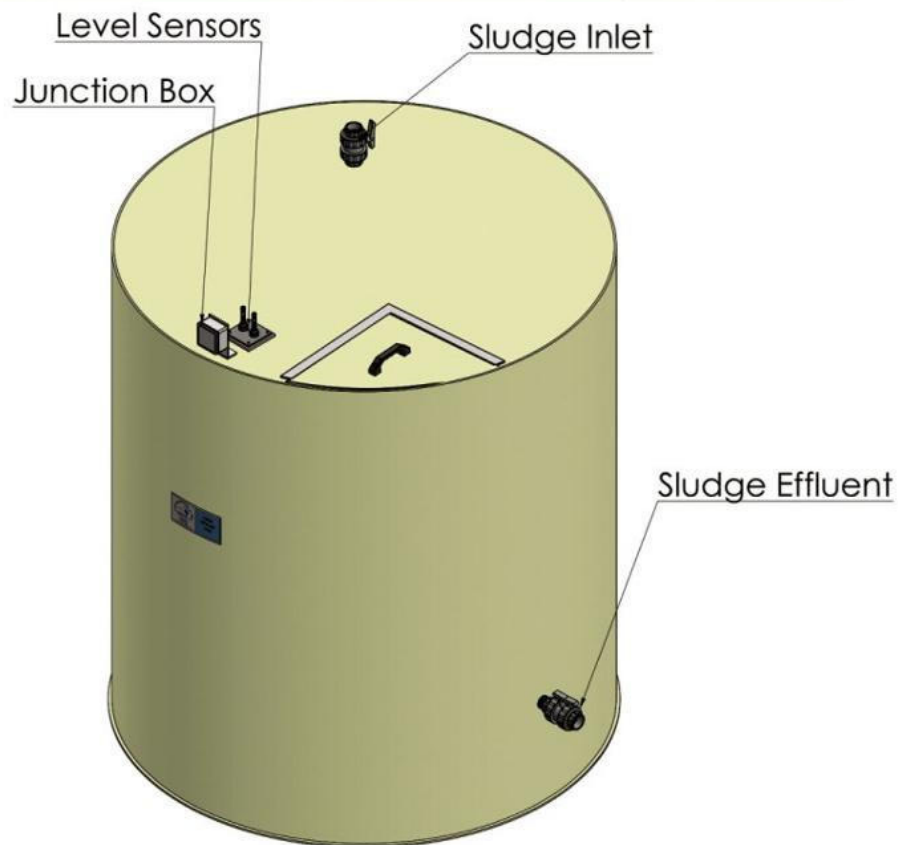
Ciyanide and Cr+6 Reduction, Coagulation, Flocculation and Notralization Unites



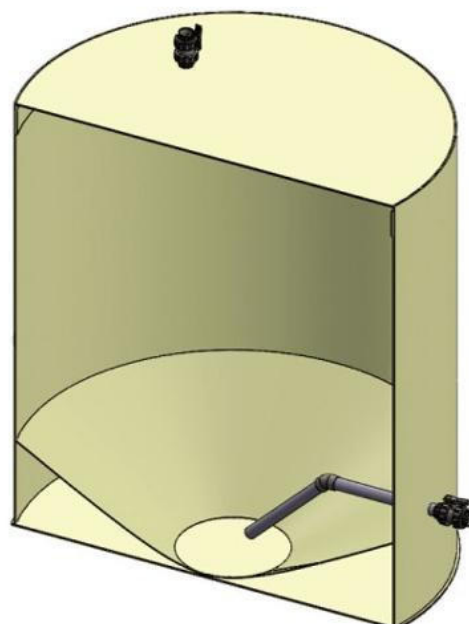
- Manufactured from massive PP/ HDPE / PVC plate
- Includes vortex breakers
- 2 dosing inlets
- Standart tank sizes are used
- Its sold as standart or complete optional.
- pH meter holder. if required pH meter can be added.



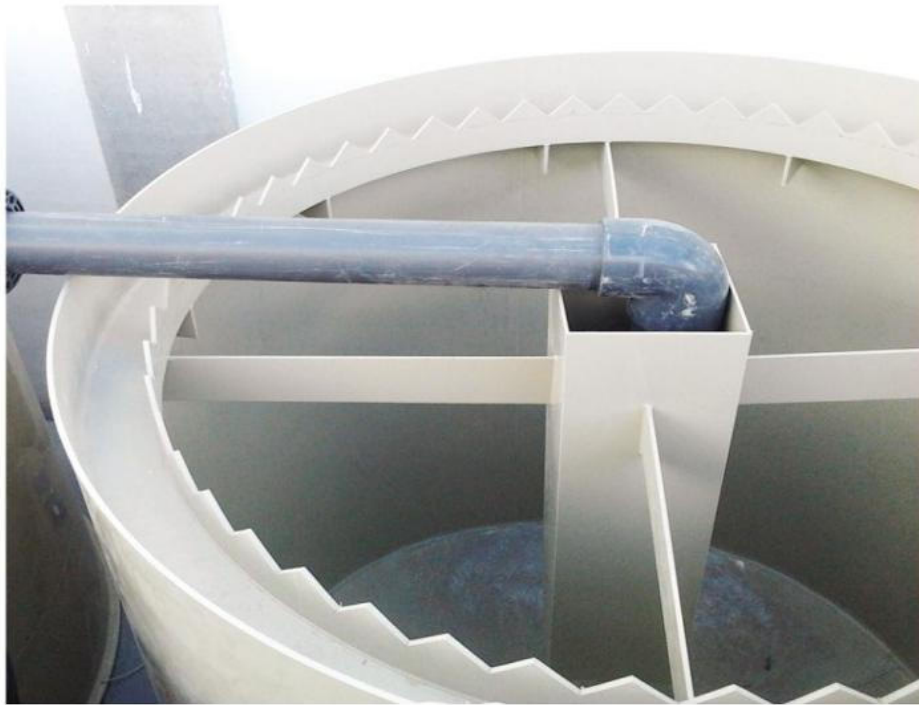
Sludge Stroring Unite



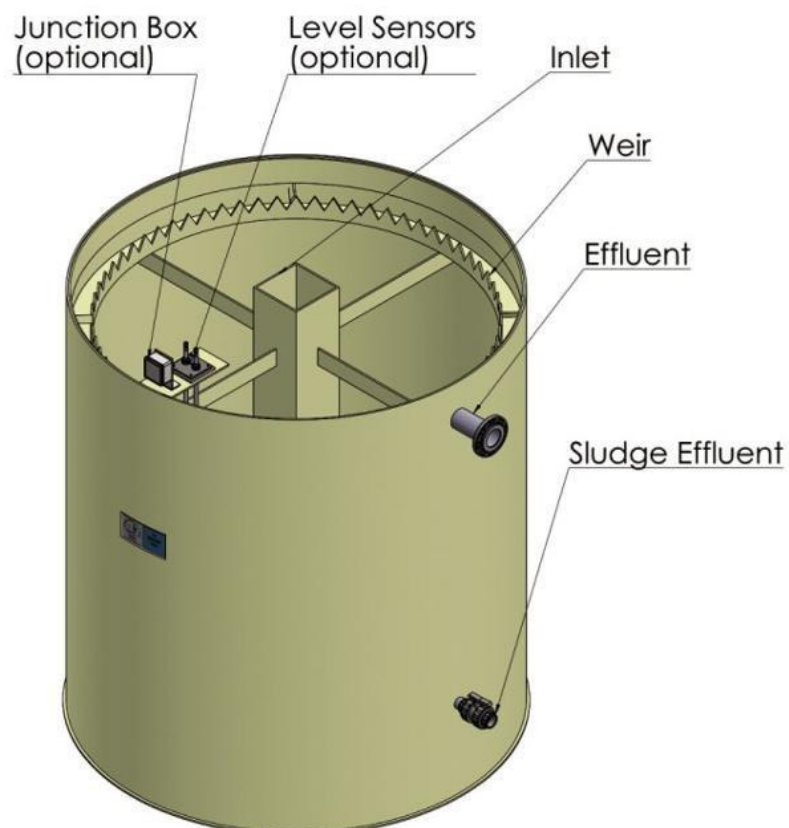
- Manufactured from massive PP,HDPE or U-PVC plate
- with / without cover
- Hidden conic in the bottom
- Piping for the sludge discharge
- If required sludge pump can be added
- Tank sizes and retention times are standart if required different sizing can be applied
- Standart Tank sizes are 5000 lt, 6000 lt, 7000 lt, 8000 lt, 10.000 lt



Primary Settling Unit



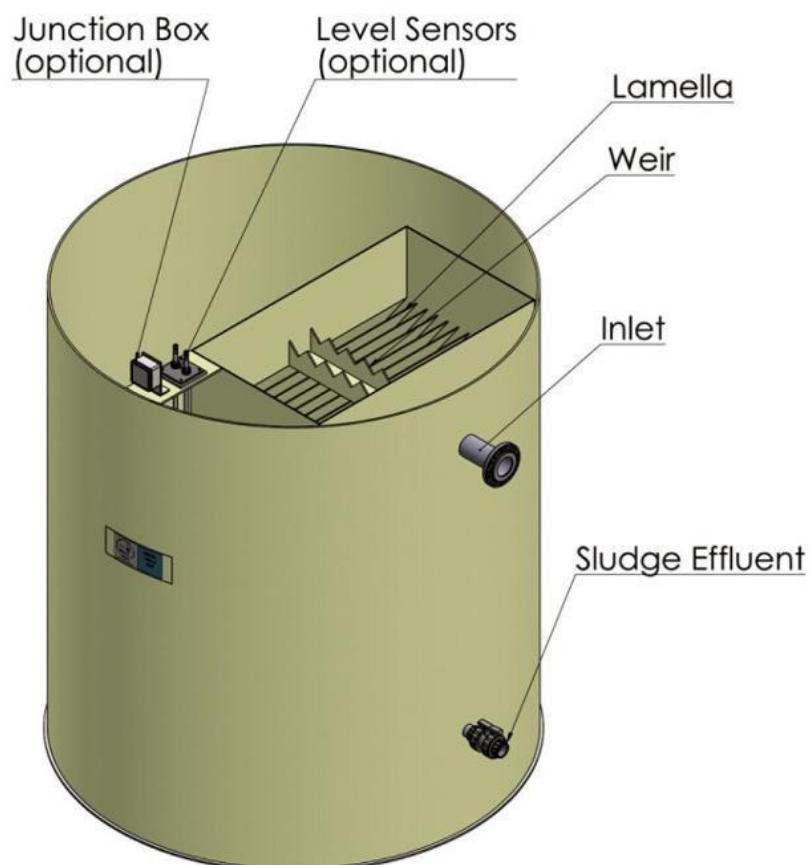
- Manufactured from massive PP, HDPE, U-PVC plate
- Used for primary settling, not suitable for secondary clarifier
- Hidden conic in the bottom
- Piping for the sludge discharge
- If required sludge pump can be mounted
- Level sensor for protection of sludge pump
- Deflector for the inlet
- V shaped weir
- Used in WW treatment plants
- Standard Tank sizes are 5000 lt, 6000 lt, 7000 lt, 8000 lt, 10.000 lt



Cylindrical Lamella Settling Unit



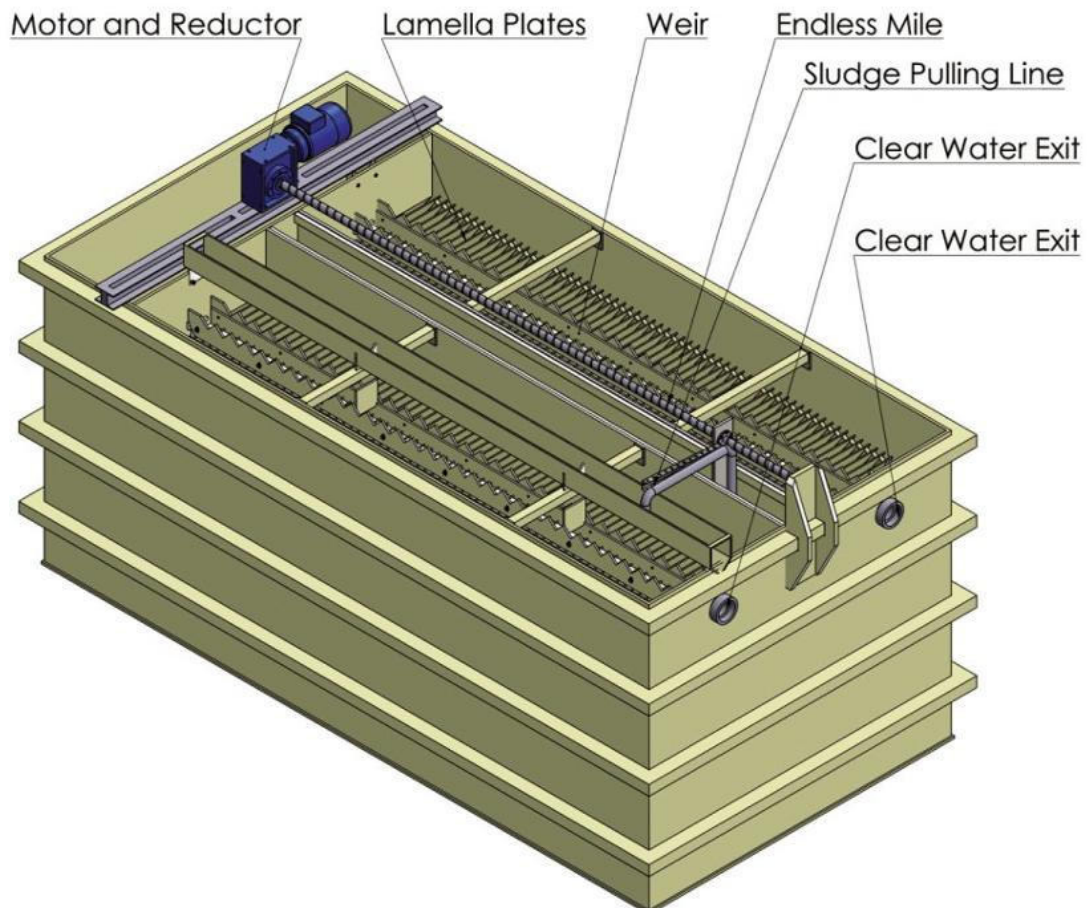
- Manufactured from massive PP,HDPE, U-PVC plate
- Special design by increasing the loading rate
- Sludge is transferred from the bottom of the tank by the help of a self priming pump
- Used as secondary settling tank for 5 m³/h – 10 m³/h flow in WW treatment plants
- Standart Tank size is 10.000 lt



Lamella Settling Unite



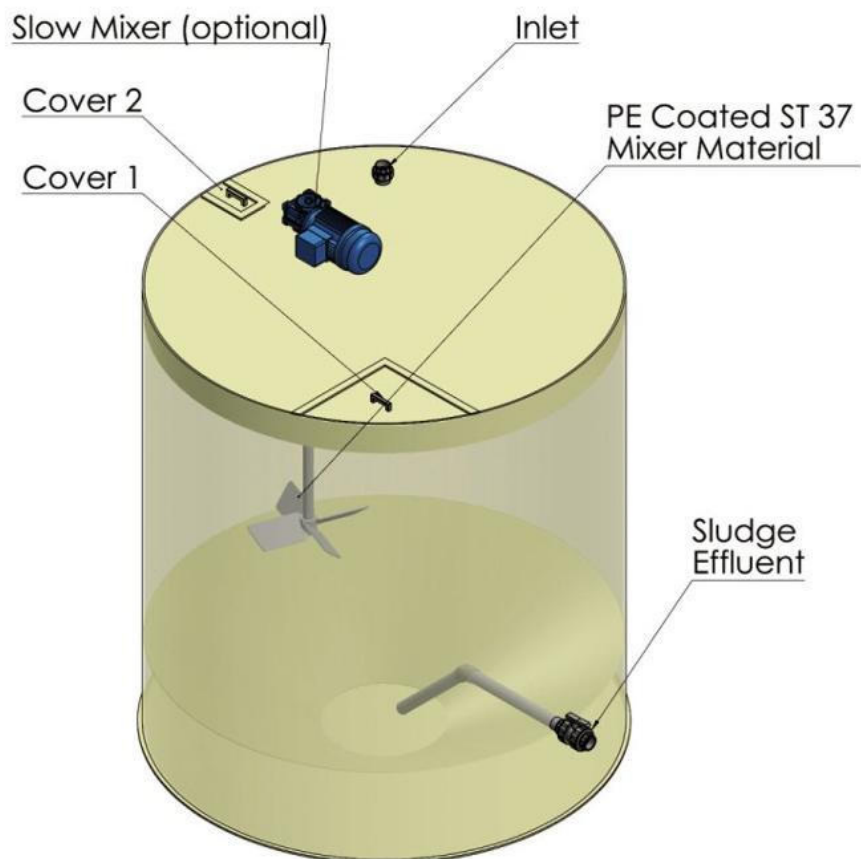
- Manufactured from massive PP; HDPE, U-PVC plates
- Special design by increasing the loading rate
- Sludge is transferred from the bottom of the tank by the help of a self priming pump (optional)
- Magnetic level sensor (optional 2-3-4 level)
- Used as secondary settling tank for 5 m³/h, 10 m³/h – 20 m³/h flow in WW treatment plants



Sludge Conditioning Unite



- Manufactured from massive PP / HDPE / PVC plate
- Hidden conic in the bottom
- Pump suction line for sludge
- Magnetic level sensor
- Slow mixer (optional)
- Tank sizes and retention times are standart if required different sizing can be applied
- May be used before filterpress, beltpress, decanter.
- Standart Tank size are 5.000 lt and 10.000 lt



Slow and Rapid Mixing Mixers



Uncoated Mixer Blades



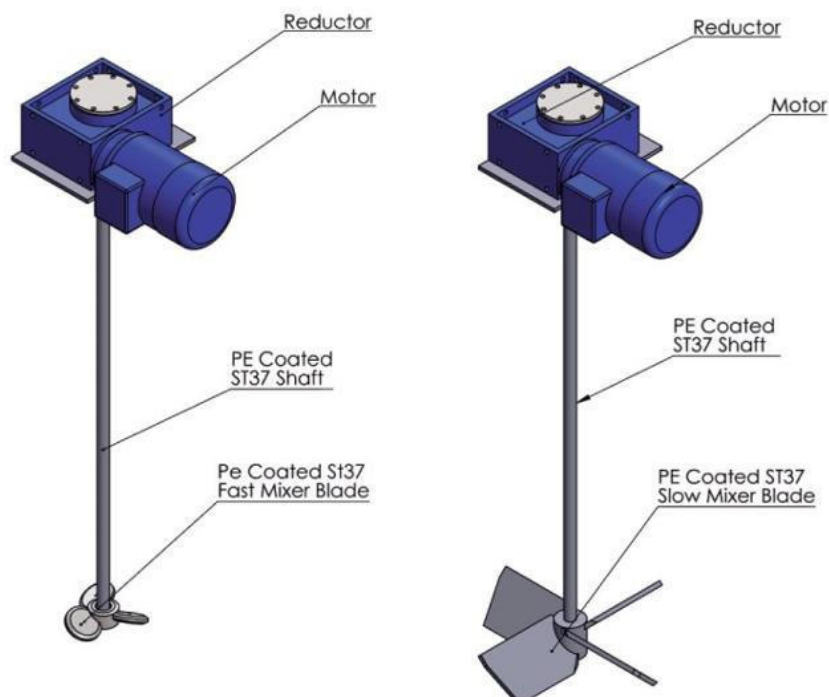
PE Coating Process



PE Coated Mixer Blades

During production at Gesu Factory

- Used in homogenization of WW treatment plants' chemical preparation tanks, chemical treatment units (notralization, coagulation and flocculation) and liquits with low viscosity.
- Can be manufactured at different shaft length and power optionals
- Manufactured from PP, hot PE and epoxy covered St37
- With/ Without reductor
- Wing structure changes according to required mixing speed
- Used in WW treatment units
- Used in chemical preparation units
- Used in drying mixing units
- Motor is direct coupled in rapid mixers
- Ex-proof motor optional



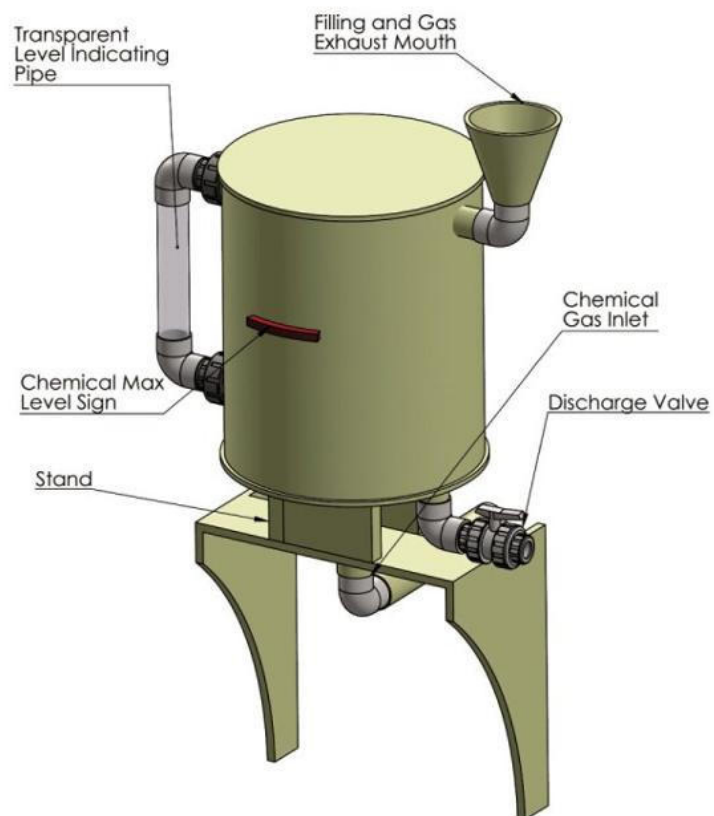
Peristaltic Dosing Pump

- Housing material: PVC
- Hose material: Imported silicon
- 36 L/h and 150 L/h capacity
- Non – clogging
- Desired flow rate can be applied by using frequency convertor
- Suitable for 24 hour run time
- Used at WW treatment plants
- Used in dry preparation units
- Used in chemical dosing units



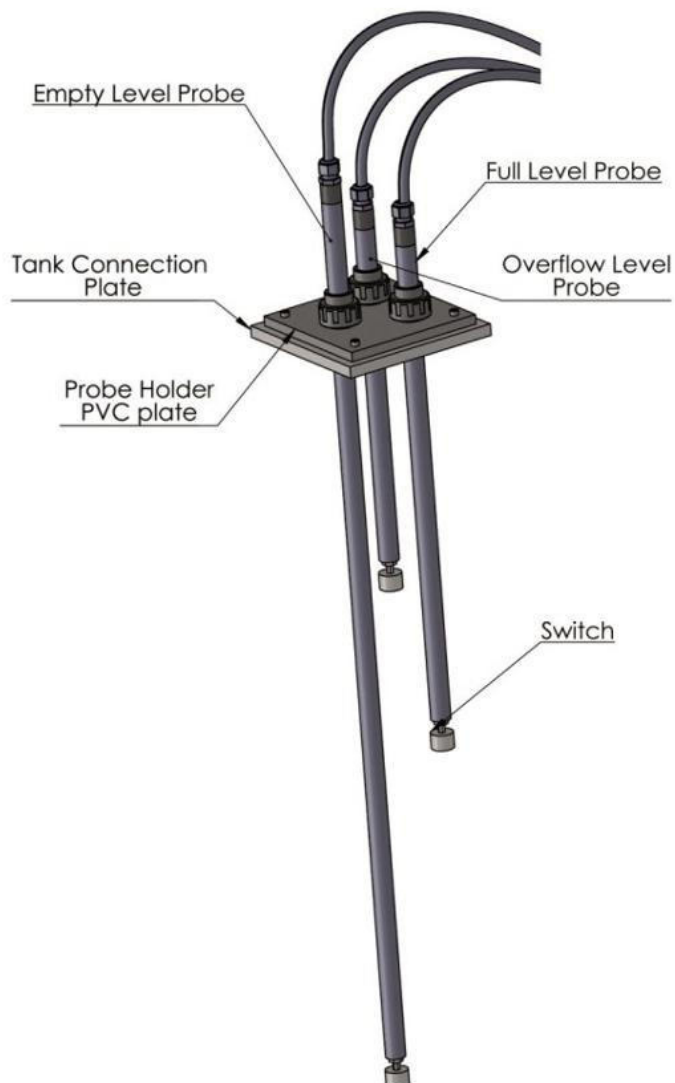
Absorption Unite

- Manufactured from PP / HDPE /PVC material
- Liquid chemical level can be followed by the help of transparent level indicating pipe
- Provides discharge of hazardous gases coming from acides etc.



Magnetic Level Sensor

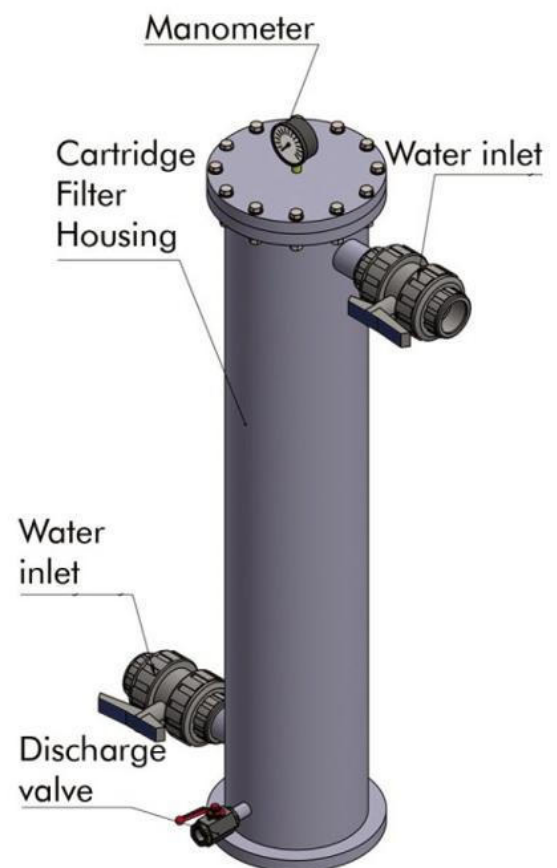
- Manufactured from PVC material
- Used at chemical tanks level measurement
- Electromagnetic switches are used.



PVC Cartridge Filter Unite

Cartridge filters are water treatment filters which hold solid matter and suspended impurities and have simple their mounting and usage.

- Has filter and filter cover
- Two types; renewable (new filter needed) or washable (after washing ready for usage)
- Renewable filters; 1-5-10-20 micron pore diameter.
- Washable filters; over 80 micron which types are plastic and bag filters
- Body material; PVC
- Used in plating bath cleanings
- Used for corrosive liquids filtration
- Maximum operating pressure; 4 bar



Horizontal Centrifugal Pump

- Open impeller or closed impeller horizontal centrifugal pumps, including mechanical seal
- Advantages; long – life, highly efficient, easily mounted, used for pumping of acids and bases
- Housing material: masivve PP or PVC stock
- Not suitable for dry run
- Fan material; masivve PVC stock
- 2 type manufactured
- Shaft bed: Viton

Usage area;

- Transfer of acidic and alkaline etc chemicals
- Chemical industries and electro plating units
- Galvanic and Chrome plation baths
- Discharge or circulation of various corrosive liquids
- WW treatment plant

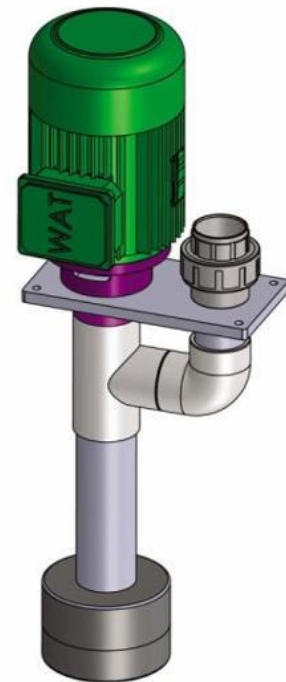
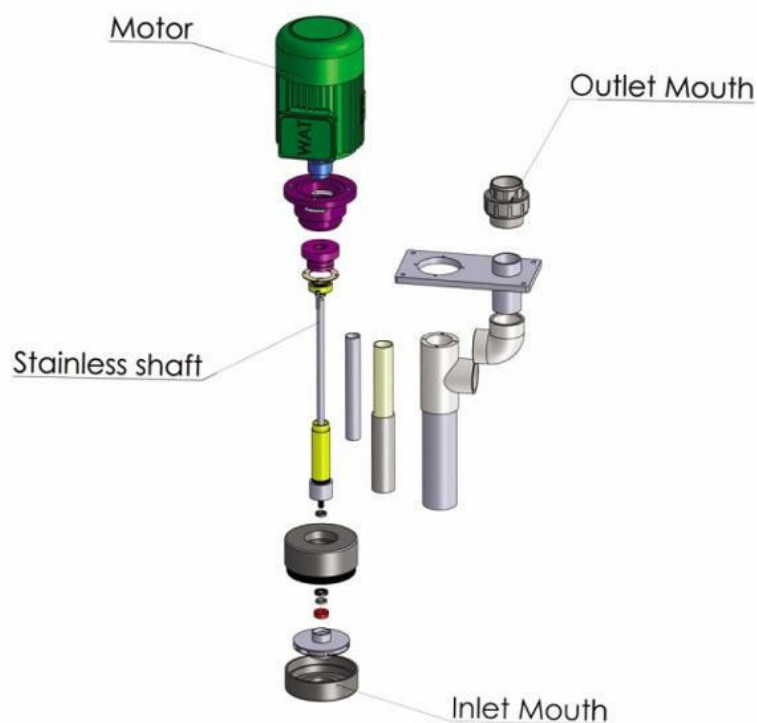


Vertical Centrifugal Pump

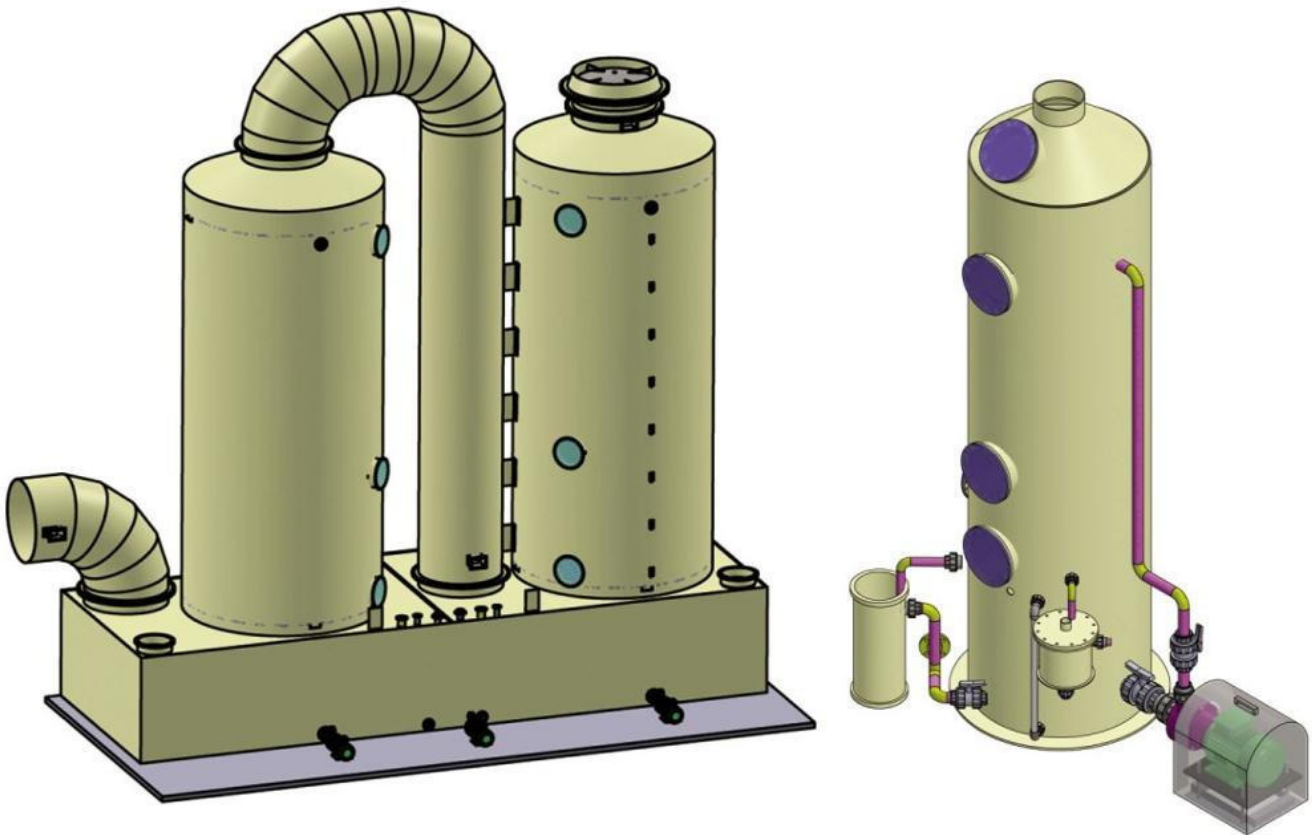
- Closed impeller vertical centrifugal pumps, including mechanical seal
- Advantages; long – life, highly efficient, easily mounted, used for pumping of acids and bases
- Housing material: massive PP or PVC stock
- Not suitable for dry run
- Fan material; massive PVC stock
- 2 type manufactured
- Shaft bed: Viton
- Shaft length; 450 – 2000 mm
- 1 m³/h – 50 m³/h flow rates

Usage area;

- Transfer of acidic and alkaline etc chemicals
- Chemical industries and electro plating units
- Galvanic and Chrome plating baths
- Discharge or circulation of various corrosive liquids
- WW treatment plant



Vertical Scrubber



Gas scrubbing systems which have a wide area of use, are efficient and successful at treatment of odor and acid mist. Multi stage and/or vertical gas scrubbing systems provide high efficiency at treatment of multiple gases. Treated gas is discharged to the air



- Special design according to the project
- Has standard designed types
- body material: PP / HDPE / PVC

Usage;

- WW treatment plants
- Plating plants

Horizontal Scrubber



Horizontal Scrubber

Gas scrubbing systems which have a wide area of use, are efficient and successful at treatment of odor and acide mist. Multi stage and/or horizontal gas scrubbing system provide high efficiency at treatment of multiple gases. Treated gas is discharged to the air

Special design according to the project

- Has standart designed types
- body material: PP / HDPE / PVC

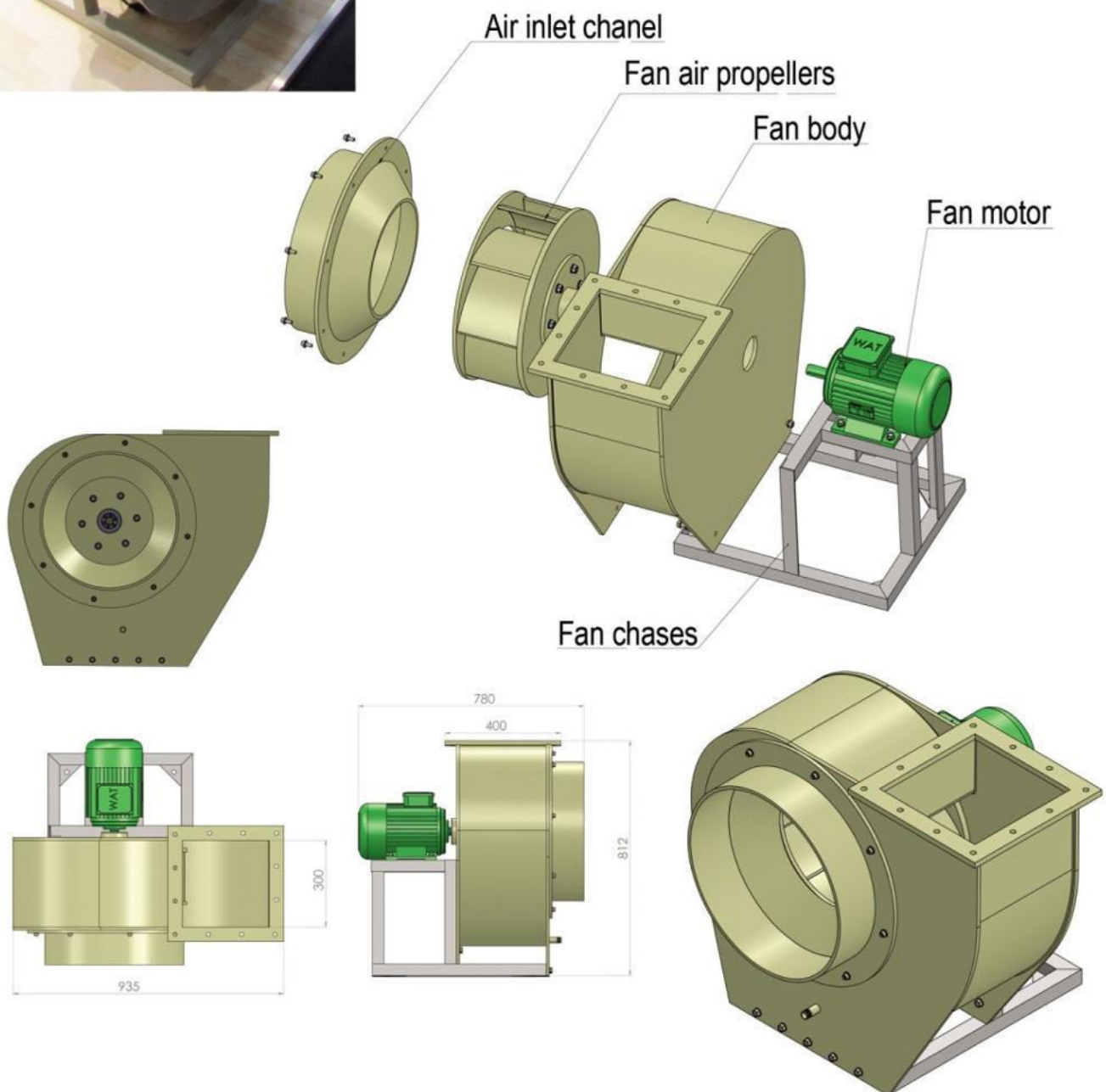
Usage;

- WW treatment plants
- Plating plants

Gesu PP Radial Air Fan



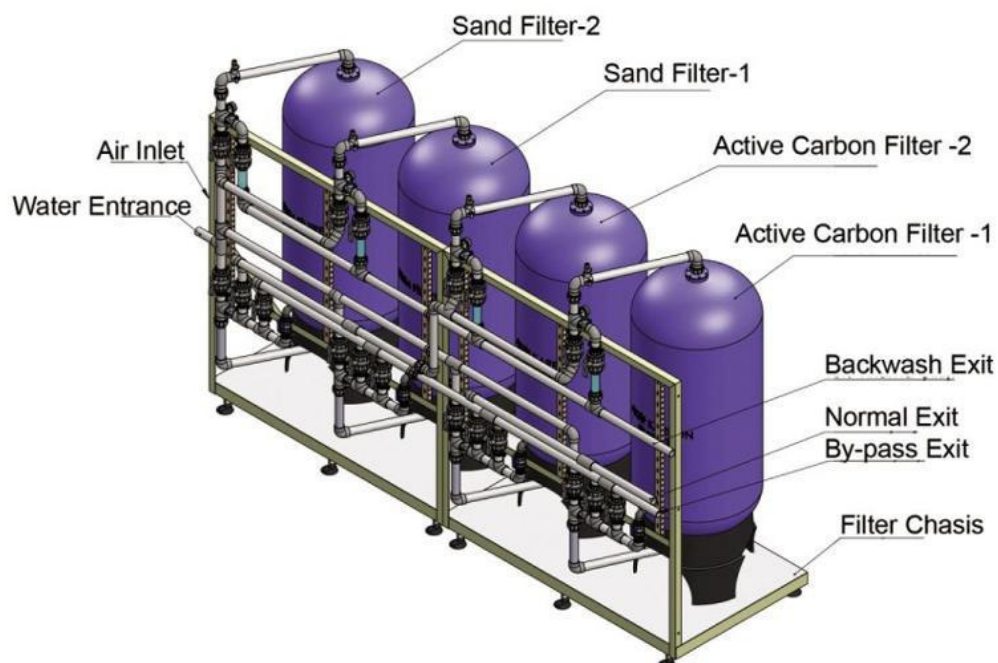
- Body and fan material; PP, HDPE or PVC
- Capacity; 5.000 m³/h – 80.000 m³/h
- Frequency convertor used
- can be used in scrubber units
- Coupled motor
- Used for transfer of corrosive gases
- Used at ventilation units



Filtration Unites

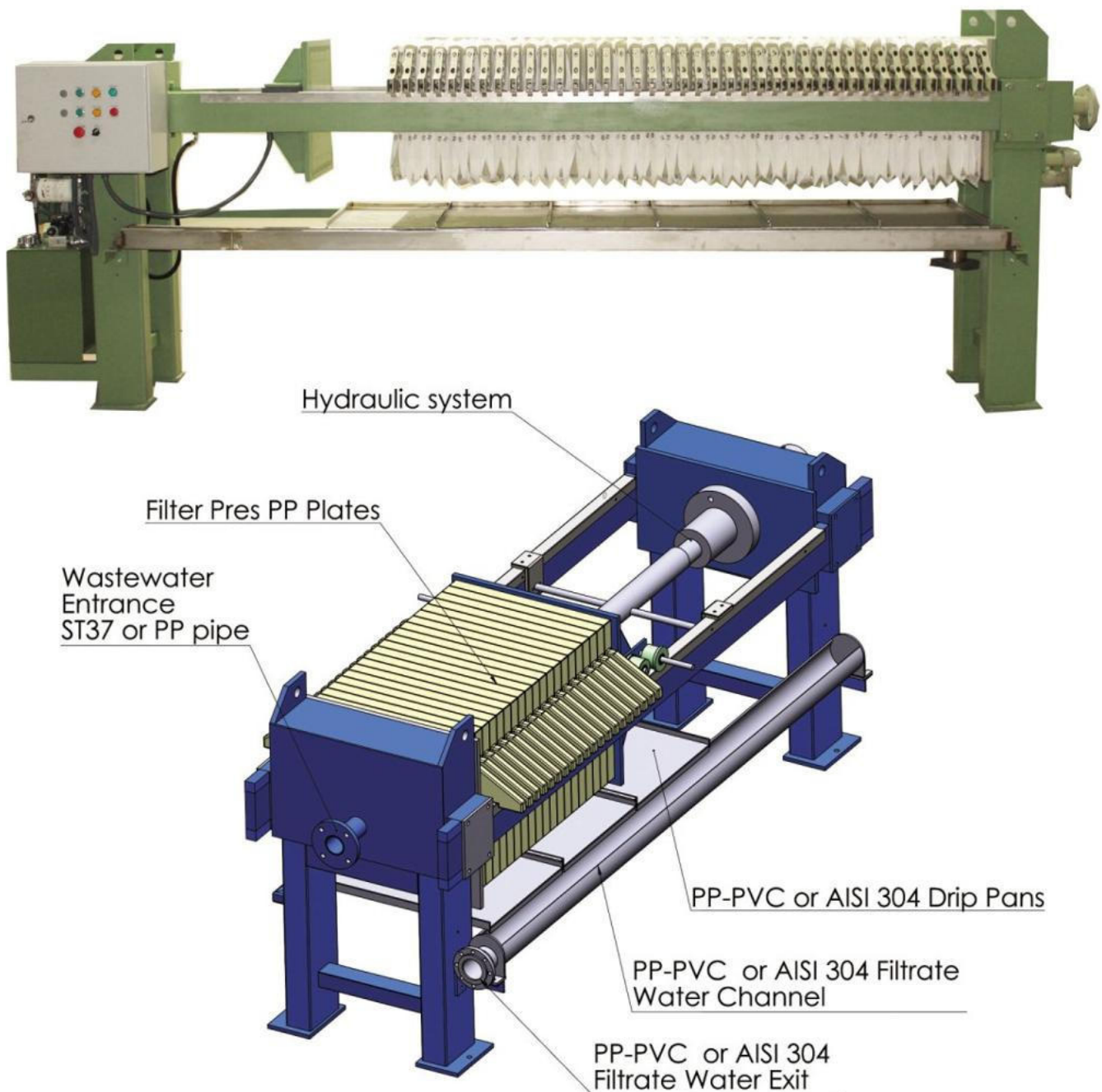


- Filtration rate till 20 microns
- Single stage, tandem and multi stage types
- Sand, activated carbon and zeolites can be applied
- Stands on a chasis
- Body: FRP / St37 (epoxy or hot PE covered)
- If required valves can be automatic controlled
- used in WW treatment plants
- used in water filtration purpose
- sizes are studied according to the flow rates of the projects



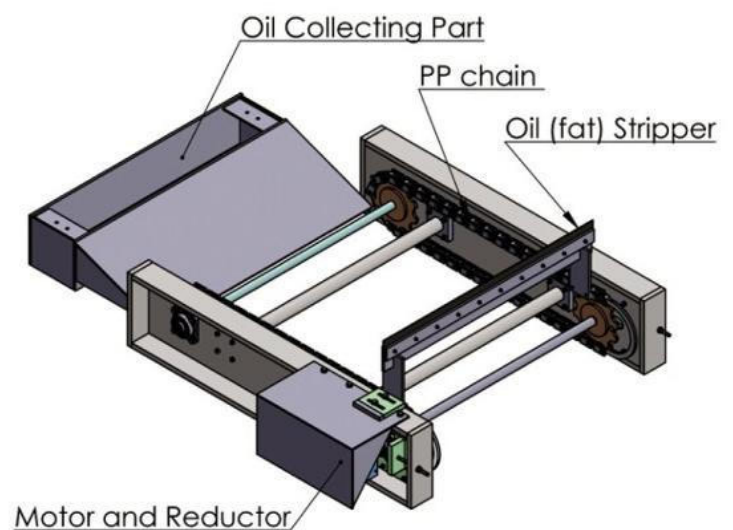
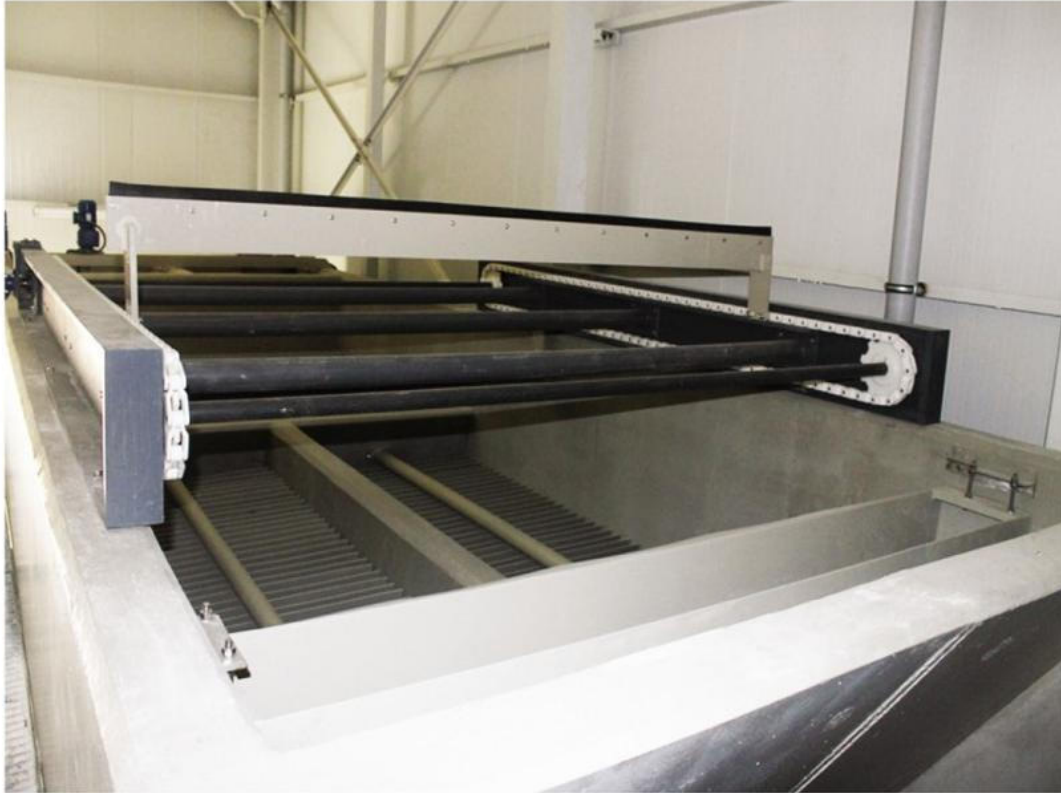
Filtre Pres

- Filterpresses used for dewatering of sludge in WW treatment plants are manufactured in different plate sizes according to the needs.
 - used in separation of solid – liquids in chemical, marble and food industry
 - sludge is driven to the FP plates where is pressed. After pressing dewatered sludge is disposed
-
- Plate sizes; 500,630, 800 and 1000 mm.
 - Plate opening: manual or automatic.
 - Plate separation: manual or automatic.
 - Body material: St37. If required this material can be covered with hot PE to prevent corrosion.
 - Used in treatment plants and phosphate sludges.
 - Used as metal plating plants bath filtration.
 - Used for filtration purpose.



Oil (Fat) Stripper

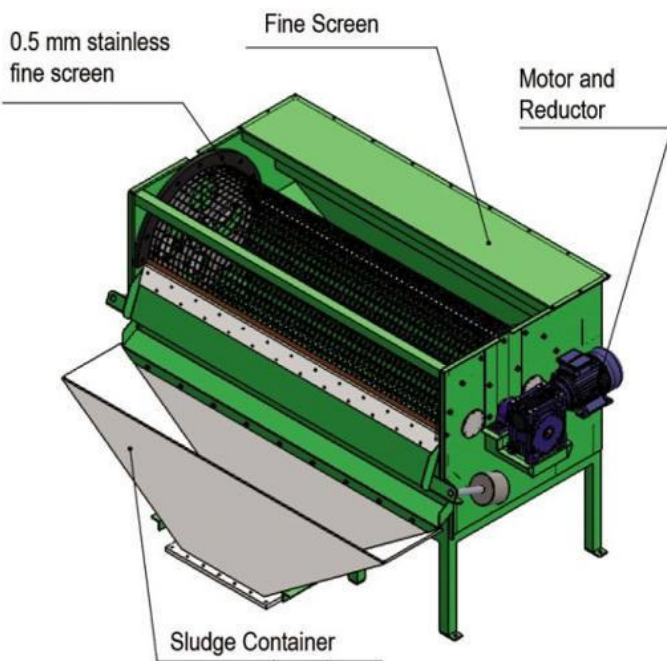
- Manufactured from PVC material
- Used for stripping the oil from water in DAF units



Drum Screen

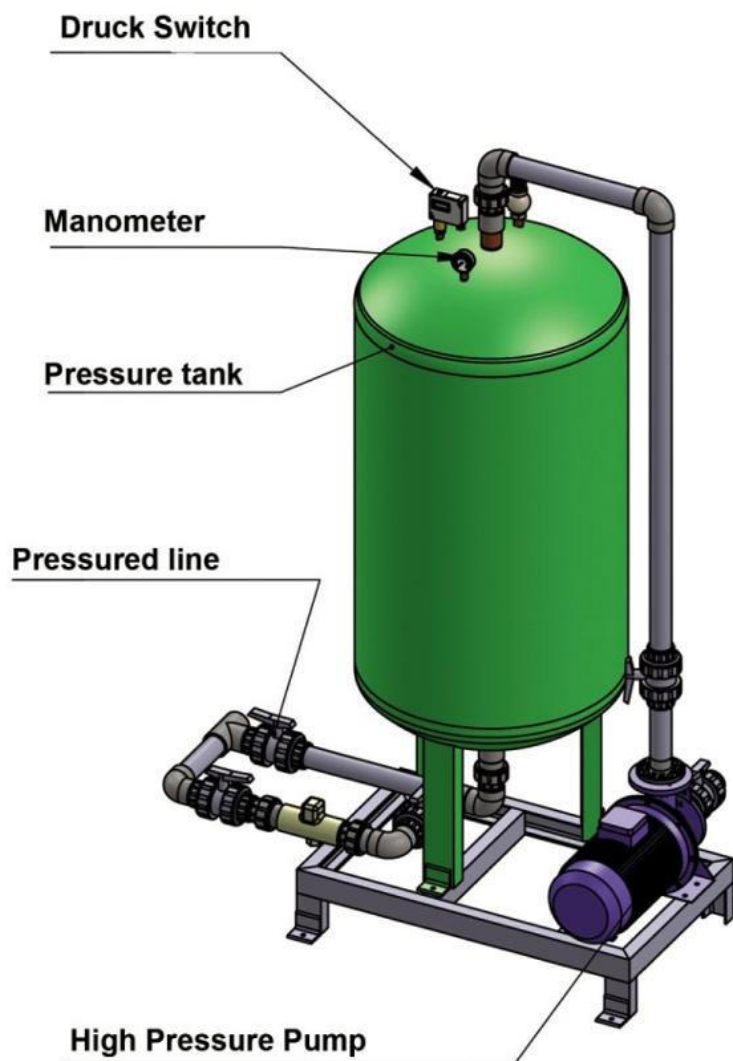
Manufactured from St37 and/or AISI 304 material

- Used in slaughtering WW, milk and milk products, domestic .. etc WW treatment plant after coarse screening



DAF Pressured Tank

- Manufactured from St 37 or AISI 304 material
- Used in DAF units to pressurize the DAF tank
- Has a chassis, a high pressured pump and a manometer
- DAF Pressured Tank is specially desinged by GESU.



Coarse Screen

- Manufactured from AISI 304 or AISI 316 Material.
- Used for first screening in waste water facilities.
- Pieces up to 30 mm caught at this equipment.



Fine Screen

- Manufactured from AISI 304 or AISI 316 Material.
- Used for second screening in waste water facilities.
- Pieces up to 15 mm caught at this equipment.



Screening Press

- Manufactured from AISI 304 or AISI 316 Material.
- Used for dewatering and pressing screens' wastes.



Belt Conveyor

- Manufactured from galvanized ST37 material
- Used for carrying wastes of screening process.



Sand Separator

- Manufactured from AISI 304 or AISI 316 Material.
- Used for removing sand in DAF (Dissolve Air Floatation) systems.



Oil and Sand Removing Bridge

- Manufactured from galvanized St37 material.
- Used for removing sand and oil in DAF (Dissolve Air Floatation) systems.





- STRIPPERS
- THICKENERS
- JIB CRANE
- WEIRS
- SCREENING PRESS
- STATİK MIKSER
- ACID CREAKING UNITE



GESU Arıtma Sistemleri San. ve Tic. Ltd. Şti.

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KOSGEB