
SALHER
Water Solutions Worldwide
CATALOGUE
2023V3.0.11

With almost 40 years of experience, Salher provides solutions for urban and industrial wastewater treatments, drinking water treatments, grey water reuse systems, hydrocarbon separators, as well as accessories for wastewater treatments, all around the world.

Solutions

We design and manufacture our own equipment to ensure effective solutions.

"Our clients expect from our projects personalization and innovation, both are the values that drive us to the excellence and make the difference."

URBAN WATER & REUSE

INDUSTRIAL WATER

DRINKING WATER

Products

Our products cover the needs of a water treatment plant from start to finish by adding screening systems, such as endless screw sieves or rotary drum sieves, and other elements such as pumping stations, tertiary treatments for the water reuse and sludge dehydration systems.

Optionally, the treatment lines can be installed above-ground.

Services

Project and Design

Manufacturing

Supply

Commissioning

Maintenance

Courses & documentary support

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Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

Manual screens

Coarse screen with manual cleaning

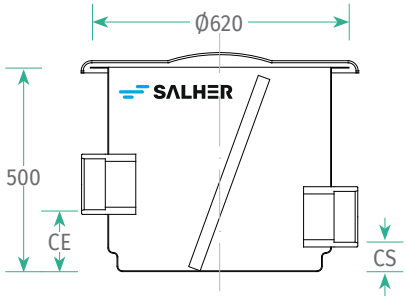
REF: CVA-ARG AND ARF

Function:

- Removal of coarse solids equal or larger than 10/30 mm from wastewater.

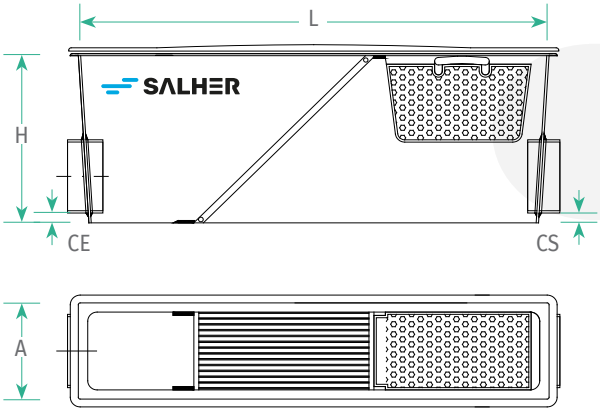
Characteristics:

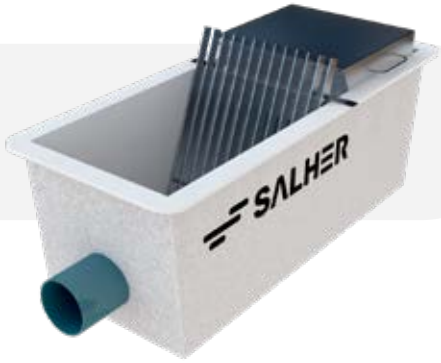
- Manhole in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Stainless steel retention screen solids with mesh of 10 and 30 mm.
- Manual cleaning through GFRP cover.
- PVC inlet and outlet.
- Stainless steel scraper to remove solids.



REF. (FLOW)	Ø MANHOLE [MM]	H [MM]	INLET [MM]	OUTLET [MM]	SCREEN OPENING [MM]	Ø PIPE [MM]
CVA-ARG (40M3/H)	620	500	150	70	30	110-160
CVA-ARF (20M3/H)	620	500	150	70	10	110-160

REF: CD-ARG AND ARF





REF. (FLOW)	L [MM]	H [MM]	A [MM]	INLET [MM]	OUTLET [MM]	SCREEN OPENING [MM]	Ø PIPE [MM]
CD-ARG (40M3/H)	1.000	365	200	60	50	30	110-160
CD-ARF (20M3/H)	1.000	365	430	60	50	10	110-315

Data and models of the table may vary.

Manual screens

Coarse and fine screen with manual cleaning for installation in GFRP canal

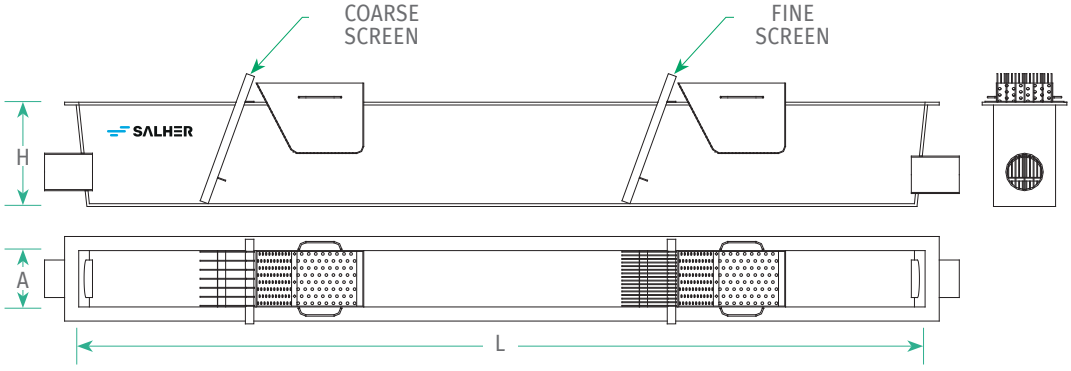
REF: CD-MA-D

Function:

- Removal of solids equal or larger than 6 mm from wastewater.

Characteristics:

- Canal manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Stainless steel screen with mesh of 30 mm for coarse solids.
- Stainless steel screen with mesh of 6 mm for fine solids.
- Manual cleaning system.
- PVC inlet and outlet.
- Stainless steel perforated baskets for waste dehydration.
- Canal with open top.
- Stainless steel scraper for manual removal of solids.



FLOW M3/H	A [MM]	H [MM]	CANAL LENGTH [MM]	INLET [MM]	OUTLET [MM]	COARSE SCREEN [MM]	FINE SCREEN [MM]	Ø PIPE [MM]
20	200	360	3.000	50	40	200X380	200X380	125
40	400	400	3.000	50	40	400X380	400X380	315

Data and models of the table may vary.

Semi-automatic screens

Coarse and fine screen, manual and automatic cleaning, for installation in GFRP canal

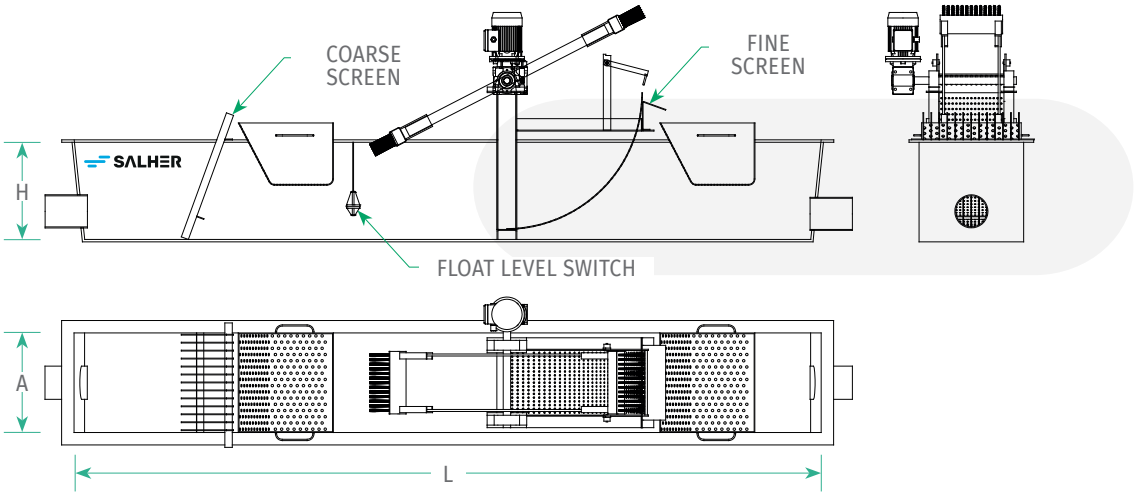
REF: CD-MA-RAC

Function:

- Removal of solids equal or larger than 6 mm.

Characteristics:

- Canal manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Stainless steel screen with mesh of 30 mm for coarse solids.
- Stainless steel screen with mesh of 6 mm for fine solids.
- Manual cleaning system for primary screen and automatic for secondary screen.
- PVC inlet and outlet.
- Stainless steel perforated baskets for waste dehydration.
- Canal with open top.
- Stainless steel scraper for manual removal of solids.
- Float level switch for emergency start.
- Electrical panel board in option.



FLOW M3/H	A [MM]	H [MM]	CANAL LENGTH [MM]	INLET [MM]	OUTLET [MM]	COARSE SCREEN [MM]	FINE SCREEN [MM]	Ø PIPE [MM]
20	200	360	3.000	50	40	200X380	200X380	125
40	400	400	3.000	50	40	400X380	400X380	315

Data and models of the table may vary.

Semi-automatic screens

Fine screen with automatic cleaning for civil engineering

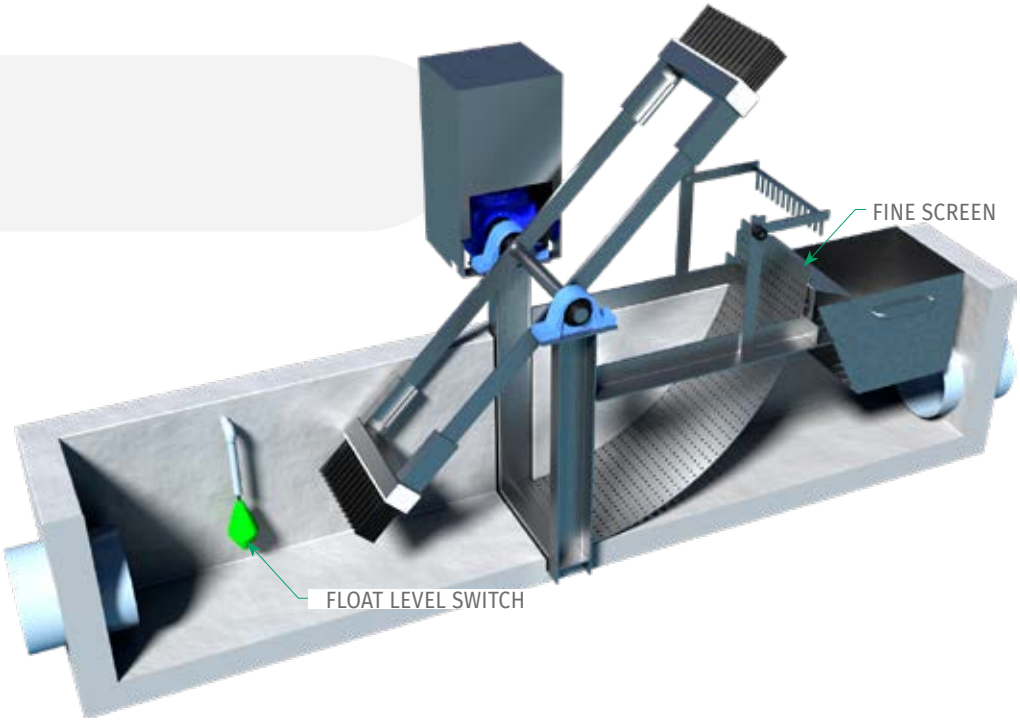
REF: RAC

Function:

- Removal of solids equal or larger than 6 mm.

Characteristics:

- Stainless steel screen with perforated mesh of 6 mm.
- Automatic cleaning system.
- Stainless steel perforated basket for waste dehydration.
- Electrical panel board in option.
- Float level switch for emergency start.



FLOW M3/H	SCREEN WIDTH [MM]	SCREEN HEIGHT [MM]	FINE SCREEN [MM]	GEAR MOTOR KW
20	200	360	200X380	0,18
40	400	400	400X380	0,18

Data and models of the table may vary.

Automatic screens

Sieve for coarse solids for installation on pumping stations and manholes

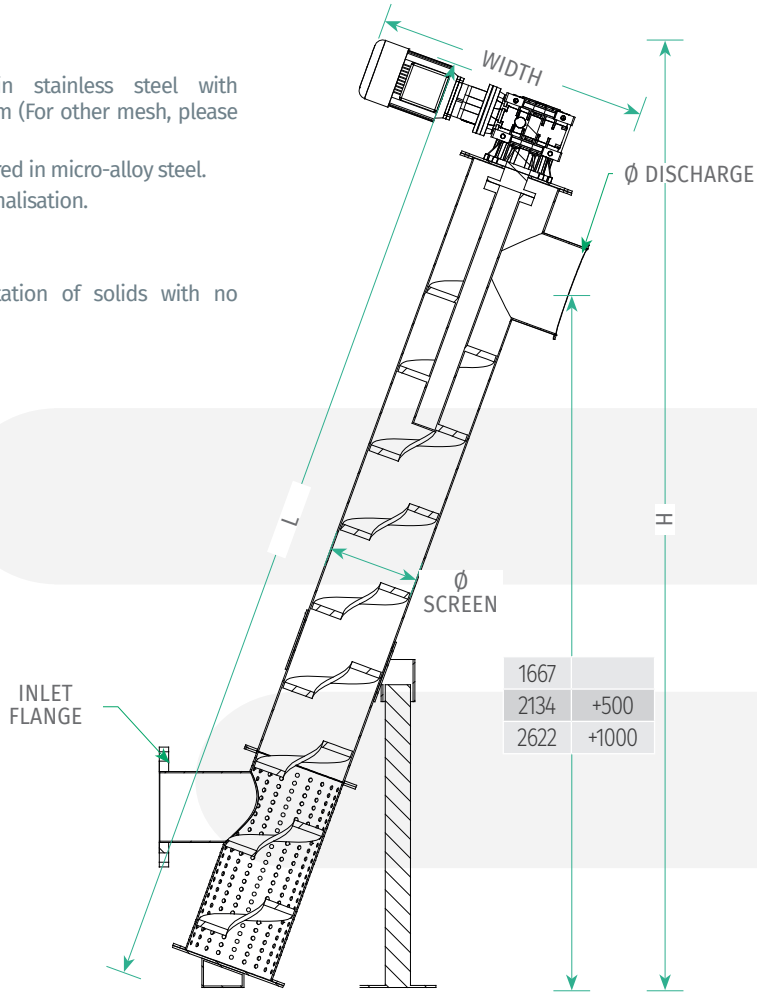
REF: TA-HEL-MINI

Function:

- Removal of solids equal or larger than 15 mm.

Characteristics:

- Screen manufactured in stainless steel with perforated mesh of 15 mm (For other mesh, please consult).
- Endless screw manufactured in micro-alloy steel.
- Possibility to install on canalisation.
- Motor reducer of 0,37 kW.
- Float level switch.
- Screening and transportation of solids with no maintenance.



REFERENCE	L [MM]	H [MM]	Ø DISCHARGE [MM]	Ø SCREEN [MM]	WIDTH [MM]	ANGLE	INLET FLANGE DN	P (KW)	MESH [MM]	Q (M3/H)
TA-HEL-MINI 1	2265	2252	219,1	219,1	638	70°	150	0,37	15	30
TA-HEL-MINI 2	2765	2720	219,1	219,1	638	70°	150	0,37	15	30
TA-HEL-MINI 3	3265	3190	219,1	219,1	638	70°	150	0,37	15	30

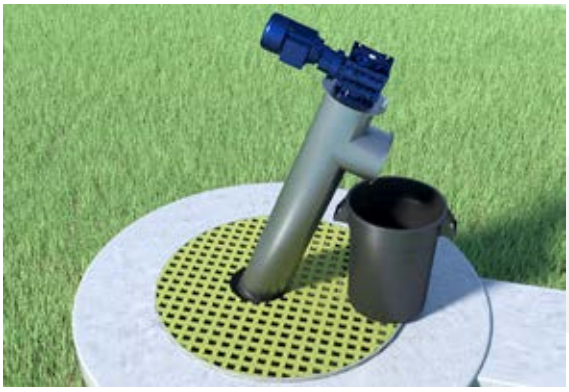
NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

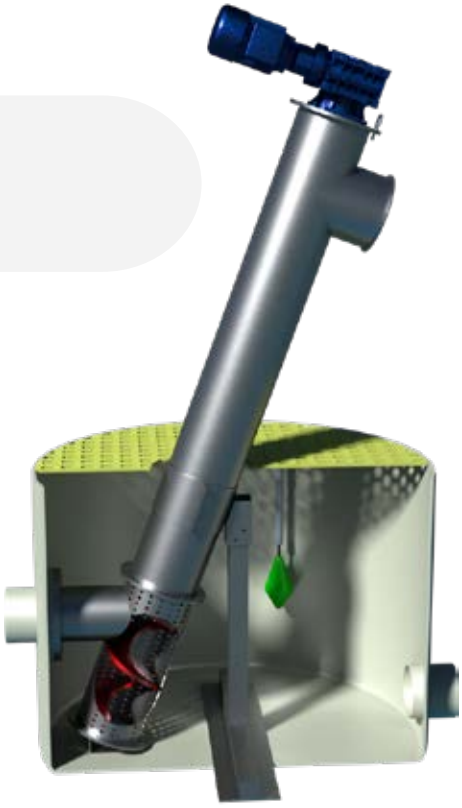
Data and models of the table may vary.

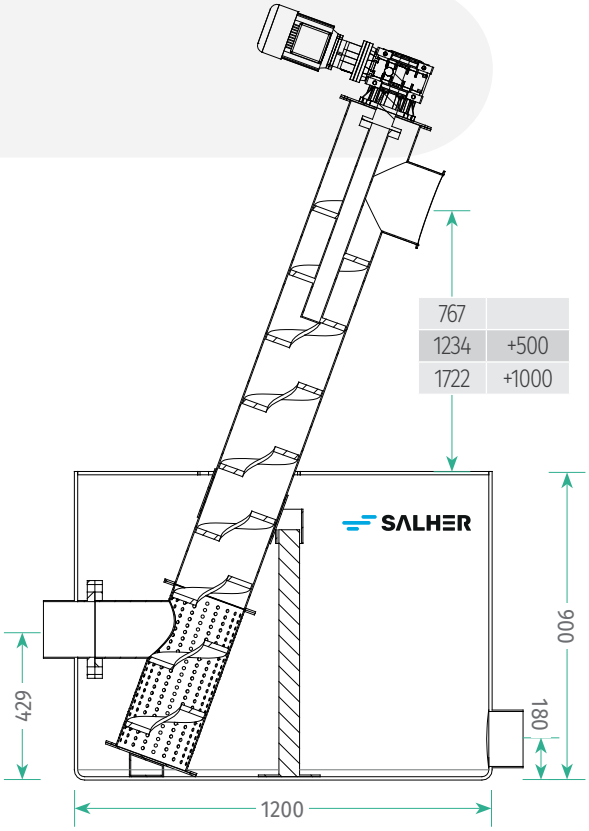
REF: CARCASA TA-HEL-MINI

Function:

- Manhole manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.







REFERENCE
CARCASA TA-HEL-MINI

ELECTRICAL PANEL BOARD (OPTION)
QE TA-HEL-MINI

Data and models of the table may vary.

Automatic screens

Helical screw sieve with automatic cleaning, waste dehydration and compaction, for installation in civil engineering canal

REF: TA-HEL

1

Function:

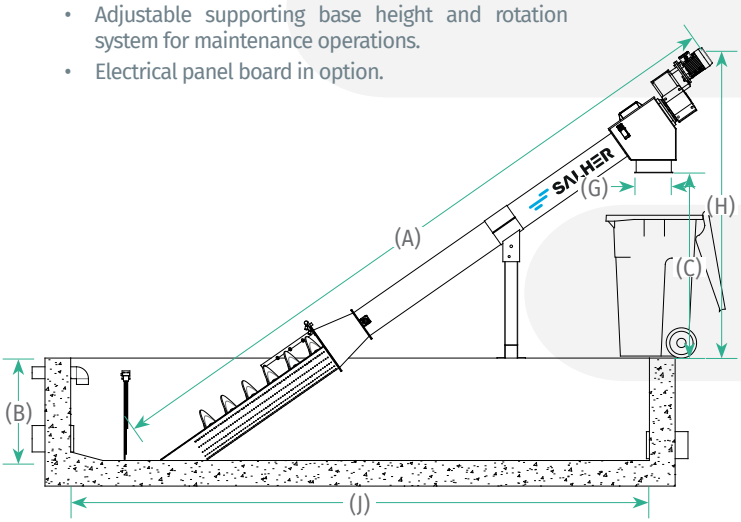
- Removal of solids equal or larger than 3 mm, waste dehydration and compacting system.

Characteristics:

- Totally dismountable stainless steel AISI 304 equipment.
- Fine screen in stainless steel with opening size from 3 to 10 mm.
- Endless screw manufactured in micro-alloy steel, no central shaft, working angle of 35°.
- Continuous cleaning system of mesh with brushes placed on the endless screw.
- Automatic cleaning system with brushes and pressurized water.
- Automatic waste dehydration system and compactor.
- Neoprene bands for lateral water-tightness.
- Adjustable supporting base height and rotation system for maintenance operations.
- Electrical panel board in option.

Accessories:

- Automatic cleaning system:
  * Cleaning electrovalve N/C 1/2": cleaning system automation.
  * Filter in Y 1/2": protection and retention of particles carried by the water.
  * Ball valve 1/2": closure of the cleaning connection if necessary.
- Safety switch on top cover.
- Emergency stop.
- Conductive level sensor by rods for equipment operation automation.



REF. TA-HEL	(A) LENGTH [MM]	(B) H CANAL [MM]	(C) H DISCHARGE [MM]	(E) WIDTH CANAL [MM]	(F) WIDTH SIEVE [MM]	(G) Ø DISCHARGE [MM]	(H) TOTAL H [MM]	(J) 0 [MM]	P. [KW]	OPENING SIZE [MM]
200 SP	2.849	500	530	≥300	240	168	1.250	≥2335	0,55	3 - 10
200	4.800	800	1.320	≥300	230	168	2.050	≥3712	0,55	3 - 10
400	5.300	800	1.450	≥450	400	273	2.440	≥4328	1,1	3 - 10
600	6.040	1.000	1.440	≥750	670	406	2.650	≥4800	1,5	3 - 10

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

Data and models of the table may vary.

Automatic screens

Helical screw sieve for fine solids with automatic cleaning, waste dehydration and compacting system, for aboveground installation

REF: TA-HEL-S

Function:

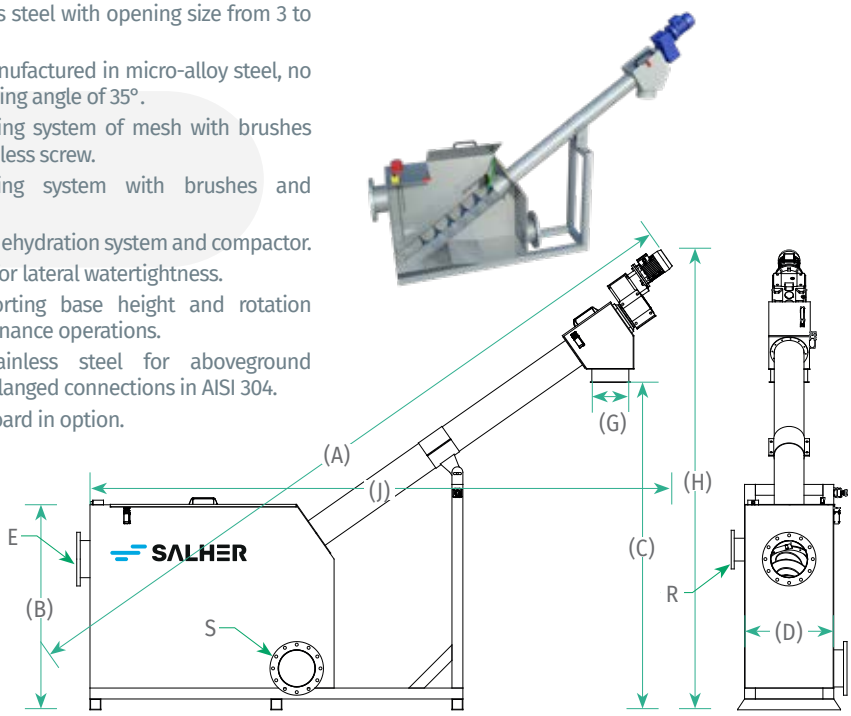
- Removal of solids equal or larger than 3 mm, waste dehydration and compacting system.
- Ideal for installation down the pumping stations.

Characteristics:

- Totally dismountable stainless steel AISI 304 equipment.
- Fine solids screen in stainless steel with perforated mesh.
- Screen in stainless steel with opening size from 3 to 10 mm.
- Endless screw manufactured in micro-alloy steel, no central shalf, working angle of 35°.
- Continuous cleaning system of mesh with brushes placed on the endless screw.
- Automatic cleaning system with brushes and pressurized water.
- Automatic waste dehydration system and compactor.
- Neoprene bands for lateral watertightness.
- Adjustable supporting base height and rotation system for maintenance operations.
- Structure in stainless steel for aboveground installation, with flanged connections in AISI 304.
- Electrical panel board in option.

Accessories:

- Automatic cleaning system:
  * Cleaning electrovalve N/C 1/2": cleaning system automation.
  * Filter in Y 1/2": protection and retention of particles carried by the cleaning water.
  * Ball valve 1/2": closure of the cleaning connection if necessary.
- Safety switch on top cover.
- Emergency stop.
- Conductive level sensor by rods for equipment operation automation.



REF. TA-HEL-S	(A) [MM]	(B) [MM]	(C) [MM]	(D) [MM]	(G) [MM]	(H) [MM]	(J) [MM]	P. KW	OPENING SIZE [MM]	FLANGES (E/S/R) DN
200 SP	2920	855	1194	408	165	1910	2435	0,55	3-10	100/125/100
200	4900	1100	2280	558	165	2990	3975	0,55	3-10	200/200/125
400	5400	1350	2410	658	269	3390	4390	1,10	3-10	250/250/150
600	6130	1700	2640	868	406	3830	4870	1,5	3-10	300/400/300

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

Data and models of the table may vary.

TABLE OF FLOWS

REF. OPENING SIZE [MM]	TA-HEL 200(S)-SP	TA-HEL(S) 200	TA-HEL(S) 400	TA-HEL(S) 600
	MAXIMUM FLOW CLEAN WATER WITH PERFORATED MESH [M³/H]			
3	20	40	90	350
4	33	65	129	385
5	45	80	155	425
6	59	99	185	460
10	90	115	215	540

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

Data and models of the table may vary.

Automatic screens

Helical screw sieve for fine solids with automatic cleaning for pumping stations

REF: TA-HEL-PB

Function:

- Removal of solids equal or larger than 20 mm, waste dehydration and compacting system.
- Designed to be installed in a pumping station.

Characteristics:

- Totally dismountable stainless steel AISI 304 equipment.
- Screen manufactured in stainless steel with perforated mesh.
- Opening size of 20 mm.
- Endless screw manufactured in micro-alloy steel, no central shaft, working angle of 90°.
- Automatic cleaning system with brushes and pressurized water.
- Automatic cleaning system with spray nozzles and pressurized water.
- Waste dehydration and compacting system.
- Collection water tank for pipes diameter up to Ø 250 mm.

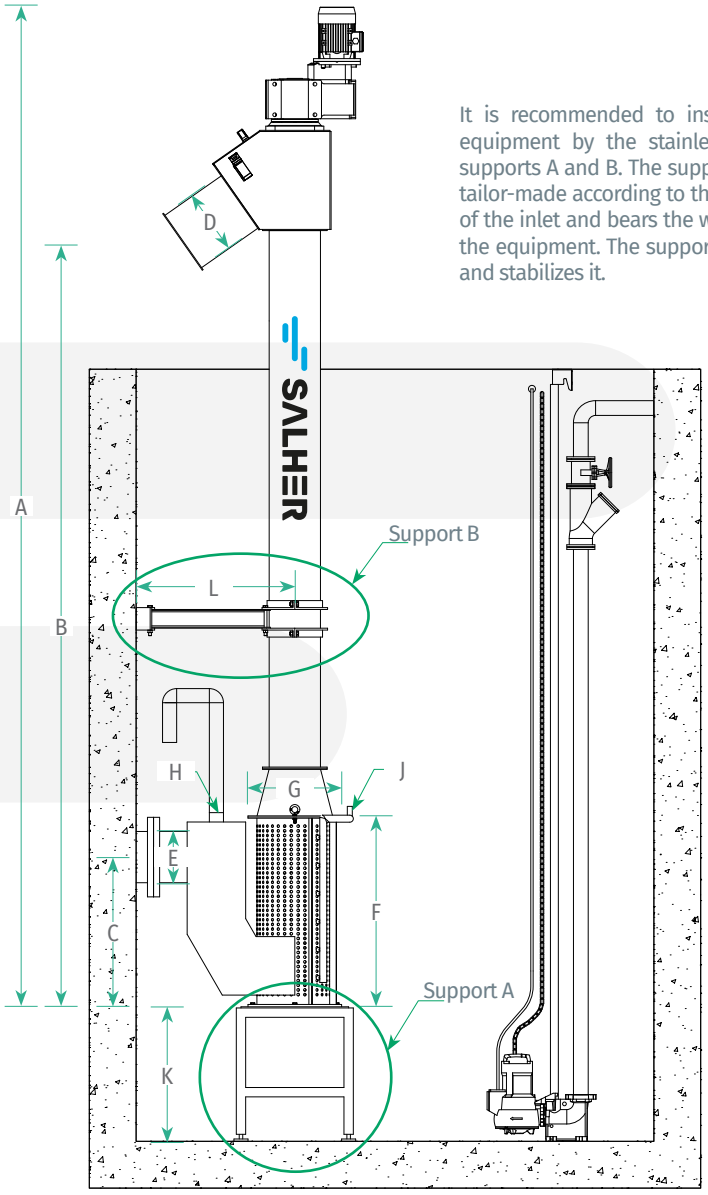
Accessories:

- Automatic cleaning system:
  * Cleaning electrovalve N/C 1/2": cleaning system automation.
  * Filter in Y 1/2": protection and retention of particles carried by the cleaning water.
  * Ball valve 1/2": closure of the cleaning connection if necessary.
- Safety switch on top cover.
- Emergency stop.
- Conductive level sensor by rods for equipment operation automation.

REFERENCE	A [MM]	B [MM]	C [MM]	D [MM]	E	F [MM]	G [MM]	H	J	P [KW]
TA-HEL-PB 1500	3300±500	2300	640	273	DN200	806	400	2"	1/2"	1,1
TA-HEL-PB 2000	3800±500	2800	640	273	DN200	806	400	2"	1/2"	1,1
TA-HEL-PB 2500	4300±500	3300	640	273	DN200	806	400	2"	1/2"	1,1

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

Data and models of the table may vary.



It is recommended to install the equipment by the stainless steel supports A and B. The support A is tailor-made according to the height of the inlet and bears the weight of the equipment. The support B fixes and stabilizes it.

1

SUPPORT A

REFERENCE	K [MM]
HEL-A 1	1.000
HEL-A 2	2.000
HEL-A 3	3.000
HEL-A 4	4.000

SUPPORT B

REFERENCE	L [MM]
HEL-B 1	680
HEL-B 2	1.500

Automatic screens

Rotary drum sieve for small flows

REF: TARO -MINI

Function:

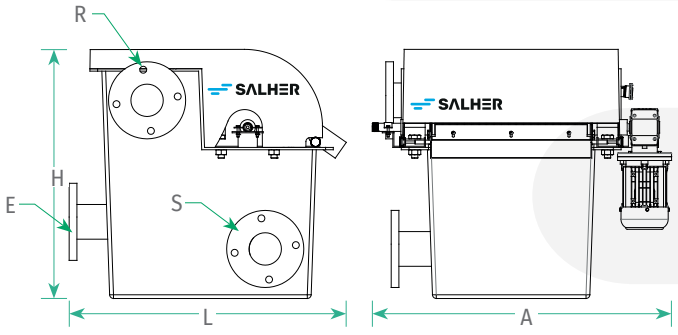
- Solids filtration or sieve (solid-liquid separation). Removal of fine solids from 0,5 to 3 mm.

Characteristics:

- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester).
- Filtering cylinder manufactured in stainless steel AISI 316 by helical winding. Johnson type triangular profile.
- Opening sizes from 0,5 to 3 mm.
- Automatic double cleaning system composed of scraper and cleaning through spray nozzles with pressurized system water.
- Flanged inlet, outlet and overflow GFRP pipes.
- Supports for aboveground installation.
- GFRP protection cover for filtering drum.

Accessories:

- Automatic cleaning system:
  * Cleaning electrovalve N/C 1/2": cleaning system automation.
  * Filter in Y 1/2": protection and retention of particles carried by the cleaning water.
  * Ball valve 1/2": closure of the cleaning connection if necessary.
- Emergency stop button.
- Butterfly valve installed on inlet.
- Safety switch on top cover.
- Electrical panel board in option.



MATERIAL	SIEVE WIDTH [MM]	SIEVE HEIGHT [MM]	SIEVE LENGTH [MM]	MOTOR POWER [KW]	FLANGES (E, S, R) DN
GFRP/AISI304	780	650	810	0,12	80

OPENING SIZE [MM]	Q MAX CLEAN WATER [M3/H]
0,50	10,8
1,00	17,5
2,00	24,9
3,00	28,1

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

Data and models of the table may vary.

REF: TA-RO

Function:

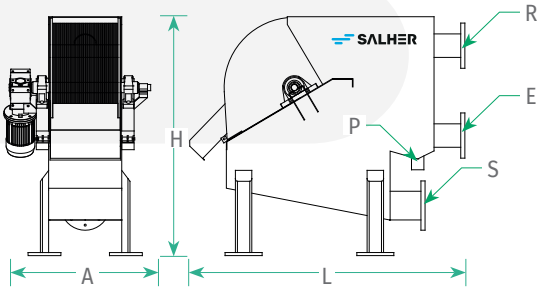
- Solids filtration or sieve (solid-liquid separation). Removal of fine solids from 0,25 to 3 mm.

Characteristics:

- Manufactured in stainless steel AISI 304. Option: AISI 316.
- Stainless steel filtering drum in AISI 304 manufactured with helical winding. Johnson type triangular profile.
- Opening size comprised between 0,25 and 3 mm.
- Double automatic cleaning system with scraper and cleaning system with spray nozzles and pressurized water.
- Flanged connections in AISI 304.
- Supports for aboveground installation.

Accessories:

- Automatic cleaning system:
  * Cleaning electrovalve N/C 3/4": cleaning system automation.
  * Filter in Y 3/4": protection and retention of particles carried by the cleaning water.
  * Ball valve 3/4": closure of the cleaning connection if necessary.
- Emergency stop button.
- Butterfly valve on inlet.
- Ball valve on low drain connection.
- Electrical panel board in option.



TYPE	SCREEN WIDTH [MM]	SCREEN HEIGHT [MM]	SCREEN LENGTH [MM]	Ø CYLINDER [MM]	CYLINDER LENGTH [MM]	POWER MOTOR [KW]	FLANGES DN
TARO - 300	720	1300	1530	625	325	0,25	100/150/100/50
TARO – 600	1020	1300	1530	625	625	0,25	150/200/100/50
TARO - 1200	1620	1300	1530	625	1225	0,25	200/250/150/50

TIPO	OPENING SIZE (MM) 0,25	0,50	1,00	2,00	3,00
	MAXIMUM CLEAN WATER FLOW RATE (M3/H)				
TARO – 300	20	35	50	80	110
TARO – 600	40	72	105	155	190
TARO – 1200	75	135	205	309	375

NOTE: Pretreatments are mainly designed for standard urban wastewater. For industrial discharges or others, consult and wait for confirmation.

REF: COMPAC-TA–RO

Function:

- Compaction and dehydration of waste separated by the rotary drum sieve to reduce its volume and unpleasant odours. Transports waste to a hopper.

REFERENCE
COMPAC-TARO – 300
COMPAC-TARO – 600
COMPAC-TARO - 1200

REF: TAPA-TARO

Function:

- Safety protection. Rotary drum cover.
- Safety button: the drum stops functioning when the cover is lifted.

REFERENCE
TAPA-TARO – 300
TAPA-TARO – 600
TAPA-TARO - 1200

Data and models of the table may vary.

REF: ES-TARO

Function:

- Raising support for rotary drum sieve TARO.

Characteristics:

- Manufactured in INOX 304.
- Access ladder with guardrail and upper technical platform with rail with height larger than 3 m.

REF.	H [MM]	A [MM]	B [MM]	C [MM]
ES-TARO 300	1200	456		456
	1500	1520	2480	1121
	2000	1520	2980	1121
	2500	1520	3480	1121
	3000	1520	3980	1421
	3500	1520	4480	1421
	4000	1520	4980	1421
ES-TARO 600	1200	456		756
	1500	1520	2480	1420
	2000	1520	2980	1420
	2500	1520	3480	1420
	3000	1520	3980	1720
	3500	1520	4480	1720
	4000	1520	4980	1720
ES-TARO 1200	1200	456		1356
	1500	1520	2480	2021
	2000	1520	2980	2021
	2500	1520	3480	2021
	3000	1520	3980	2231
	3500	1520	4480	2231
	4000	1520	4980	2231

REF: TOLVA

Function:

- Hopper to collect separated solids issued from rotary drum sieves models TARO and TARO-MINI.

Characteristics:

- Manufactured in GFRP.

REF: TOLVA-T

Function:

- Reinforced PVC waste tube with steel screw fixed by a clamp ring to the hopper to collect the separated solids from rotary drum sieves, models TARO and TARO-MINI.

MODEL SIEVE	A [MM]	B [MM]	C [MM]	D Ø [MM]
TARO 300	490	426	350	265
TARO 600	790	426	350	265
TARO 1.200	1.390	426	350	265
TARO – MINI	490	426	350	265

Data and models of the table may vary.

REF: PPC-TAHEL AND PPC-TAHEL-D

Automatic pre-treatment plants to remove grease, fine solids and sand. Composed of: automatic fine solids sieve, ref: TAHEL-S and automatic grease separator, ref: PSG. Two versions: sand removal by Airlift pump (ref: PPC-TAHEL) or automatic sand removal by endless screw sieve (ref: PPC-TAHEL-D).

1

Function:

- Removal of fine solids from 3 to 10 mm.
- Waste dehydration and compaction.
- Removal of sand and solids.
- Removal of oil and grease.

Characteristics:

Sand removal and grease separator Ref. PPC-TAHEL or PPC-TAHEL-D, SALHER brand. Composed of:

- Structure manufactured in GFRP (Glass Fiber Reinforced Polyester) with chemical resistance to corrosion.
- Supports and access structure in treated carbon steel.
- Removal of fine solids by helical endless screw sieve Ref. TAHEL-S, SALHER brand. Manufactured in AISI 304, with waste dehydration and compacting system.
- Removal of oil and grease by plant Ref. PSG:
  - -Separation and concentration system of floating particles by compressor and fine bubble diffusers.
  - -Automatic removal system of floating particles by surface scrapers adjustable in height.
  - -Sand and solids separation and concentration system.
  - -Removal of sand and solids by endless screw or Airlift pump. The latter can be combined with a solids and sludge concentrator (Ref. FILSA), please see Chapter 9.
- Electrical panel board for protection and command of the plant.

REFERENCE	MAXIMUM FLOW [M³/H]	SIEVE MODEL	SIEVE OPENING SIZE [MM]	MATERIAL PPC/SIEVE
PPC 1-TA-HEL	11	TAHEL S 200SP	6	GFRP / AISI 304
PPC 2-TA-HEL	22	TAHEL S 200SP	6	GFRP / AISI 304
PPC 3-TA-HEL	44	TAHEL S 200	6	GFRP / AISI 304
PPC 4-TA-HEL	88	TAHEL S 400	6	GFRP / AISI 304
PPC 5-TA-HEL	130	TAHEL S 400	6	GFRP / AISI 304
PPC 6-TA-HEL	173	TAHEL S 600	6	GFRP / AISI 304

NOTES:
Pre-treatment is designed for standard urban wastewater. For industrial discharge or other uses, please wait for use confirmation.
Equipment is supplied in disassembled modules for easy transport on standard maritime containers.

Data and models of the table may vary.

STRUCTURE

- In GFRP (Glass Fiber Reinforced Polyester) with chemical resistance to corrosion and treated carbon steel structure.

SIEVE

- Removal of fine solids by endless screw sieve with waste dehydration and compacting system manufactured in reinforced stainless steel AISI 304L, resistant to erosion, clean and pickled weld.

GREASE REMOVAL SYSTEM

- Separation, accumulation and concentration of oil and grease by fine bubble diffusers and scrapers for floating particles removal.

SAND SEPARATION

- Separation, accumulation and concentration of sand and solids by fine bubble diffusers.

SAND REMOVAL

- PPC-TAHEL-D sand removal by endless screw sieve.
- PPC-TAHEL sand removal by Airlift pump.

Data and models of the table may vary.

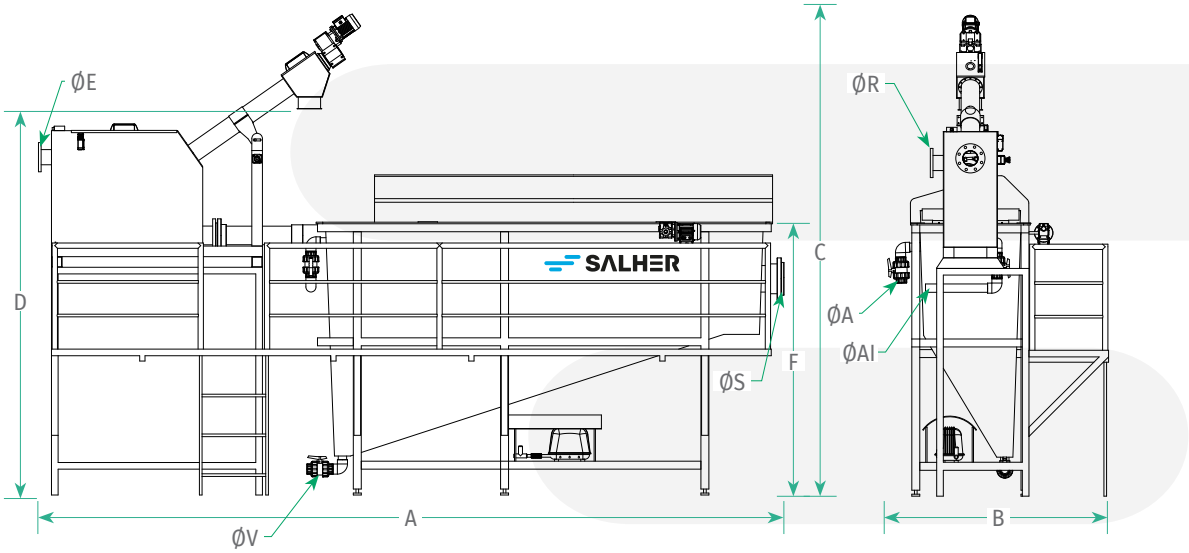
REF: PPC-TAHEL

With Airlift pump for sand removal.

1

TECHNICAL DATA

REFERENCE	A LENGTH [MM]	B WIDTH [MM]	C HEIGHT[MM]	D DISCHARGE TAHEL [MM]	F HEIGHT PSG [MM]	TOTAL POWER [KW]
PPC 1-TA-HEL	5620	1720	3630	2920	2060	2,32
PPC 2-TA-HEL	6120	1720	3630	2920	2060	2,32
PPC 3-TA-HEL	6560	2120	4250	2920	2060	2,32
PPC 4-TA-HEL	8560	2120	4670	3540	2060	3,07
PPC 5-TA-HEL	9960	2120	4670	3690	2060	3,07
PPC 6-TA-HEL	10500	2120	4670	3690	2060	3,47



HYDRAULIC CONNECTIONS

REFERENCE	ØE	ØR	ØS	ØV	ØA	ØAI
PPC 1-TA-HEL	DN 150	DN 100	DN 200	2"	2"	2"
PPC 2-TA-HEL	DN 150	DN 100	DN 200	2"	2"	2"
PPC 3-TA-HEL	DN 150	DN 100	DN 200	2"	2"	2"
PPC 4-TA-HEL	DN 200	DN 125	DN 250	2"	2"	2"
PPC 5-TA-HEL	DN 250	DN 250	DN 300	2"	2"	2"
PPC 6-TA-HEL	DN 250	DN 250	DN 300	2"	2"	2"

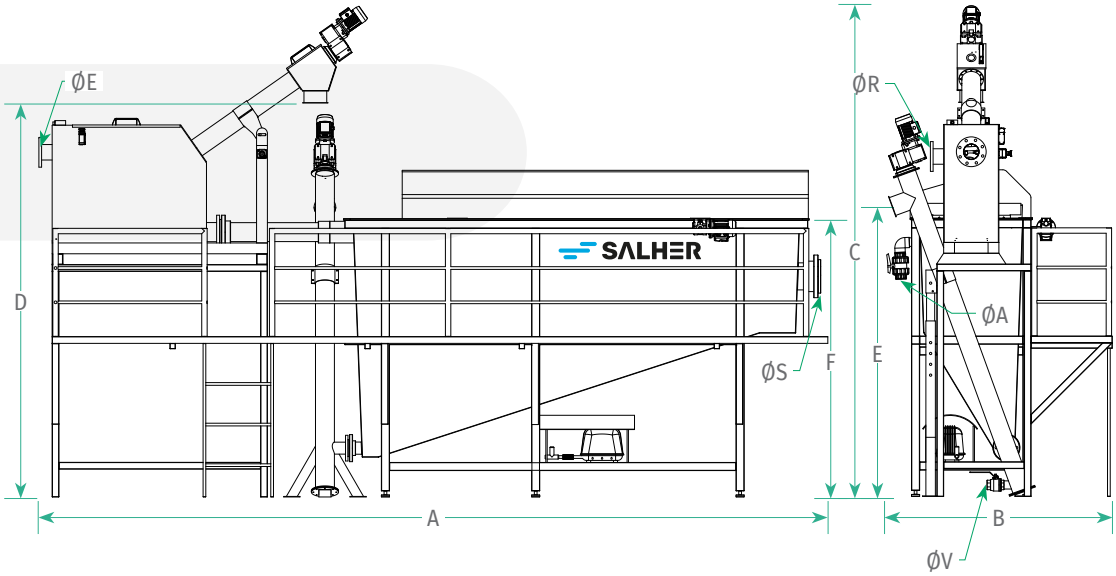
Data and models of the table may vary.

REF: PPC-TAHEL-D

With endless screw sieve for sand removal.

TECHNICAL DATA

REFERENCE	A LENGTH [MM]	B WIDTH [MM]	C HEIGHT [MM]	D DISCHARGE TAHEL [MM]	E ENDLESS SCREW DISCHARGE [MM]	F HEIGHT PSG [MM]	TOTAL POWER [KW]
PPC 1-TA-HEL-D	5780	1720	3630	2920	2200	2060	2,32
PPC 2-TA-HEL-D	6320	1720	3630	2920	2200	2060	2,32
PPC 3-TA-HEL-D	6760	2120	4250	2920	2200	2060	2,32
PPC 4-TA-HEL-D	8760	2120	4670	3540	2200	2060	3,07
PPC 5-TA-HEL-D	10160	2120	4670	3690	2200	2060	3,07
PPC 6-TA-HEL-D	10700	2120	4670	3690	2200	2060	3,47



HYDRAULIC CONNECTIONS

REFERENCE	ØE	ØR	ØS	ØV	ØA
PPC 1-TA-HEL-D	DN 150	DN 100	DN 200	2”	2”
PPC 2-TA-HEL-D	DN 150	DN 100	DN 200	2”	2”
PPC 3-TA-HEL-D	DN 150	DN 100	DN 200	2”	2”
PPC 4-TA-HEL-D	DN 200	DN 125	DN 250	2”	2”
PPC 5-TA-HEL-D	DN 250	DN 250	DN 300	2”	2”
PPC 6-TA-HEL-D	DN 250	DN 250	DN 300	2”	2”

Data and models of the table may vary.

REF: PPC-TARO AND PPC-TARO-D

Automatic pre-treatment plants to remove grease, fine solids and sand. Composed of: automatic fine solids sieve Ref. TARO and automatic grease separator Ref. PSG. Two versions: sand removal by Airlift pump (Ref. PPC-TARO) or automatic sand removal by endless screw sieve (Ref. PPC-TARO-D).

1

Function:

- Removal of fine solids from 3 to 10 mm.
- Waste dehydration and compaction.
- Removal of sand and solids.
- Removal of oil and grease.

Characteristics:

Sand removal and grease separator Ref. PPC-TARO or PPC-TARO-D, SALHER brand, composed of:

- Structure manufactured in GFRP (Glass Fiber Reinforced Polyester) with chemical resistance to corrosion.
- Supports and access structure in treated carbon steel.
- Removal of fine solids by rotary drum sieve Ref. TARO, SALHER brand. Manufactured in AISI 304.
- Removal of oil and grease by plant Ref. PSG:
  - -Separation and concentration system of floating particles by compressor and fine bubble diffusers.
  - -Automatic removal system of floating particles by surface scrapers adjustable in height.
  - -Sand and solids separation and concentration system.
  - -Removal of sand and solids by endless screw or Airlift pump. The latter can be combined with a solids and sludge concentrator (Ref. FILSA), please see Chapter 9.
- Electrical panel board for protection and command of the plant.

REFERENCE	MAXIMUM FLOW [M³/H]	SIEVE MODEL	SIEVE OPENING SIZE [MM]	MATERIAL PPC/SIEVE
PPC 1-TA-RO	11	TARO 300	3	GFRP / AISI 304
PPC 2-TA-RO	22	TARO 300	3	GFRP / AISI 304
PPC 3-TA-RO	44	TARO 300	3	GFRP / AISI 304
PPC 4-TA-RO	88	TARO 600	3	GFRP / AISI 304
PPC 5-TA-RO	130	TARO 600	3	GFRP / AISI 304
PPC 6-TA-RO	173	TARO 1200	3	GFRP / AISI 304

NOTES:
Pre-treatment is designed for standard urban wastewater. For industrial discharge or other uses, please wait for use confirmation.
Equipment is supplied in disassembled modules for easy transport on standard maritime containers.

Data and models of the table may vary.

Automatic screens

Compact pretreatment plant - rotary drum sieve

STRUCTURE

- In GFRP (Glass Fiber Reinforced Polyester) with chemical resistance to corrosion and treated carbon steel structure.

SIEVE

- Removal of fine solids by endless screw sieve with waste dehydration and compacting system manufactured in reinforced stainless steel AISI 304L, resistant to erosion, clean and pickled weld.

GREASE REMOVAL SYSTEM

- Separation, accumulation and concentration of oil and grease by fine bubble diffusers and scrapers for floating particles removal.

SAND SEPARATION

- Separation, accumulation and concentration of sand and solids by fine bubble diffusers.

SAND REMOVAL

- PPC-TARO-D sand removal by endless screw.
- PPC-TARO sand removal by Airlift pump.

Data and models of the table may vary.

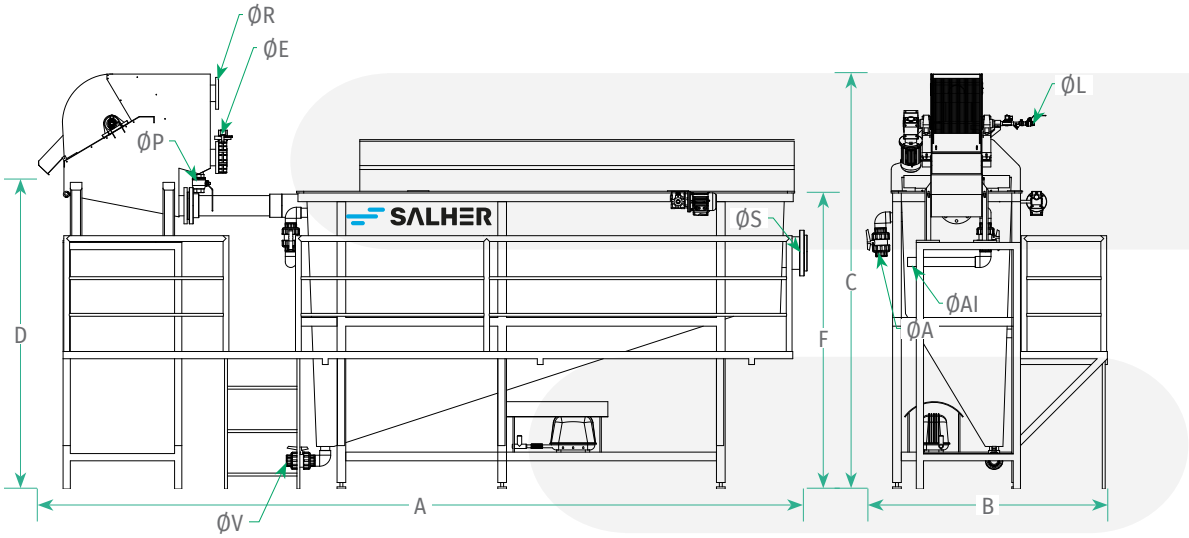
REF: PPC-TARO

With Airlift pump for sand removal.

1

TECHNICAL DATA

REFERENCE	A LENGTH [MM]	B WIDTH [MM]	C HEIGHT [MM]	D DISCHARGE TARO [MM]	F HEIGHT PSG [MM]	TOTAL POWER [KW]
PPC 1-TA-RO	5510	1720	3020	2300	2060	2,02
PPC 2-TA-RO	6010	1720	3020	2300	2060	2,02
PPC 3-TA-RO	6550	2120	3020	2300	2060	2,02
PPC 4-TA-RO	7670	2120	3020	2300	2060	2,22
PPC 5-TA-RO	8790	2120	3050	2350	2060	2,22
PPC 6-TA-RO	9190	2320	3050	2350	2060	2,22



HYDRAULIC CONNECTIONS

REFERENCE	ØE	ØR	ØP	ØS	ØV	ØA	ØL	ØAI
PPC 1-TA-RO	DN 100	DN 100	2"	DN 200	2"	2"	¾"	2"
PPC 2-TA-RO	DN 100	DN 100	2"	DN 200	2"	2"	¾"	2"
PPC 3-TA-RO	DN 100	DN 100	2"	DN 200	2"	2"	¾"	2"
PPC 4-TA-RO	DN 150	DN 100	2"	DN 250	2"	2"	¾"	2"
PPC 5-TA-RO	DN 150	DN 100	2"	DN 300	2"	2"	¾"	2"
PPC 6-TA-RO	DN 200	DN 150	2"	DN 300	2"	2"	¾"	2"

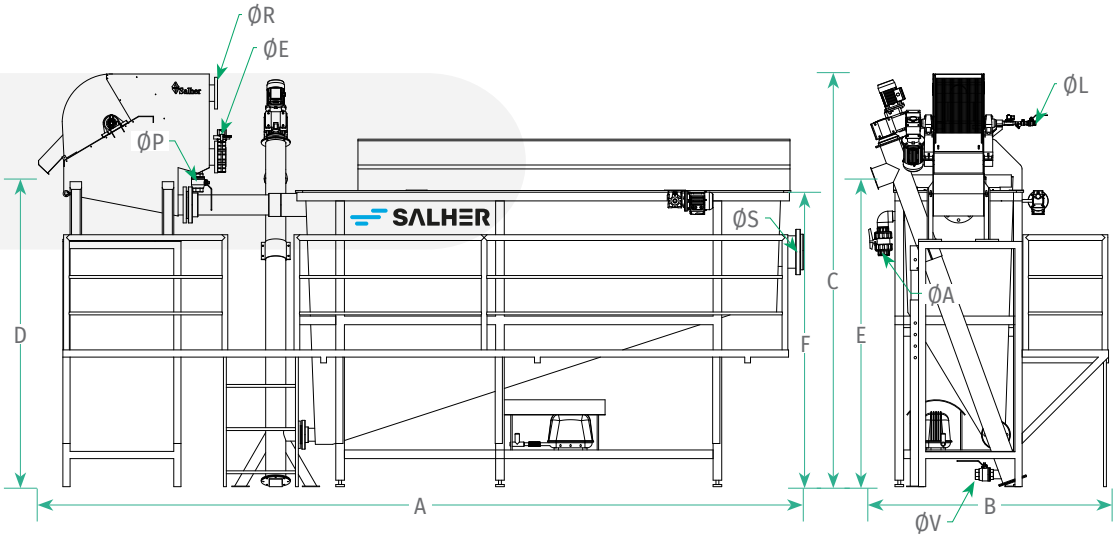
Data and models of the table may vary.

REF: PPC-TARO-D

With endless screw sieve for sand removal.

TECHNICAL DATA

REFERENCE	A LENGTH [MM]	B WIDTH [MM]	C HEIGHT [MM]	D TARO DISCHARGE [MM]	E ENDLESS SCREW DISCHARGE [MM]	F HEIGHT PSG [MM]	TOTAL POWER [KW]
PPC 1-TA-RO-D	5510	1720	3020	2300	2200	2060	2,02
PPC 2-TA-RO-D	6010	1720	3020	2300	2200	2060	2,02
PPC 3-TA-RO-D	6550	2120	3020	2300	2200	2060	2,02
PPC 4-TA-RO-D	7670	1970	3020	2300	2200	2060	2,22
PPC 5-TA-RO-D	8790	2120	3050	2350	2200	2060	2,22
PPC 6-TA-RO-D	9190	2320	3050	2350	2200	2060	2,22



HYDRAULIC CONNECTIONS

REFERENCE	ØE	ØR	ØP	ØS	ØV	ØA	ØL
PPC 1-TA-RO-D	DN 100	DN 100	2"	DN 200	2"	2"	¾"
PPC 2-TA-RO-D	DN 100	DN 100	2"	DN 200	2"	2"	¾"
PPC 3-TA-RO-D	DN 100	DN 100	2"	DN 200	2"	2"	¾"
PPC 4-TA-RO-D	DN 150	DN 100	2"	DN 250	2"	2"	¾"
PPC 5-TA-RO-D	DN 150	DN 100	2"	DN 300	2"	2"	¾"
PPC 6-TA-RO-D	DN 200	DN 150	2"	DN 300	2"	2"	¾"

Data and models of the table may vary.

REF: CVC-CG

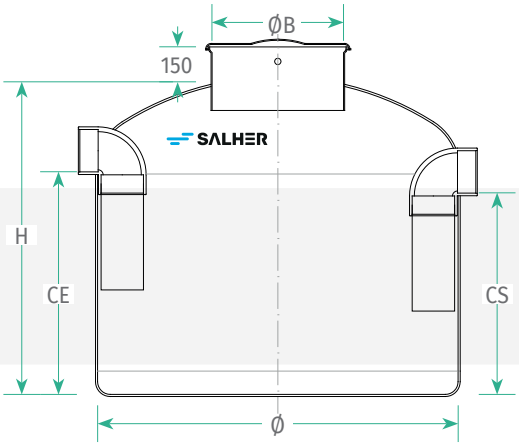
Function:

- Separation of organic (vegetable and animal) oil and grease from wastewater by density difference. This equipment does not separate emulsified oil.

NOTE: For non-organic and mineral fat, oil and grease, please refer to Oil/water separators.

Characteristics:

- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins in accordance with EN 1825-1:2005.
- Manual removal of oil and grease through upper manhole with GFRP cover.
- PVC inlet and outlet. Connection in the manhole to install a ventilation pipe.
- Possibility to add specific bacteria to improve grease removal.
- Oil and grease detection alarm in option.



NOMINAL SIZE	PE	VOLUME [LITERS]	Ø [MM]	H [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	INLET [MM]	OUTLET [MM]
0,75	< 5	250	750	650	400	125	450	400
1,5	6 - 10	500	1000	750	400	125	470	420
2	11 - 25	750	1000	1070	400	125	850	800
3	26 - 49	1000	1000	1320	400	125	1100	1050
4,5	50 - 99	1500	1400	1200	400	125	850	800
6	100 - 149	2000	1400	1440	500	160	1100	1050
9	150 - 199	3000	1700	1490	620	160	1050	950
12	200 - 299	4000	1700	1930	620	200	1480	1380
15	300 - 399	5000	2000	1800	620	200	1550	1450
18	400 - 499	6000	2000	2110	620	200	1580	1480
21	500 - 599	7000	2000	2430	620	200	1900	1800
25	600 - 699	8000	2000	2750	620	200	2210	2100
27	700 - 799	9000	2500	2080	620	200	1430	1330
30	800 - 899	10000	2500	2280	620	250	1630	1530
35	900 - 1000	11100	2500	2490	620	315	1900	1700

Data and models of the table may vary.

REF: CHC-CG

Function:

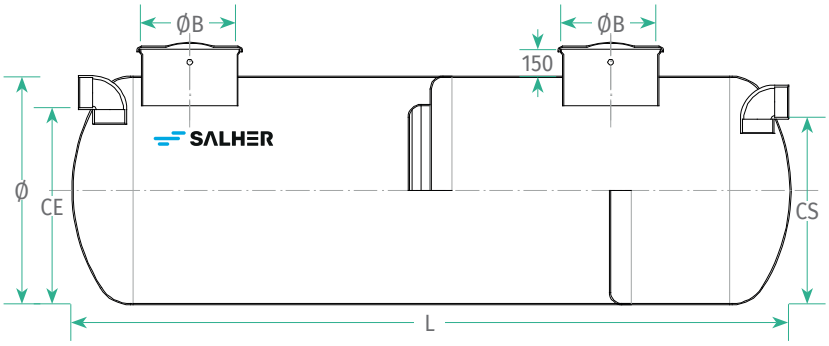
- Separation of organic (vegetable and animal) oil and grease from wastewater by density difference. This equipment does not separate emulsified oil.

NOTE: For non-organic and mineral fat, oil and grease, please refer to Oil/water separators.

Options

Characteristics:

- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins in accordance with EN 1825-1:2005.
- High performance of oil and grease removal due to large surface.
- Manual removal of oil and grease through manholes with GFRP covers.
- PVC inlet and outlet. Connection in the manhole to install a ventilation pipe.
- Possibility to add specific bacteria to improve grease removal.
- Oil and grease detection alarm in option.



NOMINAL SIZE	VOLUME [LITERS]	Ø [MM]	LENGTH [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	INLET [MM]	OUTLET [MM]
6	2.000	1.000	2.800	1 X 500	125	875	825
12	4.000	1.200	3.800	2 X 500	200	1.000	950
18	6.000	1.200	5.530	2 X 500	200	1.000	950
24	8.000	1.400	5.500	2 X 500	200	1.200	1.150
30	10.000	1.400	6.760	2 X 500	250	1.150	1.100
35	12.000	1.700	5.605	2 X 500	315	1.385	1.335

Data and models of the table may vary.

REF: CHC-DES

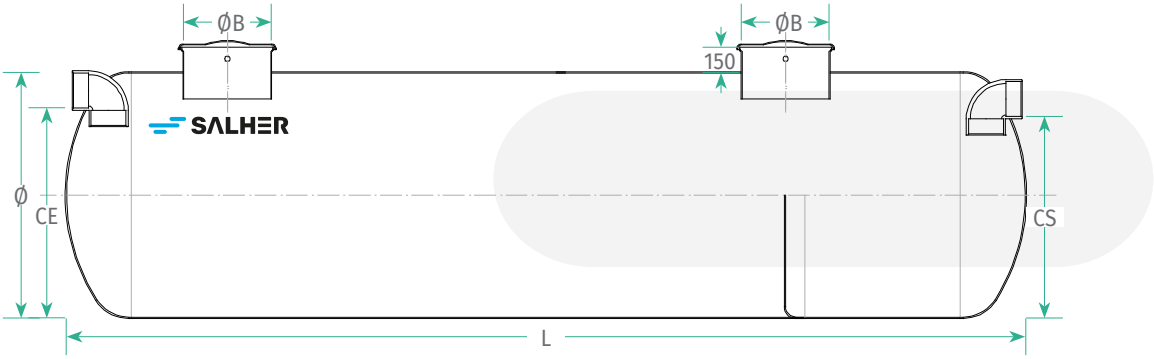
Function:

Options

- Removal of sand and solids by density difference.

Characteristics:

- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- High performance of sand and solids removal due to large surface.
- Manual removal of sand and solids through manholes with GFRP covers.
- PVC inlet and outlet. Connection in the manhole to install a ventilation pipe.
- Oil and grease detection alarm in option.



VOLUME [LITERS]	Ø [MM]	LENGTH [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
2.000	1.000	2.800	1 X 500	125	875	825
4.000	1.200	3.800	2 X 500	160	1.040	990
6.000	1.200	5.530	2 X 500	200	1.000	950
8.000	1.400	5.500	2 X 500	200	1.200	1.150
10.000	1.400	6.760	2 X 500	315	1.085	1.035
12.000	1.700	5.605	2 X 500	315	1.385	1.335
15.000	1.700	6.930	2 X 500	315	1.385	1.335

Data and models of the table may vary.

REF: CHC-E

Function:

- Wastewater storage when urban wastewater release is not authorized.

Options

Characteristics:

- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins especially designed to store wastewater.
- Wastewater removal through upper manhole with GFRP cover.
- PVC inlet and outlet. Connection in the manhole to install a ventilation pipe.
- Maximum level alarm with float level switch and electrical panel board including acoustic alarm.

VOLUME [LITERS]	Ø [MM]	LENGTH [MM]	Ø PIPE [MM]	INLET [MM]
1.000	1.000	1.470	125	875
1.500	1.200	1.560	125	1.075
2.000	1.200	2.007	125	1.075
2.500	1.400	1.905	125	1.275
3.000	1.400	2.230	125	1.275
4.000	1.400	2.880	125	1.275
5.000	1.700	2.540	125	1.575
6.000	1.700	2.980	125	1.575
7.000	1.700	3.420	125	1.575
8.000	1.700	3.860	125	1.575
9.000	1.700	4.300	125	1.575
10.000	2.000	3.580	160	1.840
11.000	2.000	3.890	160	1.840
12.000	2.000	4.214	160	1.840
13.000	2.000	4.530	160	1.840
14.000	2.000	4.850	160	1.840
15.000	2.000	5.170	160	1.840
20.000	2.000	6.760	160	1.840

Optional: (Please refer to Chapter Accessories)

- Reference: SAM: Alarm system including a maximum float level switch and a panel board with acoustic and visual signal.
- Reference: TAPA-D40: Cast iron cover for trafficked areas.
- Reference: CVA-P: Manhole extension for a deeper installation.

Data and models of the table may vary.

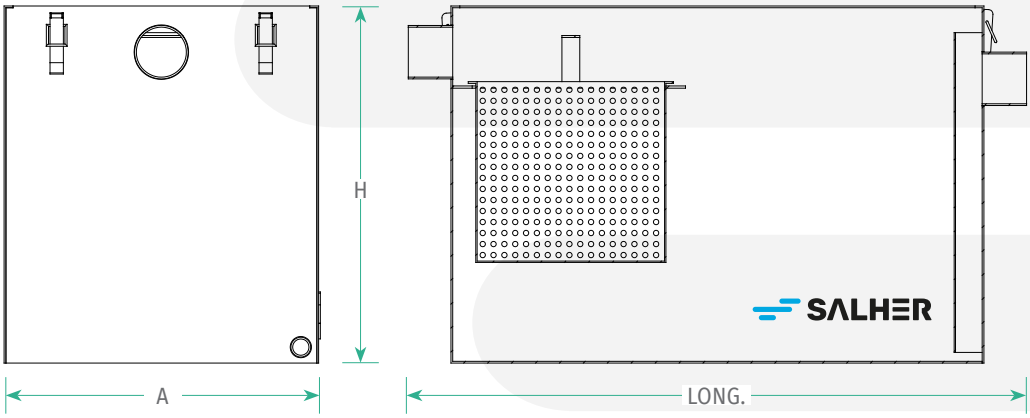
REF: CG-MAN

Function:

- Separation and collection of grease, oil and solids issued from kitchen wastewater. Manual, quick and easy grease recovery.

Characteristics:

- Equipment manufactured in accordance with EN 1825 in AISI 304/316 stainless steel.
- Removable coarse solids screen basket in AISI 304/316.
- Direct grease collection.
- Easy handling and maintenance.
- Easy installation.
- In accordance with EN 1825.
- Packaging included.
- Drain ball valve.



REFERENCE	FLOW [L/S]	WIDTH [MM]	LENGTH [MM]	HEIGHT [MM]	CAPACITY [L]	INLET [INCH]	OUTLET [INCH]
CG-MAN-MINI	0,25	350	400	350	49	1 1/2"	1 1/2"
CG-MAN-MED	0,75	350	600	400	84	2"	2"
CG-MAN-MAX	2,00	500	800	500	200	2"	2"

REFERENCE	N° SINKS*	MEALS /DAY	DIMENSIONS WITH PACKAGING
CG-MAN-MINI	1	< 35	500X420X360 MM
CG-MAN-MED	2	< 80	700X470X360 MM
CG-MAN-MAX	3	< 200	900X570X510 MM

*Sinks Ø50

Data and models of the table may vary.

Automatic grease traps

Automatic grease separator for aboveground installation

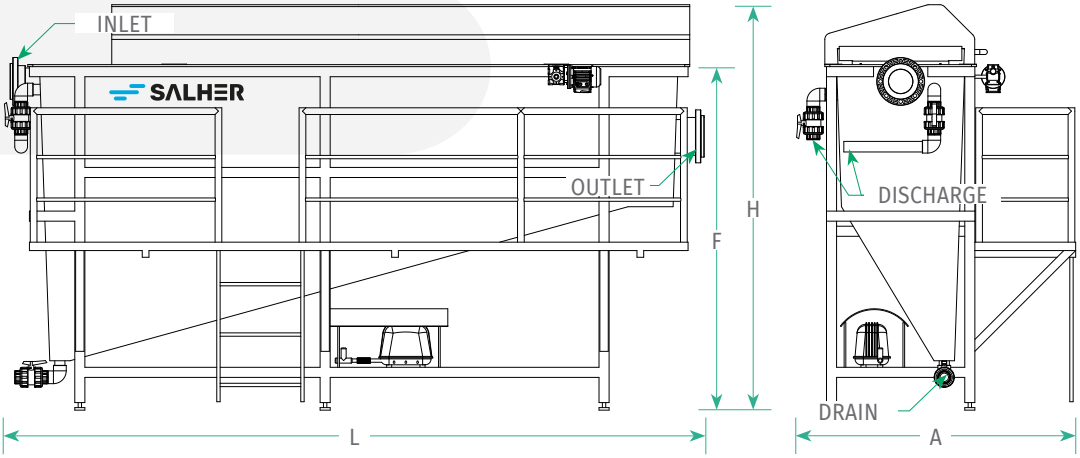
REF: PSG

Function:

- Removal of sand and solids.
- Removal of oil and grease.

Characteristics:

- Sand removal and degreasing plant Ref. PSG-PRFV, Salher brand, composed of a structure in GFRP (Glass Fiber Reinforced Polyester) with high chemical resistance to corrosive agent. Stainless steel structure.
- Sand and solids separation, accumulation and concentration.
- Oil and grease floating system with compressor and diffusers grid.
- Oil and grease removal system with surface scrapers.



REFERENCE	Q. MAXIMUM [M3/H]	(L) LENGTH [MM]	(A) WIDTH [MM]	(H) TOTAL H [MM]	(F) HEIGHT [MM]	INLET/ OUTLET DN	DRAIN/ DISCHARGE Ø [MM]	POWER INSTALLED KW
PSG-1	11	3.600	1.660	2415	2.060	150/200	63	0,67
PSG-2	22	4.105	1.660	2415	2.060	150/200	63	0,67
PSG-3	44	4.630	2.125	2430	2.060	150/200	63	0,67
PSG-4	88	5.460	2.125	2460	2.060	200/250	63	1,22
PSG-5	130	6.670	2.520	2460	2.060	250/300	63	1,22
PSG-6	173	7.190	2.520	2460	2.060	250/300	63	1,22

Data and models of the table may vary.

Automatic grease traps

Automatic grease separator for restaurant

REF: CG-AUT

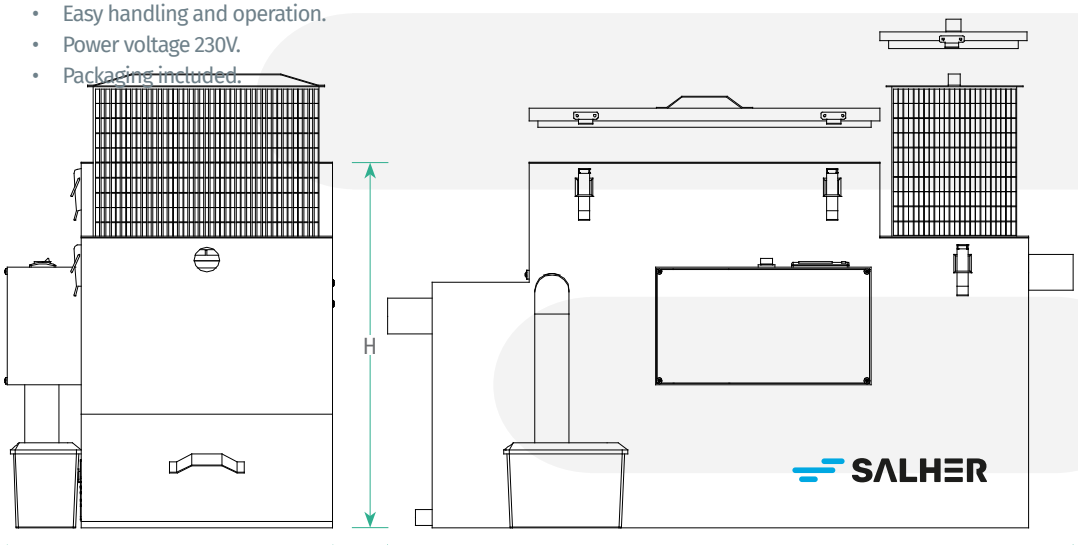
Function:

1

- Removal of oil and grease with automatic floating particles removal system.
- Separation of oil and grease in accordance with EN 1825. Perfect for hotel industry.

Characteristics:

- Manufactured in AISI 304/316 stainless steel.
- Easily removable screening basket for solids collection.
- Discs with scrapers for oil and grease removal.
- Timer to control the disc removal.
- Heating resistance to improve the separation and removal of oil, with thermostat for automatic operation.
- Quiet automatic operation.
- Easy handling and operation.
- Power voltage 230V.
- Packaging included.



REFERENCE	FLOW [L/S]	WIDTH [MM]	CAPACITY [L]	HEIGHT [MM]	LENGTH [MM]	INLET [MM]	OUTLET [MM]	CS SKIMMER [MM]	MOTOR / HEATER (W)
CG-AUT 0,25	0,25	270	40	365	512	210	170	195	8 / 750
CG-AUT 2	2	437	170	610	862	360	284	330	8 / 750

REFERENCE	N° SINKS*	MEALS /DAY	DIMENSIONS WITH PACKAGING
CG-AUT-0,25	1	< 25	600X350X380 MM
CG-AUT-2,0	2 OR 3	< 200	972X485X597 MM

*Sinks Ø50

Data and models of the table may vary.

Protection packaging for TARO and TAHEL. For maritime shipping, packaging is in accordance with NIMF-15 including anti-corrosion protection cover.

REFERENCE	LENGTH MM	WIDTH MM	HEIGHT MM
EMBAMINITARO	850	800	700
EMBATARO 300	1.330	730	1.180
EMBATARO 600	1.330	1.040	1.180
EMBATARO 1.200	1.620	1.330	1.180
EMBATAHEL200SP	3.000	640	600
EMBATAHEL 200	5.000	640	600
EMBATAHEL 400	5.500	840	600
EMBATAHEL 600	7.380	1.130	960

Data and models of the table may vary.

Primary treatments

2

Table of contents

Settling - digestion

Small vertical septic tank
REF: CVC-FS 46

Horizontal septic tank
REF: CHC-FS 47

Imhoff tank
REF: CHC-IMH 48

Truncated cone-shaped settling tanks

Closed static settling tank
REF: CVC-DC-TC 49

Open static settling tank
REF: CVA-DC-TC 50

Lamella clarifier

REF: DE-LA 51

DISSOLVED AIR FLOTATION UNIT

DISSOLVED AIR FLOTATION UNIT
REF: VESPA 52
REF: FLC 58

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

REF: CVC-FS

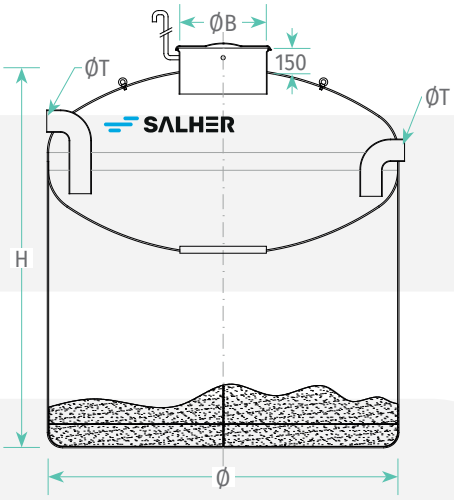
Function:

2

- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CVC-FS.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins in accordance with EN-12255-4.
- Suspended solids removal efficiency: 65-70% SS.
- Organic matter removal efficiency: 30-35% BOD5.
- Floating particles settling, digestion and separation chambers.
- PVC inlet and outlet.
- Cleaning and maintenance through manhole with GFRP cover. Access only for authorized operators.
- Outlet in the manhole to install a ventilation pipe.



PE	VOLUME [LITRES]	Ø [MM]	H [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]
2	500	1.000	750	400	125
5	1.000	1.000	1.320	400	125
10	1.500	1.400	1.340	500	125
15	2.250	1.400	1.620	500	125
20	3.000	1.400	2.040	500	125
25	3.750	1.700	1.820	500	125
30	4.500	1.700	2.230	500	125
35	5.250	1.700	2.490	500	125
40	6.000	2.000	2.120	500	125
45	6.750	2.000	2.350	500	125
50	7.500	2.000	2.590	620	160
60	9.000	2.000	3.060	620	160

Data and models of the table may vary.

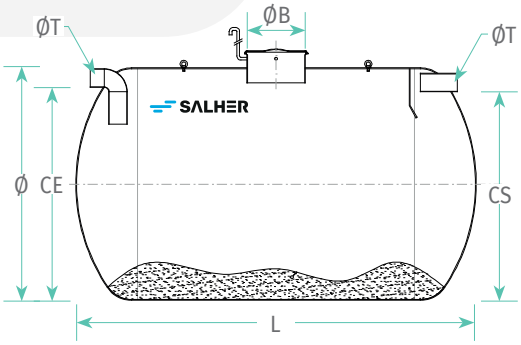
REF: CHC-FS

Function:

- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CHC-FS.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins in accordance with EN 12255-4.
- Suspended solids removal efficiency: 65-70% SS.
- Organic matter removal efficiency: 30-35% BOD5.
- Floating particles settling, digestion and separation chambers.
- PVC inlet and outlet.
- Cleaning and maintenance through manhole with GFRP cover. Access only for authorized operators.
- Outlet in the manhole to install a ventilation pipe.



PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
50	7500	2.000	2.790	620	160	1.840	1.790
60	9000	2.000	3.280	620	160	1.840	1.790
70	10500	2.000	3.750	620	160	1.840	1.790
80	12000	2.000	4.230	620	160	1.840	1.790
90	13500	2.000	4.700	620	160	1.840	1.790
100	15000	2.000	5.190	620	200	1.800	1.750
125	18750	2.500	4.320	620	200	2.300	2.250
150	22500	2.500	5.090	620	200	2.300	2.250
175	26250	2.500	5.850	620	200	2.300	2.250
200	30000	2.500	6.620	620	250	2.250	2.150
225	33750	2.500	7.380	620	250	2.250	2.150
250	37500	2.500	8.140	620	250	2.250	2.150
275	41250	2.500	8.910	620	250	2.250	2.150
300	45000	2.500	9.670	620	250	2.250	2.150
325	48750	2.500	10.440	620	250	2.250	2.150
350	52500	2.500	11.200	620	250	2.250	2.150
375	56250	2.500	11.960	620	250	2.250	2.150
400	60000	2.500	12.730	620	315	2.185	2.085

Data and models of the table may vary.

REF: CHC-IMH

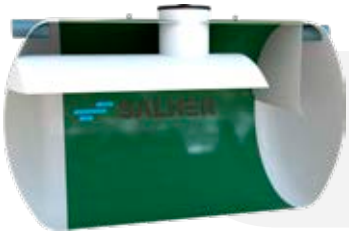
Function:

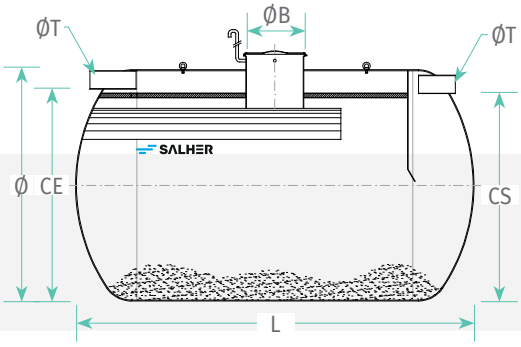
2

- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CHC-IMH.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins in accordance with EN 12255-4.
- Suspended solids removal efficiency: 70-75% SS.
- Organic matter removal efficiency: 35-40% BOD5.
- Horizontal separating baffle.
- Floating particles settling, digestion and separation chambers.
- PVC inlet and outlet.
- Cleaning and maintenance through manhole with GFRP cover. Access only for authorized operators.
- Outlet in the manhole to install a ventilation pipe.





PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
50	7.500	2.000	2.790	620	160	1.840	1.790
60	9.000	2.000	3.280	620	160	1.840	1.790
70	10.500	2.000	3.750	620	160	1.840	1.790
80	12.000	2.000	4.230	620	160	1.840	1.790
90	13.500	2.000	4.700	620	160	1.840	1.790
100	15.000	2.000	5.190	620	200	1.800	1.750
125	18.750	2.500	4.320	620	200	2.300	2.250
150	22.500	2.500	5.090	620	200	2.300	2.250
175	26.250	2.500	5.850	620	200	2.300	2.250
200	30.000	2.500	6.620	620	250	2.250	2.200
225	33.750	2.500	7.380	620	250	2.250	2.200
250	37.500	2.500	8.140	620	250	2.250	2.200
275	41.250	2.500	8.910	620	250	2.250	2.200
300	45.000	2.500	9.670	620	250	2.250	2.200
325	48.750	2.500	10.440	620	250	2.250	2.200
350	52.500	2.500	11.200	620	250	2.250	2.200
375	56.250	2.500	11.960	620	250	2.250	2.200
400	60.000	2.500	12.730	620	300	2.185	2.135

Data and models of the table may vary.

Truncated cone-shaped settling tanks

Closed static settling tank

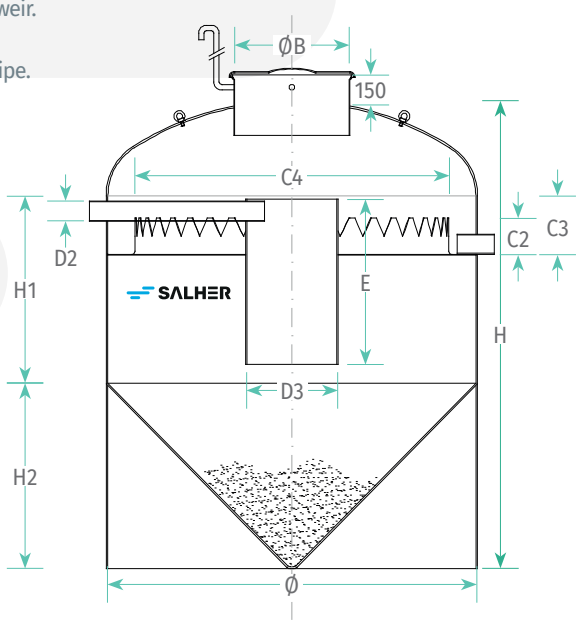
REF: CVC-DC-TC

Function:

- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CVC-DC-TC.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins. For underground installation.
- Shape: truncated-cone.
- Center-feed chamber and Thompson V-notch weir.
- PVC inlet and outlet.
- Outlet in the manhole to install a ventilation pipe.



Ø D	CENTRAL CYLINDER [MM]				PARTIAL HEIGHTS [MM]							VOLUME LITRES
	D1	D2	D3	E	H1	H2	H	C1	C2	C3	C4	
1.000	75	75	300	700	800	500	1.563	100	150	300	750	750
1.200	75	75	300	700	800	600	1.720	100	150	300	1.000	1.130
1.400	90	90	300	700	800	700	1.870	100	150	300	1.200	1.590
1.700	90	90	400	900	1.000	850	2.300	150	200	300	1.400	2.910
2.000	110	110	500	900	1.000	1.000	2.530	150	200	300	1.700	4.190
2.500	160	160	620	1.000	1.200	1.250	3.110	250	250	350	2.000	7.930
3.000	160	160	690	1.200	1.400	1.500	3.700	250	250	350	2.500	13.420
3.500	200	200	750	1.400	1.600	1.750	4.265	250	300	400	3.000	21.000
4.000	200	200	1.000	1.600	1.800	2.000	4.840	250	300	400	3.500	30.980

Data and models of the table may vary.

Truncated cone-shaped settling tanks

Open static settling tank

REF: CVA-DC-TC

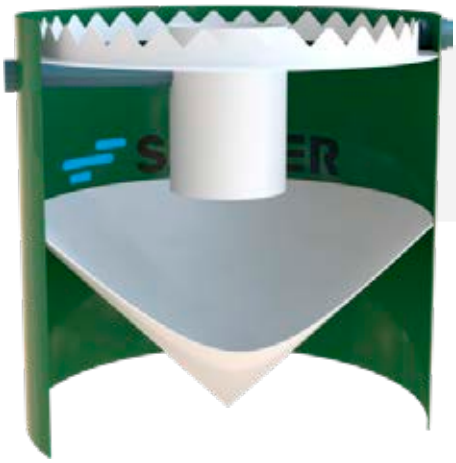
Function:

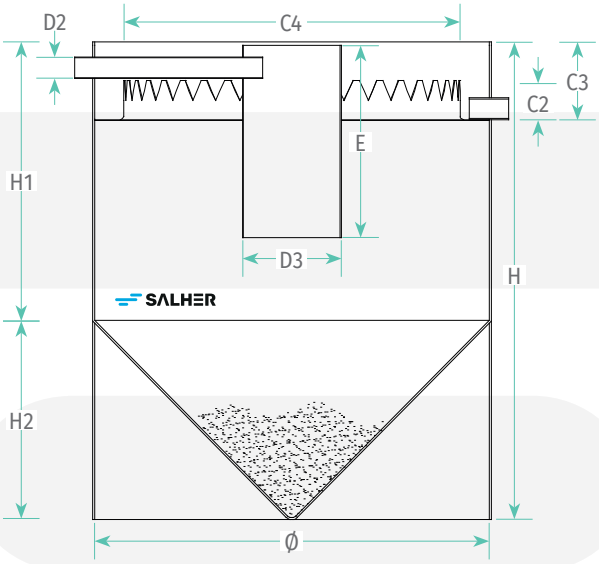
2

- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CVA-DC–TC.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins. For underground installation.
- Shape: truncated-cone.
- Center-feed chamber and Thompson V-notch weir.
- PVC inlet and outlet.
- Open on the top.





Ø D	CENTRAL CYLINDER [MM]				PARTIAL HEIGHTS [MM]							VOLUME LITRES
	D1	D2	D3	E	H1	H2	H	C1	C2	C3	C4	
1.000	75	75	300	700	800	500	1.300	100	150	300	750	750
1.200	75	75	300	700	800	600	1.400	100	150	300	1.000	1.130
1.400	90	90	300	700	800	700	1.500	100	150	300	1.200	1.590
1.700	90	90	400	900	1.000	850	1.850	150	200	300	1.400	2.910
2.000	110	110	500	900	1.000	1.000	2.000	150	200	300	1.700	4.190
2.500	160	160	620	1.000	1.200	1.250	2.450	250	250	350	2.000	7.930
3.000	160	160	690	1.200	1.400	1.500	2.900	250	250	350	2.500	13.420
3.500	200	200	750	1.400	1.600	1.750	3.350	250	300	400	3.000	21.000
4.000	200	200	1.000	1.600	1.800	2.000	3.800	250	300	400	3.500	30.980

Data and models of the table may vary.

Lamella clarifier

Lamella clarifier

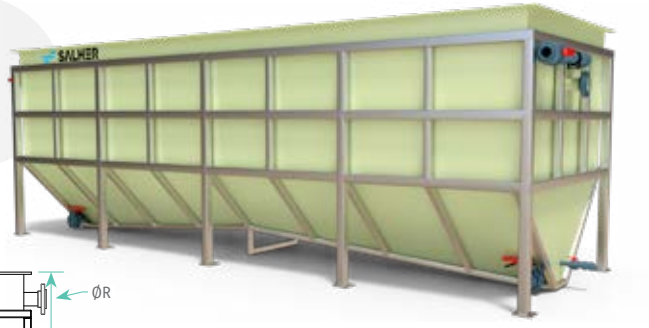
REF: DE-LA

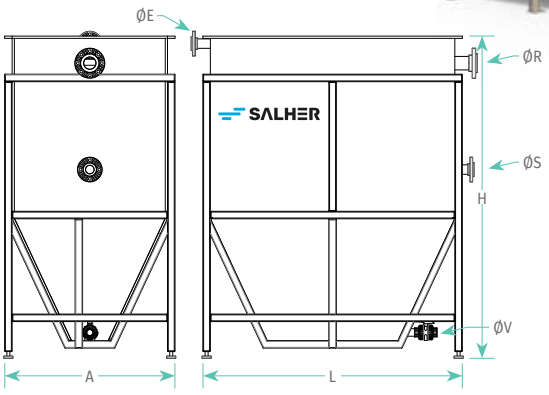
Function:

- Equipment designed to facilitate the continuous settling of suspended solids contained in water. The installation of lamellar modules in the settling compartment increases the effective surface of settling, improves the efficiency of the clarifier and reduces the tank surface. Equipment more compact and efficient.
- This system can be used in wastewater and water purification plants.
- Applications:
  * Potable water clarification.
  * Treatment of grey water.
  * Settling of surface and underground water.
  * Tertiary treatment.
  * Industrial wastewater.

Characteristics:

- Salher brand, model DE-LA.
- Tank manufactured in GFRP.
- External support frame manufactured in carbon steel with anti-corrosion protection. Optional: AISI 304 or AISI 316.
- Tube settler manufactured in PVC. Slope angle of 60°.
- Upper canal for clarified water collection.
- Flanged inlet, outlet and overflow connections.
- Ball valve installed on vacuum connection.
- Tube settler is removable.
- Options: flocculation pipe, maintenance footbridge with access ladder and tramex.





REFERENCE	FLOW [M3/H]	LENGTH [MM]	WIDTH (A) [MM]	HEIGHT (H) [MM]	ØE	ØS	ØR	ØV
DE-LA 5	5	2055	1255	2170	2”	2”	2”	1 1/4”
DE-LA 25	25	3680	2300	2164	4”	6”	6”	2”
DE-LA 50	50	6875	2285	2332	4”	6”	6”	3”

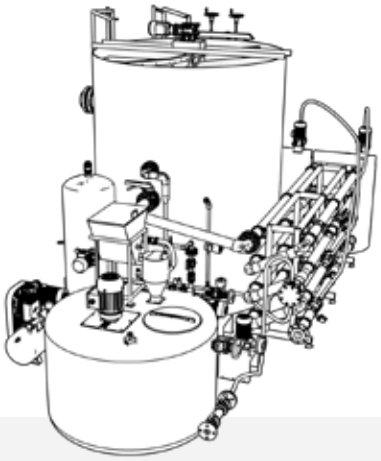
Data and models of the table may vary.

REF: VESPA

2

Function:

- The VESPA model, Salher brand, allows the separation of suspended solids, fats and oils in wastewater.



Characteristics:

- The main body is manufactured in GFRP with AISI 316L stainless steel components. The equipment is designed for easy transport in sea containers.
- With an appropriate preparation of the water to be treated, the performance of the equipment can be as high as:
  * BOD5 removal: 40% - 80%
  * COD removal: 60% - 80%.
  * Suspended solids, oils and grease removal: 90%

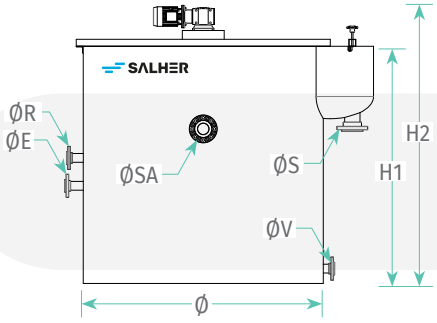
Data and models of the table may vary.

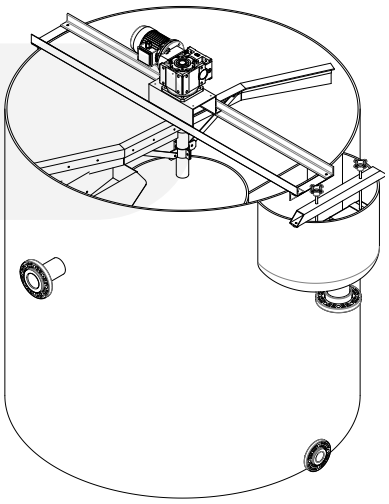
DISSOLVED AIR FLOTATION UNIT

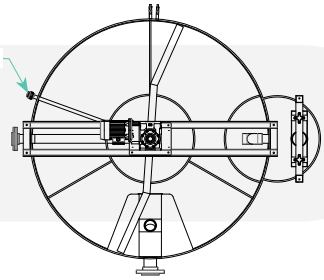
DISSOLVED AIR FLOTATION UNIT

MODEL	FLOW [M³/H]	Ø [MM]	H1 [MM]	H2 [MM]
VESPA 1,5	1,5	1400	1600	1950
VESPA 2,5	2,5	1700	1700	2050
VESPA 5	5	2000	2300	2650
VESPA 10	10	2250	2300	2650
VESPA 15	15	2250	2500	2850
VESPA 30	30	3000	2700	3050

*The flows are theoretical. They might vary according to the flow conditions.







Hydraulic connexion

MODEL	INLET Ø E [MM]	OUTLET Ø S [MM]	RECIRC. Ø R [MM]	EMPTYING Ø V [MM]	OILS OUTLET Ø SA [MM]	PRESSUR. Ø PR [MM]
VESPA 1,5	63	110	63	63	110	25
VESPA 2,5	63	110	63	63	110	25
VESPA 5	90	160	63	63	160	25
VESPA 10	90	160	63	63	160	25
VESPA 15	110	160	63	63	160	25
VESPA 30	160	160	63	63	160	25

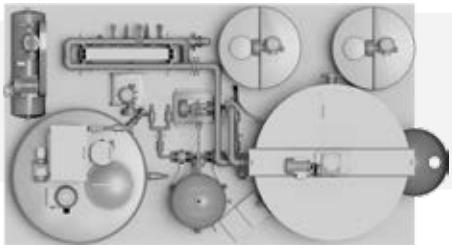
Chart of powers

MODEL	PRESS. PUMP [KW]	COMP. [KW]	SCRAPER [KW]	DOSING PUMP [KW]	UAP [KW]	SENSORS [KW]	TOTAL [KW]
VESPA 1,5	2,2	1,5	0,37	1,11	0,95	0,1	6,23
VESPA 2,5	2,2	1,5	0,37	1,11	0,95	0,1	6,23
VESPA 5	2,2	1,5	0,37	1,11	0,95	0,1	6,23
VESPA 10	3	1,5	0,37	1,11	0,95	0,1	7,03
VESPA 15	3	1,6	0,38	1,12	0,95	0,1	7,03
VESPA 30		1,5	0,37	1,11	0,95	0,1	

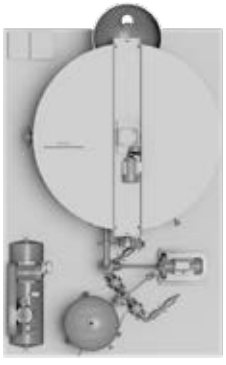
*Powers may vary depending on design conditions.

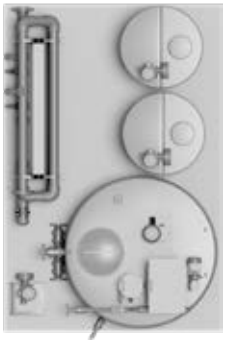
2

MODEL	GROUND 1 (METERS)	GROUND 2 (METERS)	TANK DAF	UPPER COVER
VESPA 1,5	3,5 X 2,2	NO	WITHIN THE STRUCTURE CHECKING PLATFORM	YES



MODEL	GROUND 1 (METERS)	GROUND 2 (METERS)	TANK DAF	UPPER COVER
VESPA 2,5	3 ,0 X 2,0	3,0 X 2,0	WITHIN THE STRUCTURE CHECKING PLATFORM	YES



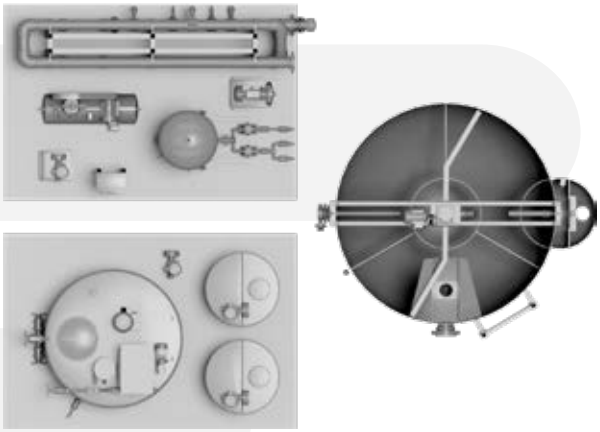


Data and models of the table may vary.

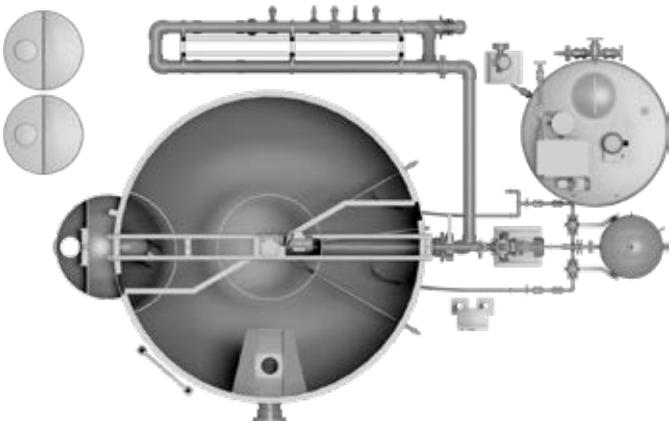
DISSOLVED AIR FLOTATION UNIT

DISSOLVED AIR FLOTATION UNIT

MODEL	GROUND 1 (METERS)	GROUND 2 (METERS)	TANK DAF	UPPER COVER
VESPA 5	2,4 X 2,2	1,3 X 2,2	OUT OF STRUCTURE CHECKING PLATFORM	NO
VESPA 10	3,0 X 2,2	1,3 X 2,2	OUT OF STRUCTURE CHECKING PLATFORM	NO
VESPA 15	3,2 X 2,2	1,3 X 2,2	OUT OF STRUCTURE CHECKING PLATFORM	NO



MODEL	GROUND 1 (METERS)	GROUND 2 (METERS)	TANK DAF	UPPER COVER
VESPA 30	NO	1,3 X 2,2	OUT OF STRUCTURE CHECKING PLATFORM	NO



*Dimensions for a recommended arrangement of elements. Any other arrangement will affect the space required. Consult Salher for more information.

ELEMENTS INCLUDED

The dissolved air float, reference VESPA, Salher brand, is a fully automated system, consisting of the following elements:

2

1. Flotation unit

- Main structure and inner parts manufactured in GFRP through Filament Winding.
- Skimmer for floating particles collection manufactured in stainless steel AISI 316L.
- Adjustable scrapers system manufactured in AISI 316L actuated by a very slow variable rotation motor reducer.
- Support and fixation of the scrapers system manufactured in AISI 316L through longitudinal profiles fixed to the main structure of the equipment
- Height-adjustable clarified water collector manufactured in stainless steel AISI 316L to control the level of the water layer.
- Butterfly valve with pneumatic actuation for automatic drain of the equipment
- Foldable covers manufactured in transparent methacrylate (models 1.5 and 2.5). Easy supervision of the inner part of the flotation unit, no need for equipment opening and reduction of bad smells.
- Conductive probe with rods installed in clarified water chamber to control the level of operation.
- Pressurization system for recirculated water composed of:
  - -Centrifugal pressurization pump
  - -Pressure transmitter in the pump impulsion
  - -Venturi injectors for first water-air mixture
  - -Air pressure tank in INOX304 or Carbon steel with measurement system and pre-installed valves kit
  - -Pneumatic actuated diaphragm valves for pressurization.
  - -Pneumatic control panel composed of:
    - * Filter regulator (0-8,5 bar)
    - * Pressure regulator (0-8,5 bar)
    - * Flow switch
    - * Set of control electrovalves
- Piston compressor for air needs of the whole system
- Skid for flocculant and pressurization pumps in AISI 316.
- Safety elements for emergency shutdown.
- Access ladder for supervision.
- The equipment includes all control valves required for the correct operation of the system.

Data and models of the table may vary.

2. Flocculation system (see reference FLC):

The equipment, Salher brand with reference FLC, is the ideal complement for the dissolved air flotation system, Salher brand, with reference VESPA. Its high retention time allows the coagulation and flocculation processes to be carried out under optimum conditions, which greatly increases performance.

The system incorporates in-line inserts for the preparation and control of the flocculation process.

FLC flocculator tube selection chart for each VESPA model

MODEL	FLC-1	FLC-2	FLC-3
VESPA 1,5	X		
VESPA 2,5	X		
VESPA 5	X		
VESPA 10		X	
VESPA 15			X

3. Automatic polyelectrolyte preparation plant (please see reference UAP)

The compact automatic unit for polyelectrolyte preparation, Salher® brand, enables the preparation, maturation and dosage of the polyelectrolyte solution in a continuous and automatic way.

This equipment is especially designed for flocculation applications in wastewater to dramatically improve the separation process between solid-liquid phases, such as:

- Urban and industrial wastewater, especially in physical-chemical treatments.
- Sludge treatment to improve the filter press efficiency

Selection table of equipment UAP for each VESPA

MODEL	UAP 1000	UAP 2000
VESPA 1.5	X	
VESPA 2.5	X	
VESPA 5	X	
VESPA 10		X
VESPA 15		X

4. Coagulation/floculation system

- Coagulant dosing pump (0,37kW).
- Coagulant injection kit.
- Reagent storage tank in PEHD with level probe.
- Flocculant dosing pump.
- Flocculant injection kit.

5. PH control and regulation system

- PH measurement probe with controller for automation of the process.
- Soda dosing pump.
- Reagent injection kit.
- Reagent storage tank of 500L in PEHD.

6. Electrical panel board

- Panel with automaton and touchscreen to monitor and pilot automatically the plant.

7. Optional

- Hinged covers made of transparent methacrylate (except models 1.5 and 2.5). They allow the supervision of the interior of the float without the need to open them, while reducing the emission of bad odors that may occur during the process.

Data and models of the table may vary.

REF: FLC

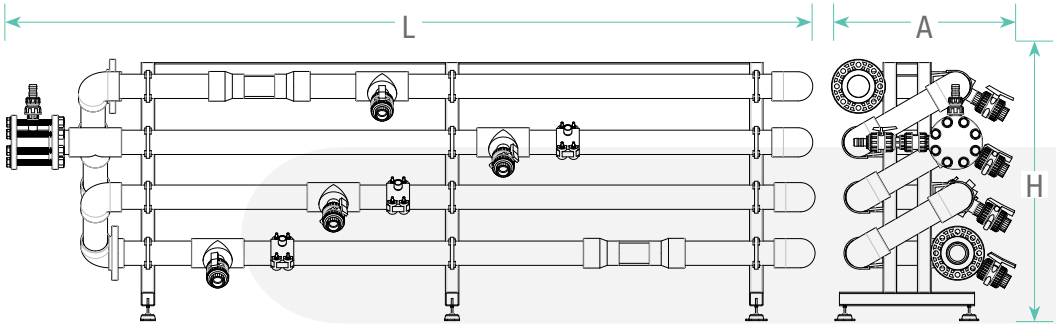
Fonction:

- The equipment, model FLC, Salher brand, is the perfect accessory for the dissolved air flotation unit, model VESPA, Salher brand, as well as for the lamellar settler, model DE-LA. Its long retention time optimizes the processes of coagulation and flocculation, increasing dramatically its efficiency.
- The system includes insertions in line for the preparation and control of the flocculation process.

Characteristics:

The flocculator equipment, Salher brand, is a system formed by the following elements:

- PEHD piping.
- Skid in stainless steel with category C5-M anti-corrosion painting.
- Height and level regulation system.
- Sample-taking taps.
- Coagulant and soda injection points.
- Flocculant injection points.



MODEL	NOMINAL FLOW [M3/H]	L [MM]	H [MM]	A [MM]	Ø PIPE [MM]
FLC -1	5	3000	1200	600	D 90
FLC -2	10	3500	1500	600	D 90
FLC -3	15	4500	1600	800	D 110
FLC -4	25	3500	1700	1000	D 160
FLC -5	50	6000	2000	1000	D 160
FLC -6	100	9500	2000	1000	D 160

Selection table of pipe flocculator FLC for each VESPA and DE-LA

MODEL	FLC-1	FLC-2	FLC-3	FLC-4	FLC-5	FLC-6
VESPA 1,5	X					
VESPA 2,5	X					
VESPA 5	X					
VESPA 10		X				
VESPA 15			X			
DE-LA 5	X					
DE-LA 10		X				
DE-LA 25				X		
DE-LA 50					X	
DE-LA 100						X

Data and models of the table may vary.

Secondary treatments

3

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Guide of WWTP selection according to efficiency

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WWTP for small populations

WWTP by low load activated sludge (extended aeration) with high efficiency fixed culture

REF: CVC-OXI-DEP-TC 66

REF: CHC–OXI-DEP 67

WWTP by low-load activated sludge (extended aeration) with fixed culture and primary settling chamber

REF: CHC–FS–OXI-DEP 68

WWTP for small, medium and large populations

WWTP by low-load activated sludge (extended aeration) with settling tank, blower, fine bubble diffusers and sludge recirculation system

REF: CHC-OXI-REC-C 70

WWTP by low-load activated sludge (extended aeration) with truncated settling tank, blower, fine bubble diffusers and sludge recirculation system

REF: CHC-OXI-REC-DEC 72

WWTP with nitrification-denitrification

WWTP by low-load activated sludge with nitrogen removal (nitrification-denitrifcation) and clarification process in compact tank

REF: CHC-OXI-REC-C-ANOX 74

REF: CHC-OXI-REC-DEC-ANOX 76

WWTP with MBBR technology, removal of nitrogen and phosphorus

REF: CHC-FS-BIO-DEP 82

REF: CHC-FS-BIO-DEP-ANOX 82

REF: CHC-BIO-C 84

REF: CHC-BIO-TC 85

REF: CHC-FS-BIO-C 86

REF: CHC-FS-BIO-TC 87

REF: CHC-ANOX-BIO-C 88

REF: CHC-ANOX-BIO-TC 89

REF: CHC – FS - ANOX – BIO – C 90

REF: CHC – FS - ANOX – BIO – TC 91

WWTP with biomembranes

Secondary treatment with membrane bioreactor (MBR), with nitrogen removal (nitrification-denitrification) in option

REF: CHC-OXI-MBR 92

REF: OXI-MBR 95

Portable and containerized WWTP

Portable WWTP by low-load activated sludge (extended aeration) for underground or aboveground installation

REF: 20P/40P 96

MODULAR PLANTS WITH PLATES

97

WWTP with trickling filter

Wastewater treatment plant with biological filter or recirculated trickling filter

REF: IMH-LBR-TC 98

Vertical biological treatment with settling-digestion chamber, biological filter and grease separator

REF: CVC-D 100

Horizontal biological treatment with settling-digestion chamber and biological filter

REF: CHC-D 102

Horizontal treatment plant with settling-digestion chambers, biological filter and secondary settling tank

REF: CHCD-D 104

Trickling filter or bacteria bed

REF: CVC-FB 106

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

Complete treatment line

A complete wastewater treatment line can be designed with Salher equipment, adding sieve systems (endless screw sieves, rotary drum sieves), pumping stations, tertiary treatments for reuse and sludge dewatering systems.

Aboveground installation

Optionally and after consultation, the treatment line can be installed aboveground.

Data and models of the table may vary.

Guide of WWTP selection according to efficiency

Urban flows up to 50 PE
System with removal of 90-92%

CVC-OXI-DEP-TC
CHC-OXIDEP
CHC-FS-OXIDEP

For populations up to 2000 PE
Systems with removal of 90-92 %

CHC-OXI-REC-C
CHC-OXI-REC-DEC

For populations from 10 to 3000 PE
Systems with removal higher than 95% and optimal relation volume/flow

CHC-FS-BIO-C
CHC-FS-BIO-TC
CHC-FS-BIO-C
CHC-FS-BIO-TC

Systems with nitrogen removal
Complementary removal of phosphorus (option)

CHC-OXI-REC-C-ANOX
CHC-OXI-REC-DEC-ANOX
CHC-ANOX-FS-BIO-C
CHC-ANOX-FS-BIO-TC
CHC-FS-ANOX-BIO-C
CHC-FS-ANOX-BIO-TC

Systems with high removal with no need of sterilization
With removal up to 99% and water valid for irrigation in accordance with RD 1620/2007

MBR

Data and models of the table may vary.

WWTP for small populations

WWTP by low load activated sludge (extended aeration) with high efficiency fixed culture

REF: CVC-OXI-DEP-TC

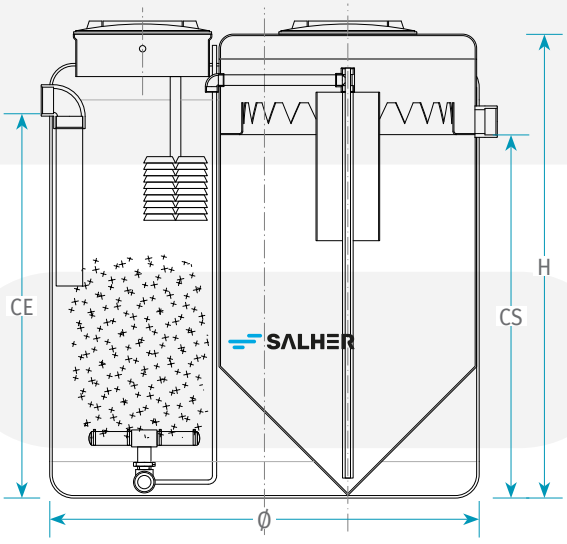
Function:

- Removal of organic matter (BOD5).

Options

Characteristics:

- Salher brand, model CVC-OXI-DEP-TC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: ≥ 95% BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Fixed culture with plastic material for biomass fixation and growth.
- Activated sludge recirculation system by Airlift.
- Truncated settling tank with central feeding and Thompson canal.
- PVC inlet and outlet.
- Access via manholes with PP cover.
- Electrical panel board not included. Please see prices and options in electrical panel board for OXI-DEP.
- Outlet in the manhole to install a ventilation pipe.



PE	VOLUME [LITRES]	Ø [MM]	H [MM]	CE [MM]	CS [MM]	Ø PIPE [MM]	BLOWER (W) II	SOUND LEVEL (DB)	DIFFUSERS
≤ 10	3.100	1.400	2.175	1.800	1.700	125	100	39	2DBF500
20	6.300	2.000	2.175	1.800	1.700	125	150	44	2DBF500
30	9.600	2.250	2.575	2.200	2.100	125	150	44	3DBF500
40	11.900	2.500	2.575	2.200	2.100	125	200	45	4DBF500
50	13.800	2.500	2.975	2.600	2.500	125	200	45	4DBF500

Data and models of the table may vary.

WWTP for small populations

WWTP by low-load activated sludge (extended aeration) with high efficiency fixed culture

REF: CHC-OXI-DEP

Function:

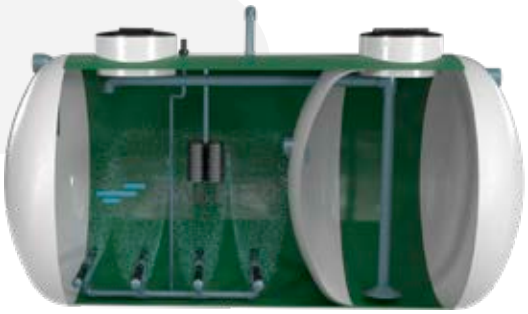
- Removal of organic matter (BOD5).

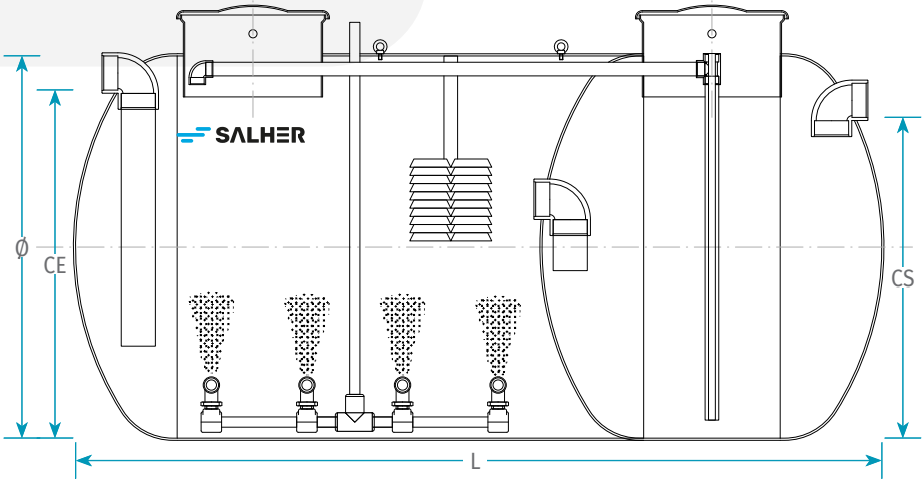
Options

3

Characteristics:

- Salher brand, model CHC-OXI-DEP.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: ≥ 95% BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Fixed culture with plastic material for biomass fixation and growth.
- Activated sludge recirculation system by Airlift in the secondary settling chamber.
- PVC inlet and outlet.
- Electrical panel board not included. Please see prices and options in electrical panel board for OXI-DEP.
- Outlet in the manhole to install a ventilation pipe.





PE	VOLUME [LITRES]	Ø [MM]	L [MM]	CE [MM]	CS [MM]	PIPE Ø [MM]	BLOWER (W) II	SOUND LEVEL (DB)	DIFFUSERS
≤ 10	3.100	1.400	2.300	1.275	1.225	125	100	39	2DBF500
20	6.300	1.700	3.100	1.575	1.525	125	150	44	3DBF500
30	9.600	2.000	3.430	1.875	1.825	125	150	44	3DBF500
40	11.900	2.000	3.420	1.875	1.825	125	200	45	4DBF500
50	13.800	2.000	4.770	1.875	1.825	125	200	45	4DBF500

Data and models of the table may vary.

REF: CHC-FS-OXI-DEP

3

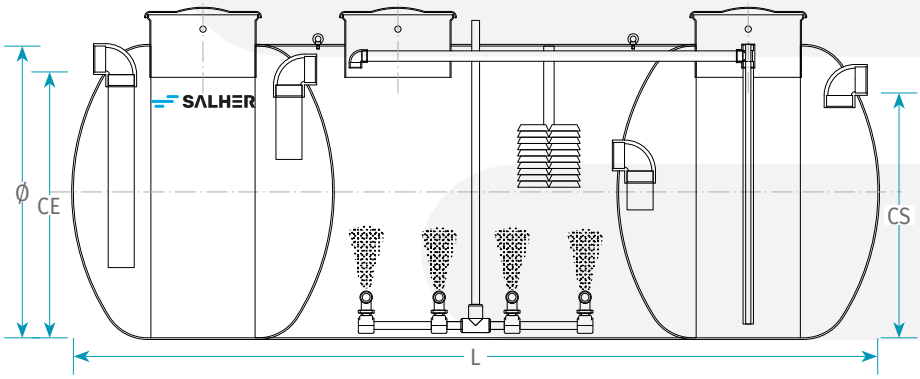
Function:

- Settling of suspended solids (SS).
- Removal of organic matter (BOD5).

Options

Characteristics:

- Salher brand, model CHC-FS-OXI-DEP.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: ≥ 95% BOD5.
- Primary settling chamber for the flow equalization and coarse solids removal.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Fixed culture with plastic material for biomass fixation and growth.
- Activated sludge return system through Airlift in the secondary settling chamber.
- PVC inlet and outlet.
- Electrical panel board not included. Please see prices and options in electrical panel board for OXI-DEP.
- Outlet in the manhole to install a ventilation pipe.



PE	TOTAL VOL. [LITRES]	FS VOL. [LITRES]	VOL. OXI [LITRES]	DC VOL. [LITRES]	Ø [MM]	L [MM]	CE [MM]	CS [MM]	Ø T [MM]	BLOWER (W) II	SOUND LEVEL (DB)	DIF.
≤ 5	2.500	1.000	1.000	500	1.200	2.440	1.075	1.000	125	80	35	2
10	4.000	1.000	2.000	1.000	1.400	2.860	1.275	1.200	125	80	35	2
15	6.500	1.500	3.000	2.000	1.700	3.000	1.575	1.500	125	150	43	3
20	8.500	2.000	4.000	2.500	1.700	4.000	1.575	1.500	125	150	43	3
30	12.000	3.000	6.000	3.000	2.000	4.200	1.875	1.800	125	200	44	4
40	16.000	4.000	8.000	4.000	2.000	5.460	1.875	1.800	125	200	44	4
50	20.000	5.000	10.000	5.000	2.250	5.450	2.125	2.050	125	240	48	5
60	24.000	6.000	12.000	6.000	2.250	6.450	2.125	2.050	125	240	48	5

Data and models of the table may vary.

Characteristics:

- Electrical panel board with dimensions 500 x 400 x 300 mm compartment for the blower(s).
- Kit of pilot lights.
- Manual switch “Manual - Off - Automatic”.
- Thermal protection and timer for blower control.
- Aeration grid for blower.
- Aeration tube outlet with regulating valve for Airlift and anti-vibratory sleeve.

WWTP for small, medium and large populations

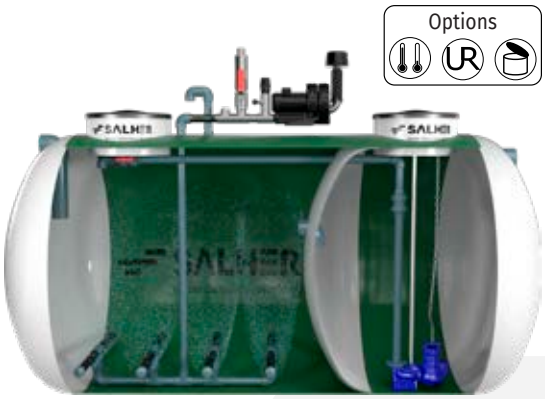
WWTP by low-load activated sludge (extended aeration) with settling tank, blower, fine bubble diffusers and sludge recirculation system

REF: CHC-OXI-REC-C

3

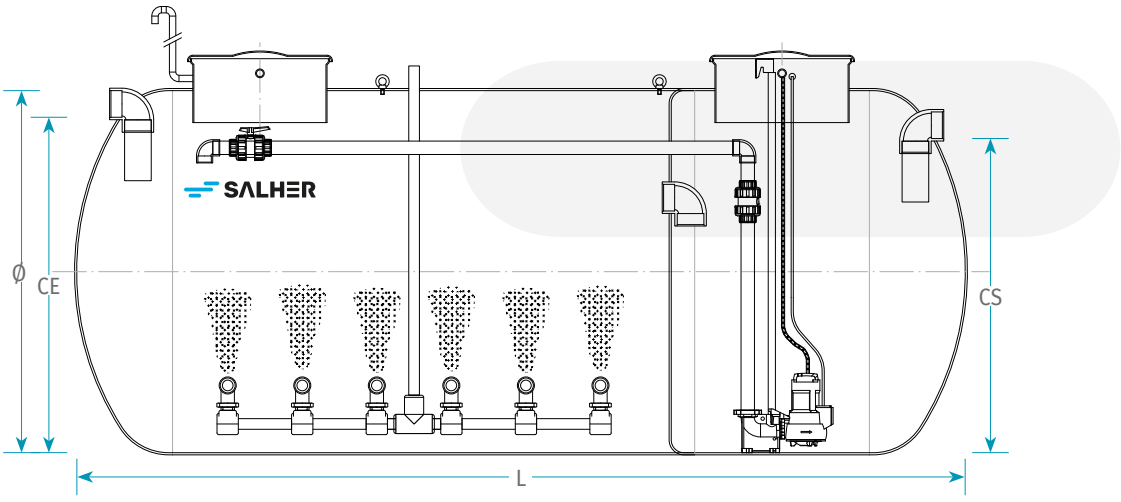
Function:

- Removal of organic matter (BOD5).



Characteristics:

- Salher brand, model CHC-OXI-REC-C.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: 80-90% BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Compact settling tank and activated sludge recirculation system by submerged pump.
- PVC inlet and outlet.
- Access in the manhole through GFRP cover.
- Outlet in the manhole to install a ventilation pipe.



Data and models of the table may vary.

PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	CE [MM]	CS [MM]	Ø PIPE [MM]	BLOWER (KW)	PUMP REC. (KW)
25	5.000	1.400	3.520	1.275	1.225	125	0,55	0,55
30	6.000	1.400	4.160	1.275	1.225	125	0,55	0,55
40	8.000	1.700	3.850	1.575	1.525	125	1,10	0,55
50	10.000	1.700	4.740	1.575	1.525	125	1,10	0,55
75	15.000	2.000	5.160	1.875	1.825	125	1,5	0,55
75	15.000	2.250	4.200	2.125	2.075	125	1,5	0,55
90	18.000	2.250	4.950	2.090	2.040	160	1,5	0,55
100	20.000	2.000	6.760	1.840	1.790	160	1,5	0,55
100	20.000	2.250	5.450	2.090	2.040	160	1,5	0,55
125	25.000	2.250	6.710	2.050	2.000	200	2,2	0,55
150	30.000	2.500	6.600	2.300	2.250	200	2,20	0,55
175	35.000	2.500	7.600	2.300	2.250	200	2,20	0,55
200	40.000	2.500	8.630	2.300	2.250	200	3,0	0,55
225	45.000	2.250	11.800	2.050	2.000	200	3,0	0,55
225	45.000	2.500	9.650	2.300	2.200	200	3,0	0,55
250	50.000	2.500	10.680	2.300	2.200	200	3,0	0,55
275	55.000	2.500	11.680	2.300	2.200	200	3,0	0,55
300	60.000	3.000	9.060	2.300	2.200	200	3,0	0,55
300	60.000	2.500	12.710	2.300	2.200	200	3,0	0,55
325	65.000	2.500	13.740	2.300	2.200	200	3,0	0,55
350	70.000	3.000	10.500	2.300	2.200	200	3,0	0,55
375	75.000	3.000	11.180	2.750	2.650	250	3	0,55
400	80.000	3.000	11.900	2.750	2.650	250	3,0	0,55
425	85.000	3.000	12.610	2.750	2.650	250	5,5	0,55
450	90.000	3.000	13.800	2.750	2.650	250	5,5	0,55
500	100.000	3.000	14.730	2.750	2.650	250	5,5	0,55
550	110.000	3.000	16.150	3.250	3.150	250	5,5	0,55
550	110.000	3.500	12.100	3.250	3.150	250	5,5	0,55
600	120.000	3.500	13.200	3.250	3.150	250	5,5	0,55
700	140.000	3.500	15.200	3.250	3.150	250	7,5	0,55
750	150.000	3.500	16.270	3.250	3.150	250	7,5	0,55
800	160.000	4.000	13.500	3.685	3.585	315	CONSULTAR	0,55
800	160.000	3.500	17.310	3.185	3.185	315	CONSULTAR	0,55
900	180.000	4.000	15.000	3.685	3.585	315	CONSULTAR	0,55
1000	200.000	4.000	16.700	3.685	3.585	315	CONSULTAR	0,55

- Panel board included.
- Pumps can be removed without emptying the tank.
- WWTP optional complementary equipment: pretreatment (sieves and grease separators), pumping stations, tertiary treatment (filtration, disinfection) and sludge treatment, etc.

Data and models of the table may vary.

WWTP for small, medium and large populations

WWTP by low-load activated sludge (extended aeration) with truncated settling tank, blower, fine bubble diffusers and sludge recirculation system

REF: CHC-OXI-REC-DEC

Function:

3

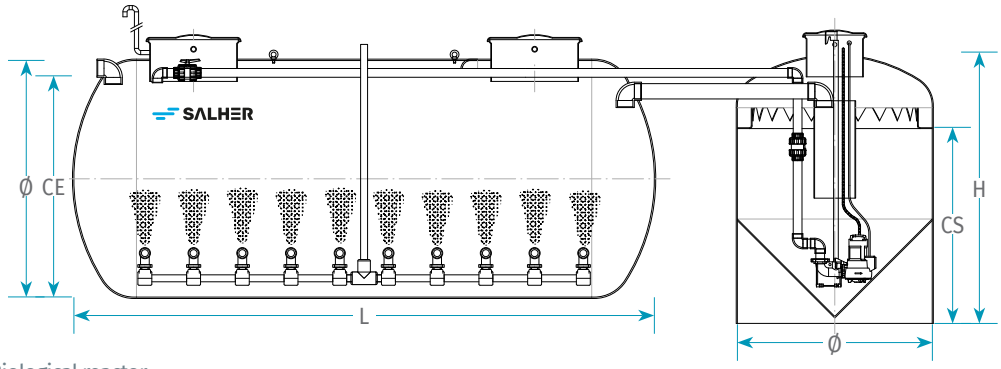
- Removal of organic matter (BOD5).

Characteristics:

- Salher brand, model CHC-OXI-REC-DEC.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: ≥ 90 - 95 % BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Truncated settling tank with central feeding and Thompson canal.
- Activated sludge recirculation system by submerged pump.
- PVC inlet and outlet.
- Access in the manhole through GFRP cover.
- Outlet in the manhole to install a ventilation pipe.

Options

Data and models of the table may vary.



Biological reactor

PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	CE [MM]	CS [MM]	Ø PIPE [MM]	BLOWER (KW)
50	10.000	1.700	4.740	1.575	--	125	1,10
75	15.000	2.000	5.200	1.875	--	125	1,50
75	15.000	2.250	4.200	2.125	--	125	1,50
100	18.000	2.000	6.120	1.840	--	160	1,50
100	18.000	2.250	5.000	2.090	--	160	1,50
150	25.000	2.500	4.360	2.300	--	200	2,20
200	35.000	2.500	7.620	2.300	--	200	3,00
300	50.000	2.500	10.670	2.300	--	200	3,00
400	68.000	2.500	14.330	2.250	--	250	3,00
500	85.000	3.000	12.610	2.750	--	250	5,50
600	102.000	3.000	15.000	2.750	--	250	5,50
700	120.000	3.000	17.500	2.750	--	250	7,50
700	120.000	3.500	13.200	3.250	--	250	7,50
800	140.000	3.500	14.900	3.185	--	315	CONSULT
900	150.000	3.500	16.300	3.185	--	315	CONSULT
1.000	170.000	4.000	14.300	3.685	--	315	CONSULT

Settling tank

PE	VOLUME [LITRES]	Ø [MM]	H [MM]	CE [MM]	CS [MM]	Ø PIPES [MM]	PUMP REC. (KW)
50	1590	1400	1870	--	1525	125	0,55
75	2910	1700	2300	--	1825	125	0,55
75	2910	1700	2300	--	2075	125	0,55
100	4190	2000	2530	--	1790	160	0,55
100	4190	2000	2530	--	2040	160	0,55
150	4190	2000	2530	--	2250	200	0,55
200	7930	2500	3110	--	2250	200	0,55
300	7930	2500	3110	--	2200	200	0,55
400	13420	3000	3700	--	2150	250	0,55
500	13420	3000	3700	--	2650	250	0,55
600	21000	3500	4265	--	2650	250	0,55
700	21000	3500	4265	--	2650	250	0,55
700	21000	3500	4265	--	3150	250	0,55
800	30980	4000	4840	--	3085	315	0,55
900	30980	4000	4840	--	3085	315	0,55
1000	30980	4000	4840	--	3585	315	0,55

Data and models of the table may vary.

WWTP with nitrification-denitrification

WWTP by low-load activated sludge with nitrogen removal (nitrification-denitrifcation) and clarification process in compact tank

REF: CHC-OXI-REC-C-ANOX

Function:

3

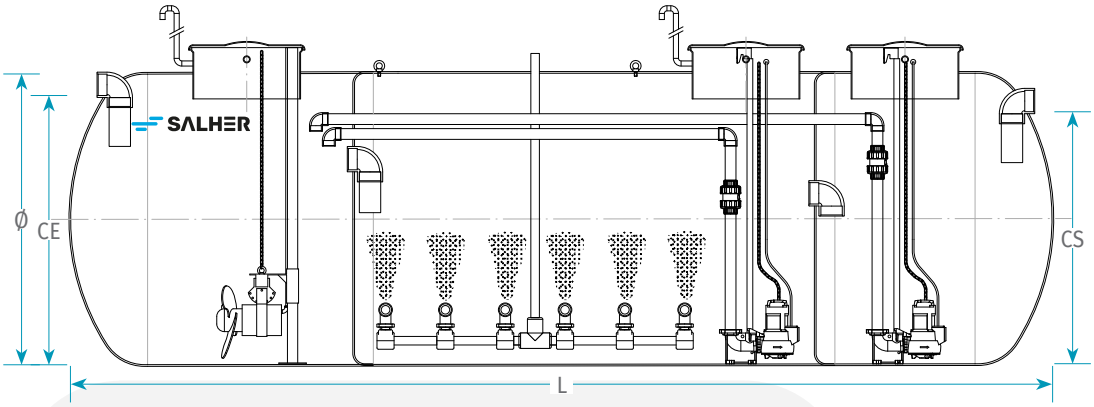
- Removal of organic matter (BOD5).
- Removal of nitrogen.

Characteristics:

- Salher brand, model CHC-OXI-REC-C-ANOX.
- Biological reactor manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins composed of anoxic, aerobic and secondary settling chambers.
- Organic matter reduction efficiency: ≥ 90 - 95 % BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Agitation system of the anoxic chamber composed of submerged agitator and discharge kit.
- Secondary settling tank in compact tank.
- Internal and external recirculation system by submerged pump and discharge kit.
- PVC inlet, outlet and communication connections.
- Access through manhole with GFRP cover.
- Outlet in the manhole to install a ventilation pipe.

Options

Data and models of the table may vary.



PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	CE [MM]	CS [MM]	PIPE [MM]	BLOWER (KW)	REC. PUMP (KW)	AGITATOR (KW)
25	8.000	1.400	5.500	1.275	1.225	125	0,55	0,55	0,60
30	10.000	1.700	4.750	1.575	1.525	125	0,55	0,55	0,60
40	12.000	1.700	5.650	1.575	1.525	125	0,55	0,55	0,60
50	15.000	1.700	7.000	1.575	1.525	125	0,75	0,55	0,60
75	24.000	2.000	8.050	1.840	1.790	160	1,1	0,55	0,60
75	24.000	2.250	6.500	2.090	2.040	160	1,1	0,55	0,60
90	30.000	2.250	8.000	2.050	2.000	200	1,1	0,55	0,60
100	35.000	2.250	9.250	2.050	2.000	200	1,5	0,55	0,60
100	35.000	2.500	7.600	2.300	2.250	200	1,5	0,55	0,60
150	45.000	2.500	9.660	2.300	2.250	200	2,2	0,55	0,60
175	50.000	2.500	10.680	2.300	2.250	200	2,2	0,55	0,60
200	55.000	2.500	11.700	2.300	2.250	200	2,2	0,55	0,60
225	65.000	3.000	9.800	2.800	2.750	200	2,2	0,55	0,60
250	70.000	3.000	10.500	2.800	2.750	200	3	0,55	0,60
300	85.000	3.000	12.600	2.800	2.750	250	3	0,55	0,60
350	95.000	3.500	10.600	3.250	3.150	250	4	0,55	0,60
400	110.000	3.500	12.120	3.250	3.150	250	5,5	0,55	0,60
500	140.000	3.500	15.240	3.250	3.150	250	5,5	0,55	0,60
550	150.000	4.000	13.890	3.750	3.650	250	5,5	0,55	0,60
600	170.000	4.000	14.300	3.750	3.650	250	5,5	0,55	0,60
700	190.000	4.000	15.900	3.750	3.650	250	7,5	0,55	0,60
750	205.000	4.000	17.100	3.750	3.650	250	7,5	0,55	0,60
800	220.000	4.000	18.500	3.750	3.650	250	7,5	0,55	0,60
900	2 X 125.000	3.500	13.650	3.250	3.150	250	2 X 5,5	0,55	0,60
1.000	2 X 140.000	3.500	15.240	3.250	3.150	250	2 X 5,5	0,55	0,60

- Panel board included.
- Pumps can be removed without emptying the tank.
- WWTP optional complementary equipment: pretreatment (sieves and grease separators), pumping stations, tertiary treatment (filtration, disinfection) and sludge treatment, etc.

Data and models of the table may vary.

WWTP with nitrification-denitrification

WWTP by low-load activated sludge, with nitrogen removal (nitrification-denitrification) and clarification process in independent truncated tank

REF: CHC-OXI-REC-DEC-ANOX

Function:

3

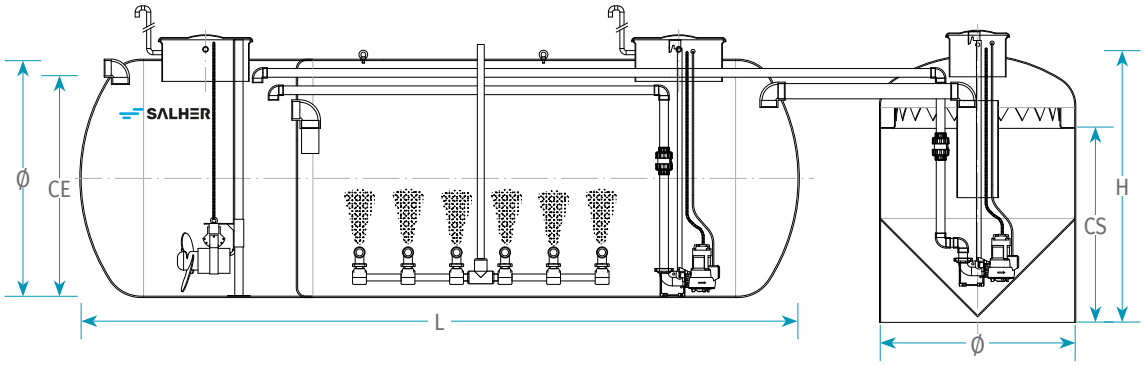
- Removal of organic matter (BOD5).
- Removal of nitrogen.

Characteristics:

- Salher brand, model CHC-OXI-REC-DEC-ANOX.
- Biological reactor manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins composed of anoxic, aerobic and secondary settling chambers.
- Organic matter reduction efficiency: ≥ 90 - 95 % BOD5.
- Oxygen feeding system and mixed liquor equalization by blower and EPDM fine bubble diffusers grid.
- Agitation system of the anoxic chamber composed of submerged agitator and discharge kit.
- Independent secondary settling tank manufactured in GFRP, with central feeding and Thompson canal.
- Internal and external recirculation system by submerged pump and discharge kit.
- PVC inlet, outlet and communication connections.
- Access through manhole with GFRP cover.
- Outlet in the manhole to install a ventilation pipe.

Options

Data and models of the table may vary.



Biological reactor

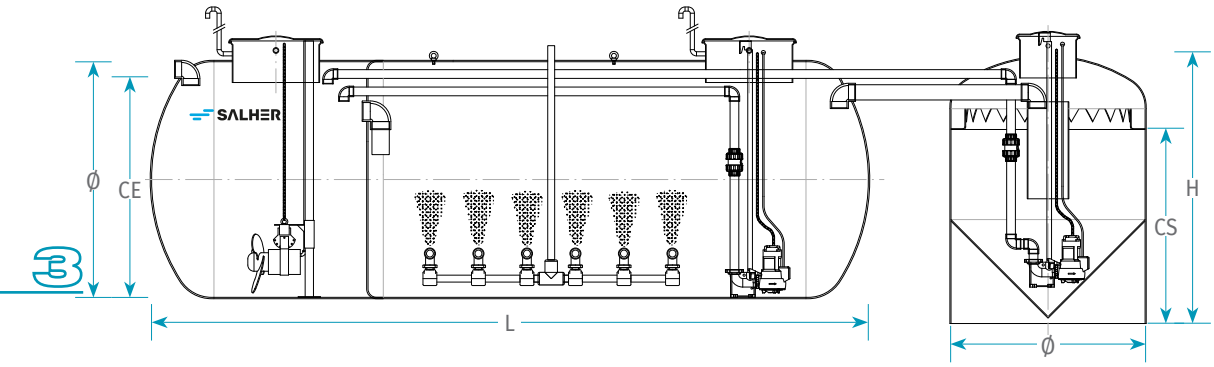
PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	CE [MM]	Ø PIPE [MM]	BLOWER (KW)	REC. PUMP (KW)	AGITATOR (KW)
25	7.000	1.400	4.850	1.275	125	0,55	0,55	0,6
30	8.000	1.400	5.460	1.575	125	0,55	0,55	0,6
40	10.000	1.700	4.750	1.875	125	0,55	0,55	0,6
50	13.000	1.700	6.450	1.875	125	0,75	0,55	0,6
75	21.000	2.000	7.060	1.840	160	1,1	0,55	0,6
75	21.000	2.250	5.750	2.090	160	1,1	0,55	0,6
90	26.000	2.250	7.000	2.050	200	1,1	0,55	0,6
100	32.000	2.250	8.470	2.050	200	1,5	0,55	0,6
100	32.000	2.500	7.000	2.300	200	1,5	0,55	0,6
150	39.000	2.500	8.450	2.300	200	2,2	0,55	0,6
175	43.000	2.500	9.250	2.300	200	2,2	0,55	0,6
200	47.000	2.500	10.050	2.300	200	2,2	0,55	0,6
225	56.000	2.500	11.900	2.300	200	2,2	0,55	0,6

Settling tank

PE	VOLUME [LITRES]	Ø [MM]	H [MM]	CS [MM]	Ø PIPE [MM]	REC. PUMP (KW)
25	1130	1200	1720	1225	125	0,55
30	1130	1200	1720	1525	125	0,55
40	1590	1400	1870	1825	125	0,55
50	1590	1400	1870	1825	125	0,55
75	2910	1700	2300	1790	160	0,55
90	4190	2000	2530	2000	200	0,55
100	4190	2000	2530	2000	200	0,55
100	4190	2000	2530	2250	200	0,55
150	4190	2000	2530	2250	200	0,55
175	7930	2500	3110	2250	200	0,55
200	7930	2500	3110	2250	200	0,55
225	7930	2500	3110	2250	200	0,55

- Panel board included.
- WWTP optional complementary equipment: pretreatment (sieves and grease separators), pumping stations, tertiary treatment (filtration, disinfection) and sludge treatment, etc.

Data and models of the table may vary.



Biological reactor

PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	CE [MM]	Ø PIPE [MM]	BLOWER (KW)	REC. PUMP (KW)	AGITATOR (KW)
250	60.000	2.500	12.710	2.300	200	3	0,55	0,6
300	73.000	3.000	10.900	2.750	250	3	0,55	0,6
350	81.000	3.000	12.050	2.750	250	4	0,55	0,6
400	95.000	3.500	10.550	3.250	250	5,5	0,55	0,6
500	121.000	3.500	13.250	3.250	250	5,5	0,55	0,6
550	129.000	3.500	14.070	3.250	250	5,5	0,55	0,6
600	147.000	3.500	16.000	3.250	250	5,5	0,55	0,6
700	163.000	4.000	13.750	3.750	250	7,5	0,55	0,6
750	176.000	4.000	14.760	3.750	250	7,5	0,55	0,6
800	190.000	4.000	15.900	3.750	250	7,5	0,55	0,6
900	210.000	4.000	17.460	3.750	250	9	0,55	0,6
1.000	230.000	4.000	19.100	3.750	250	11	0,55	0,6

Settling tank

PE	VOLUME [LITRES]	Ø [MM]	H [MM]	CS [MM]	Ø PIPE [MM]	REC. PUMP (KW)
250	7930	2500	3110	2250	200	0,55
300	7930	2500	3110	2700	200	0,55
350	13420	3000	3700	2650	250	0,55
400	13420	3000	3700	3150	250	0,55
500	13420	3000	3700	3150	250	0,55
550	21000	3500	4265	3150	250	0,55
600	21000	3500	4265	3150	250	0,55
700	21000	3500	4265	3650	250	0,55
750	30980	4000	4840	3650	250	0,55
800	30980	4000	4840	3650	250	0,55
900	30980	4000	4840	3650	250	0,55
1000	30980	4000	4840	3650	250	0,55

- Panel board included.
- WWTP optional complementary equipment: pretreatment (sieves and grease separators), pumping stations, tertiary treatment (filtration, disinfection) and sludge treatment, etc.

Data and models of the table may vary.

Biological treatment for organic matter removal by moving bed biological reactor (MBRR)

Cylindrical and horizontal/vertical reactor manufactured in GFRP (Glass Fiber Reinforced Polyester) composed of GFRP manholes access, communication wall between compartments, inlet, outlet and communication connections, air vent and lifting rings.

It is a biological treatment in which the biomass grows adhered to mobile supports under optimal agitation and oxidation conditions. The mobile supports are plastic material with a high specific area (>500 m^2/m^3) with a density around 1g/cm^3. This technology has the following advantages compared to the activated sludge process:

- High stability of organic matter degradation processes.
- Reduction of the volume of the biological reactor for an equal quality outlet effluent.
- Sizing of the reactors with tank volumes and filling material flexible to adapt to current and future efficiency removal requirements.
- Flexibillity to face contaminating load variations and inhibitors, to normalize the process in a few hours.
- Improves secondary settling because the system does not require recirculation to maintain the bacterial population, avoiding the bulking.
- Easy control and maintenance.

The reactor will have different layouts for chambers and fillings according to the required removal efficencies, inlet contaminating loads and flows to treat.

- Settling chambers: settling or settling/digestion (Imhoff).
- Several aeration chambers: aerobic for COD removal and aerobic for nitrification.
- Specific plastic material for aeration chambers.

The aeration system maintains in suspension the plastic material supports (agitation process) and provides the necessary oxygen (oxidation process). A lateral channel blower with accessories: antivibratory sleeve, collector, filter, manometer, safety valve and air purge.

The air distribution system is composed of a fine bubble diffusers grid installed at the bottom of the reactor to improve the aeration and agitation processes.

The communication between the compartments consists in an efficient system which avoids the plastic material fixation and release.

The secondary settling is performed by a secondary clarifier, Salher brand, compact to the reactor or independent and truncated. The equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) will be composed of a central supply and Thompson canal to collect the clarified water.

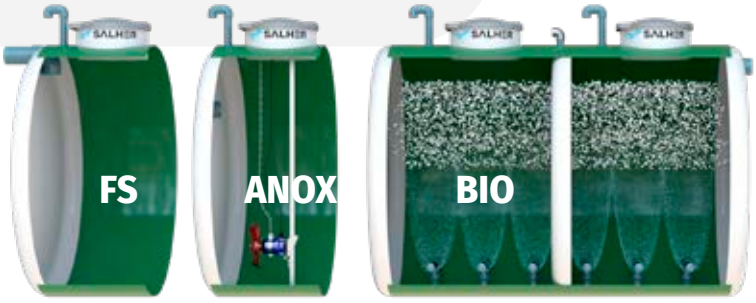
The plant control will consist of an electrical panel board.

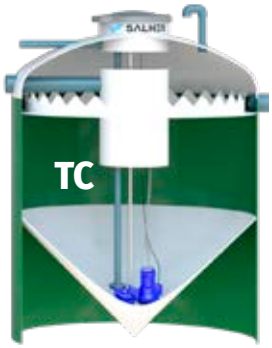
The WWTP can be composed of an automatic and dissolved oxygen meter (option).

Data and models of the table may vary.

Different phases of the multi-stage WWTP

- FS
  - Primary settling.
- ANOX
  - Anoxic chamber for nitrogen removal (phosphorus in option).
- BIO
  - Aeration chamber with high surface moving bed.
- C - TC
  - Secondary settling chamber with sludge removal (option).

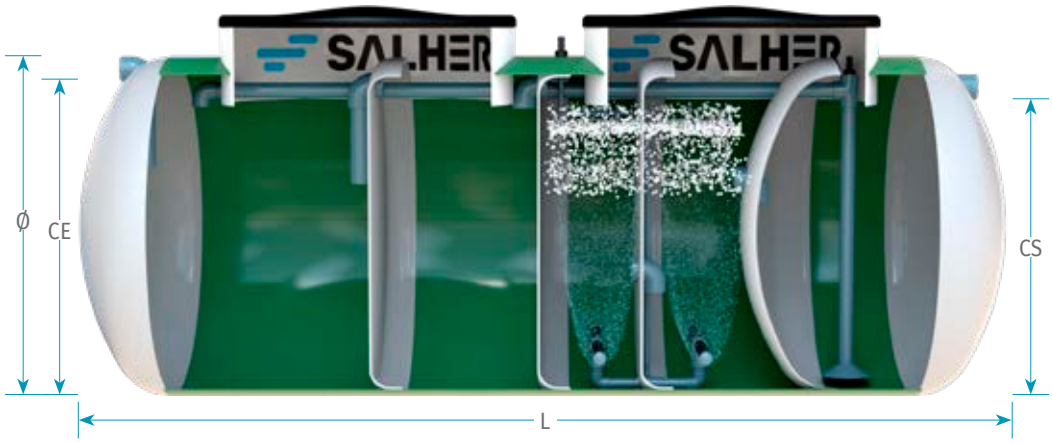




The layout can be changed according to specific characteristics of the installation and upon request of client.

- REF: CHC-FS-BIO-DEP
- REF: CHC-FS-BIO-DEP-ANOX

Options



PE	VOLUME [LITRES]	Ø [M]	L [MM]	Ø T [MM]	CE [MM]	CS [MM]	BLOWER 220V 50HZ	AGITATOR ANOX 220V 50HZ
10	3.370	1,4	2.450	125	1.275	1.225	120 W	0,5 KW
20	6.220	1,7	3.060	125	1.575	1.525	150 W	0,5 KW
30	9.320	1,7	4.420	125	1.575	1.525	250 W	0,5 KW
40	12.430	2	4.350	125	1.875	1.825	2X150 W	0,5 KW
50	15.540	2	5.320	125	1.875	1.825	2X200 W	0,5 KW

- Option: panel board with automaton and control by GSM, dissolved oxygen probe.

Data and models of the table may vary.

REF: CHC-BIO-C

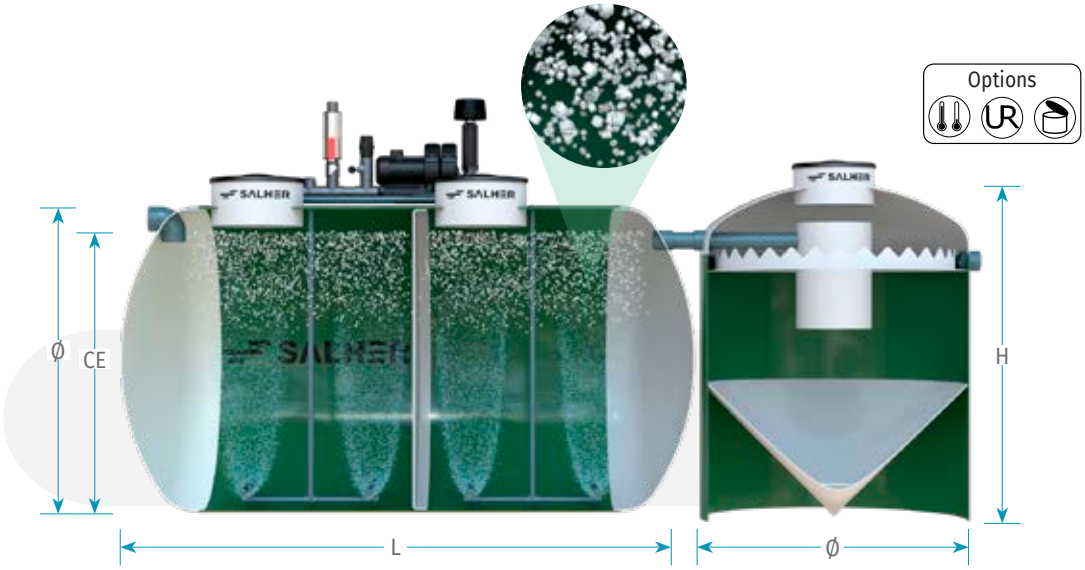
3

Options

PE	TOTAL VOL. [M3]	N° MODULES	UNIT VOL. [M3]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	BLOWER 400V 50HZ [KW]
75	12,50	1	12,5	1.700	5.830	125	1.575	1.525	1,1
100	15	1	15	2.000	5.100	160	1.875	1.825	1,1
250	35	1	35	2.250	9.250	160	2.090	2.040	3,00
500	65	1	65	3.000	9.750	160	2.840	2.790	5,5
550	70	1	70	3000	10.500	200	2300	2200	3
750	95	1	95	3.500	10.500	200	3.300	3.250	7,5
1000	120	1	120	3.500	13.160	200	3.300	3.250	11,00
1500	180	2	90	3.000	13.000	200	2.840	2.790	2X7,5
2000	240	2	120	4.000	13.000	200	3.300	3.250	2X11,00
2500	300	2	150	4.000	12.700	250	3.750	3.700	2X15,00
3000	360	2	180	4.000	15.100	250	3.750	3.700	2X15,00

Data and models of the table may vary.

REF: CHC-BIO-TC



PE	TOTAL VOL. [M³]	N° MODULES	VOL. UNIT REACTOR [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	BLOWER 400 V 50 HZ [KW]
75	8	1	8	1,7	3,85	125	1575	1525	1,1
100	10	1	10	1,7	4,74	160	1540	1490	1,1
250	22,5	1	22,5	2,25	6,08	160	2090	2040	3
500	40	1	40	2,25	10,48	160	2090	2040	5,5
750	60	1	60	3	9,06	200	2800	2750	7,5
1000	75	1	75	3	11,2	250	2750	2700	11
1500	110	1	110	4	9,5	250	3750	3700	18,5
2000	150	1	150	4	12,7	250	3750	3700	18,5
2500	190	1	190	4	15,85	250	3750	3700	18,5
3000	220	2	110	4	9,5	200	2800	2750	2X18,5

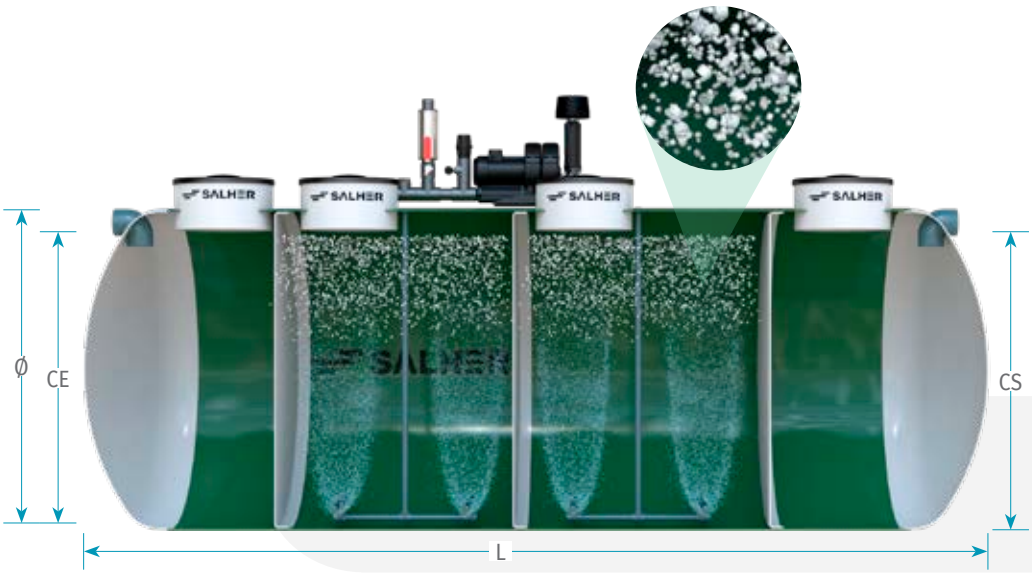
PE	TOTAL SETTLING VOLUME [M³]	N° SETTLING	SETTLING VOL. UNIT [M³]	Ø SETTLING [M]	HEIGHT SETTLING [M]
75	4,00	1	4,00	1,40	3,41
100	5,00	1	5,00	1,70	3,19
250	11,00	1	11,00	2,25	4,08
500	21,00	1	21,00	3,00	4,70
750	32,00	1	32,00	4,00	4,87
1.000	43,00	1	43,00	4,00	5,75
1.500	65,00	2	32,50	3,50	5,40
2.000	86,00	2	43,00	4,00	5,75
2.500	106,00	3	35,33	3,50	5,00
3.000	129,00	3	43,00	4,00	5,75

Data and models of the table may vary.

REF: CHC-FS-BIO-C

3

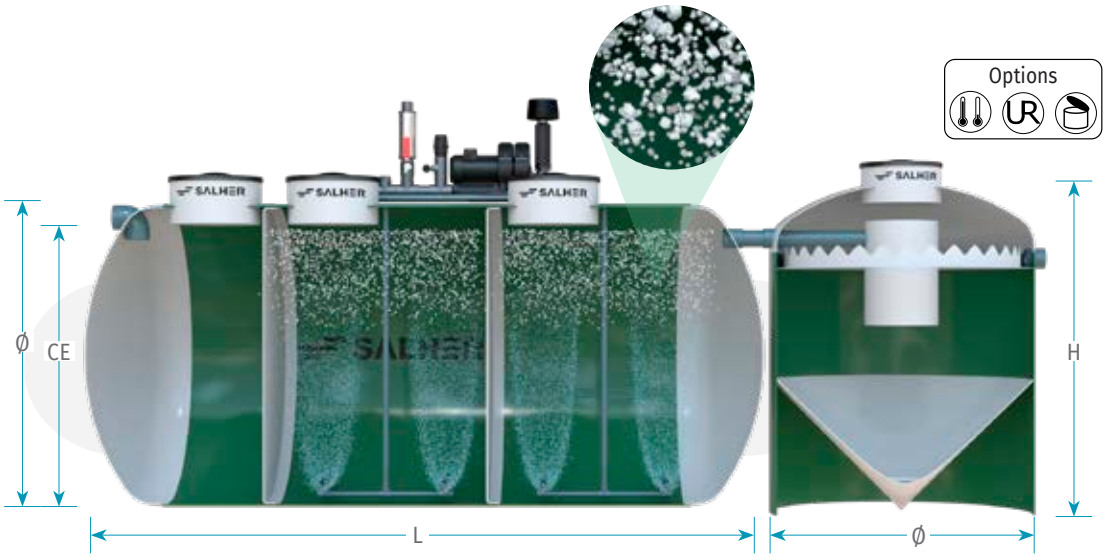
Options



PE	TOTAL VOL. [M³]	N° MODULES	VOL. UNIT [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	BLOWER 400V 50HZ [KW]
75	15	1	15	1,70	6,93	125	1.875	1.825	1,1
100	20	1	20	2,00	6,70	160	1.840	1.790	1,1
250	45	1	45	2,25	11,70	160	2.090	2.040	3
500	90	1	90	3,00	13,25	160	2.840	2.790	5,5
750	130	1	130	3,50	14,20	200	3.300	3.250	7,5
1.000	150	1	150	4,00	12,70	200	3.800	3.750	11
1.500	240	2	120	3,50	13,10	200	3.300	3.250	7,5
2.000	300	2	150	4,00	12,70	200	3.800	3.750	2X11
2.500	380	2	190	4,00	15,87	250	3.750	3.700	2X15
3.000	450	3	150	4,00	12,70	200	3.800	3.750	3X11,00

Data and models of the table may vary.

REF: CHC-FS-BIO-TC



PE	TOTAL VOL. [M³]	Nº MODULES	REACTOR VOL. UNIT [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	BLOWER KW
75	12,5	1	12,5	1,7	5,83	125	1575	1525	1,1
100	15	1	15	2	5,1	160	1840	1790	1,1
250	35	1	35	2,25	9,25	160	2090	2040	3
500	65	1	65	3	9,75	160	2840	2790	5,5
750	95	1	95	3,5	10,5	200	3300	3250	7,5
1000	110	1	110	4	9,5	200	3800	3750	11
1500	160	1	160	4	13,5	200	3800	3750	18,5
2000	210	1	210	4	17,5	200	3800	3750	18,5
2500	270	2	135	4	11,5	200	3800	3750	2 X 15
3000	320	2	160	4	14,1	200	3800	3750	2 X 18,5

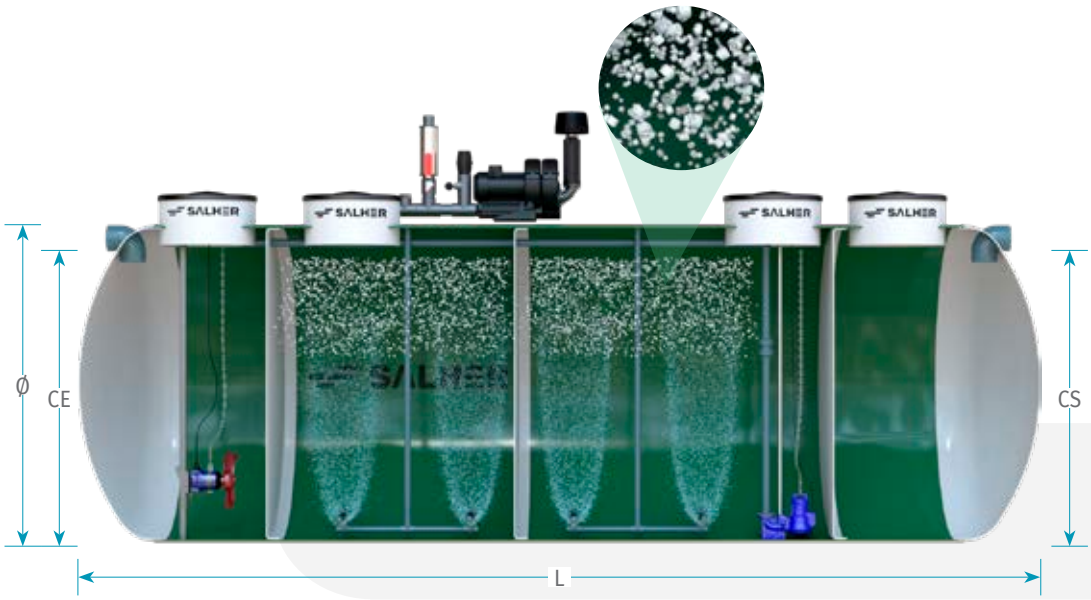
PE	SETTLING TOTAL VOL. [M³]	Nº SETTLING	SETTLING VOL. UNIT [M³]	Ø SETTLING [M]	HEIGHT SETTLING [M]
75	4	1	4,00	1,70	2,53
100	5	1	5,00	1,70	3,19
250	11	1	11,00	2,25	4,03
500	21	1	21,00	3,00	4,70
750	32	1	32,00	3,50	5,36
1.000	43	1	43,00	4,00	5,75
1.500	65	2	32,50	3,50	5,40
2.000	86	2	43,00	4,00	5,75
2.500	106	3	35,33	3,50	5,80
3.000	129	3	43,00	4,00	5,75

Data and models of the table may vary.

REF: CHC-ANOX-BIO-C

3

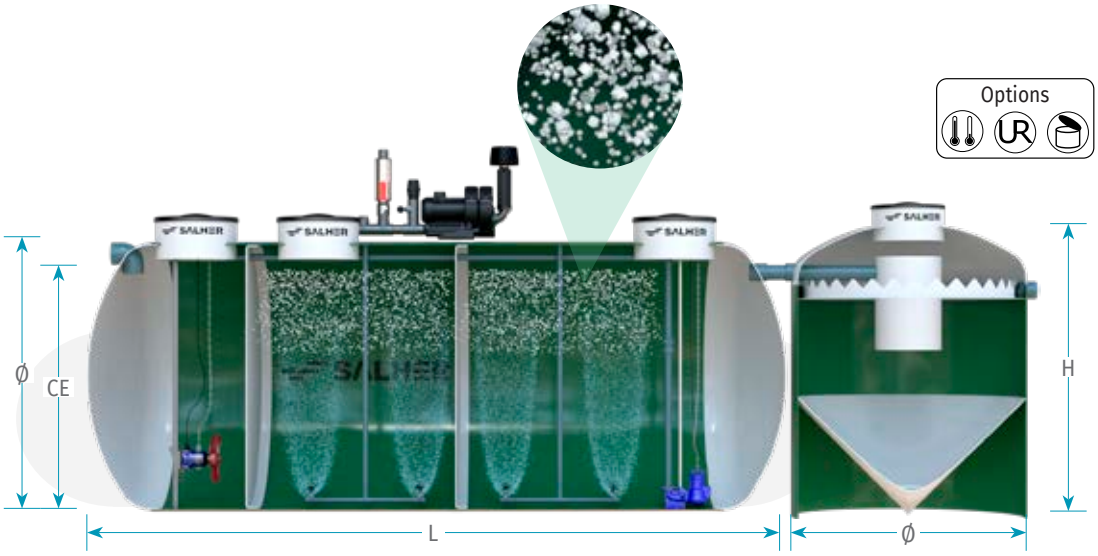
Options



PE	REACTOR TOTAL VOL. [M³]	Nº MODULES	VOL. UNIT [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	AGITATOR (KW)	REC. PUMP (KW)	BLOWER (KW)
75	20	1	20	2,25	5,45	125	2.125	2.075	0,55	0,55	1,10
100	25	1	25	2,25	6,70	125	2.125	2.075	0,55	0,55	1,10
250	55	1	55	2,50	11,68	160	2.840	2.790	0,55	0,55	3,00
500	110	1	110	4,00	9,50	160	3.840	3.790	0,55	0,55	5,50
750	160	1	160	4,00	13,50	200	3.800	3.750	0,55	0,55	7,50
1.000	210	1	210	4,00	17,50	200	3.800	3.750	0,55	0,55	7,50
1.500	310	2	155	4,00	13,09	200	3.800	3.750	2X0,55	2X0,55	2X11,00
2.000	420	2	210	4,00	17,50	200	3.800	3.750	2X0,55	2X0,55	2X15,00
2.500	510	3	170	4,00	14,30	200	3.800	3.750	3X0,55	3X0,55	3X15,00
3.000	630	3	210	4,00	17,50	200	3.800	3.750	3X0,55	3X0,55	3X15,00

Data and models of the table may vary.

REF: CHC-ANOX-BIO-TC



PE	TOTAL VOL. [M³]	N° MODULES	VOL. UNIT REACTOR [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	AGITATOR (KW)	REC. PUMP (KW)	BLOWER (KW)
75	17,5	1	17,5	2,25	4,82	125	2125	2075	0,55	0,55	1,1
100	20	1	20	2,25	5,45	125	2125	2075	0,55	0,55	1,1
250	45	1	45	2,5	9,65	160	2340	2290	0,55	0,55	3
500	90	1	90	3,5	10	160	2840	2790	0,55	0,55	5,5
750	127,5	1	127,5	4	10,9	200	3800	3750	0,55	0,55	7,5
1000	165	1	190	4	13,9	200	3800	3750	0,55	0,55	15
1500	250	2	125	4	10,7	200	3800	3750	2X0,55	2X0,55	2X7,5
2000	330	2	165	4	13,89	200	3800	3750	2X0,55	2X0,55	2X15
2500	420	2	210	4	17,5	200	3800	3750	2X0,55	2X0,55	2X18,5
3000	495	3	165	4	13,89	200	3800	3750	3X0,55	3X0,55	3X15

PE	TOTAL SETTLING VOLUME [M³]	N° SETTLING	VOL. UNIT SETTLING [M³]	Ø SETTLING [M]	HEIGHT SETTLING [M]
75	4,00	1,00	4,00	1,70	2,75
100	5,00	1,00	5,00	2,00	3,19
250	11,00	1,00	11,00	2,25	4,03
500	21,00	1,00	21,00	3,00	4,70
750	32,00	1,00	32,00	3,50	5,36
1.000	43,00	1,00	43,00	4,00	5,75
1.500	65,00	2,00	33,00	3,50	5,40
2.000	86,00	2,00	43,00	4,00	5,75
2.500	106,00	3,00	35,33	3,50	5,70
3.000	129,00	3,00	43,00	4,00	5,75

Data and models of the table may vary.

REF: CHC – FS - ANOX – BIO – C

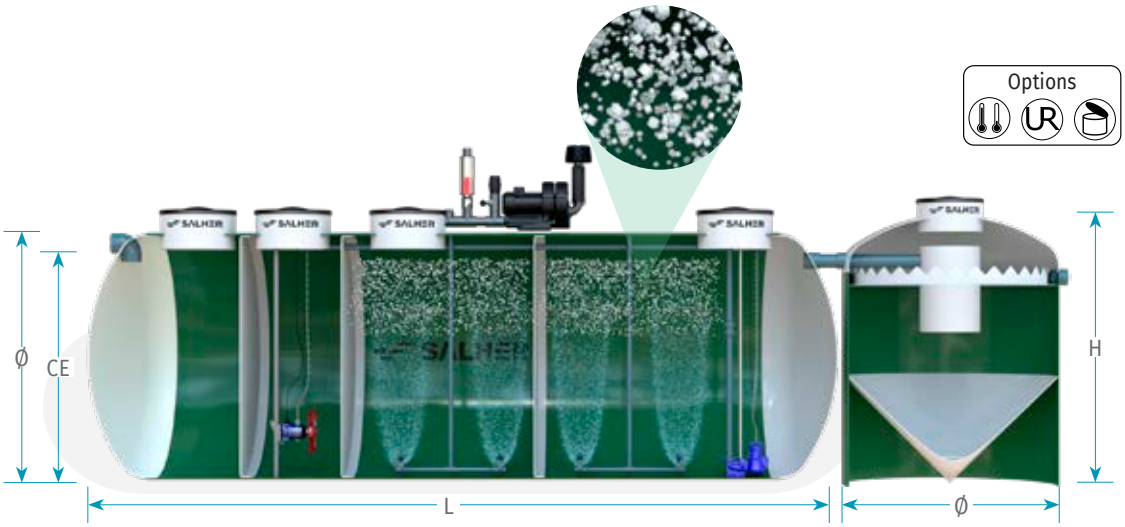
3

Options

PE	TOTAL VOL. [M³]	N° MODULES	VOL. UNIT [M³]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	AGITATOR (KW)	REC. PUMP (KW)	BLOWER (KW)
75	25	1	25	2,25	6,7	125	2.125	2.075	0,55	0,55	1,10
100	30	1	30	2,25	8	160	2.090	2.040	0,55	0,55	1,10
250	70	1	70	3	10,5	160	2.840	2.790	0,55	0,55	3,00
500	130	1	130	3,5	14,2	160	3.340	3.290	0,55	0,55	5,50
750	195	1	195	4	16,27	200	3.800	3.750	0,55	0,55	7,50
1.000	230	2	115	4	9,5	200	3.800	3.750	2X0,55	2X0,55	2X7,50
1.500	340	2	170	4	14,3	200	3.800	3.750	2X0,55	2X0,55	2X11,00
2.000	450	3	150	4	12,7	200	3.800	3.750	3X0,55	3X0,55	2X11,00
2.500	570	3	190	4	15,87	200	3.800	3.750	3X0,55	3X0,55	3X15,00
3.000	680	4	170	4	14,3	200	3.800	3.750	4X0,55	4X0,55	4X15,00

Data and models of the table may vary.

REF: CHC – FS - ANOX – BIO – TC



PE	TOTAL VOL. REACTOR [M3]	N° MODULES	VOL. UNIT REACTOR [M3]	Ø [M]	L [M]	Ø PIPE [MM]	CE [MM]	CS [MM]	AGITATOR (KW)	REC. PUMP (KW)	BLOWER (KW)
75	20	1	20	2	6,7	125	1875	1825	0,55	0,55	1,1
100	25	1	25	2,25	6,7	125	2125	2075	0,55	0,55	1,1
250	57,5	1	57,5	3	8,35	160	2840	2790	0,55	0,55	3
500	110	1	110	4	9,5	160	3840	3890	0,55	0,55	5,5
750	160	1	160	4	13,5	200	3800	3750	0,55	0,55	7,5
1000	190	1	190	4	15,87	200	3800	3750	0,55	0,55	15
1500	290	2	145	4	12,3	200	3800	3750	2X0,55	2X0,55	2X7,5
2000	380	2	190	4	15,87	200	3800	3750	2X0,55	2X0,55	2X15
2500	480	3	160	4	13,5	200	3800	3750	3X0,55	3X0,55	3X11
3000	570	3	190	4	15,87	200	3800	3750	3X0,55	3X0,55	3X15

PE	TOTAL VOL. SETTLING [M3]	N° SETTLING	VOL. UNIT SETTLING [M³]	Ø SETTLING [M]	H SETTLING [M]
75	4	4,00	1	1,70	2,75
100	5	5,00	1	1,70	3,19
250	11	11,00	1	1,25	4,03
500	21	21,00	1	3,00	4,70
750	32	32,00	1	3,50	5,36
1.000	43	43,00	1	4,00	5,75
1.500	65	32,50	2	3,50	5,40
2.000	86	43,00	2	4,00	5,75
2.500	106	35,33	3	3,50	5,70
3.000	129	43,00	3	4,00	5,75

Data and models of the table may vary.

WWTP with biomembranes

Secondary treatment with membrane bioreactor (MBR), with nitrogen removal (nitrification-denitrification) in option

REF: CHC-OXI-MBR

3

Function:

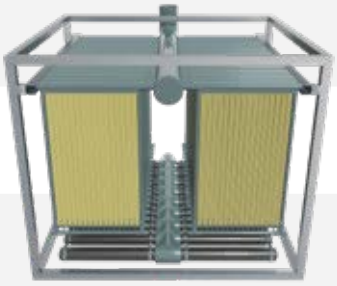
- High efficiency removal of organic matter, suspended solids and ammonia.
- System suitable for reuse of treated wastewater.

Characteristics:

- Technology: membrane bioreactor (MBR). Biological treatment with separation of biomass from clarified water by ultrafiltration membranes at atmospheric pressure.
- Equipment Salher brand, compact, modular, very efficient, easy installation and operation.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester), certified.
- Ultrafiltration membrane with pore diameter < 0,1 µm.
- Effluent suitable for reuse in accordance with RD1620/2007.
- High quality effluent with separation solid/liquid.
- High efficiency: BOD5: 99%; COD: 95%; N-NH4+ : 82%; TSS: 99%; faecal coliforms: 99,9%.

Advantages:

- High quality of the effluent. Water suitable for reuse in accordance with RD1620/2007. Effluent 100% free of virus, bacteria and other pathogens.
- Reduction of the surface required compared with traditional technologies: 65-75%. Removal of secondary settling tank and reduction of biological reactor volume.
- Secondary settling tank replaced by ultrafiltration membranes. Technology with excellent separation clarified water/sludge. No problem linked to sludge settling.
- Flexibility increased to face peak flows and contaminating loads.
- No smell. No bulking problem.
- Sludge quantity is lower and more stable. High sludge age and less mass loads.
- High level of automation.



Options

Data and models of the table may vary.

WWTP with biomembranes

Secondary treatment with membrane bioreactor (MBR), with nitrogen removal (nitrification-denitrification) in option

REF: CHC-OXI-MBR

Q (M³/DAY)	N° SKID	N° MEMBRANES / SKID	VOL. MBR TANK [M3]	Ø MBR TANK [MM]	H [MM]	L MBR TANK [MM]	VOL. BIOLOGICAL REACTOR [M3]	Ø BIOLOGICAL REACTOR [MM]	L BIOLOGICAL REACTOR [MM]
25	1	5	5,00	1.400	3.000		13	2.000	4.375
50	2	5	10,25	2.250		2.870	25	2.500	5.590
50	1	10	5,00	1.400	3.000		25	2.500	5.590
75	3	5	13,65	2.250		3.720	35	2.500	7.610
100	4	5	17,00	2.250		4.570	45	2.500	9.660
100	2	10	10,25	2.250		2.870	45	2.500	9.660
100	1	20	7,00	1.700	3.000		45	2.500	9.660
125	5	5	20,40	2.250		5.420	55	2.500	11.700
150	3	10	13,65	2.250		3.720	60	2.500	12.710
150	6	5	23,75	2.250		6.270	60	2.500	12.710
175	7	5	27,15	2.250		7.120	70	3.000	10.500
200	1	40	10,00	2.000	3.000		75	3.000	11.200
200	2	20	19,15	2.500		4.310	75	3.000	11.200
200	4	10	17,00	2.250		4.570	75	3.000	11.200
200	8	5	30,50	2.250		8.000	75	3.000	11.200
225	9	5	34,00	2.250		8.820	85	3.000	12.550
250	5	10	20,40	2.250		5.420	95	3.500	10.500
250	10	5	37,25	2.250		9.670	95	3.500	10.500
300	3	20	26,40	2.500		5.780	110	3.500	12.120
300	6	10	23,75	2.250		6.270	110	3.500	12.120
350	7	10	27,15	2.250		7.120	130	3.500	14.200
400	2	40	28,70	3.000		4.570	140	3.500	15.240
400	4	20	33,60	2.500		7.250	140	3.500	15.240
400	8	10	30,53	2.250		8.000	140	3.500	15.240
450	9	10	33,90	2.250		8.800	155	4.000	13.050
500	5	20	40,80	2.500		8.720	170	4.000	14.250
500	10	10	37,30	2.250		9.670	170	4.000	14.250
600	3	40	39,00	3.000		6.040	200	4.000	16.600
600	6	20	48,00	2.500		10.190	200	4.000	16.600
700	7	20	55,00	2.500		11.660	2 X 120	3.500	13.160
800	4	40	49,50	3.000		7.500	2 X 135	3.500	14.700
800	8	20	62,50	2.500		13.130	2 X 135	3.500	14.700
900	9	20	70,00	2.500		14.600	2 X 150	4.000	12.650
1.000	5	40	60,00	3.000		9.000	2 X 165	4.000	13.850
1.000	10	20	77,00	2.500		16.000	2 X 165	4.000	13.850

Data and models of the table may vary.

WWTP with biomembranes

Secondary treatment with membrane bioreactor (MBR), with nitrogen removal (nitrification-denitrification) in option.

REF: CHC-OXI-MBR

Includes:

Mbr:

Ultrafiltration module placed on a skid with diffusers grid and permeate outlet collector.

2 pumps (1+1) for permeate.

MBR instrumentation:

- Hydrostatic measurement system.
- Pressure transmitter on pipe.
- Manometers.
- Electromagnetic flowmeter.
- Air rotameter.

2 (1+1) blowers/blower with rotary pistons with soundproof shed.

Membranes cleaning system.

- Reactive agents tank.
- Dilution system.
- Impulsion pump.

Vertical/horizontal MBR tank, Salher brand, manufactured in GFRP.

Biological reactor:

2 (1+1) blowers/blower with rotary pistons with soundproof shed.

Diffusers grid.

Feeding pump to MBR-recirculation.

Sludge removal pump.

Biological instrumentation:

- Dissolved oxygen probe.
- Hydrostatic measurement device.
- PH probe.
- Electromagnetic flowmeter.

Vertical/horizontal MBR tank, Salher brand, manufactured in GFRP.

Electrical panel board + automaton.

Supervision of the installation and commissioning on national territory. International, please consult.

Documentation: plans, manuals, certificates.

Option:

- UV disinfection.
- Permeate valve.
- Feed pump valves and sludge removal.
- Compressor valve/blower MBR and biological reactor.
- Permeate frequency variator.
- Frequency converter for feeding pump and sludge removal.
- Frequency converter of the compressor/blower MBR and biological.
- Structure for mounting of pumps, compressor/blower, electrical panel board, valves and peripheric.

Data and models of the table may vary.

WWTP with biomembranes

Treatment by membranes bioreactors (MBR) for civil engineering. Equipment according to projects requirements.

REF: OXI-MBR

Function:

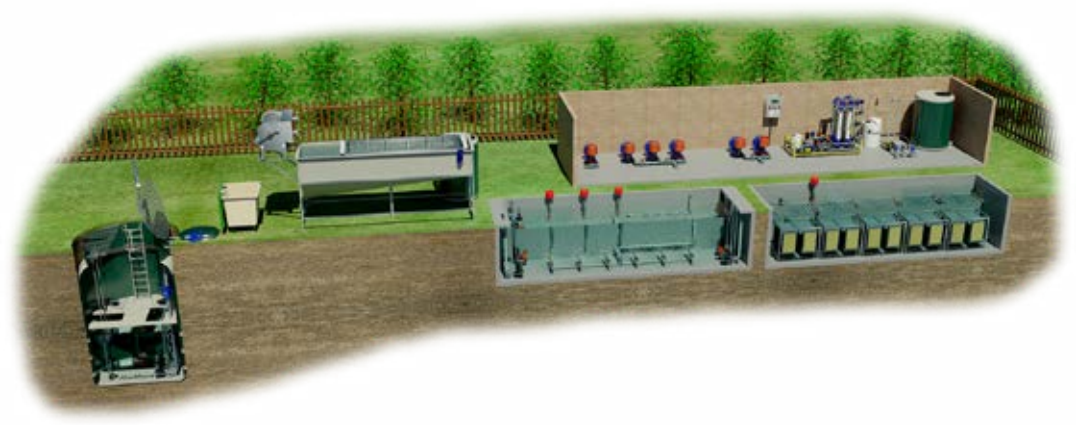
- High efficiency of organic matter, suspended solids and ammonia.
- System designed for reuse of treated water.

Characteristics:

- Technology membrane bioreactor (MBR). Biological treatment with separation of the biomass from clarified water by ultrafiltration membrane at atmospheric pressure.
- Salher brand, modular, high efficiency, easy installation and start.
- Ultrafiltration range of the membrane (diameter nominal of the pore < 0,1 µm).
- Effluent valid for reuse, in accordance with RD1620/2007.
- High quality effluent with efficient separation solid/liquid.
- Treatment performance: BOD5: 99%; COD: 95%; N-NH4+ : 82%; SST: 99%; faecal coliforms: 99.9%

Services included:

- Design and civil engineering project.
- Technical recommendations on site. Works management in option.
- Commissioning and adjustment of the equipment.



Data and models of the table may vary.

Portable and containerized WWTP

Portable WWTP by low-load activated sludge (extended aeration) for underground or aboveground installation

REF: 20P/40P

Function:

3

- Organic matter removal (BOD5).

Characteristics:

- Salher brand, model 20P/40P.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins and placed in containers.
- Water treatment plants can be placed in containers (activated sludge, moving bed biological reactor, bio-membranes).
- In standard containers (20 'or 40').
- Easy to transport and install.
- Completely compact.
- Possibility to place a technical compartment for panel board and equipment.

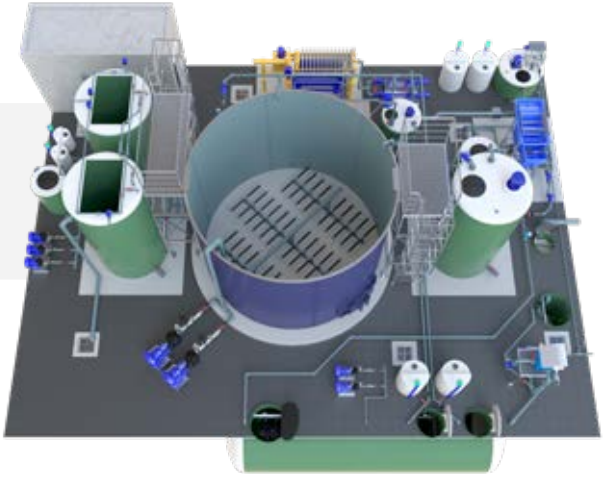
Data and models of the table may vary.

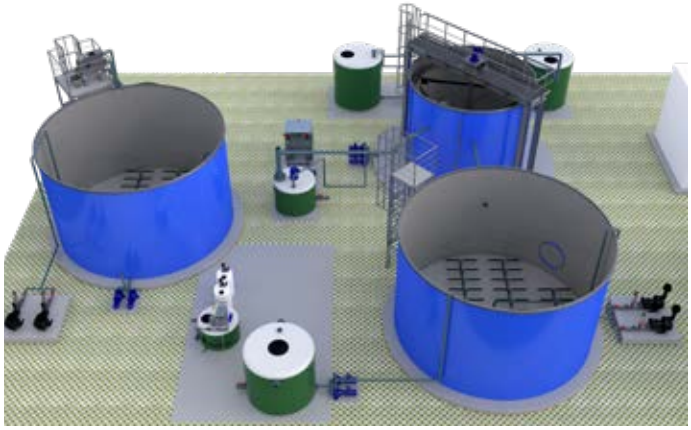
Function:

- Urban and industrial wastewater treatment for large flows.
- The modularity of these elements facilitates shipment and installation worldwide.

Characteristics:

- Mixed treatment systems.
- Modular tanks composed of mechanical and chemical resistant plates, easy to transport and install, for under and half underground installation.
- Technical design, engineering, installation or works management in option.





WWTP with trickling filter

Wastewater treatment plant with biological filter or recirculated trickling filter

REF: IMH-LBR-TC

Function:

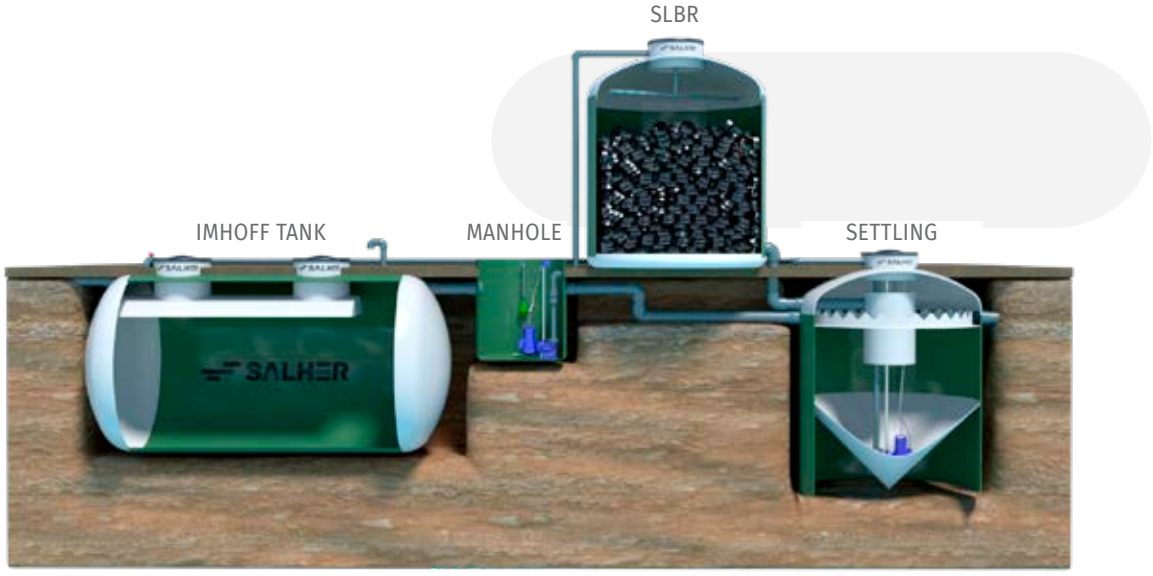
3

- Organic matter removal (BOD5).
- Removal of suspended solids (SS).

Options

Characteristics:

- Salher brand, model IMH-LBR-TC.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: 85-90% BOD5.
- Suspended solids removal efficiency: 90% SS.
- Primary treatment by settling-digestion process (Imhoff tank).
- Secondary treatment by recirculated trickling filter, fed by a rotary distributor (rotary arm), drain system and natural air vent.
- Plastic filling material with high porosity rate (95%) and large specific surface (140 m^2/m^3).
- Pumping station to feed the biological filter including pump with level regulation system. Option: 2 pumps in automatic alternate functioning.
- Secondary truncated settling tank with central feeding and Thompson canal.
- Sludge removal system to the digestion chamber of the Imhoff tank composed of a submerged pump with auto-coupling removal system.
- Partial or complete recirculation of the treated water to increase the treatment efficiency.
- PVC inlet and outlet.
- Manholes with GFRP cover.
- Outlet in the manhole to install a ventilation pipe.



Data and models of the table may vary.

PE	FLOW [M3/DAY]	IMHOFF TANK VOL. [M3]	IMHOFF TANK LENGTH [M]	IMHOFF TANK Ø [M]	SLBR VOL [M3]	SLBR Ø [M]	SLBR H [M]	SETTLING VOL [M3]	SETTLING Ø [M]	SETTLING H [M]	MANHOLE VOL [M3]	MANHOLE Ø [M]	MANHOLE H [M]
50	7,5	7,5	2,79	2	3	1,2	2,6	2	1,2	2.48	1	1,2	1
100	15	13,5	4,7	2	6	1,7	2,6	4	1,7	2.77	1	1,2	1
150	22,5	18,75	4,32	2,5	9	2	2,75	6	1,7	3.65	1,5	1,2	1,45
200	30	26,25	5,85	2,5	11	2	3,4	8	2	3.72	1,5	1,2	1,45
250	37,5	33,75	7,38	2,5	13,5	2,25	3,4	10	2,25	3.84	2	1,4	1,44
300	45	37,5	8,14	2,5	16,5	2,5	3,3	12	2,5	3.92	2,5	1,4	1,76
350	52,5	45	9,67	2,5	18,5	2,5	3,7	14	2,5	4.33	2,5	1,4	1,76
400	60	48,75	10,44	2,5	22	3	3,1	16	3	4.03	3	1,7	1,49
450	67,5	56,25	11,96	2,5	24	3	3,4	18	3	4.32	3	1,7	1,49
500	75	63,75	9,6	3	26	3	3,7	20	3	4.6	3,5	1,7	1,7
600	90	75	11,3	3	33	3,5	3,35	23	3,5	4.46	4	1,7	1,93
700	105	90	13,3	3	36,5	3,5	3,8	27	3,5	4.85	5	2	1,8
800	120	97,5	10,8	3,5	43	4	3,4	30	3,5	5.18	6	2	2,11
900	135	112,5	11,3	3,5	47	4	3,7	35	4	5.14	6	2	2,11
1.000	150	120	13,16	3,5	51	4	4,1	40	4	5.54	7	2	2,41

Data and models of the table may vary.

WWTP with trickling filter

Vertical biological treatment with settling-digestion chamber, biological filter and grease separator

REF: CVC-D

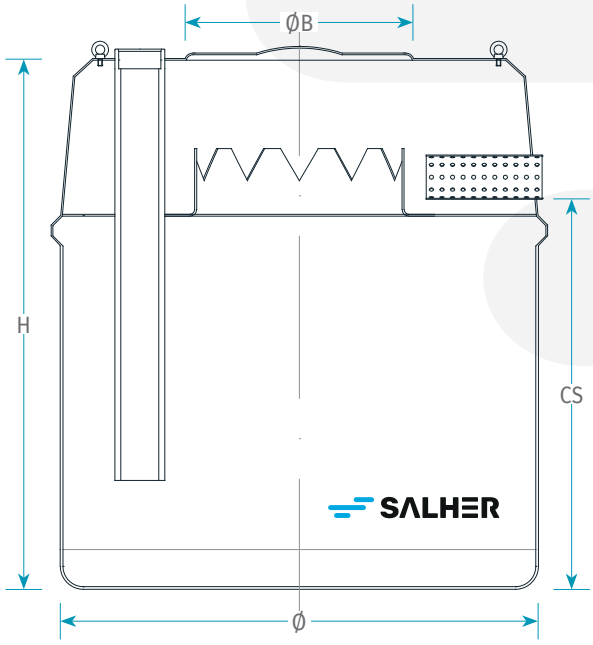
Function:

3

- Removal of organic matter (BOD5).
- Removal of suspended solids (SS).

Characteristics:

- Salher brand, model CVC-D.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Suspended solids removal efficiency: 65-70% SS.
- Organic matter removal efficiency: 70-80 % BOD5.
- Settling, digestion, trickling filter and floating particles separation chambers.
- Plastic filling material with high porosity rate (95%) and large specific surface (140 m^2/m^3).
- PVC inlet and outlet.
- Manholes with GFRP cover for cleaning by authorized waste company.
- Outlet in the manhole to install a ventilation pipe.



PE	Ø [MM]	HEIGHT [MM]	MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
≤ 10	1.400	1.600	620	125	1600	1.150

Data and models of the table may vary.

WWTP with trickling filter

Horizontal biological treatment with settling-digestion chamber and biological filter

REF: CHC-D

Function:

- Removal of organic matter (BOD5).
- Removal of suspended solids (SS).

Options

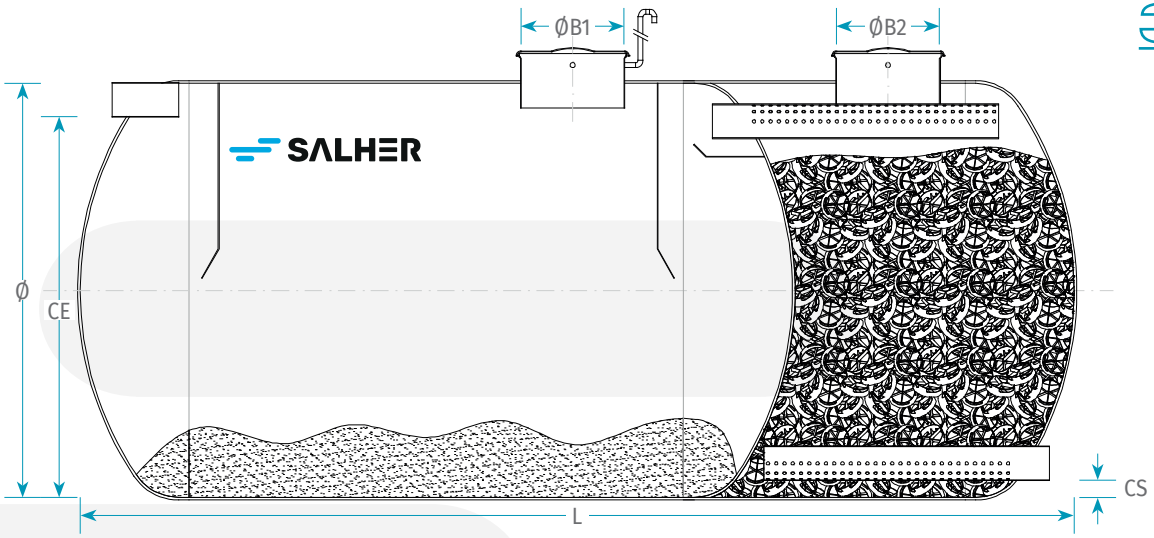
Characteristics:

- Salher brand, model CHC-D.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Suspended solids removal efficiency: 65-70% SS.
- Organic matter removal efficiency: 70 - 80 % BOD5.
- Primary treatment by settling-digestion.
- Secondary treatment consisting in trickling filter fed by fixed distributor, drain in the lower part and natural air vent.
- Plastic filling material with high porosity rate (95%) and large specific surface (140 m^2/m^3).
- PVC inlet and outlet.
- Manholes with GFRP cover for cleaning by authorized waste company.
- Outlet in the manhole to install a ventilation pipe.

Data and models of the table may vary.

WWTP with trickling filter

Horizontal biological treatment with settling-digestion chamber and biological filter



PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	MANHOLE 1 [MM]	MANHOLE 2 [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
5	1.500	1.000	1.900	400	250	125	875	50
10	2.200	1.200	2.190	400	250	125	1.075	50
15	2.700	1.200	2.640	400	250	125	1.075	50
20	3.600	1.400	2.620	500	250	125	1.275	50
25	4.500	1.400	3.200	500	400	125	1.275	50
30	5.400	1.400	3.800	500	500	125	1.275	50
35	6.300	1.400	4.380	500	500	125	1.275	50
40	7.200	1.700	3.510	620	500	125	1.575	50
45	8.100	1.700	3.910	620	500	125	1.575	50
50	9.000	1.700	4.310	620	500	125	1.575	50
60	10.800	1.700	5.100	620	500	125	1.575	50
70	12.600	1.700	5.890	620	620	125	1.575	50
80	14.400	2.000	4.980	620	620	160	1.840	50
90	16.200	2.000	5.560	620	620	160	1.840	50
100	18.000	2.000	6.150	620	620	160	1.840	50
100	18.000	2.250	4.970	620	620	160	2.090	50

Data and models of the table may vary.

WWTP with trickling filter

Horizontal treatment plant with settling-digestion chambers, biological filter and secondary settling tank

REF: CHCD-D

Function:

Options

- Removal of organic matter (BOD5).
- Removal of suspended solids (SS).

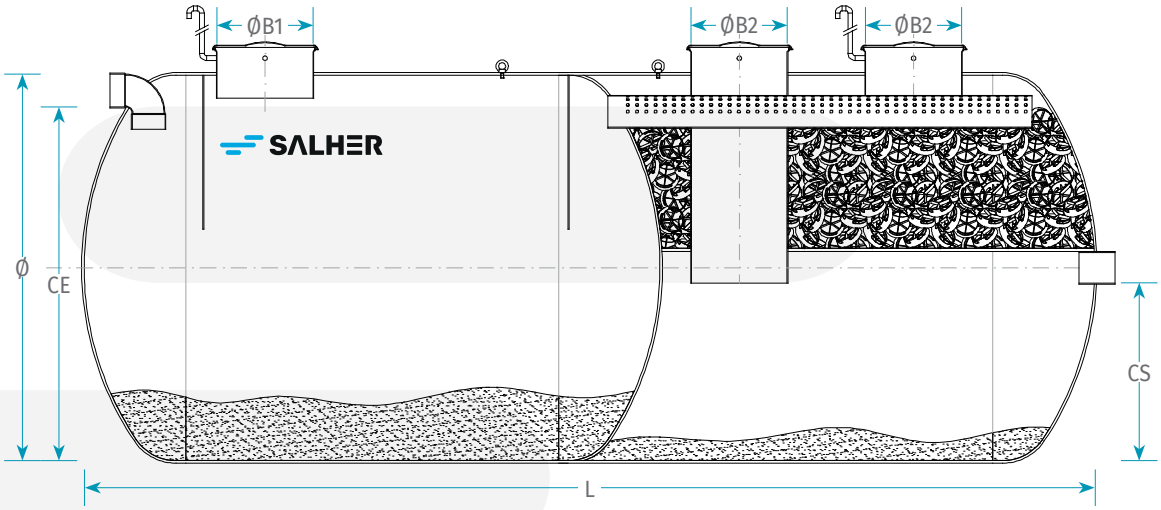
Characteristics:

- Salher brand, model CHCD-D.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Suspended solids removal efficiency: 80% SS.
- Organic matter removal efficiency: 85 % BOD5.
- Primary treatment by settling-digestion.
- Secondary treatment consisting in trickling filter fed by fixed distributor, drain in the lower part and natural air vent.
- Compact secondary settling chamber.
- Plastic filling material with high porosity rate (95%) and large specific surface (140 m^2/m^3).
- PVC inlet and outlet.
- Manholes with GFRP cover for cleaning by authorized waste company.
- Outlet in the manhole to install a ventilation pipe.

Data and models of the table may vary.

WWTP with trickling filter

Horizontal treatment plant with settling-digestion chambers, biological filter and secondary settling tank



PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	MANHOLE 1 [MM]	MANHOLE 2 [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
25	4.950	1.400	3.492	500	400	125	1.275	638
30	5.940	1.400	4.151	500	500	125	1.275	638
35	6.930	1.400	4.789	500	500	125	1.275	638
40	7.920	1.700	3.827	620	500	125	1.575	788
45	8.910	1.700	4.267	620	500	125	1.575	788
50	9.900	1.700	4.707	620	500	125	1.575	788
60	11.880	1.700	5.576	620	500	125	1.575	788
70	13.860	1.700	6.445	620	620	125	1.575	788
80	15.840	2.000	5.438	620	620	125	1.875	938
90	18.000	2.000	6.100	620	620	125	1.875	938
90	18.000	2.250	4.970	620	620	125	2.125	1.063
100	20.000	2.000	6.750	620	620	160	1.840	920
100	20.000	2.250	5.450	620	620	160	2.090	1.045

Data and models of the table may vary.

WWTP with trickling filter

Trickling filter or bacteria bed

REF: CVC-FB

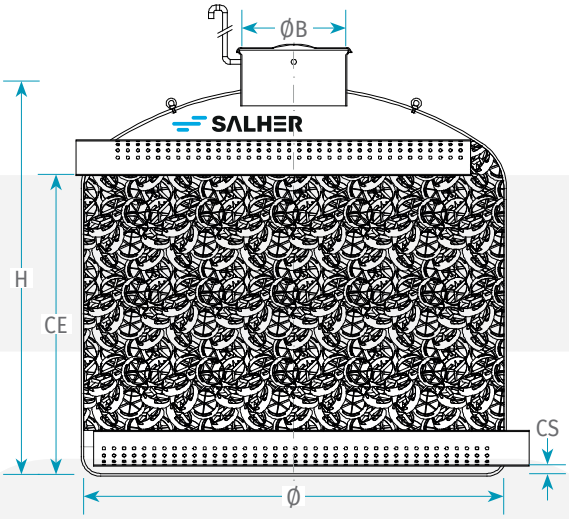
Function:

- Removal of organic matter (BOD5).

Options

Characteristics:

- Salher brand, model CVC-FB.
- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Organic matter removal efficiency: 80-90% BOD5.
- Secondary treatment consisting in trickling filter fed by fixed distributor, drain in the lower part and natural air vent.
- Plastic filling material with high porosity rate (95%) and large specific surface (140 m^2/m^3).
- PVC inlet and outlet.
- Manholes with GFRP cover.
- Outlet in the manhole to install a ventilation pipe.



PE	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
5-10	500	1.000	750	400	125	570	50
15	750	1.000	1.070	400	125	890	50
20	1.000	1.000	1.320	400	125	1.200	50
25	1.250	1.400	950	400	125	680	50
30	1.500	1.400	1.110	400	125	840	50
35	1.750	1.400	1.270	400	125	1.000	50
40	2.000	1.700	1.050	400	125	700	50
45	2.250	1.700	1.160	400	125	810	50
50	2.500	1.700	1.270	500	125	920	50
60	3.000	1.700	1.490	500	125	1.104	50
70	3.500	1.700	1.710	500	125	1.360	50
80	4.000	2.000	1.480	620	160	1.040	50
90	4.500	2.000	1.640	620	160	890	50

Data and models of the table may vary.

Tertiary treatments

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Introduction to water reuse systems

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Grey water and treated wastewater reuse

Compact plant for reuse of grey water and treated wastewater for several applications

REF: GRISAL-AUT *114*

Ultrafiltration technology

Compact water reuse plant, using ultrafiltration technology

REF: UF-AUT *116*

Rainwater reuse

2.4 Rainwater treatment plant

REF: SAL-PLU *118*

Rainwater recycling and treatment

REF: RAP *120*

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

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1.Water reuse systems

Salher has suitable tertiary treatment systems for the reuse of water, depending on the final quality required and according to the intended uses, and has suitable treatments for the use of grey water, treated wastewater and rainwater.

The equipment designed by Salher comply with the regulations on water reuse for different uses: Directive 2000/60/EC, Standard EN 16941-2:2021 and Regulation (EU) 2020/741. They also comply with the requirements for the prevention and control of legionellosis.

Different tertiary treatment configurations are available depending on the application required:

- Quality Compliance 1.1 - Residential:
  - Irrigation of private gardens.
  - Discharge of sanitary devices.
- Quality Compliance 1.2 - Services:
  - Irrigation of urban green areas (parks, sports fields, street washing, etc.), forests, crops.
  - Industrial vehicle washing.
- Quality Compliance 1.3 - Industrial:
  - Process and cleaning water except food industry.
- Quality Compliance 4 - Recreational Uses:
  - Golf course irrigation.

Likewise, other reuse systems can be created for any other quality of water required or other intended uses.

The reuse system can be part of a structure with all the interconnected elements or be independent elements for later installation.

The Salher brand reuse station is a set of refining elements (tertiary treatment) for the treatment of:

- Grey water (from showers, bathtubs and sinks).
- Treated wastewater (domestic and industrial).

The different elements of the reuse system can be:

Ultrafiltration ssystems:

Objective: elimination of traces and micropollutants. Effluent 100% free of viruses, bacteria and other pathogens. High quality water for reuse.

Equipment:

Filtration modules composed of membranes in the ultrafiltration range (nominal pore diameter < 0.1 µm).

Skid or frame in GFRP with pre-filter assembly, UF membranes, peripherals, instrumentation, cleaning system and electrical panel.

High efficiency filtration systems:

Aim: removal of traces of suspended solids.

Equipment:

High-performance filters equipped with filler material with granulometries selected according to applications.

Ring filters.

Cartridge filters.

Disinfection systems:

Aim: removal of pathogenic germs, disinfection of treated wastewater with high values of turbidity or color and maintenance of water quality in tanks.

Equipment:

Chlorination.

UV radiation.

Data and models of the table may vary.

2. Compact reuse plants

Function:

- Elimination of suspended solids, organic matter, intestinal nematodes, Escherichia coli and water turbidity.
- Suitable for treated wastewater from urban centers (black and gray water) and automatic vehicle washing.
- Application: reuse of water in different uses, according to regulations EN 16941-2 and R.D. 1620/2007.

Grey water and treated wastewater reuse

Compact plant for reuse of grey water and treated wastewater for several applications

REF: GRISAL-AUT

Characteristics:

4

Water reuse plant, Salher brand, composed of:

- High-performance filter, in GFRP, with automatic cleaning system, loads of silex and anthracite sand, electrovalves and sampling taps.
- Plant supply system, Salher brand, consisting of: centrifugal pump, level regulators, pre-filters, shut-off valves, pressure gauges and non-return valves.
- Shock prechlorination by means of a membrane dosing pump and reagent tank for a minimum of 30 days of autonomy.
- Cleaning system using network water with automatic activation commanded by motorized valves.
- Ultraviolet radiation generator unit, with stainless steel radiation chamber, long-lasting UV lamps, electronic control module with lamp failure optical warning system, timer and lamp replacement warning.
- Maintenance in the TREATED water tank, Salher brand, consisting of: recirculation pump, automatic redox station, level regulators, cut-off valve, pressure gauge, non-return valve and disinfectant agent tank.
- Raw water tank installed aboveground for supply to the plant, Salher brand, made up of: GFRP tank, inlet, outlet, emptying and overflow intakes; hair retention basket (optional).
- Electrical panel board for control and command of tertiary system.

Optional:

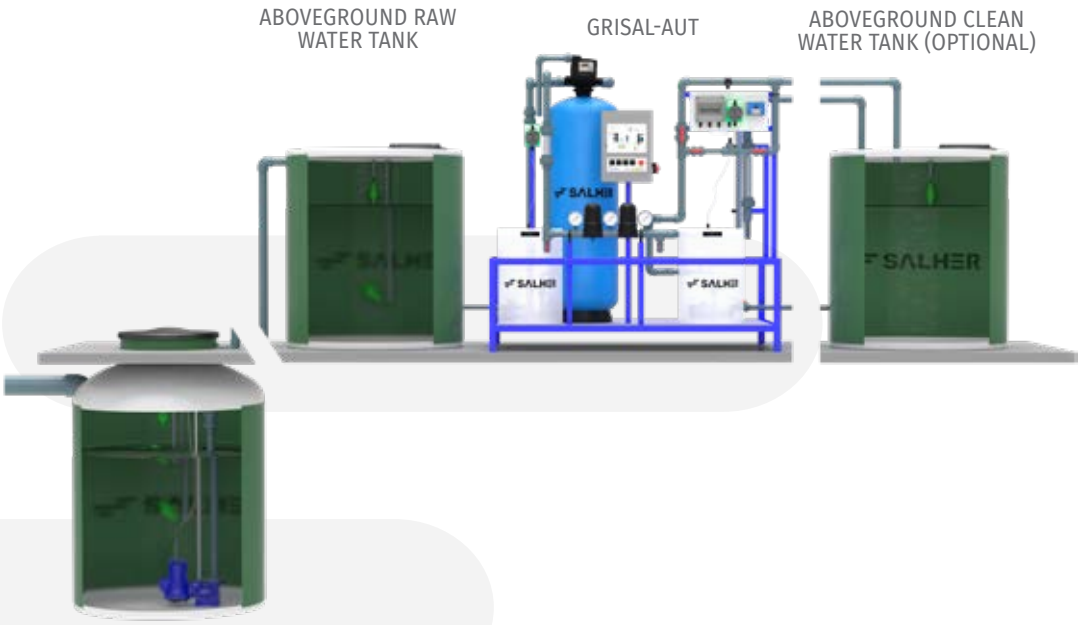
- Colorant dosing station.
- UV intensity sensor.
- High performance filter using activated glass. Durable and effective material, without the need to replace filter loads.
- Underground tank for collecting raw water, Salher brand, in GFRP including intakes, outlets, emptying, level regulators and submersible pump for impulsion to the plant.

Clean water accumulation tank, underground or aboveground, Salher brand, in GFRP, including inlet, outlet, emptying and recirculation intakes and level regulator.

	GRISAL-AUT			
M3/H	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	POWER
0,25*	1700	900	1480	1,7 KW 220 V
0,5	2000	1100	1775	1,7 KW 400 V
1,0	2100	1300	2135	1,7 KW 400 V
1,5	2100	1300	2135	1,7 KW 400 V
3,0	2100	1300	2280	2 KW 400 V
5,0	2400	1500	2285	2,5 KW 400 V
7,5	2600	1900	2595	2,5 KW 400 V
10,0	2600	1900	2595	4,5 KW 400 V
15,0	2900	1900	2750	5,5 KW 400 V

* For 0,25 m^3/h systems, possibility to disinfect by chlorine without ultraviolet.

Data and models of the table may vary.



M3/H	UNDERGROUND RAW WATER TANK			ABOVEGROUND CLEAN WATER TANK	
	CVC-E [LITRES]	DIMENSIONS [MM]	PUMPS [UNITS X KW]	CVC-FP [LITERS]	DIMENSIONS [M]
0,25*	1000	Ø 1,2 X H 1	1 X 0,55	1000	Ø 1,2 X H 1,3
0,5	1000	Ø 1,2 X H 1	1 X 0,55	1500	Ø 1,2 X H 1,33
1	1000	Ø 1,2 X H 1	1 X 0,55	2000	Ø 1,4 X H 1,3
1,5	1000	Ø 1,2 X H 1	1 X 0,55	3000	Ø 1,4 X H 2,1
3	1500	Ø 1,2 X H 1,45	1 X 0,75	5000	Ø 1,7 X H 2,25
5	1500	Ø 1,2 X H 1,45	1 X 0,75	7000	Ø 1,7 X H 2,25
7,5	2000	Ø 1,4 X H 1,44	1 X 1,5	10000	Ø 2,25 X H 2,52
10	3000	Ø 1,7 X H 1,79	1 X 2	12000	Ø 2,5 X H 2,5
15	5000	Ø 2 X H 1,8	1 X 2	20000	Ø 3 X H 2,82

Data and models of the table may vary.

REF: UF-AUT

Characteristics:

Water reuse plant, Salher brand, composed of:

- Ultrafiltration modules with hydrophilic tubular membranes, with reinforced hollow fiber, with pore size < 0,1 µm, appropriate for water reuse.

Membrane material	PVDF modified
Active membrane area	38 m2
Inlet / Outlet	dn32
Pores size (microns)	<0,1
Fiber ID / OD	0,6/1,2 mm
Filtration type	outer/inner
Diameter	160 mm
Length	1730 mm
Structure material	abs
Fixation material	epoxy

- Aboveground raw water tank for feeding of the plant, Salher brand, made up of a GFRP tank, inlet, outlet, emptying and overflow intakes.
- Cleaning system composed of raw water tank, reagent tank, disinfectant agent dosing and control system, compressor and cleaning circuit pump.
- Feeding system for filtration modules consisting of a centrifugal pump with valves and a level system.
- Safety prefilter.
- Instrumentation: flowmeters, sensors, connexions and valves.
- Electrical panel board with automaton and manual control.
- Frame-skid in GFRP with hydraulic and electrical interconnection of the different elements.

Data and models of the table may vary.

FLOW M³/H	UF-AUT							
	MIN./MAX. FLOW[M³/H]	N° CARTRIDGES	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	POWER INSTALLED [KW]	RAW WATER TANK [LITRES]	RAW WATER TANK [MM]
2,5	1,9 - 3	1	2275	1040	2075	1,95	1250	Ø 1200 X H 1255
5	3,8 - 8	2	2445	1040	2075	2,25	2500	Ø 1400 X H 1760
10	7,6 - 18	4	2615	1130	2075	3	2500	Ø 1400 X H 1760
20	11,4 - 28	6	2790	1250	2075	4	10000	Ø 2500 X H 2280
30	15,2 - 38	8	2980	1450	2075	4,75	15000	Ø 2500 X H 3300

UNDERGROUND RAW WATER TANK		UNDERGROUND CLEAN WATER TANK	
CVC-E [LITRES]	Ø X H [MM]	CVC-E [LITRES]	Ø X H [MM]
1500	Ø 1200 X H 1450	5000	Ø 2000 X H 1800
1500	Ø 1200 X H 1450	7000	Ø 2000 X H 2250
3000	Ø 1700 X H 1490	12000	Ø 2250 X H 3050
5000	Ø 2000 X H 1800	20000	Ø 2000 X H 6760
8000	Ø 2250 X H 2250	25000	Ø 2250 X H 6700

OPTION	
ELECTROMAGNETIC FLOWMETER	WATER STORAGE TANK

Data and models of the table may vary.

REF: SAL-PLU

Equipment of treatment of rainwater, Salher brand, composed of:

- Compact structure, Salher brand, with hydraulic and electrical interconnection of the elements:
  - -1 Filtration head with automatic and manual cleaning.
  - -1 Disinfection system.
    - * Membranes dosing pump, electromagnetic actuation.
    - * Cylindrical storage tank in polyethylene to mix the product of 120 litres capacity.
    - * 1 level probe for tank.
    - * Set of accessories composed of: double ball retention valve, injection connection with check ball valve, 2 m suction pipe PVC-glass, 4 m de polypropylene impulsion pipe, ankle, screw and fuse.
    - * 1 equipment for manual test: chlorine – pH.
    - * 1 flowmeter.
- Recirculation pump with floating suction (for submerged installation) and level regulator float.
- 1 Electrical panel board for protection and operation.

REFERENCE	DIMENSIONS STRUCTURE (AXLXH) M	WEIGHT STRUCTURE (KG)	FLOW REUSE (M^3/H)
SAL-PLU -2.0- ENT *	1.0 X 1.0 X 1.80	80	2.5
SAL-PLU – 5.0- ENT	1.0 X 1.4 X 1.80	300	5.0
SAL-PLU -10.0- ENT	1.0 X 1.4 X 1.80	300	10.0
SAL-PLU -20.0- ENT	1.0 X 1.4 X 1.80	300	20.0

* model SAL-PLU 2.0 ent filtration head with manual cleaning

Option: raw water collection tank and clean water storage tank (Ref: RAP 02).

Data and models of the table may vary.

REF: RAP

Function:

- Filtration and storage of rainwater for watering.

Characteristics:

- Storage tank manufactured in GFRP (Glass Fiber Reinforced Polyester) for above and underground installation.
- Filter with structure in polyamide resistant to high pressure and/or bumps.
- Deflector at the inlet of the storage tank.
- Floating suction to remove the clean water.
- Submerged pump and/or high pressure submerged pump for sprinkler irrigation (option).
- Electrical panel board to protect, control and operate (option).

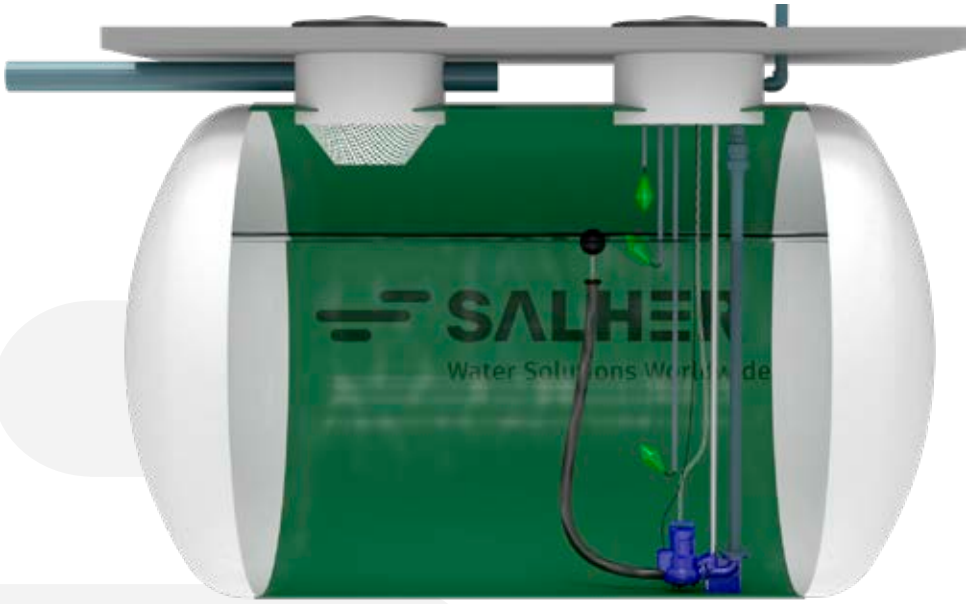
Rainwater harvesting tank for aboveground installation
RAP 01

VOLUME [LITRES]	Ø [MM]	HEIGHT [MM]
1.000	1.000	1.470
1.500	1.200	1.560
2.000	1.200	2.007
2.500	1.400	1.905
3.000	1.400	2.230

Data and models of the table may vary.

Rainwater harvesting tank for underground installation

- RAP 02



VOLUME [LITRES]	Ø [MM]	LENGTH [MM]
4.000	1.400	2.880
5.000	1.700	2.540
6.000	1.700	2.980
7.000	1.700	3.420
8.000	1.700	3.860
9.000	1.700	4.300
10.000	2.000	3.580
11.000	2.000	3.890
12.000	2.000	4.214
13.000	2.000	4.530
14.000	2.000	4.850
15.000	2.000	5.170
20.000	2.000	6.760
24.000	2.500	5.380
25.000	2.500	5.590
30.000	2.500	6.600
35.000	2.500	7.610
40.000	2.500	8.640

Data and models of the table may vary.

Water purification

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FILTRATION TREATMENTS

COMPACT PURIFICATION PLANTS FOR WATER WITH LOW POLLUTANT LOAD
REF: PUR-F 130

COMPACT WATER PURIFICATION PLANT WITH ACTIVE CARBON
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COMPACT PURIFICATION PLANT FOR WATER WITH ORGANIC MATTER LOAD
REF: PUR-FQFF-CA 134

COMPACT PURIFICATION PLANT FOR ABOVEGROUND WATER WITH HIGH TURBIDITY
REF: PUR-FQLF 136

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REF: PUR-FF-S 138

DENITRIFICATION
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WATER DEMINERALIZATION
REF: PUR-FF-DM 138

IRON REMOVAL
REF: PUR-FF-FE 138

WATER REMINERALIZATION
REF: PUR-FF-RM 138

ULTRAFILTRATION TREATMENTS

COMPACT ULTRAFILTRATION PLANTS
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REF: PUR-MAXIRO-BW / PUR-MAXIRO-SW 144
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COMPACT PURIFICATION PLANTS BY DEMINERALIZATION / ELECTRODEIONIZATION
REF: PUR-EDI 147

COMPACT PURIFICATION PLANTS BY CONTINUOUS ELECTRODEIONIZATION
REF: PUR-CEDI 148

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DISINFECTION SYSTEMS

AUTOMATIC CHLORINATION SYSTEM WITH SODIUM HYPOCHLORITE AND PH ADJUSTMENT
REF: SAL-CL; SAL-CLPH 152

AUTOMATIC REDOX STATION
REF: SAL-RX 153

CHLORINATION CHAMBER WITH DOSING SYSTEM
REF: CVC-CE 154

AUTOMATIC OZONE GENERATION SYSTEM
REF: SAL-OZ 155

DISINFECTION BY ULTRAVIOLET
REF: SAL-UV 156

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

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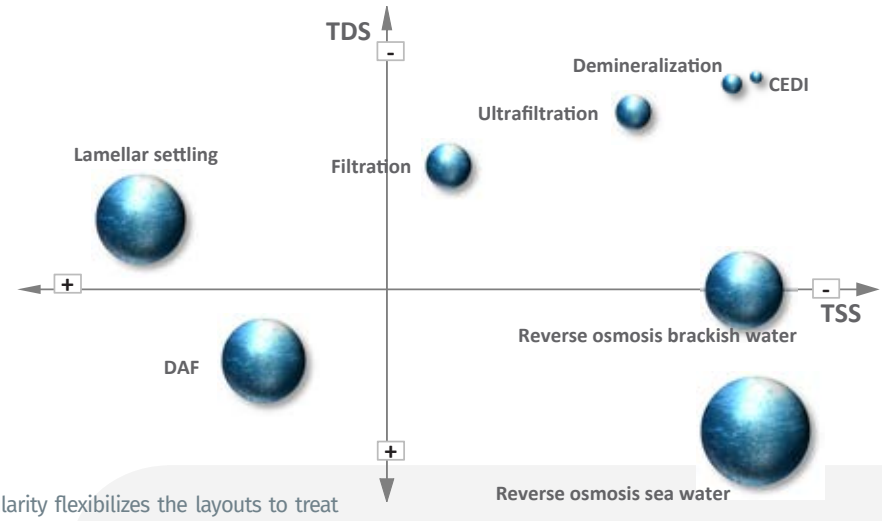
INTRODUCTION TO WATER PURIFICATION SYSTEMS

Salher offers innovative customized water purifications systems. Our plants are the best solution for undesirable contaminating situations of surface, underground and sea water.



Salher plants modularity flexibilizes the layouts to treat any type of water.

TURBIDITY REDUCTION SYSTEMS

LAMELLAR SETTLING

Lamella clarifiers Salher brand with an advanced lamella technology for an efficient settling of flocs and solid particles suspended in water.

- Larger effective area in settling surface
- Mixing system and flocculation to facilitate the settling process

FILTRATION

Filtration equipment mounted at Salher and adapted to the characteristics of each type of water, with optimal filling material for each case and fully automatic operation.

- Filtration through silex-anthracite, zeolite or activated glass
- Filling material with high degree of selectivity

Data and models of the table may vary.

REMOVAL OF ORGANIC COMPOUNDS, ODOR, TASTE AND COLOR

Filtration through granular active carbon in water purification plants to remove chlorine, odor, taste and specific organic compounds, like pesticides.

- High capacity filling material and absorption capacity
- Minimum load loss of filters
- High efficiency and long useful life

REMOVAL OF POLLUTANTS

Iron and manganese removal systems

Removal of iron and manganese dissolved through catalytic process.

- Filtration only in one step
- Removes pollutants
- No need of permanganate by oxidation
- No need of chemical products to regenerate

Ion exchange

Equipment for removal of ion compounds in water, using solid interchange resins. The ion exchange system proposed by Salher efficiently uses the resin capacity and produces a good quality and longlasting product.

- Reduced space
- Optimized regeneration process to extend the resin useful life

This selective removal of ions has the following applications:

1. Decalcification systems
   - Removal of hardness or water softening, through monosphere resins with high exchange capacity.

2. Nitrates/Sulphates removal systems
   - Removal of nitrates and/or sulphates appropriate to treat the contamination during the underground water catchment.

3. Demineralization
   - Combination of resins to reduce simultaneously specific cations and anions in water.

4. Iron removal
   - Removal of iron and manganese dissolved through catalytic process.

Remineralization systems

Salher supplies several remineralization techniques to increase the calcium hardness and adjust the pH in the treated water according to consumption requirements.

ULTRAFILTRATION TECHNOLOGY

Ultrafiltration is a best-in-class technology to guarantee a consistent quality of potable water regarding particles, bacteria and pyrogens. Salher has a large experience in its application and excellent results are obtained. This system is one of the most recommended by Salher for water purification.

- Vertical modules with little space required
- Long useful life of membranes with low maintenance

REVERSE OSMOSIS TECHNOLOGY

Water treatment with high content of dissolved solids, as well as brackish and seawater in a large range of flows and conductivities.

- Membranes with high salt rejection rate for maximum water conversion
- Technology with many industrial applications
- Possibility to use the reverse osmosis concentrate for cleaning systems

ELECTRODEIONIZATION

Salher is at the forefront of water purification techniques using the electrodeionization as alternative enhancement compared to ion exchange traditional processes.

EDI and CEDI equipment allow to meet high quality water standards using:

- Electricity
- Selective membranes (cationic and anionic)
- Resins of ion exchange

EMERGENCY COMPACT PLANTS

Water purification, SALHER brand, for potable water supply to populations and for emergency situations, from surface, underground and seawater.

Autonomous plant through with easy operation and low maintenance.

Data and models of the table may vary.

DISINFECTION SYSTEMS

Disinfection of treated clean water and maintenance of the water quality in tanks before consumption.

Sodium hypochlorite (NaClO) treatment

Efficient application for microorganisms removal from water and powerful action over time to avoid bacteria and algae proliferation through residual chlorine in water.

- Treatment in line or on tank by automatic chlorination equipment with measurement and control of free chlorine providing a water according to high quality standards

UV disinfection

Salher offers the possibility to disinfect the water through UV light, avoiding chemical substances in the water.

Ozone treatment

Ozone is an efficient disinfectant in very short contact period time. It has a disinfecting action and strong oxidizing power. Several options available.

- Unlike other treatments, it has no impact (color, odor, taste) and no residual trace in water
- In-line layout through by-pass or on tank

SALHER WATER PURIFICATION PLANTS VALUE CHAIN

- High quality water. Water purification plants, SALHER brand, produce a potable water in accordance with the international quality standards, in terms of physical, chemical and bacteriological characteristics.
- Compact pre-mounted plant on containerizable modular structures easy to ship and ready for use (“plug&play”).
- Robustness and reliability. Factory Acceptance Test (FAT) in Salher premises and mechanical easiness of modules for a reliable operation.
- Possibility of assembling on carbon steel or GFRP structures.
- Small space required and modular layout, easy expandable for future needs.
- Low operation and production costs for potable water with design optimization and reduction of energy consumption.
- Easy maintenance and plant automation, no qualified staff is required.
- Long useful life.
- Technical assessment adding value and integrity within the sales process of the equipment.

REF: PUR-F

5

Function:

- Removal of suspended solids, turbidity and pathogen microorganisms.
- Medium quality treatment water, usually surface water issued from rivers, lakes and reservoirs. Inlet water characteristics:
  * Concentration of suspended solids and turbidity: TSS < 200 mg/l ; Turbidity < 20 NTU.
  * Concentration of dissolved solids: TDS < 1500 mg/l.
  * Concentration of pollutants below the acceptable threshold level.

Option:

- Alternatives to multilayer filter silex-anthracite:
  * Filtration with zeolite filter media. Ref. PUR-F-Z (CONSULT).
  * Filtration with activated glass media. Ref. PUR-F-V (CONSULT).
- Dosage of oxidant in pretreatment for disinfection and organic matter oxidation and reduction of Fe/Mn.
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Automatic PH control and regulation of the treated water.
- Alternative disinfection system of water treated in post-treatment.

Characteristics:

- Compact equipment for water purification, in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * High efficiency filters in GFRP (Glass Fiber Reinforced Polyester) with automatic cleaning system, provided with silex and anthracite filling material, with grain size selected according to final use.
  * Ring filter with different filtration degrees, according to applications.
  * Feeding systems to filtration systems composed of centrifugal pumps, provided with regulation system and flow control, level regulators, etc.
  * Disinfection system and quality control of water in tank composed of a self-priming pump for recirculation, with automatic chlorination station.
  * Electrical panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Data and models of the table may vary.

M3/H	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT* [KG]
0,5	2.000	1.000	1.500	2,4KW / 400V	175
1	2.000	1.100	1.500	2,4KW / 400V	307
3	2.100	1.320	1.700	2,4KW / 400V	403
5	2.200	1.800	1.700	3,2KW / 400V	693
10	2.300	2.100	1.900	5,3KW / 400V	1.318
15	2.300	2.200	2.000	7,0KW / 400V	1.668
20	2.500	2.500	2.000	8,5KW / 400V	2.213
25	2.800	2.700	2.100	9,5KW / 400V	2.893
30	2.800	2.700	2.100	11,5KW / 400V	2.914
35	2.900	2.850	2.200	11,5KW / 400V	3.907
40	3.300	3.200	2.300	14,5KW / 400V	5.347
45	3.300	3.200	2.300	14,5KW / 400V	5.363
50	4.200	2.600	1.600	16,5KW / 400V	5.548
60	4.200	2.800	1.600	18,5KW / 400V	6.035
70	4.200	3.100	1.700	22,5KW / 400V	7.698
80	4.800	3.100	1.800	27,5KW / 400V	8.921
90	4.800	3.300	2.000	29,5KW / 400V	10.699
100	5.300	3.300	2.200	33,0KW / 400V	12.219

*Includes filling load for filters + GFRP structure.

Data and models of the table may vary.

REF: PUR-FF-CA

5

Function:

- Removal of suspended solids, organic matter, turbidity and pathogen microorganisms.
- Removal of free chlorine, odors, tastes and absorption of specific organic compounds.
- Treatment of medium quality water, usually surface water issued from rivers, lakes and reservoirs. Characteristics of the inlet water:
  * Concentration of suspended solids and turbidity: TSS < 200 mg/l; Turbidity < 20 NTU.
  * Concentration of dissolved solids: TDS < 1500 mg/l.
  * Concentration of pollutants below the acceptable threshold level.

Option:

- Alternatives to silex-anthracite multilayer filter:
  * Filtration with zeolite media. Ref.: PUR-FF-ZCA (CONSULT).
  * Filtration with activated glass media. Ref.: PUR-FF-VCA (CONSULT).
- Dosage of oxidant in pretreatment for disinfection and oxidation of organic matter and Fe/Mn reduction.
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Automatic control and regulation of pH of treated water.
- Alternative system of disinfection of the treated water in post-treatment.

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility of installation on carbon steel structure, composed of the following elements, according to applications:
  * High efficiency filters in GFRP (Glass Fiber Reinforced Polyester) with automatic cleaning system, provided with silex and anthracite filling material, with grain size selected according to final use.
  * Activated carbon filter in GFRP (Glass Fiber Reinforced Polyester) with automatic cleaning system, filling material through activated carbon issued from coconut shell, for treatment of purification systems.
  * Ring filter with different filtering degrees, according to final use.
  * Feeding system to the filtration treatment composed of centrifugal pumps, with regulation system and flow control, level regulators, etc.
  * Disinfection system and water quality control in tank composed of self-priming pump for recirculation, with automatic chlorination station.
  * Panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Data and models of the table may vary.

M3/H	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT* [KG]
0,5	2.000	1.100	1.200	2,4KW / 400V	204
1	2.100	1.100	1.500	2,4KW / 400V	378
3	2.100	1.400	2.000	2,4KW / 400V	507
5	2.200	1.800	2.300	3,2KW / 400V	836
10	2.200	2.100	2.450	5,3KW / 400V	1.573
15	3.000	2.250	2.450	7,0KW / 400V	1.980
20	3.400	2.500	2.300	8,5KW / 400V	2.213
25	3.600	2.700	2.300	9,5KW / 400V	3.315
30	4.100	2.700	2.300	11,5KW / 400V	3.708
35	4.500	2.900	2.300	11,5KW / 400V	5.152
40	5.000	3.200	2.300	14,5KW / 400V	6.892
45	5.000	3.200	2.300	14,5KW / 400V	6.908
50	4.250	3.200	1.600	16,5KW / 400V	7.212
60	4.300	3.500	1.600	18,5KW / 400V	7.911
70	4.300	3.700	1.700	22,5KW / 400V	9.966
80	4.800	4.000	1.800	27,5KW / 400V	12.111
90	4.800	4.400	2.000	29,5KW / 400V	14.234
100	5.300	4.500	2.200	33,0KW / 400V	16.244

*Includes filling load for filters + GFRP structure.

Data and models of the table may vary.

REF: PUR-FQFF-CA

5

Function:

- Removal of suspended solids, turbidity, pathogen microorganisms and contaminants reduction (Fe, Mn).
- Removal of free chlorine, odors, taste and absorption of specific organic compounds like pesticides.
- Treatment of medium-low quality water, normally surface water issued from rivers, lakes and reservoirs. Characteristics of the inlet water:
  * Concentration of suspended solids and turbidity: TSS < 500 mg/l; Turbidity < 50 NTU.
  * Concentration of dissolved solids: TDS < 1500 mg/l.
  * Concentration of pollutants below the acceptable threshold level.

Option:

- Alternatives to silex-anthracite multilayer filter:
  * Filtration with zeolite media. Ref.: PUR-FQF-Z (CONSULT).
  * Filtration with activated glass media. Ref.: PUR-FQF-V (CONSULT).
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Alternative system of disinfection of the treated water in post-treatment.

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * Prechlorination composed of dosing pumps with regulation of the pulse frequency, proportional to the flow controlled by a pulse generator counter.
  * Participates to the filtration through the dosage of coagulant, flocculants and pH correctors, proportional to the flow. Composed of dosing pumps, reactive tanks, level probes and accessories.
  * High efficiency filters in GFRP (Glass Fiber Reinforced Polyester) with automatic cleaning system, provided with silex and anthracite filling material, with grain size selected according to final use.
  * Activated carbon filters in GFRP (Glass Fiber Reinforced Polyester) with manual or automatic cleaning system, filling material of different types and composition according to the needs and grain size selected according to final use.
  * Ring filters with different filtration degrees, according to final use.
  * Feeding system to filtration treatment composed of centrifugal pumps, provided with regulation system and flow control, level regulators, etc.
  * System of control of water quality in tank composed of suction recirculation pump, provided with regulation system and automatic chlorination system.
  * Panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Data and models of the table may vary.

FILTRATION TREATMENTS

COMPACT PURIFICATION PLANT FOR WATER WITH ORGANIC MATTER LOAD

M3/H	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT* [KG]
0,5	2.600	1.600	1.200	2,4KW / 400V	227
1	2.700	1.600	1.500	2,4KW / 400V	401
3	2.700	1.600	2.000	2,4KW / 400V	530
5	2.800	1.800	2.300	3,2KW / 400V	859
10	2.800	2.100	2.450	5,3KW / 400V	1.596
15	3.600	2.250	2.450	7,1KW / 400V	2.003
20	4.100	2.500	2.300	8,6KW / 400V	2.668
25	4.300	2.700	2.300	9,5KW / 400V	3.348
30	4.800	2.700	2.300	11,6KW / 400V	3.741
35	5.200	2.900	2.300	11,6KW / 400V	5.185
40	5.700	3.200	2.300	14,8KW / 400V	6.931
45	5.700	3.200	2.300	14,8KW / 400V	6.948
50	4.950	3.200	1.600	16,8KW / 400V	7.251
60	5.000	3.500	1.600	18,6KW / 400V	7.950
70	5.100	3.700	1.700	22,6KW / 400V	10.005
80	5.700	4.000	1.800	27,8KW / 400V	12.176
90	5.700	4.400	2.000	29,6KW / 400V	14.299
100	6.200	4.500	2.200	33,1KW / 400V	16.309

*Includes filling load for filters + GFRP structure.

Data and models of the table may vary.

REF: PUR-FQLF

5

Function:

- Removal of suspended solids, organic matter, turbidity and pathogen microorganisms and reduction of pollutants (Fe, Mn,..).
- Treatment of low quality water, usually surface water issued from rivers, lakes and tanks. Characteristics of the inlet water:
  * Concentration of suspended solids and turbidity: TSS < 1000 mg/l; Turbidity < 500 NTU.
  * Concentration of dissolved solids: TDS < 1500 mg/l.
  * Concentration of pollutants below the acceptable threshold level.

Option:

- Alternatives to the silex-anthracite multilayer filter:
  * Filtration with zeolite media. Ref.: PUR-FQLF-Z (CONSULT)
  * Filtration with activated glass media. Ref.: PUR-FQLF-V (CONSULT)
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Alternative system of disinfection of the treated water in post-treatment.

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * Prechlorination composed of dosing pumps regulated by the frequency of impulses, proportional to the flow controlled by a pulse generator counter.
  * Participates to the filtration through the dosage of coagulant, flocculants and pH correctors, proportional to the flow. Composed of dosing pumps, reagent tanks, level probes and accessories.
  * Lamellar settling tank composed of polypropylene rectangular tank and lamellar modules with slope of 60°, with adjustable canal, overflow and inlet, outlet and emptying intakes.
  * High efficiency filter in GFRP (Glass Fiber Reinforced Polyester), with automatic cleaning system, provided with silex and anthracite filling material, with grain sizes selected according to final use.
  * Ring filter with different filtering degrees, according to final use.
  * Feeding system to filtration treatment composed of centrifugal pumps provided with regulation system and flow control, level regulators, etc.
  * System of water quality control on tank composed of suction recirculation pump, with regulation system and automatic chlorination station.
  * Electrical panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Data and models of the table may vary.

M3/H	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT* [KG]
0,5	3.300	1.050	2.200	2,4KW / 400V	570
1	3.300	1.100	2.500	2,4KW / 400V	703
3	3.400	1.320	2.500	2,4KW / 400V	798
5	3.500	1.800	2.500	3,2KW / 400V	1.089
10	3.550	2.100	2.500	5,3KW / 400V	1.821
15	4.100	2.200	2.500	7,0KW / 400V	2.391
20	4.700	2.500	2.500	8,5KW / 400V	2.947
25	4.950	2.700	2.500	9,5KW / 400V	3.626
30	4.950	2.700	2.500	11,5KW / 400V	4.147
35	3.100	2.850	2.500	11,5KW / 400V	5.140
40	7.300	3.200	2.500	14,5KW / 400V	6.586
45	7.300	3.200	2.500	14,5KW / 400V	6.602
50	8.200	2.600	2.500	16,5KW / 400V	6.787
60	8.200	2.800	2.500	18,5KW / 400V	7.754
70	8.200	3.100	2.500	22,5KW / 400V	9.768
80	10.800	3.100	2.500	27,5KW / 400V	11.016
90	10.800	3.300	2.500	29,5KW / 400V	12.794
100	13.100	3.300	2.500	33,0KW / 400V	14.314

*Includes filling load for filters + GFRP structure.

Data and models of the table may vary.

5

DECALCIFICATION

- REF: PUR-FF-S

Function:

- Removal of calcium, magnesium and bicarbonates in the water for softening avoiding scale in piping and equipment.
- Removal efficiency limited due to the concentration of sodium in water.

CONSULT FOR MORE INFORMATION

DENITRIFICATION

- REF: PUR-FF-N

Function:

- Removal of nitrates, sulphates and bicarbonates in water, preventing from health issues.
- Efficiency of the removal limited due to the concentration of chloride in water.

CONSULT FOR MORE INFORMATION

WATER DEMINERALIZATION

- REF: PUR-FF-DM

Function:

- Reduction of specific ions to meet the standard requirements and improve water quality.

CONSULT FOR MORE INFORMATION

IRON REMOVAL

- REF: PUR-FF-FE

Function:

- Removal of iron and manganese preventing from oxide waste.
- Characteristics of inlet water:
  * Iron concentration < 5 mg/l.
  * Manganese concentration < 1 mg/l.
  * Free chlorine concentration < 0,5 mg/l.

CONSULT FOR MORE INFORMATION

WATER REMINERALIZATION

- REF: PUR-FF-RM

Function:

- Addition of minerals in water and pH adjustment for balanced water and avoidance of oxidations.
- Permeate water conditioning after reverse osmosis treatment.

CONSULT FOR MORE INFORMATION

REF: PUR-UF

5

Function:

- Removal of suspended solids, organic matter, turbidity, microorganisms and specific metals, with high degree of efficiency.
- Pretreatment system in reverse osmosis process.
- Characteristics of the inlet water:
  * Concentration of suspended solids and turbidity: TSS < 100 mg/l ; Turbidity < 50 NTU.
  * Water hardness < 150 mg/l $CaCO_3$.
  * Concentration of pollutants below the acceptable threshold level.

Option:

- Raw water tank. Operation of the plant independent from feed water.
  * Treated water storage tank.
  * Automatic control and disinfection equipment of the treated water.

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * Ring filter with different filtration degrees, according to final use.
  * Ultrafiltration vertical modules of high efficiency with hydrophilic tubular membranes, with reinforced hollow fiber with porosity < 0,1 µm.
  * Cleaning system composed of raw water tank, reagent tank, dosing system, blower and cleaning circuit pump.
  * Feeding system to the ultrafiltration system composed of centrifugal pumps with regulation system and flow control, level regulators, etc.
  * Panel board for control and command of the plant. Optional: control through automaton.
  * Set of accessories composed of interconnection pipes between pieces of equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Membrane material	PVDF
Active membrane area	38 / 55 m²
Inlet / outlet size	DN32/50
Size of pores (microns)	< 0,1µm
Diameter of fiber ID / OD	0,6/1,2 mm
Filtration	outside / inside
Diameter	160 / 250 mm
Length	1730/1160 mm
Material of the structure	ABS
Material of fixation	Epoxy

Data and models of the table may vary.

M3/H	M²/UNIT	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	VOL. CLEANING TANK
0,5	38 / 1	2.250	1.040	2.075	2,7KW / 400V	200
1	38 / 1	2.250	1.040	2.075	2,7KW / 400V	200
3	38 / 1	2.250	1.040	2.075	2,9KW / 400V	300
5	38 / 2	2.450	1.040	2.075	2,9KW / 400V	500
10	55 / 2	2.550	1.150	2.075	4,2KW / 400V	1.000
15	38 / 4	2.615	1.150	2.075	6,5KW / 400V	1.000
20	38 / 6	2.750	1.250	2.075	6,5KW / 400V	1.500
25	55 / 6	3.040	1.450	2.075	7,5KW / 400V	2.000
30	38 / 10	3.450	1.650	2.075	7,5KW / 400V	2.500
35	55 / 8	3.750	1.650	2.075	7,5KW / 400V	2.500
40	55 / 10	4.150	1.650	2.075	9,2KW / 400V	3.000
45	55 / 10	4.150	1.650	2.075	9,2KW / 400V	3.000
50	55 / 12	4.860	1.950	2.075	10,5KW / 400V	4.000
60	55 / 12	4.860	1.950	2.075	12,2KW / 400V	4.000
70	55 / 14	5.250	1.950	2.200	14,4KW / 400V	5.000
80	55 / 16	5.650	1.950	2.200	14,4KW / 400V	5.000
90	55 / 16	5.650	1.950	2.200	14,6KW / 400V	5.000
100	55 / 18	6.050	2.250	2.075	17,6KW / 400V	6.000

Data and models of the table may vary.

REF: PUR-MINIRO

5

Function:

- Removal of inorganic matter, salinity, pollutants, concentration of ions in water, and pathogen microorganisms, achieving a high degree of efficiency.
- Characteristics of inlet water:
  * Turbidity < 1 NTU.
  * SDI < 5.
- Salt rejection: 99,4%.

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * Microfiltration of 5 microns.
  * Feeding system to reverse osmosis composed of vertical centrifugal pump. Optional: frequency controller.
  * Skid equipped with spiral wound membranes (PA/PS) with high salt rejection, available sizes of 2,5" and 4", for any salt concentration.
  * Autocleaning system with dragging –flushing–.
  * Conductivimeter for control of permeate.
  * Panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between pieces of equipment, valves, sampling intakes, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Option:

- Antifouling dosing equipment (recommended above 8°HF).
- Equipment to prevent from free chlorine.
- Permeate recirculation system (used as safety system).
- Flushing with permeate water (requires accumulation tank).
- Chemical cleaning unit –CIP– (recommended for long stops of the plant).
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Mixing system.
- Treated water remineralization system.
- Treated water disinfection system.

Data and models of the table may vary.

REVERSE OSMOSIS TREATMENTS

COMPACT REVERSE OSMOSIS PLANTS FOR SMALL FLOWS

REF: PUR-MINIRO-BW

Inlet TDS < 2000 ppm

Conversion rate: 40-60%

M3/D*	MEMBRANE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER
2	1X2540	650	300	650	1,3KW / 400V
3	1X4021	650	350	650	1,3KW / 400V
5	1X4040	650	600	1.600	1,6KW / 400V
10	2X4040	700	650	1.600	2,1KW / 400V
15	3X4040	750	650	1.600	4,0KW / 400V
20	4X4040	750	700	1.600	4,0KW / 400V
25	5X4040	800	750	1.600	4,5KW / 400V
30	6X4040	850	750	2.300	4,5KW / 400V
40	6X4040	850	750	2.300	5,1KW / 400V

* Permeate flow.

The layout may vary according to the water quality.

REF: PUR-MINIRO-SW

Inlet TDS < 45000 ppm

Conversion rate: 30-40%

M3/D*	MEMBRANE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER
4	3X4021	1150	400	402	2,2KW / 400V
9	3X4040	1300	600	427	3,0KW / 400V
18	2X4040	1500	600	750	6,1KW / 400V

* Flow permeate.

Conditions: 25 °C seawater 32000 mg/l TDS. The layout can vary according to the water quality.

All reverse osmosis purification systems are designed on a case-by-case basis.

CONSULT FOR MORE INFORMATION.

REF: PUR-MAXIRO-BW / PUR-MAXIRO-SW

5

Function:

- Removal of inorganic matter, salinity, pollutants, concentration of ions in water and pathogen microorganisms with high efficiency.
- Characteristics of inlet water:
  * Turbidity < 1 NTU
  * SDI < 5

Characteristics:

- Compact equipment for water purification in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification system, Salher brand, with possibility to install on carbon steel structure, composed of the following elements, according to applications:
  * Disc filters with different filtration degrees, depending on final use.
  * Antifouling treatment in line to avoid incrustations in membranes and problems in the reverse osmosis process. System composed of: dosing pump, reagent tank, level probe and accessories.
  * Microfiltration of 5 micron.
  * Feeding system to reverse osmosis composed of multistage high pressure pumps, with fail-safe system to avoid overpressure. Optional: frequency converter.
  * Skid equipped with spiral wound membranes (PA/PS) with high salt rejection, available in sizes of 2,5", 4" and 8", for any salt concentration.
  * Automatic cleaning system through –flushing- with permeate water.
  * Conductivimeter for permeate control.
  * Electrical panel board for control and command of the plant.
  * Set of accessories composed of interconnection pipes between pieces of equipment, conductivity meters, valves, sampling, regulation and control systems, etc.
- GFRP STRUCTURE-SKID with hydraulic and electrical interconnection of the elements.

Option:

- Permeate recirculation system.
- Automatic or manual chemical cleaning unit –CIP– (recommended for long stops of the plant).
- Raw water tank. Operation of the plant independent from feed water.
- Treated water storage tank.
- Mixing system.
- Treated water remineralization system.
- Treated water disinfection system.

Data and models of the table may vary.

REVERSE OSMOSIS TREATMENTS

REVERSE OSMOSIS COMPACT PLANTS FOR LARGE FLOWS

REF: PUR-MAXIRO-BW1

Inlet TDS < 2000 ppm

Conversion rate: 60-75%

M3/H*	MEMBRANE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT [KG]	FLUSHING TANK
0,5	2X4040	1.600	1.000	2.560	2,6KW / 400V	95	300 L
1	4X4040	4.600	1.100	1.800	2,8KW / 400V	102	500 L
3	12X4040	6.700	1.250	1.800	4,5KW / 400V	165	750 L
5	4X8040	4.600	1.300	1.800	5,3KW / 400V	177	750 L
10	8X8040	4.600	1.500	1.800	9,5KW / 400V	280	1000 L
15	12X8040	6.700	1.500	1.800	12,0KW / 400V	415	1000 L
20	18X8040	6.700	1.600	1.800	15,0KW / 400V	551	1000 L
25	20X8040	5.800	1.600	2.000	16,5KW / 400V	605	1200 L
30	24X8040	6.700	1.600	2.000	21,0KW / 400V	681	1500 L
35	30X8040	6.800	1.600	2.000	23,0KW / 400V	748	1500 L
40	36X8040	7.100	1.800	2.000	26,0KW / 400V	830	2000 L
45	36X8040	7.100	1.800	2.000	29,5KW / 400V	1056	2000 L
50	42X8040	7.200	1.800	2.000	40,5KW / 400V	1250	2500 L
60	48X8040	7.400	2.000	2.000	40,5KW / 400V	1388	2500 L
70	55X8040	6.500	2.000	2.150	45,0KW / 400V	1520	3000 L
80	60X8040	7.400	2.000	2.150	50,0KW / 400V	1768	3000 L
90	72X8040	7.400	2.000	2.150	60,0KW / 400V	1912	3500 L
100	78X8040	7.400	2.000	2.150	62,0KW / 400V	2115	4000 L

* Inlet flow to the plant.

All reverse osmosis purification systems will be studied on a case-by-case basis. The layout may vary depending on the water quality.

5

REF: PUR-MAXIRO-BW2

Inlet TDS: 2000 to 6000 ppm
Conversion rate: 50-60%

M3/H*	MEMBRANE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	INSTALLED POWER	WEIGHT [KG]	FLUSHING TANK
0,5	2X4040	1.600	1.000	2.560	2,7KW / 400V	105	200 L
1	6X4040	4.600	1.100	1.800	3,6KW / 400V	155	300 L
3	12X4040	6.700	1.250	1.800	5,1KW / 400V	171	300 L
5	4X8040	4.600	1.300	1.800	6,2KW / 400V	182	400 L
10	6X8040	6.700	1.300	1.800	8,5KW / 400V	244	500 L
15	10X8040	5.800	1.400	1.800	12,0KW / 400V	408	600 L
20	12X8040	6.700	1.500	1.800	15,5KW / 400V	526	700 L
25	16X8040	6.700	1.600	1.800	20,5KW / 400V	575	1000 L
30	18X8040	5.800	1.600	2.000	21,5KW / 400V	612	1000 L
35	22X8040	6.700	1.600	2.000	25,5KW / 400V	685	1200 L
40	24X8040	6.800	1.600	2.000	30,5KW / 400V	732	1200 L
45	30X8040	7.100	1.800	2.000	32,5KW / 400V	851	1500 L
50	36X8040	7.100	1.800	2.000	38,0KW / 400V	940	1700 L
60	39X8040	7.200	1.800	2.000	41,0KW / 400V	1105	2000 L
70	45X8040	7.400	2.000	2.000	45,2KW / 400V	1320	2500 L
80	50X8040	6.500	2.000	2.150	47,2KW / 400V	1544	3000 L
90	60X8040	7.400	2.000	2.150	54,0KW / 400V	1718	3100 L
100	66X8040	7.400	2.000	2.150	56,0KW / 400V	1865	3500 L

* Inlet flow to the plant.
All reverse osmosis purification systems will be studied on a case-by-case basis. The layout may vary depending on the water quality.

REF: PUR-MAXIRO-SW

Function:

- Treatment plant for brackish water with high salt content and seawater, including flushing with permeate water.

  * Inlet TDS > 6000 ppm
  * Conversion rate: 50-60%

Tailor-made design to meet the maximum conversion rate with lower energy consumption.

CONSULT FOR MORE INFORMATION

REF: PUR-EDI

Function:

- Equipment of demineralization by ion exchange or electrodeionization module for ultrapure water production.
  * Polishing system for silica removal from osmosis water. Excellent quality outlet water.
  * Outlet water with less than 0,1 µs/cm conductivity. Maximum residual silica concentration < 1 g/l.

Characteristics:

- Compact plant, SALHER brand, with electrical and hydraulic interconnection of the elements:
  * High efficiency ion exchange filters, in GFRP (Glass Fiber Reinforced Polyester) with automatic cleaning system. Combination of strong acid cation and base anion resins through two independent columns or in mixed bed.
  * Electrodeionization module, as an alternative or a complementary system of columns of ion exchange.
  * Microfiltration of 5 and 1 microns.
  * Feeding system to demineralization treatment composed of centrifugal pumps with regulation systems, flow control, level regulators, etc.
  * Conductivimeter for control of permeate.
  * Panel board for control and command of the treatment.
  * Set of accessories composed of interconnection pipes between elements of the equipment, conductivity meters, valves, sampling, regulation and control systems, etc.

Option:

- Treated water storage tank.
- Recirculation system.

M3/H	FLOWS MIN./MAX. [M³/H]	D	LM	EDI
0,5	0,25 / 1	X	X	X
1	1 / 1,5	X	X	X
2	1,6 / 2,2	X	X	X
4	3 / 5	X	X	X
6	5 / 7,5	X	X	X
10	4 / 15	X	X	X
15	10 / 24	X	X	X
25	20 / 30	X		
40	30 / 50	X		

D: Cationic/anionic demineralizer filter (2 columns)
LM: Mixed bed demineralizer filter (1 column)
EDI: Electrodeionization module.

Tailor-made design according to the inlet and outlet water.

CONSULT FOR MORE INFORMATION

REF: PUR-CEDI

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Function:

- State-of-the-art technology for high quality water production.
- Demineralization system which does not require regenerators such as acid and soda (standard for traditional ion exchange equipment) due to its operating cycle.
- Treatment for a water with less than 0,1 µs/cm conductivity in osmosis water. Maximum residual silica concentration < 1 g/l.
- Characteristics of the inlet water:

* Osmotized or desmineralized water.
* Turbidity < 0,1 NTU.
* Hardness < 0,1 CaCO3.
* SDI < 1.

Characteristics:

- Compact structure, SALHER brand, to be placed on tank with electrical and hydraulic interconnection of the elements:
- Electrodeionization module by a combination of:
  * Electricity.
  * Selective membranes (cation exchange and anion exchange).
  * Resins of ion exchange.

Material module	PVC-U
Conversion rate	90 - 95 %
Operating pressure	2 - 7 bar
Pressure loss	1,5 bar
Conductivity inlet	< 40 µS/cm
CO2 inlet	< 0,1 ppm
Inlet free chlorine	< 0,05 ppm
Fe, Mn inlet	< 0,01 ppm
Material of the casing	GFRP
Material of fixation	Epoxy

* Microfiltration of 1 micron.
* Feeding system to demineralization treatment composed of centrifugal pumps with regulation systems, flow control, level regulators, etc.
* Conductivity meter for control of permeate.
* Panel board for control and command of the plant.
* Set of accessories composed of interconnection pipes between elements of equipment, conductivity meters, valves, sampling, regulation and control systems, etc.

Option:

- Treated water storage tank.
- Recirculation system.

Data and models of the table may vary.

M3/H*	MIN./MAX FLOWS [M³/H]	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]
2	1,8 / 3	1700	1200	1500
4	3 / 5	1700	1200	1500
6	3 / 9	3400	800	1500
15	6 / 18	3600	800	1500
30	25 / 37	3600	800	2200
40	37 / 56	3600	800	2200
60	50 / 75	3600	800	2600
80	75 / 110	3900	1600	2300

Tailor-made design according to the inlet and outlet water required.

CONSULT FOR MORE INFORMATION

COMPACT EMERGENCY PLANTS

SALHER water purification system for drinking water supply to people in emergency situations, from surface, well and seawater.

- Autonomous and mobile plant.
- Easy operation and low maintenance.
- On-site water treatment, without hydraulic infrastructure, nor civil engineering works.
- Easy to transport. Immediate operation.
- Guaranteed supply of high quality drinking water.
- SALHER water purification system to supply drinking water to people in emergency situations, from surface, well and seawater.

	Endowment ranges of several international organisms				
Individual	15-20 Lp/d	15-20 Lp/d	15-20 Lp/d	20 Lp/d	>15 L/p/d
Health centers	40-60 Lp/d	40-60 Lp/d	0-60 Lp/d	100-200 Lp/d	40-60 L/p/d
Food centers	20-30 Lp/d	20-30 Lp/d	20-30 Lp/d	20-30 Lp/d	15-30 Lp/d
Cleaning centers	35 Lp/d	-	-	-	-

Source: OPS/OMS, "Environmental health after natural disasters", 1982; United Nations High Commissioner for Refugees, Manual for emergency situations, 1988; OFDA/U SAID, "Field Operations Guide for Disaster Assessment and Note: L/p/d = liters per person per day. Response"; Dr. Pierre Perrin, International Committee of the Red Cross; The Sphere Project, "Humanitarian Charter and minimum standards of humanitarian response in case of disasters", 2000.

Note: L/p/d = liters per person and day.

- Emergency water purification plant: endowment of 20 liters per person and day.
- Permanent water purification plant: endowment of 150 liters per person and day.

REF: PUR-EM

Function:

- Removal of suspended solids, turbidity and microorganisms.
- Treatment of medium high quality water, usually surface water and issued from rivers, lakes and reservoirs. Characteristics of the inlet water:
  * Concentration of suspended solids and turbidity: TSS < 40 mg/l ; Turbidity < 15 NTU
  * Concentration of dissolved solids: TDS < 1500 mg/l
  * Concentration of pollutants below the acceptable threshold level

Characteristics:

- Compact water treatment plants in accordance with RD 140/2003 and recommendations of the World Health Organization (WHO).
- Water purification systems, Salher brand, of different types according to applications:
  * Water purification plant with manual actuation.
  * Automatic water purification plant by filtration + disinfection.
  * Automatic water purification plant by ultrafiltration system.
  * Automatic water purification plant by reverse osmosis.
- GENERATOR, designed to guarantee the autonomy of the plant required by the customer.
- MOUNTED ON SINGLE-AXLE TRAILER, with hydraulic and electrical interconnection (OPTIONAL).
- Movable and flexible drinking water TANK (OPTIONAL).

Data and models of the table may vary.

Data and models of the table may vary.

DISINFECTION SYSTEMS

AUTOMATIC CHLORINATION SYSTEM WITH SODIUM HYPOCHLORITE AND PH ADJUSTMENT

REF: SAL-CL; SAL-CLPH

Function:

- Automatic chlorination equipment - pH adjustment - on tank for conditioning and maintenance of the water quality of treated water tanks, in accordance with RD 140/2003 related to water for human consumption, and RD 865/2003 «sanitary hygienic criteria for legionellosis prevention and control».

Characteristics:

- Residual chlorine for pathogen microorganisms removal and maintenance of quality water.
- PH adjustment up to neutral values. Correction of pH due to loads variations issued from water purification treatments.
- Portable compact structure, SALHER brand, with hydraulic and electrical interconnection of the elements:
  * Digital regulator with two control points with reading of chlorine and pH
  * Amperometric/potentiometric probe for free chlorine measurement, installed on probe holder with sensor and flow regulator
  * PH probe
  * Temperature probe (0 – 50 °C)
  * Dosing pumps with inlet for level probe, including level probe, set of accessories and disinfecting agent storage tank
  * Casing with cartridge of 100 microns
  * Casing with activated carbon filter
  * Recirculation pump with prefilter, level system, shut-off and regulation valves
  * Mounting panel
  * Electrical panel board for protection and command

* Accessories: manometers, valves, sampling.

Option:

- Clean water storage tank (DRINKING WATER) for aboveground or underground installation.
- PH control and dosage system (with a pH value higher than 8,5).
- Portable photometer (chlorine, pH and alkalinity measurement).

REFERENCE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	WEIGHT [KG]	TANK [M³]
10-SUP	1.000	1.000	1.800	55	10
25- SUP	1.000	1.000	1.800	55	25
50-SUP	1.000	1.000	1.800	55	50
100- SUP	1.000	1.000	1.800	55	100
10- ENT	1.000	1.000	1.800	55	10
25- ENT	1.000	1.000	1.800	55	25
50- ENT	1.000	1.000	1.800	55	50
100- ENT	1.000	1.000	1.800	55	100

Data and models of the table may vary.

REF: SAL-RX

Function:

- Chlorine-redox automatic equipment for water quality maintenance in fire protection water tanks and water reuse tanks, WWTP effluent pathogens removal, etc. in accordance with RD 865/2003 «hygienic sanitary criteria for legionellosis prevention and control».

Characteristics:

- Compact mobile structure, Salher brand, with hydraulic and electrical interconnections of the elements:
  * Digital regulator.
  * Redox probe for potential measurement in mV, mounted on probe holder on pipe/casing.
  * Dosing pump with level probe inlet, including level probe, kit of accessories and disinfectant agents storage tank.
  * Casing with cartridge of 100 microns..
  * Recirculation pump (submerged or surface) with level regulators, shut-off and regulation valves.
  * Mounting panel.
  * Electrical panel board for protection and command.
  * Accessories: manometers, valves, sampling.

Option:

- Water tank for fire protection / tanks for reuse water storage, for aboveground and underground installation.
- Portable photometer (chlorine, pH and alkalinity measurement).

REFERENCE	LENGTH [MM]	WIDTH [MM]	HEIGHT [MM]	WEIGHT [KG]	TANK [M³]
SAL-RX-10-SUP	1.000	1.000	1.800	55	10
SAL-RX-25-SUP	1.000	1.000	1.800	55	25
SAL-RX-50-SUP	1.000	1.000	1.800	55	50
SAL-RX-100-SUP	1.000	1.000	1.800	55	100
SAL-RX-10-ENT	1.000	1.000	1.800	55	10
SAL-RX-25-ENT	1.000	1.000	1.800	55	25
SAL-RX-50-ENT	1.000	1.000	1.800	55	50
SAL-RX-100-ENT	1.000	1.000	1.800	55	100

* Especially to keep water clean in water tanks for fire protection.
Note: options for installation with underground or aboveground tank.

REF: CVC-CE

Function:

- Disinfection system for effluents issued from treatment plants, including pathogen germ removal.

Characteristics:

- Contact-chlorination chamber, SALHER brand, manufactured in GFRP, cylindrical vertical layout with contact deflectors.
- Dosing system of hypochlorite composed of:
  * Dosing pump with membrane electromagnetically operated, impulsions regulation and inlet for level probe, flow 5 – 10 l/h at maximum pressure of 10 bar, power supply 220V 50 – 60 Hz
  * Polyethylene tank for product mix with a capacity of 120 liters
  * Level probe for disconnection due to lack of product
  * Kit of accessories. Filter with double ball check valve, injection pipe with ball anti-return valve, 2 m suction pipe of PVC-cristal, 4 m polyetylene impulsion pipe, fixation, screws and fuse

Two options are available:

- Type 1:
  * Disinfection chamber.

- Type 2:
  * Disinfection chamber.
  * Dosing pump.
  * Sodium hypochlorite tank.

PE	CAPACITY [L]	Ø [MM]	HEIGHT [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]
1 - 50	500	1.000	750	400	125
50 - 75	750	1.000	1.070	500	125
76 - 100	1.000	1.200	1.000	500	160
101 - 200	1.500	1.400	1.120	620	200
201 - 300	2.000	1.400	1.440	620	200
301 - 400	2.500	1.400	1.760	620	250
401 - 500	3.000	1.700	1.490	620	250
501 - 600	3.500	1.700	1.710	620	300
601 - 700	4.000	2.000	1.470	620	300
701 - 800	4.500	2.000	1.520	620	300
801 - 900	5.000	2.000	1.790	620	300
901 - 1000	5.500	2.500	1.370	620	300

DIMENSIONS ARE IN MM AND INTERIOR

Data and models of the table may vary.

REF: SAL-OZ

Function:

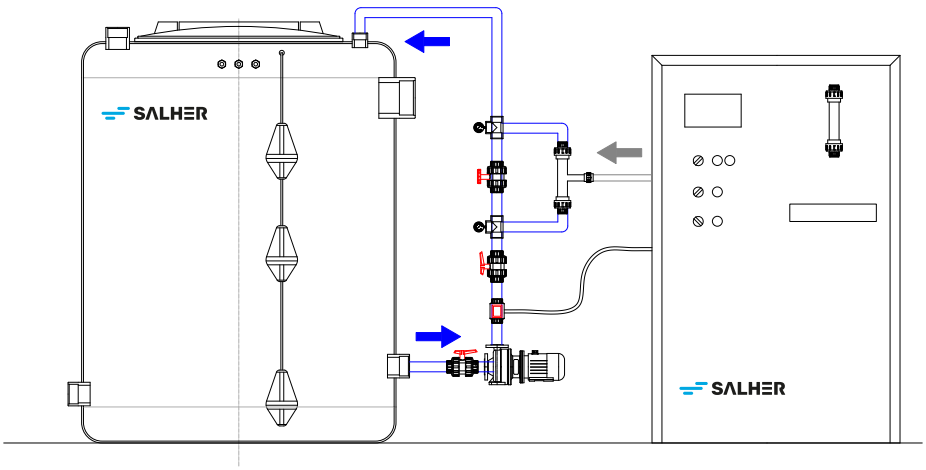
- Automatic ozone generator used as a pretreatment to remove turbidity, detergents, surface active substance and oxidation of compounds.
- Very effective disinfectant against bacteria and pathogens and powerful virus and microorganisms deactivator.

Characteristics:

- Compact structure, SALHER brand, for layout on tank with hydraulic and electrical interconnection of the elements:
  * High concentration ozone generator. Protection in stainless steel
  * Venturi injection for ozone mixing
  * Compressor with 60 liters/minute
  * Control device of ozone production with power regulator
  * Recirculation pump with prefilter, level systems and shut-off and regulation valves
  * Mounting panel
  * Panel board for protection and command
  * Set of small accessories: manometer, joints, valves, sample taking

Option:

- Redox measurement device. Dosage control and system automation.
- Tank for treated water storage.



CONSULT FOR MORE INFORMATION

REF: SAL-UV

Function:

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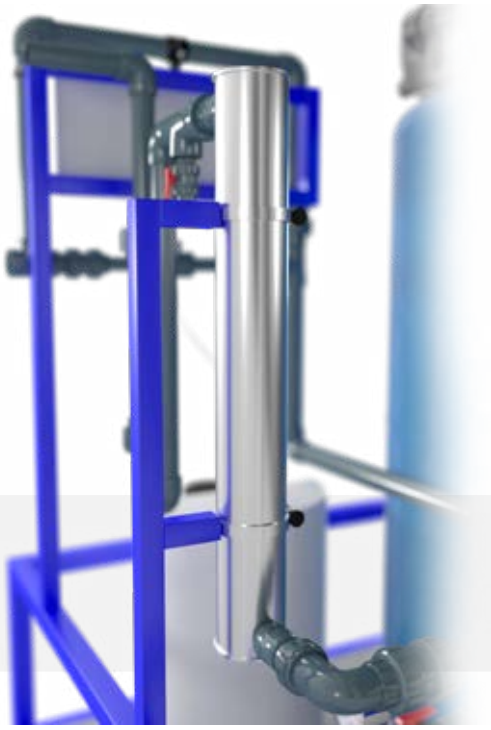
- Automatic equipment designed to destroy harmful bacteria and virus in water. The UY mercury-vapor lamp (ray UV-C λ= 254 nm) destroys bacteria since it interacts at molecular level with ADN and ARN.



Characteristics:

- Generator equipment of ultraviolet radiation with frequency of 254 nm.
- Radiation chamber in AISI 304 stainless steel. External electropolishing.
- UV lamps of the most advanced technology.
- Manual cleaning systems.
- Module for electronic control with visual and acoustic warning system when lamp fails. Timer and warning for lamp replacement.
- Optional: UV intensity sensor.
- Useful life of lamp: 9000 hours.
- Maximum working pressure: 9 bar.
- Efficace and ecological deactivation of harmful bacteria, virus and parasites.
- No production of harmful byproducts.
- Optional: automatic cleaning system (CONSULT).

REF.	MAXIMUM FLOW [M3/H]	CONNECTION [INCHES]	POWER [W]
SAL-UV-1	0,3	1/8"	12
SAL-UV-2	0,5	1/2"	16
SAL-UV-3	1,0	3/4"	30
SAL-UV-4	2,5	1"	40
SAL-UV-5	3,5	1"	40
SAL-UV-6	5,0	1 1/2"	80
SAL-UV-7	12,0	1 1/2"	2X80

FOR LARGER OR INTERMEDIARY FLOWS, PLEASE CONSULT
AUTOMATIC UV AVAILABLE

Data and models of the table may vary.

Oil/water separators

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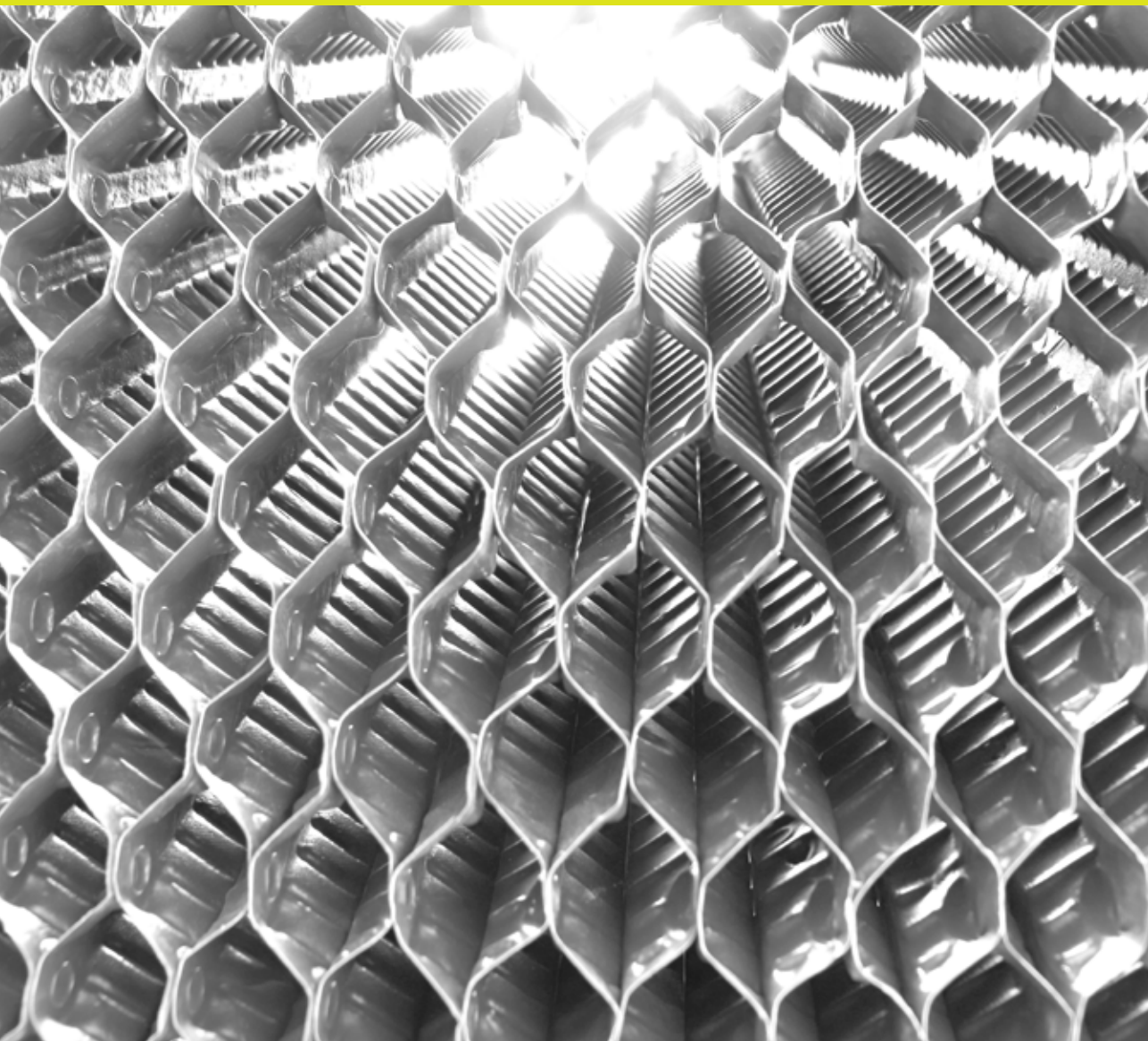

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Class I Oil/water separator by coalescence, separation chamber, skimmer and compact storage tank
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Class I Oil/water separator by coalescence, skimmer and independent storage tank
REF: CHC-SH-L-K 163

Class I Oil/water separator by coalescence, with mechanical skimmer and independent storage tank
REF: CHC-SH-L-K-M 164

Class I Oil/water separator by coalescence, with 2 separation chambers, automatic closure device and oil filter
REF: CHC-SH-L-2 166
REF: CHC-SH-L-2-O 166
REF: CHC-SH-L-2-F 166
REF: CHC-SH-L-2-F-O 166

Class I Oil/water separator by coalescence, with 2 separation chambers, automatic closure device and oil filter

Class I Oil/water separator by coalescence with built-in settling, automatic closure device and by-pass system
REF: CHC-SH-L-O-BP 168

Class I Oil/water separator, 1 separation chamber, automatic closure device and oil filter
REF: CVC-SH-F-O; CVC-SH-F 170

Class II Oil/water separators standard

Class II Oil/water separator, 1 separation chamber, standard
REF: CVC-SH-C; CVC-SH-C-O 171

Accessories for oil/water separators

Independent oil storage tank
REF: CVC-AC 172

Vertical sand and solids settling tank
REF: CVC-DC 173

Vertical sand and solids settling tank
REF: CHC-DES 174

Mechanical skimmer
REF: SK 176
REF: SK-ATEX 176

Storm spillway and flow regulator
REF: CVC-AARC 177

Oil filters and automatic closure devices for oil/water separators Salher®
178

Absorbent filter for oil/water separators Salher®
179

Hydrocarbon level detection alarm
REF: OMS-1 180

Sand and solids detection alarm
REF: IDOIL-S 180

Oil, hydrocarbon, sand and solids detection alarm
REF: IDOIL-OS 180

Oil, hydrocarbon, sand, solids and maximum level alarm
REF: IDOIL-LOS 181

Oil, hydrocarbon, sand and solids detection alarm with solar panel charging and warning via mobile
REF: IDOIL-SOLAR 181

Floating hydrocarbon level alarm
REF: SET-OSK2 181

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence, separation chamber, skimmer and compact storage tank

REF: CHC-SH-L-X-K

Function:

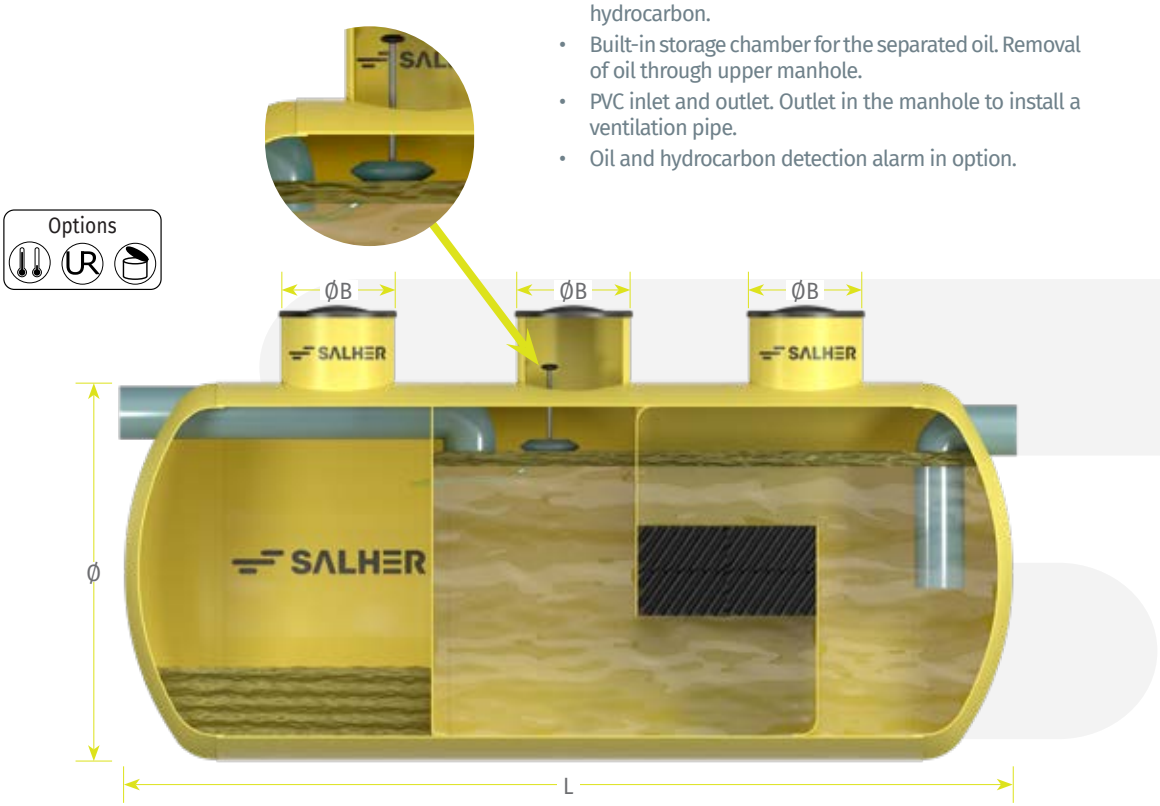
- Separation of mineral oil, grease and hydrocarbon from water by density difference and coalescence. This unit does not separate emulsified oil and hydrocarbon.

Note: For organic oil and grease removal (animal and vegetal), please refer to Grease Separators.

Characteristics:

- Salher brand, model CHC-SH-L-X-K. Class I: outlet parameters lower than 5 ppm.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil separation, solids settling and oil storage chambers.
- Coalescing plates with large specific surface: 240m²/m³.
- Adjustable skimmer to collect separated oil and hydrocarbon.
- Built-in storage chamber for the separated oil. Removal of oil through upper manhole.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Oil and hydrocarbon detection alarm in option.

Options



FLOW [L/S]	TOTAL CAPACITY [LITRES]	CAPACITY K. [LITRES]	CAPACITY S-B. [LITRES]	CAPACITY A [LITRES]	Ø [MM]	L [MM]	Ø PIPE [MM]	Ø MANHOLE [MM]
3	1.800	600	600	600	1.000	2.480	110-125	2X500
5	3.200	1.900	600	700	1.200	3.340	125-160	620
7	4.500	2.400	1.200	900	1.400	3.200	125-160	620
10	7.000	3.000	2.250	1.750	1.400	4.900	160-200	620
15	11.000	4.000	4.250	2.750	1.700	5.180	160-200	620
20	14.500	6.000	5.000	3.500	2.000	5.000	200-250	620
25	18.000	8.000	5.500	4.500	2.000	6.120	250	620

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence, skimmer and independent storage tank

REF: CHC-SH-L-K

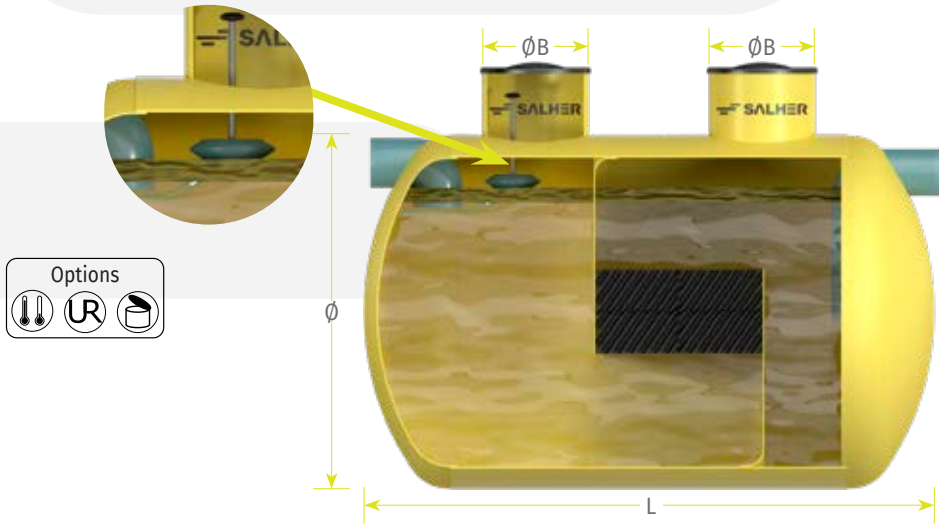
Function:

- Separation of mineral oil, grease and hydrocarbon from water by density difference and coalescence. This unit does not separate emulsified oil and hydrocarbon.

Note: For organic oil and grease removal (animal and vegetal), please refer to Grease Separators.

Characteristics:

- Salher brand, model CHC-SH-L-K. Class I: outlet parameters lower than 5 ppm.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil separation and solids settling chambers.
- Coalescing plates with large specific surface: 240m²/m³.
- Adjustable skimmer to collect separated oil and hydrocarbon.
- Independent oil and hydrocarbon storage tank in option.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Oil and hydrocarbon detection alarm (option).



FLOW [L/S]	CAPACITY [LITRES]	Ø [MM]	LENGTH [MM]	Ø PIPE [MM]			Ø MANHOLE [MM]
				INLET	OUTLET	SKIMMER	
5	1.900	1.200	1.910	125	160	90	620
7	2.400	1.200	2.370	125	160	90	620
10	3.000	1.400	2.340	160	200	90	620
15	4.000	1.400	2.890	160	200	90	620
20	6.000	1.400	4.180	200	250	90	620
25	8.000	1.700	3.870	200	250	90	620
30	10.000	1.700	4.750	200	250	90	620
35	12.000	1.700	5.630	250	315	90	620
40	14.000	2.000	4.860	250	315	90	620
45	16.000	2.000	5.500	250	315	90	620
50	18.000	2.000	6.150	250	315	90	620

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence, with mechanical skimmer and independent storage tank

REF: CHC-SH-L-K-M

Function:

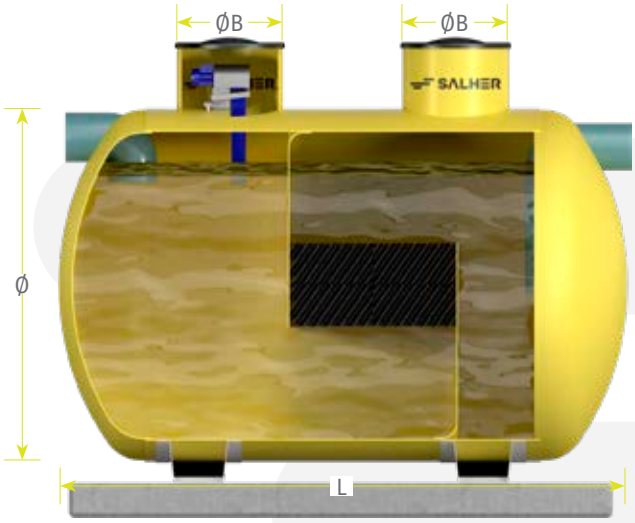
- Separation of mineral oil, grease and hydrocarbon from water by density difference and coalescence. This unit does not separate emulsified oil and hydrocarbon.

Note: For organic oil and grease removal (animal and vegetal), please refer to Grease Separators.

Characteristics:

- Salher brand, model CHC-SH-L-K-M. Class I: outlet parameters lower than 5 ppm.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil separation and solids settling chambers.
- Coalescing plates with large specific surface: 240m²/m³.
- Mechanical skimmer for oil collection.
- Independent oil and hydrocarbon storage tank in option.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Oil and hydrocarbon detection alarm (option).

Options



FLOW [L/S]	CAPACITY [LITRES]	Ø [MM]	LENGTH [MM]	Ø PIPES [MM]			Ø MANHOLE [MM]	N° SUPPORTS
				INLET	OUTLET	SKIMMER		
5	1.900	1.200	1.910	125	125	50	620	2
7	2.400	1.200	2.370	125	125	50	620	2
10	3.000	1.400	2.340	160	160	50	620	2
15	4.000	1.400	2.890	160	160	50	620	2
20	6.000	1.400	4.180	200	200	50	620	2
25	8.000	1.700	3.870	250	250	50	620	2
30	10.000	1.700	4.750	250	250	50	620	2
35	12.000	1.700	5.630	315	315	50	620	2
40	14.000	2.000	4.860	315	315	50	620	2
45	16.000	2.000	5.500	315	315	50	620	2
50	18.000	2.000	6.150	315	315	50	620	2

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence, with 2 separation chambers, automatic closure device and oil filter

- REF: CHC-SH-L-2
- REF: CHC-SH-L-2-O
- REF: CHC-SH-L-2-F
- REF: CHC-SH-L-2-F-O

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Function:

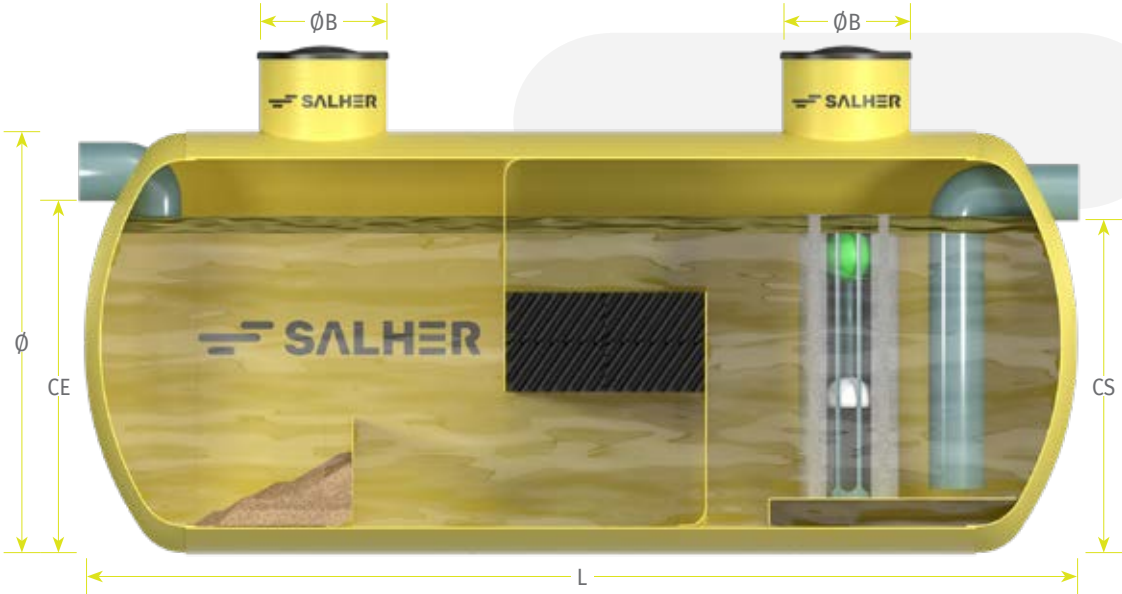
- Mineral oil and grease, and hydrocarbon separation from water by density difference and coalescence. This unit does not separate emulsified oil and hydrocarbon.

NOTE: For organic oil and grease removal (vegetal and animal), please refer to Grease Separators.

Characteristics:

- Salher brand, model CHC-SH-L-2. Class I: outlet oil concentration lower than 5 ppm.
- Designed in accordance with EN 858 Standard.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil and hydrocarbon separation and solids settling chambers.
- Accumulation of oil and hydrocarbon on water surface.
- Coalescing plates with large specific surface: 240m²/m³.
- Oil filter and automatic closure device composed of float and closure system.
- Oil removal through manhole.
- PVC inlet and outlet pipes. Manhole with air vent to install a ventilation pipe.
- Optional: oil and hydrocarbon detection alarm.

Options



Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence, with 2 separation chambers, automatic closure device and oil filter

FLOW [L/S]	VOL. [LITRES]	Ø [MM]	LENGTH [MM]	Ø PIPE [MM]	Ø MANHOLE [MM]	OIL STORAGE [LITRES]	CE MM]	CS [MM]	OIL LAYER [MM]	VOL. WITH OILS [LITRES]	USEFUL VOL. [LITRES]	N° PLATES
3	1.200	1.000	1.900	110	500	45	890	840	45	1132	1087	1
5	2.200	1.200	2.000	125	500	45	1075	1025	45	1437	1392	2
7	2.550	1.200	2.260	160	500	109	1040	990	65	2160	2051	2
10	3.400	1.400	2.210	160	620	150	1240	1170	85	2857	2707	3
15	4.500	1.400	3.190	160	620	229	1240	1170	85	4283	4054	4
20	6.550	1.700	3.200	200	620	342	1500	1430	110	6268	5926	6
25	8.000	1.700	3.843	250	620	388	1450	1380	90	7401	7013	7
30	9.000	1.700	4.290	250	620	484	1450	1380	100	8379	7895	8
40	12.000	1.700	5.600	315	620	642	1385	1315	90	10652	10010	10
50	15.000	2.000	5.150	315	620	795	1685	1585	110	13641	12846	14
60	18.000	2.000	6.100	315	620	956	1685	1585	110	16338	15382	16
70	22.000	2.250	6.000	315	620	1063	1935	1835	110	21008	19945	18
80	25.000	2.250	6.700	315	620	1198	1935	1835	110	23631	22433	20
90	28.000	2.250	7.470	315	620	1347	1935	1835	110	26517	25170	24
100	30.000	2.250	7.970	315	620	1444	1935	1835	110	28391	26947	28

Flow (l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence with built-in settling, automatic closure device and by-pass system

REF: CHC-SH-L-O-BP

Function:

- Mineral oil and grease and hydrocarbon separation from water by density difference and coalescence. This unit does not separate emulsified oil.
- Regulation and by-pass system for flows excess, excellent for large surfaces. The excess water accumulated in the equipment is separated and carried directly outwards, and the oil/water separator will treat only the nominal flow.

For the run-off in excess a flow by-pass is incorporated. This unit is appropriate for large run-off collection surfaces. The excess run-off that enters the unit is separated and conveyed directly outwards ensuring that the unit only treats the nominal design flow.

Note: For organic oil and grease removal (animal and vegetal), please refer to Grease Separators.

Characteristics:

- Salher brand, model CHC-SH-L-O-BP. Class I: outlet parameters lower than 5 ppm.
- Includes sand and solids settling chamber.
- Flow regulator system and by-pass with overflow for water excess.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil and hydrocarbon separation and solids settling chambers.
- Accumulation of oil and hydrocarbon on water surface.
- Coalescing plates with large specific surface: 240m²/m³.
- Oil filter and automatic closure device composed of float and closure system.
- Oil removal by upper manhole.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.

OPTION:

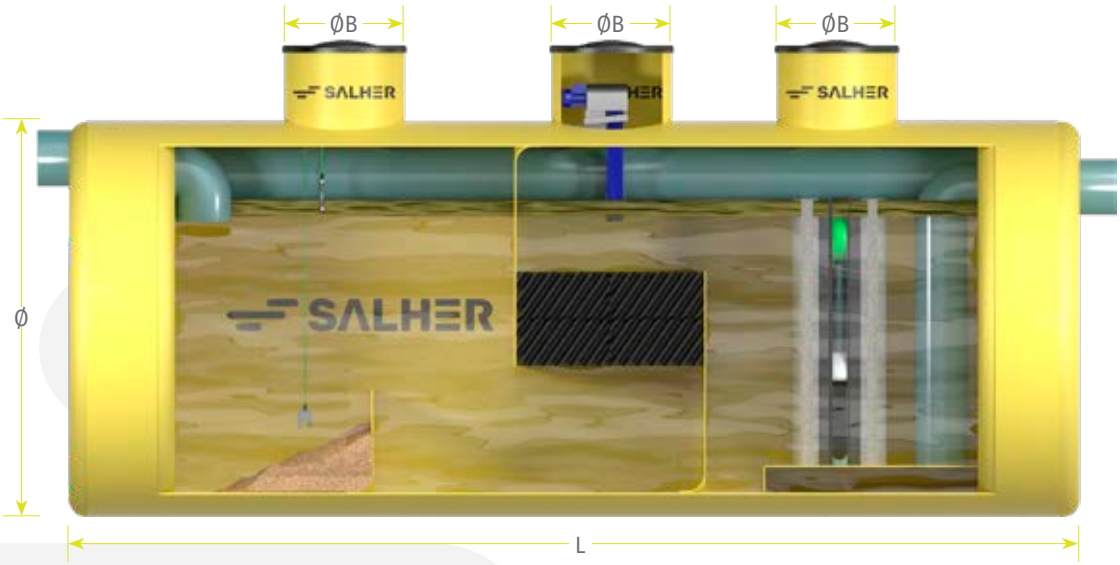
- Oil and hydrocarbon detection alarm.
- Oil maximum level alarm.
- Maximum level alarm to avoid clogging.
- Mechanical skimmer for separated oil removal.
- Please consult flow regulators for larger flows.

Options

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator by coalescence with built-in settling, automatic closure device and by-pass system



NOMINAL FLOW [L/S]	MAXIMUM FLOW [L/S]	VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	Ø PIPE [MM]	Ø MANHOLE [MM]
3	15	2.000	1.200	1.800	200	500
5	30	3.000	1.400	2.000	250	620
10	40	4.000	1.400	2.950	315	620
15	50	5.000	1.700	2.250	315	620
20	100	6.500	1.700	2.700	315	620
30	150	10.000	1.700	4.450	400	750
40	200	15.000	2.000	4.800	500	750
50	250	20.000	2.000	6.400	500	750
65	275	22.500	2.250	5.700	500	750
80	300	25.000	2.250	6.300	500	750
100	350	30.000	2.250	7.550	500	750
150	500	45.000	2.500	9.200	600	750
200	700	55.000	3.000	7.800	700	750
250	825	70.000	3.000	10.000	800	750

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class I Oil/water separators by coalescence

Class I Oil/water separator, 1 separation chamber, automatic closure device and oil filter

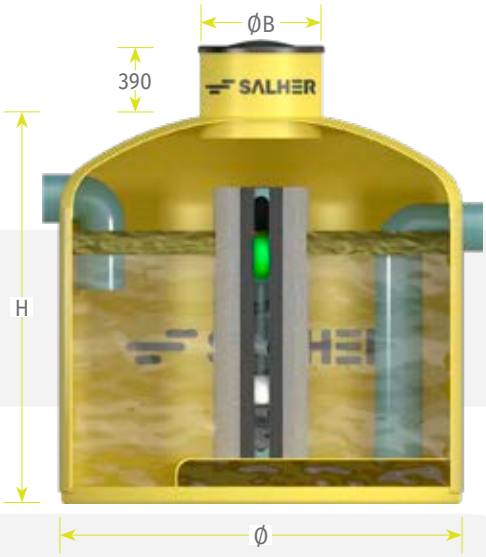
REF: CVC-SH-F-O; CVC-SH-F

Function:

- Mineral oil and grease and hydrocarbon separation from water by density difference. This unit does not separate emulsified oil.
- Oil removal by upper manhole.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Oil and hydrocarbon detection alarm (option).

Characteristics:

- Salher brand, model CVC-SH-F-O (with oil filter and automatic closure device); CVC-SH-F (with oil filter). Class I: outlet parameters lower than 5 ppm.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil and hydrocarbon separation and solids settling chambers.
- Accumulation of oil and hydrocarbon on water surface.
- Oil filter and automatic closure device composed of float and closure system.



FLOW [L/S]	VOLUME [LITRES]	Ø [MM]	H [MM]	Ø PIPE [MM]	Ø MANHOLE [MM]
0,5	193	620	890	110	400
1	380	750	980	110	400
2	700	1.000	990	110	500
3	1.000	1.000	1.360	110	500
4	1.350	1.200	1.320	125	500
5	1.800	1.400	1.310	125	500
6	2.160	1.400	1.540	125	500
7	2.520	1.400	1.770	160	500
8	2.880	1.700	1.350	160	620
9	3.240	1.700	1.600	160	620
10	3.600	1.700	1.760	160	620

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Class II Oil/water separators standard

Class II Oil/water separator, 1 separation chamber, standard

REF: CVC-SH-C; CVC-SH-C-O

Function:

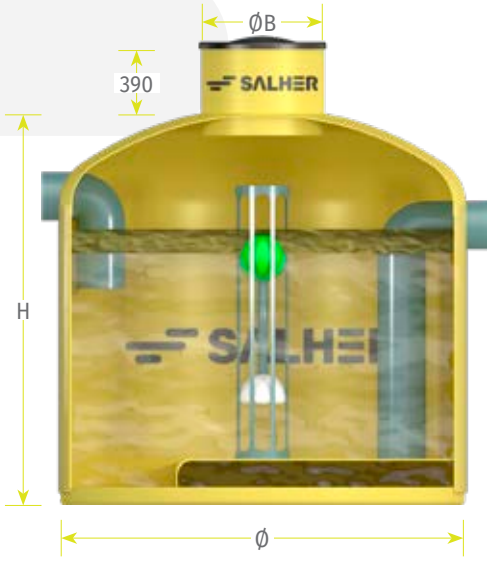
- Mineral oil and grease and hydrocarbon separation from water by density difference. This unit does not separate emulsified oil.

Note: For organic oil and grease removal (animal and vegetal), please refer to Grease Separators.

- Accumulation of oil and hydrocarbon on water surface.
- Oil removal by upper manhole.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Oil and hydrocarbon detection alarm (option).

Characteristics:

- Salher brand, models CVC-SH-C and CVC-SH-C-O with automatic closure device. Class II: outlet parameters lower than 100 ppm.
- Designed in accordance with EN 858.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Oil and hydrocarbon separation and solids settling chambers.



FLOW [L/S]	VOLUME [LITRES]	Ø [MM]	H [MM]	Ø PIPE [MM]	Ø MANHOLE [MM]
0,5	250	620	890	110	400
1	400	750	980	110	400
2	700	1.000	990	110	500
3	1.000	1.000	1.360	110	500
4	1.350	1.200	1.320	125	500
5	1.800	1.400	1.310	125	500
6	2.160	1.400	1.540	125	500
7	2.520	1.400	1.770	160	500
8	2.880	1.700	1.350	160	620
9	3.240	1.700	1.600	160	620
10	3.600	1.700	1.760	160	620

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

Accessories for oil/water separators

Independent oil storage tank

REF: CVC-AC

Function:

- Storage of separated oil and hydrocarbon removed from the oil/water separator model CHC-SH-L-K.

Characteristics:

- Salher brand, model CVC-AC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Option: hydrocarbon and oil detection alarm, explosion-proof model with acoustic signal.
- Oil removal through upper manhole.

VOLUME [LITRES]	Ø [MM]	H [MM]	Ø MANHOLE [MM]
750	1.000	1.050	500
1.000	1.200	1.000	500
1.500	1.400	1.070	500
2.000	1.400	1.400	500
2.500	1.400	1.700	500
3.000	1.400	2.070	500

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

REF: CVC-DC

Function:

- Sand and solids separation from water to place up the oil/water separator.

Characteristics:

- Salher brand, model CVC–DC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Geometric shape: vertical cylinder.
- PVC inlet and outlet.
- Outlet in the manhole to install a ventilation pipe.
- Option: sand and solids detection alarm.

VOLUME [LITRES]	Ø [MM]	H [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]
500	1.000	750	500	125
1.000	1.200	1.000	500	125
1.500	1.200	1.450	500	125
2.000	1.400	1.440	500	125
3.000	1.700	1.490	620	160
4.000	1.700	1.930	620	160
5.000	2.000	1.800	620	160
6.000	2.000	2.110	620	160
8.000	2.500	1.900	620	200
10.000	2.500	2.280	620	200

Flow(l/s). Capacity (l). Dimensions (mm). For larger flows, please consult.

Data and models of the table may vary.

REF: CHC-DES

Function:

- Removal of sand and coarse solids by density difference.

Characteristics:

- Salher brand, model CHC–DES.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- High efficiency of sand and solids separation due to the large separation surface.
- Oil and grease manual removal through manhole with GFRP cover.
- PVC inlet and outlet. Outlet in the manhole to install a ventilation pipe.
- Option: sand and solids detection alarm.

Options

VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	Ø MANHOLE [MM]	Ø PIPE [MM]	CE [MM]	CS [MM]
2.000	1.000	2.800	1 X 500	125	875	825
4.000	1.200	3.800	2 X 500	160	1.040	990
6.000	1.200	5.530	2 X 500	200	1.000	950
8.000	1.400	5.500	2 X 500	200	1.200	1.150
10.000	1.400	6.760	2 X 500	315	1.085	1.035
12.000	1.700	5.605	2 X 500	315	1.385	1.335

Data and models of the table may vary.

Accessories for oil/water separators

Mechanical skimmer

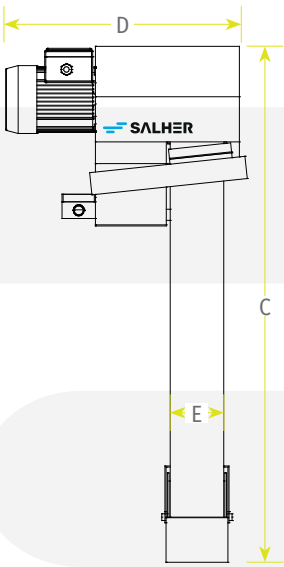
- REF: SK
- REF: SK-ATEX

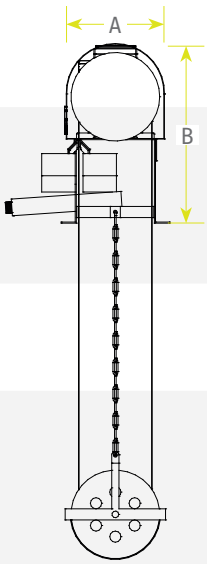
Function:

- Collection of mineral oil and hydrocarbon present in water or aqueous solutions.

Characteristics:

- Equipment manufactured in AISI 304 stainless steel.
- Oil belt designed for extreme conditions.
- Steel safety chain to prevent the loss of the skimmer if the belt breaks.
- Anti-splash protection in AISI 304 stainless steel.
- Can be used as a pretreatment, before the filtration or combined with a coalescing system.
- Compact, robust and handy.
- Programmer and explosion protection in option.
- Skimmer with explosion-proof protection ATEX in option.





REFERENCE	A [MM]	B [MM]	C [MM]	D [MM]	E [MM]	FLOW [L/H]
SK-100	176	320	--	420	100	50
SK-150	176	320	--	470	150	76
SK-200	176	320	--	520	200	100

* All dimensions are in mm.

** Flows are indicative and depend on the product viscosity and working depth.

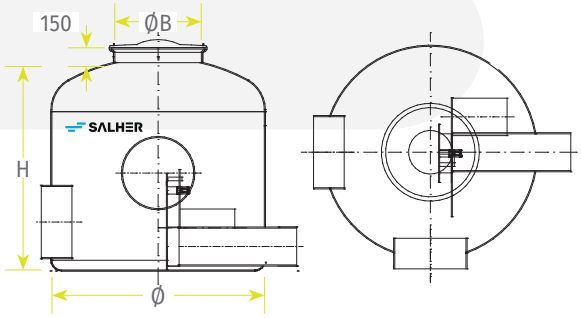
BELT SPARE PART
BANDA-SK - 100
BANDA-SK - 150
BANDA-SK - 200

Data and models of the table may vary.

REF: CVC-AARC

Characteristics:

- Flow regulator to be installed on the manhole outlet. This manhole can be supplied in option as shown below. The water is stored in the manhole as a storm spillway; finally the flow will be treated by a flow regulator for the needs of the system located downstream.
- With the spillway-regulator, the following can be performed:
  * Regulate the flow at a constant value, independently of the water height in the tank.
  * Avoid the oversizing of the normal rainwater evacuation system.
- The functioning of the regulator consists in a float connected to an articulated arm which triggers an automatic closure device moving in front of the outlet.
- When the water level rises up in the tank, the float rises up, moving rotationally and reducing gradually the outlet thus providing a steady flow with a variation lower than 5%.
- The regulator is made of 304-L stainless steel, with bronze ring and washers and a PEHD seat.
- The flow regulator is automatic without power consumption thanks to a mechanical regulator providing a continuous flow with manual opening.
- Flow regulators are tailor-made. To determine the most appropriate equipment, we need:
  * Inlet flow.
  * Outlet flow.
  * Inlet and outlet connection diameters.



REFERENCE	REGULATED FLOW [LITRES / SECOND]	MAXIMUM FLOW [LITRES]	Ø [MM]	H [MM]	Ø MANHOLE [MM]	Ø INLET [MM]	Ø BY-PASS [MM]	Ø OUTLET [MM]
DR100	1-5	20	1.400	1.560	620	200	160	125
DR200/150	5,1-24	96	1.400	1.755	620	300	250	160/200
DR200	25-34	136	1.400	1.950	620	350	300	200
DR250	35-60	240	1.700	2.185	620	400	350	250
DR300	61-100	400	1.700	2.400	750	500	500	300
DR350	105-135	540	2.000	2.605	750	600	500	350
DR400	140-200	800	2.500	2.885	1.000	600	600	400
DR500	205-300	1.200	2.500	3.300	1.000	700	700	500
DR600	335-500	2.200	3.000	3.820	1.200	900	800	600
DR700	555-770	3.080	3.500	4.175	1.200	1.000	900	700
DR800	775-1080	4.320	4.000	4.595	1.400	1.200	1.000	800

Data and models of the table may vary.

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- Automatic closure device composed of a float and shut-off valve for standard Salher® oil/water separators designed to float in the water and oil interphase with a density of 850 kg/m³.

REFERENCE	MODEL	FLOW [L/S]	Ø PIPE [MM]
OBTURADOR	CVC-SH	2	110
OBTURADOR	CVC-SH	3	110
OBTURADOR	CHC-SH	3	110
OBTURADOR	CHC-SH	5	125
OBTURADOR	CHC-SH	7	160
OBTURADOR	CHC-SH	20	200
OBTURADOR	CHC-SH	25	250
OBTURADOR	CHC-SH	30	315

- Oil filter made of PP-GFRP with circular structure and bottom cap for connection with Salher® oil/water separators. Removable and washable filter.

REFERENCE	MODEL	FLOW [L/S]	Ø PIPE [MM]
FILTRO OLEÓFILO	CVC-SH	2	110
FILTRO OLEÓFILO	CVC-SH	3	110
FILTRO OLEÓFILO	CHC-SH	3	110
FILTRO OLEÓFILO	CHC-SH	5	125
FILTRO OLEÓFILO	CHC-SH	7	160
FILTRO OLEÓFILO	CHC-SH	20	200
FILTRO OLEÓFILO	CHC-SH	25	250
FILTRO OLEÓFILO	CHC-SH	30	315

Data and models of the table may vary.

Accessories for oil/water separators

Absorbent filter for oil/water separators Salher®

- Absorbent filter for oils and organic solvent. Easy and light to handle. Hydrophobic. Absorption capacity of 9,43 liters/kg (certified by CEDRE). Suitable for ATEX environment.
- Absorbent filters are not reusable. Organic compounds of the filter are incinerable.

REFERENCE	MODEL	FLOW [L/S]	Ø PIPE [MM]
ABSORBENTE	CHC-SH	5	125
ABSORBENTE	CHC-SH	7-15	160
ABSORBENTE	CHC-SH	20	200
ABSORBENTE	CHC-SH	25	250
ABSORBENTE	CHC-SH	30	315
ABSORBENTE	CHC-SH	50	315
ABSORBENTE	CHC-SH	100	315
ABSORBENTE	CHC-SH	150	400
ABSORBENTE	CHC-SH	200	400

Data and models of the table may vary.

Hydrocarbon level detection alarm

- REF: OMS-1

  - Equipment of level detection of hydrocarbon, oil and grease to install in grease and oil/water separators with working temperatures (-20 to 50°C).

Sand and solids detection alarm

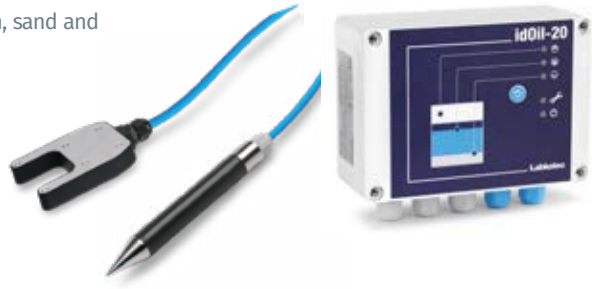
- REF: IDOIL-S

  - Equipment of detection of level of sand and solids to install in grit chambers and solids settling tanks with working temperatures (-20 to 40°C).

Oil, hydrocarbon, sand and solids detection alarm

- REF: IDOIL-OS

  - Combined alarm system for oil, hydrocarbon, sand and solids.



Data and models of the table may vary.

Oil, hydrocarbon, sand, solids and maximum level alarm

REF: IDOIL-LOS

- Digital control unit to detect: maximum level of sand, oil and maximum level when clogging occurs.
- Option: transmitter for status messages and alarm via GSM.

Oil, hydrocarbon, sand and solids detection alarm with solar panel charging and warning via mobile

REF: IDOIL-SOLAR

- Solar panel with alarm and status transmitter via SMS and programmer via MSM message of the different level probes: oils, sand and solids, maximum level.
- Option: transmitter for status messages and alarm via GSM.

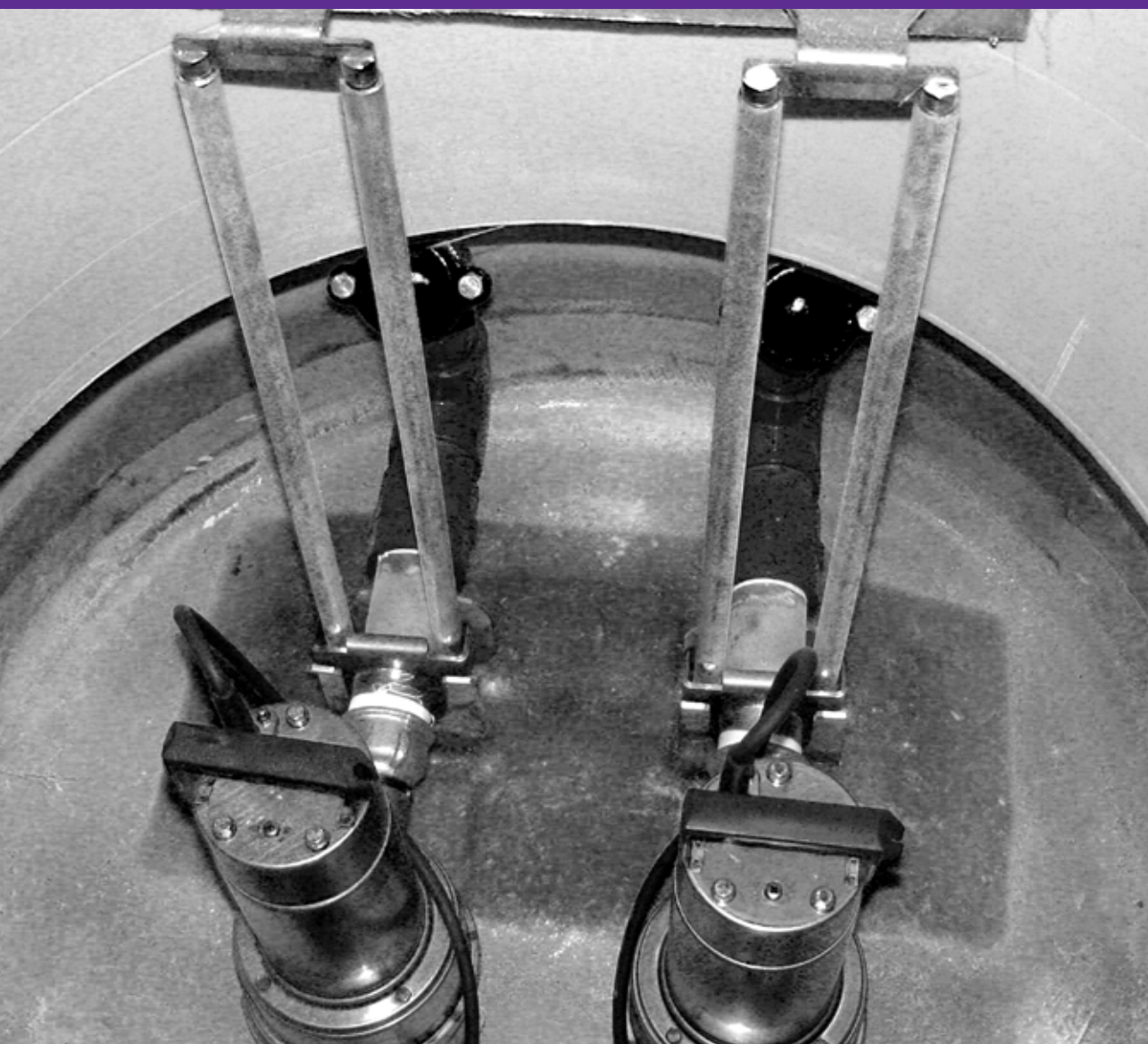
Floating hydrocarbon level alarm

REF: SET-OSK2

- Detection of maximum level of oil and hydrocarbon on the water surface. To be installed in civil construction tanks or open top tanks. The probe is placed on three floats and detects an hydrocarbon layer up to 15 mm thick.

Pumping stations

7



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Selection of pumping stations. Summary of flows and performances.

PUMPING STATIONS SELECTION CHART

Standard pumping stations

Range mini
REF: CVC-PB-A 190

Range mini
REF: CVA-PB-A 191

Medium range
REF: CVC-PB-B 192

Maxi range
REF: CVC-PB-C 193

Maxi-Vortex range
REF: CVC-PB-D 194

Single-channel maxi range
REF: CVC-PB-E 195

Pumping station with 24 hours emergency storage capacity
REF: CHC-PB-AC 196

Accessories for pumping stations

Valve vault
REF: CVA-CV 197

Manhole extension for pumping station
REF: CVA-P-PB 197

Access ladder to pumping station
REF: E-PB 198

Pedestrian access cover
REF: TAPA-PB 198

Anti-fall platform
REF: TRAMEX-PB 199

Self-cleaning bottom
REF: KORBBO 199

Solids screen basket
REF: RG-PB 200

Fixing brackets
REF: ES-PB 200

Gallow and pulley for pumps extraction
REF: P-PB 201

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

Selection of pumping stations. Summary of flows and performances.

PUMPING STATIONS SELECTION CHART

REF. PUMPING STATION	PUMPS (KW)	TENSION (V)	INTENSITY (A)				
					0	3	6
CVC-PB-A-1	0,50	230V M	5,00		9,2	9,0	8,3
CVC-PB-A-2	0,50	230V M	5,00		9,2	9,0	8,3
CVA-PB-A-1	1,10	400V T	3,00		14	13	12,5
CVA-PB-A-2	1,50	400V T	3,50	MCW	16,1	15,3	14,5
CVA-PB-A-3	0,75	400V T	2,80		8,1	7,8	6,6
CVA-PB-A-4	1,10	400V T	3,00		10,2	9,8	9,3
CVA-PB-A-5	1,50	400V T	3,50		12,5	12	11,5
					4,0	8,0	12,0
CVC-PB-B-1	1,30	400V T	3,60	MCW	7,0	6,7	6,2
CVC-PB-B-2	2,20	400V T	5,15		10,5	10,3	10,0
					0	7,2	14,4
CVC-PB-C-1	1,80	400V T	4,30		13.8	11.9	9.9
CVC-PB-C-2	2,20	400V T	5,10	MCW	15.5	13.6	11.6
CVC-PB-C-3	3,00	400V T	6,70		17.5	16.1	15.5
CVC-PB-C-4	4,10	400V T	8,70		21.4	20.2	18.6
					0	14.4	28.8
CVC-PB-C-5	1,50	400V T	4,10		8.6	7.7	6.7
CVC-PB-C-6	2,20	400V T	5,80	MCW	12.8	11.6	10.2
CVC-PB-C-7	3,00	400V T	7,30		14.6	13.4	12
					36	48	60
CVC-PB-D-1	5,50	400V T	12,60		11.1	10.6	10.1
CVC-PB-D-2	7,50	400V T	16,90	MCW		14.9	14.3
CVC-PB-D-3	11,00	400V T	22,80			18.8	18.2
CVC-PB-D-4	15,00	400V T	30,00			—	23.4
					0	30	60
CVC-PB-E-1	5,50	400V T	12,60		22	17.9	14.9
CVC-PB-E-2	7,50	400V T	16,90	MCW	25.3	20.6	18
CVC-PB-E-3	11,00	400V T	22,80		30.3	27.5	25.2
CVC-PB-E-4	15,00	400V T	30,00		35	33.5	31.3

Data and models of the table may vary.

FLOW M3/H									Ø SOLIDS PASSAGE
9	12	15	18	24	30	33	36		VÓRTEX
7,5	6,1	4,5	2,5						45
7,5	6,1	4,5	2,5						45
11,2	10	8,5	7,1	4					45
13,8	12,1	10,9	9,5	6,5					45
6,3	6	4,8	4	2,3					60
8,9	8	7	6	4,1	2,8	2	1,8		60
11	10,4	9,2	8,5	6,5	4,8	3,9	2,6		60
FLOW M3/H									
16,0	20,0	28,0	36,0	40,0	44,0	48,0	52,0	64,0	VÓRTEX
5,8	5,3	4,6	3,8	3,4	3,0	2,6	2,3		60
9,5	9,0	8,5	7,8	7,2	6,8	6,5	6,0	4,8	60
FLOW M3/H									
21,6	28,8	36	43,2	50,4	57,6	64,8	0,0		VÓRTEX
7.7	6.1	4.7	3.5	2.5					65
9.8	8.2	6.5	4.7	3.3	2				65
12.8	10.6	8	6.1	4.6	3.2				65
16.7	14.6	12.4	10.2	8.2	6.5	5	0,0		80
FLOW M3/H									
43.2	57.6	72	86.04	100.8	115.2	0,0	0,0		SINGLE CHANNEL
5.6	4.4	2.9	1.3	0,0	0,0				45
8.8	7.5	6.3	4.9	3.4	1.6	0,0			75
10.6	9.2	7.8	6.4	4.8	3	0,0	0,0		75
FLOW M3/H									
72	84	102	120	144	168	0,0			VÓRTEX
9.7	9.1	7.9							100
13.7	13	11.6							100
17.6	16.9	15.8	14.5	12.4					100
23	22.5	21.7	20.7	19	16				100
FLOW M3/H									
78	96	114	132	144	150	0,0			SINGLE CHANNEL
13.4	11.9	10.6	9.3	8.5	-				76
16.7	15.5	14.2	13	12.1	-				76
23.7	22.2	20.7	19.1	18	17.5	0,0			76
29.8	28.3	26.7	25.1	24	23.4	0,0			76

Data and models of the table may vary.

Standard prefabricated pumping stations, Salher brand, customized with different options and layouts.

- Structure manufactured in GFRP (Glass Fiber Reinforced Polyester) with inlet and impulsion pipes, connections for cable outlet and ventilation. Inner mounting of pipes, angle 90°, elbows, etc. In accordance with EN-12050-1.
- Submerged pumps for wastewater (Vortex impeller, single or multicanal) with lowering devices and automatic anchoring.
- Level measurement systems with level or ultrasound regulators.
- Retention valves for faecal water and gate valves with elastic closure with mounting on pumping station or independent valve chamber.

- Metallic or GFRP panel board with contactors (up to 5,5 kW), thermal relay(s), starters star-triangle from 7,5 CV (included), pilot signals Manual-Automatic mode switch, automatic or manual selector. Power fuses, automatic pump alternating switch (2 pumps) and maximum level visual and acoustic alarm. Option: voltmeters, ammeters, hour counters, etc.
- Option: hoist system to remove pumps, cast iron covers, ladders, deodorization system and cleaning of the pumping station, self-cleaning bottoms, fixing system for high ground level.
- Pedestrian cast iron access cover and safety anti-fall system.

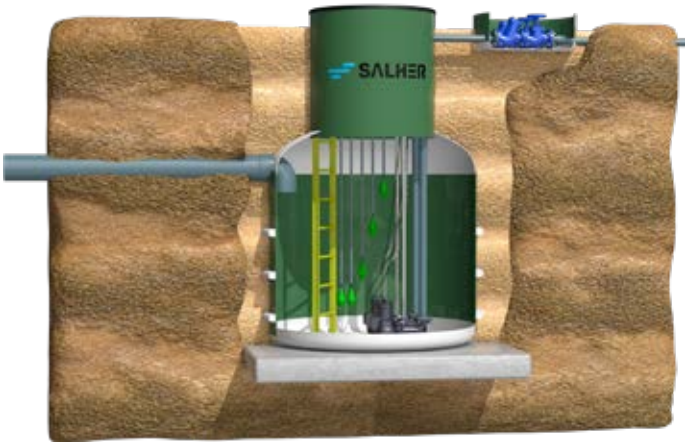
Data and models of the table may vary.

In addition to the equipment listed in this document, Salher Technical Department, upon request of the client, can design any solution to meet wastewater pumping stations requests, which include optionals elements such as:

- Installation of technical platform in the pumping station for maintenance.
- Automatic screening system.
- Ladder with guardrail.

Data required for a custom-made pumping station:

- Outlet collector depth and diameter.
- Impulsion collector diameter.
- Design flow rate or data required for its calculation and number of pumps.
- Geometric height, horizontal distance, elbows, etc, or manometric height.

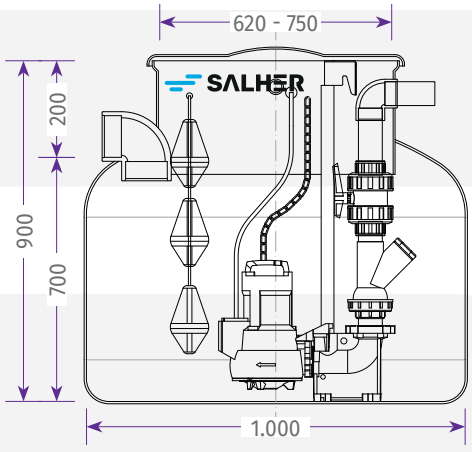


REF: CVC-PB-A

Pumping stations for small flows. Manufactured in accordance with EN-12050-1.

CVC-PB-A-1 has one single-phase pump with level float regulator.

The other models are composed of a GFRP tank, 2 pumps with alternate operation, 3 level regulators, check valves and shut-off valves. Automatic coupling of pumps for hoist at full tank.



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVC-PB-A-1	500	470	1 X 0.5 KW II	1.000	900	110-125	DN50
CVC-PB-A-2	500	470	2 X 0.5 KW II	1.000	900	110-125	DN50

Pump characteristics: vortex impeller

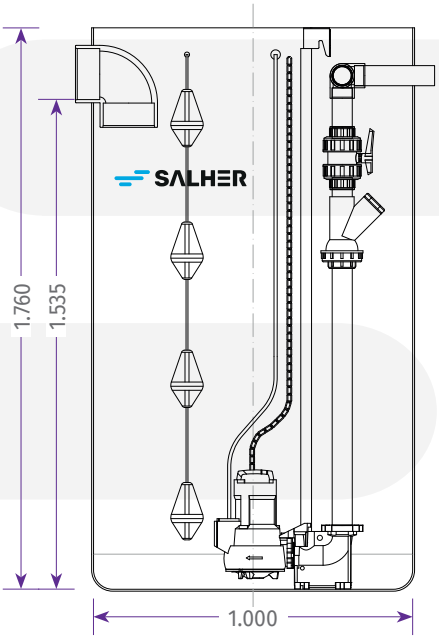
PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M3/H 0	3	6	9	12	15	18	24	Ø SOLIDS PASSAGE
1	0,5	230V M	5	MCW	9,2	9	8,3	7,5	6,1	4,5	2,5		45
2	0,5	230V M	5		9,2	9	8,3	7,5	6,1	4,5	2,5		45

Data and models of the table may vary.

REF: CVA-PB-A

Pumping stations for small flows. Manufactured in accordance with EN-12050-1.

The other models are composed of a GFRP tank, 2 pumps with alternate operation, 4 level regulators, check valves and shut-off valves. Automatic coupling of pumps for hoist at full tank.



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVA-PB-A-1	1.380	1.200	2 X 1,1 KW III	1.000	1.760	110-160	DN50
CVA-PB-A-2	1.380	1.200	2 X 1,5 KW III	1.000	1.760	110-160	DN50
CVA-PB-A-3	1.380	1.200	2 X 0,75 KW III	1.000	1.760	110-160	DN65
CVA-PB-A-4	1.380	1.200	2 X 1,1 KW III	1.000	1.760	110-160	DN65
CVA-PB-A-5	1.380	1.200	2 X 1,5 KW III	1.000	1.760	110-160	DN65

Pump characteristics: vortex impeller

PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M³/H											Ø SOLIDS PASSAGE
					0	3	6	9	12	15	18	24	30	33	36	
1	1,1	400V T	3		14	13	12,5	11,2	10	8,5	7,1	4				45
2	1,5	400V T	3,5		16,1	15,3	14,5	13,8	12,1	10,9	9,5	6,5				45
3	0,75	400V T	2,8	MCW	8,1	7,8	6,6	6,3	6	4,8	4	2,3				60
4	1,1	400V T	3		10,2	9,8	9,3	8,9	8	7	6	4,1	2,8	2	1,8	60
5	1,5	400V T	3,5		12,5	12	11,5	11	10,4	9,2	8,5	6,5	4,8	3,9	2,6	60

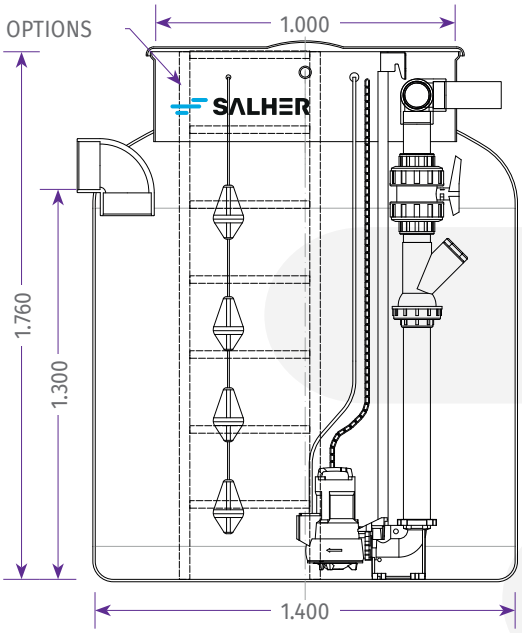
Data and models of the table may vary.

REF: CVC-PB-B

Pumping station for wastewater and rainwater. Manufactured in accordance with EN-12050-1.

7

The standard model is composed of a GFRP tank, 2 pumps with alternate operation, 5 level regulators, check valves and shut-off valves. Automatic coupling of pumps for hoist at full tank and electrical panel board. Optional accessories.



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVC-PB-B-1	2.500	2.000	2X 1,3 KW III	1.400	1.760	110-300	DN65
CVC-PB-B-2	2.500	2.000	2X 2,2 KW III	1.400	1.760	110-300	DN65

Pump characteristics: vortex impeller

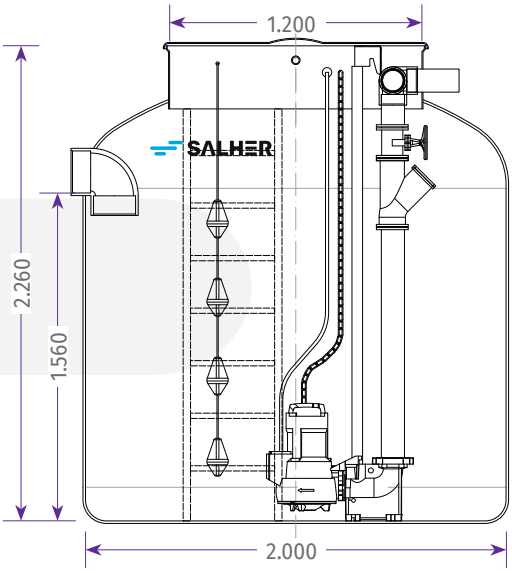
PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M³/H												Ø SOLIDS PASSAGE
					4	8	12	16	20	28	36	40	44	48	52	64	
1	1,3	400V T	3,6	MCW	7	6,7	6,2	5,8	5,3	4,6	3,8	3,4	3	2,6	2,3		60
2	2,2	400V T	5,15		10,5	10,3	10	9,5	9	8,5	7,8	7,2	6,8	6,5	6	4,8	60

Data and models of the table may vary.

REF: CVC-PB-C

Pumping station for wastewater and rainwater.
Manufactured in accordance with EN-12050-1.

OPTIONS



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVC-PB-C-1	6.050	4.900	2X 1,8 KW III	2.000	2.260	110-300	DN65
CVC-PB-C-2	6.050	4.900	2X 2,2 KW III	2.000	2.260	110-300	DN65
CVC-PB-C-3	6.050	4.900	2X 3,0 KW III	2.000	2.260	110-300	DN65
CVC-PB-C-4	6.050	4.900	2X 4,1 KW III	2.000	2.260	110-300	DN65
CVC-PB-C-5	6.050	4.900	2 X 1,5 KW III	2.000	2.260	110-300	DN80
CVC-PB-C-6	6.050	4.900	2 X 2,2 KW III	2.000	2.260	110-300	DN80
CVC-PB-C-7	6.050	4.900	2 X 3 KW III	2.000	2.260	110-300	DN80

Pump characteristics: vortex and single-phase impeller

PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M³/H										Ø SOLIDS PASSAGE
					0	7,2	14,4	21,6	28,8	36	43,2	50,4	57,6	64,8	VORTEX
1	1.8	400V T	4.3		13.8	11.9	9.9	7.7	6.1	4.7	3.5	2.5			65
2	2.2	400V T	5.1	MCW	15.5	13.6	11.6	9.8	8.2	6.5	4.7	3.3	2	3.5	65
3	3	400V T	6.7		17.5	16.1	15.5	12.8	10.6	8	6.1	4.6	3.2		65
4	4.1	400V T	8.7		21.4	20.2	18.6	16.7	14.6	12.4	10.2	8.2	6.5	5	80
					FLOW M³/H										
					0	14.4	28.8	43.2	57.6	72	86.04	100.8	115.2		SINGLE PHASE
5	1.5	400V T	3.4		8.6	7.7	6.7	5.6	4.4	2.9	1.3				45
6	2.2	400V T	5.2	MCW	12.8	11.6	10.2	8.8	7.5	6.3	4.9	3.4	1.6		75
7	3	400V T	6.7		14.6	13.4	12	10.6	9.2	7.8	6.4	4.8	3		75

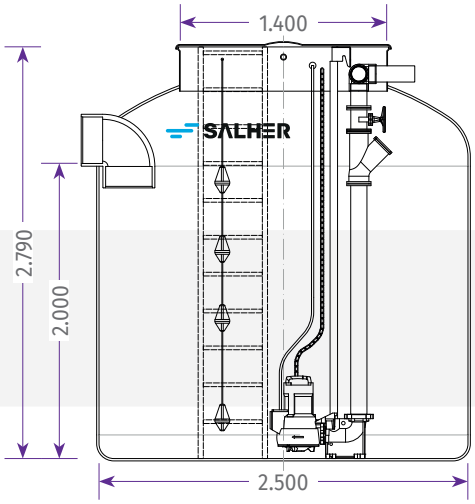
Data and models of the table may vary.

REF: CVC-PB-D

Pumping station for wastewater and rainwater. Manufactured in accordance with EN-12050-1.

7

The standard model is composed of a GFRP tank, 2 pumps with alternate operation, 5 level regulators, check valves and shut-off valves. Automatic coupling of pumps for hoist at full tank and electrical panel board. Optional accessories.



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVC-PB-D-1	11.800	9.800	2X5,5 KW III	2.500	2.790	110-300	DN100
CVC-PB-D-2	11.800	9.800	2X7,5 KW III	2.500	2.790	110-300	DN100
CVC-PB-D-3	11.800	9.800	2X11 KW III	2.500	2.790	110-300	DN100
CVC-PB-D-4	11.800	9.800	2X15 KW III	2.500	2.790	110-300	DN100

Note: valve vault included.

Pump characteristics: vortex impeller

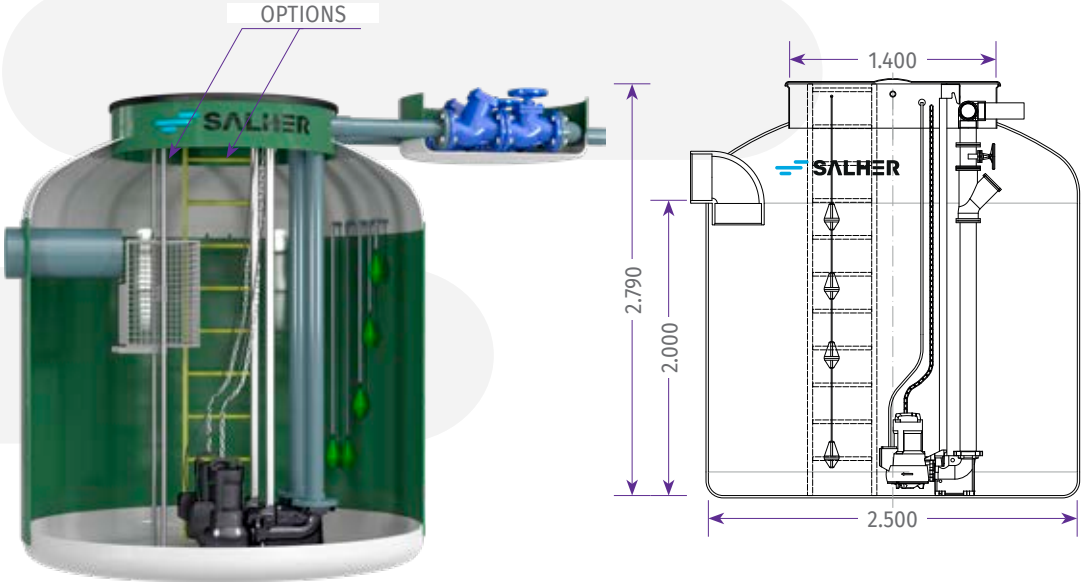
PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M³/H 36	48	60	72	84	102	120	144	168	Ø SOLIDS PASSAGE
1	5,5	400 V T	12,6	MCW	11.1	10.6	10.1	9.7	9.1	7.9	6.4	—	—	100
2	7,5	400 V T	16,9		15.4	14.9	14.3	13.7	13	11.6	10	7	—	100
3	11	400 V T	22,8		—	18.8	18.2	17.6	16.9	15.8	14.5	12.4	9.9	100
4	15	400 V T	30		—	—	23.4	23	22.5	21.7	20.7	19	16	100

Data and models of the table may vary.

REF: CVC-PB-E

Pumping station for wastewater and rainwater. Manufactured in accordance with EN-12050-1.

The standard model is composed of a GFRP tank, 2 pumps with alternate operation, 5 level regulators, check valves and shut-off valves. Automatic coupling of pumps for hoist at full tank and electrical panel board. Optional accessories.



REFERENCE	TOTAL VOL. [LITRES]	USEFUL VOL. [LITRES]	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]	IMPULSION Ø [MM]
CVC-PB-E-1	11.800	9.800	2X5,5 KW III	2.500	2.790	110-300	DN100
CVC-PB-E-2	11.800	9.800	2X7,5 KW III	2.500	2.790	110-300	DN100
CVC-PB-E-3	11.800	9.800	2X11 KW III	2.500	2.790	110-300	DN100
CVC-PB-E-4	11.800	9.800	2X15 KW III	2.500	2.790	110-300	DN100

Note: valve vault included.

Characteristics pumps: single-phase impeller

PUMP	POWER (KW)	VOLTAGE (V)	INTENSITY (A)		FLOW M³/H									Ø SOLIDS PASSAGE
					0	30	60	78	96	114	132	144	150	
1	5,5	400V T	12,6	MCW	22	17.9	14.9	13.4	11.9	10.6	9.3	8.5	-	76
2	7,5	400V T	16,9		25.3	20.6	18	16.7	15.5	14.2	13	12.1	-	76
3	11	400V T	22,8		30.3	27.5	25.2	23.7	22.2	20.7	19.1	18	17.5	76
4	15	400V T	30,0		35	33.5	31.3	29.8	28.3	26.7	25.1	24	23.4	76

Data and models of the table may vary.

Standard pumping stations

Pumping station with 24 hours emergency storage capacity

REF: CHC-PB-AC

Pumping stations, Salher brand, are composed of:

- High capacity GFRP (Glass Fiber Reinforced Polyester) tank able to absorb high variations flows during a long period without energy consumption. Includes inlet and impulsion pipes, connections for cables outlet and air vent.
- Submersible pumps for wastewater (vortex, single or multi-channel impellers) with descending device and automatic fixation.
- Level measurement systems with level or ultrasound regulators.
- Retention valves for faecal water and gate valves with elastic closure with mounting on pumping station or independent valve vault.
- Check valve of emergency tank when pumping station is full.
- Metallic or GFRP panel board with contactors (up to 5,5 kW), thermal relay(s), starters star-triangle from 7,5 CV (included), pilot signals Manual-Automatic mode switch, automatic or manual selector. Power fuses, automatic pump alternating switch (2 pumps) and maximum level visual and acoustic alarm. Optional: voltmeters, ammeters, hour-counters, etc.
- Option: hoist system to remove pumps, cast iron covers, ladders, deodorization system and cleaning of the pumping station, self-cleaning bottoms, fixing system for high ground level.

Options

REFERENCE	TOTAL VOL. [LITRES]	MAX. FLOW [M3/H]	REF. PUMP	PUMPS UNITS/KW/VOLTAGE	Ø [MM]	HEIGHT [MM]	Ø PIPE [MM]
CHC-PB-AC-24	24.000	3	3	2X0,9 KW III	2.500	5.380	110-300
CHC-PB-AC-50	50.000	6	4	2X1,2KW III	2.500	10.680	110-300
CHC-PB-AC-75	75.000	9	5	2X1,3 KW III	3.000	11.200	110-300
CHC-PB-AC-100	100.000	13	6	2X2,4 KW III	3.500	11.100	110-300

For other flows, please consult the technical department.

Data and models of the table may vary.

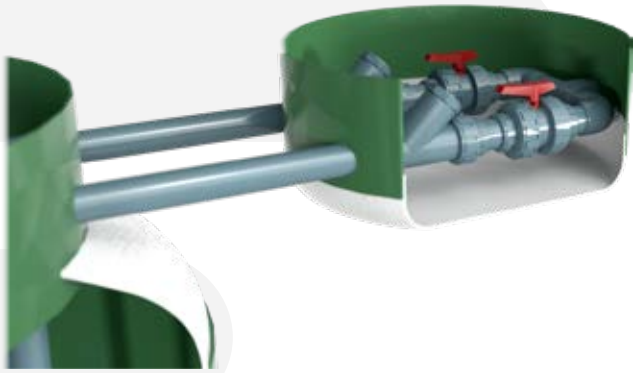
Accessories for pumping stations

Valve vault

REF: CVA-CV

Valves for impulsion pipe can be installed in the pumping station, or outside in a GFRP valve vault. Not supplied separately.

REFERENCE	DN VALVES	Ø [MM]	H [MM]
CVA-CV-40-50	DN40 A DN50	750	500
CVA-CV-65-80	DN65 A DN80	1.000	500
CVA-CV-100	DN100	1.200	700
CVA-CV-150	DN150	1.700	700



Manhole extension for pumping station

REF: CVA-P-PB

Pumping station can be installed deeper underground. A manhole extension shall be ordered before the manufacturing of the pumping station.

REFERENCE	Ø [MM]
CVA-P-PB620	620
CVA-P-PB750	750
CVA-P-PB1000	1.000
CVA-P-PB1200	1.200
CVA-P-PB1400	1.400

Data and models of the table may vary.

Accessories for pumping stations

Access ladder to pumping station

- REF: E-PB

Manufactured in GFRP (Glass Fiber Reinforced Polyester) with isophthalic resins resistant to corrosion. It provides access inside down to the bottom of the pumping station. Option: additional proportional part of safety ladder.

REFERENCE	H [MM]
E-PB 1.000	1000
E-PB 1.500	1500
E-PB 2.000	2000
E-PB 2.250	2250
E-PB 3.000	3000
E-PB 3.500	3500
E-PB 4.000	4000
E-PB 4.500	4500
E-PB 5.000	5000

Pedestrian access cover

- REF: TAPA-PB

Manufactured in GFRP or galvanized iron. Non-skid watermark, two retractable sides and closure system with square key.

REFERENCE	H [MM]
TAPA-PB 1.000	1000
TAPA-PB 1.200	1200
TAPA-PB 1.400	1400
TAPA-PB 1.700	1700
TAPA-PB 2.000	2000
TAPA-PB 2.250	2250
TAPA-PB 2.500	2500
TAPA-PB 3.000	3000
TAPA-PB 3.500	3500
TAPA-PB 4.000	4000

Data and models of the table may vary.

Accessories for pumping stations

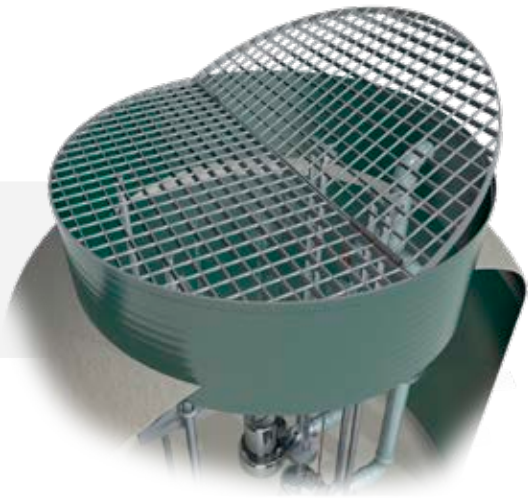
Anti-fall platform

REF: TRAMEX-PB

Manufactured in GFRP (Glass Fiber Reinforced Polyester) or stainless steel. Facilitates the opening of the pumping station and can be used as a safety platform to prevent falls inside the pumping station.

The platform is foldable and can be divided.

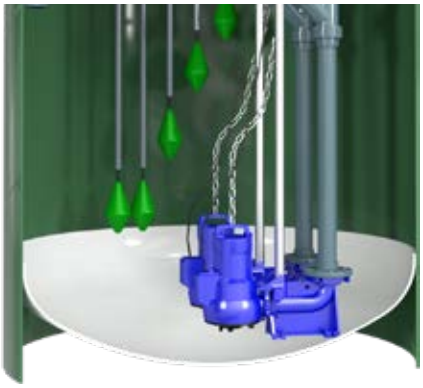
REFERENCE	H [MM]
TRAMEX-PB 1.000	1000
TRAMEX-PB 1.200	1200
TRAMEX-PB 1.400	1400
TRAMEX-PB 1.700	1700
TRAMEX-PB 2.000	2000
TRAMEX-PB 2.250	2250
TRAMEX-PB 2.500	2500
TRAMEX-PB 3.000	3000
TRAMEX-PB 3.500	3500
TRAMEX-PB 4.000	4000



Self-cleaning bottom

REF: KORBBO

REFERENCE	H [MM]
KORBBO 1.000	1000
KORBBO 1.200	1200
KORBBO 1.400	1400
KORBBO 1.700	1700
KORBBO 2.000	2000
KORBBO 2.250	2250
KORBBO 2.500	2500
KORBBO 3.000	3000
KORBBO 3.500	3500
KORBBO 4.000	4000



Data and models of the table may vary.

Accessories for pumping stations

Solids screen basket

- REF: RG-PB

Manufactured in galvanized iron or stainless steel with opening size comprised between 50 and 100 mm, to avoid the passage of coarse solids which can damage the pumping station. Equipped with extraction system at full tank.

REFERENCE	Ø PIPES [MM]
RG-PB 160	160
RG-PB 250	250
RG-PB 355	355
RG-PB 400	400
RG-PB 500	500

Fixing brackets

- REF: ES-PB

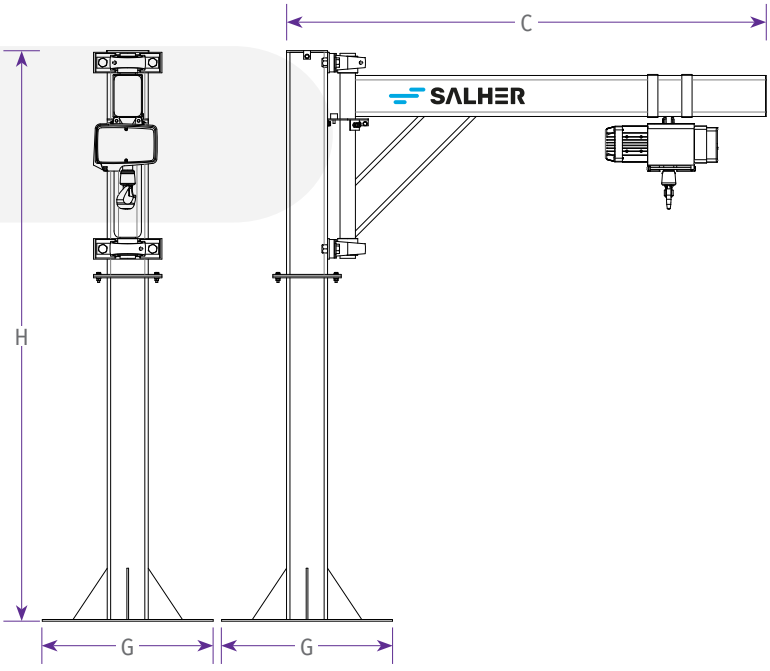
Lateral fixing brackets installed in a helical pattern to avoid the pumping station flotation due to an important phreatic level. These brackets adhere to the ground or the surrounding filling. Set of 3 fixing brackets. Separation of 25 cm between supports.

REFERENCIA	UDS
ES-PB 1000	3
ES-PB 1200	3
ES-PB 1400	3
ES-PB 1700	3
ES-PB 2000	3
ES-PB 2250	3
ES-PB 2500	3
ES-PB 3000	3
ES-PB 3500	3
ES-PB 4000	3

Data and models of the table may vary.

REF: P-PB

- Gallow and electrical pulley for vertical hoisting of a load through a hoist motor.
- Single-phase driving mechanism 230V 50 Hz, 500 W, 2,2 A with load capacity for 250 kg at 5 meters, with remote control.
- Gallow manufactured in stainless steel AISI 304.
- Rotation control of the gallow through the rotation angle. Possibility to limit the rotation angle on both sides, control angles layout (30°, 60° and 90° on each side).
- Lock system of gallow rotation.
- Low support and anchoring.



REFERENCE	H [MM]	C [MM]	G [MM]
P-PB	1.670	1.400	500

For other dimensions or hoist capacities, please consult us.

Data and models of the table may vary.

Tanks

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MANUFACTURING AND CHARACTERISTICS OF STANDARD, ULTRAREINFORCED AND ISOTHERMAL GFRP TANKS

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Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, open with GFRP cover
REF: CVA 208

Water storage tank, cylindrical and vertical, close with GFRP cover
REF: CVC-S 209

Water storage tank, cylindrical and vertical, closed with screwed cover
REF: CVC-FP 210

Water storage tank, cylindrical and vertical, closed with manhole and GFRP cover
REF: CVC-E 211

Water storage tank, cylindrical and horizontal, closed with manhole and GFRP cover
REF: CHC 212
REF: CHC-S 213

Isothermal tanks for water storage, cylindrical and vertical, closed with manhole and cover

Isothermal tanks for water storage
REF: CVC-ISO 215
REF: CHC - ISO 216

Supports for horizontal tanks model CHC
REF: SO-CU 218

Water storage tank, cylindrical and vertical, closed with skid for agitator and screwed cover
REF: CVC-B 219

Supplement for additional manholes
220

Accessories for tanks

Ferrule support extension
220

Lateral manhole
220

Connections for inlet, outlet and drain of GFRP tanks
REF: MAN-HEM 221

Pipe and union sleeve PVC-U for flanged connections
REF: BRIDA 222

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

MANUFACTURING OF STANDARD EQUIPMENT

Salher tanks are manufactured in GFRP in accordance with UNE-EN 976.

The equipment manufactured in GFRP is durable, has a good level of thermal insulation and is immune to parasitic currents, therefore resistant to corrosion and perfectly waterproof.

Salher manufacturing system primarily uses an exclusive multiangle crossed winding system or MA.

This fully robotic and monitored manufacturing system offers a high quality homogeneous final product with an optimal structure due to a perfect selection of the following parameters: number of threads in the weft, tension and angle.

Salher's R + D department experimented with different channels and selected the most appropriate ones for each application. Their main advantages are:

- High chemical resistance.
- High mechanical resistance.
- Light material.
- Durability.
- Thermal insulation.
- Flexibility.

ULTRAREINFORCED OR UR MANUFACTURING

The "UR" or Ultra Reinforced, is the new Salher manufacturing system for reinforced tanks for safe installations.

This system combines the outstanding mechanical strength of the MA (multi-angle) system with the cross braces, forming an outer cage that absorbs most of the loads which are not transmitted to the main structure of the tank.

These properties avoid the construction of walls or concrete structure around the tank for some underground installations. The mechanical resistance is improved by 100% compared with the traditional manufacturing methods.

Designed especially for:

- Use in unstable grounds or with high water table.
- Underground installation at a depth exceeding 1 meter.
- Safe installation: avoids breakage issued from an inappropriate installation or a bad handling during loading and unloading of the tanks or for anti-seismic installations.

Data and models of the table may vary.

	CHARACTERISTICS	
	MA SYSTEM STANDARD	UR OPTION
MAXIMUM DEPTH OF UNDERGROUND INSTALLATION	1000 MM	5000 MM
VARIABLE ANGLE	INCLUDED	INCLUDED
CAPS	KORBBOGEN	REINFORCED: DOUBLE WALL OR MESH, ACCORDING TO DESIGN
PROTECTION OF INLET AND OUTLET PIPING	NOT INCLUDED	INCLUDED
STABLE GROUND	VALID	VALID
UNSTABLE GROUND	SPECIAL INSTALLATION REQUIRED	VALID
ABOVEGROUND INSTALLATION WITH BAD WEATHER	NOT VALID	VALID
COVERS	STANDARD	FOLDABLE

	COMPARISON CHART:		
	TRADITIONAL METHOD	FILAMENT WINDING MA SYSTEM	UR SYSTEM
TENSILE STRENGHT (MPA)	80	170%	260%
ELASTICITY IN BENDING MODULE (MPA)	8.600	50%	90%
RESISTANCE TO FLEXION (MPA)	202	60%	110%

Double wall isothermal system

Double wall system and thermal surface coating to guarantee a thermal insulation under extreme weather conditions.

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, open with GFRP cover

REF: CVA

Function:

- Water storage.

Characteristics:

- Salher brand, model CVA.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical, flat bottom and open top.
- GFRP cover in option.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.

Options

VOLUME [LITRES]	Ø [MM]	HEIGHT [MM]
5.000	1.700	2.200
6.000	1.700	2.640
6.000	2.000	1.950
7.000	1.700	3.100
7.000	2.000	2.250
8.000	1.700	3.550
8.000	2.000	2.600
9.000	2.000	2.900
10.000	2.000	3.200

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, close with GFRP cover

REF: CVC-S

Function:

- Water storage.

Characteristics:

- Salher brand, model CVC-S.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical, flat bottom and semi-elliptical top (Korboggen head type).
- GFRP cover. Option: screwed cover.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.

Options

VOLUME [LITRES]	Ø [MM]	HEIGHT [MM]
1.000	1.000	1.370
1.500	1.000	2.000
1.500	1.400	1.120
2.000	1.400	1.440
2.500	1.400	1.760
3.000	1.400	2.100
4.000	1.400	2.710
5.000	1.700	2.400
5.000	2.000	1.790
6.000	2.000	2.110
8.000	2.000	2.750
9.000	2.000	3.060
10.000	2.000	3.380
12.000	2.000	4.020
15.000	2.000	4.970
15.000	2.500	3.300
20.000	2.500	4.320
24.000	2.500	5.130
25.000	2.500	5.340
30.000	2.500	6.360
35.000	2.500	7.370
40.000	2.500	8.390
45.000	2.500	9.410
50.000	2.500	10.430
60.000	3.000	8.780
70.000	3.000	10.200
80.000	3.000	11.610
90.000	3.500	9.700
100.000	3.500	10.730
110.000	4.000	9.140
120.000	4.000	9.930
130.000	4.000	10.720
140.000	4.000	11.520
150.000	4.000	12.300

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, closed with screwed cover

REF: CVC-FP

Function:

- Water storage.

Characteristics:

- Salher brand, model CVC–FP.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with flat bottom and top.
- Screwed cover of 420 or 600 mm of diameter (to confirm).
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.

VOLUME [LITRES]	Ø [MM]	HEIGHT [MM]
5.000	1.700	2.250
5.000	2.000	1.600
6.000	2.000	1.910
6.000	2.250	1.550
7.000	2.000	2.250
7.000	2.250	1.800
8.000	2.000	2.550
8.000	2.250	2.050
8.000	2.500	1.650
9.000	2.000	2.900
9.000	2.250	2.300
9.000	2.500	1.850
9.000	3.000	1.300
10.000	2.250	2.520
10.000	2.500	2.050
10.000	3.000	1.450
12.000	2.250	3.050
12.000	2.500	2.500
12.000	3.000	1.700
15.000	2.500	3.100
15.000	3.000	2.150
15.000	3.500	1.600

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, closed with manhole and GFRP cover

REF: CVC-E

Function:

- Water storage.

Characteristics:

- Salher brand, model CVC–E.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical, flat bottom and semi-elliptical top (Korboggen head type).
- GFRP cover. Cast iron cover (heavy and pedestrian traffic) and manhole extensions in option.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.

Options

VOLUME [LITRES]	Ø [MM]	HEIGHT [MM]
1.000	1.000	1.370
1.500	1.000	2.000
1.500	1.400	1.120
2.000	1.400	1.440
2.500	1.400	1.760
3.000	1.400	2.100
4.000	1.400	2.710
5.000	1.700	2.400
5.000	2.000	1.790
6.000	2.000	2.110
8.000	2.000	2.750
9.000	2.000	3.060
10.000	2.000	3.380
12.000	2.000	4.020
15.000	2.000	4.970
15.000	2.500	3.300
20.000	2.500	4.320
24.000	2.500	5.130
25.000	2.500	5.340

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and horizontal, closed with manhole and GFRP cover

REF: CHC

Function:

- Water storage.

Options

Characteristics:

- Salher brand, model CHC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with lateral semi-elliptical sides (Korboggen head type).
- Cover in GFRP. Cast-iron cover (heavy and pedestrian traffic) and manhole extensions in option.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.
- Tanks to be installed at a maximum depth of 1000 mm. For other depths, please consult us.

VOLUME [LITRES]	Ø [MM]	LENGTH [MM]
1.000	1.000	1.470
1.500	1.200	1.560
2.000	1.200	2.007
2.500	1.400	1.905
3.000	1.400	2.230
4.000	1.400	2.880
5.000	1.700	2.540
6.000	1.700	2.980
7.000	1.700	3.420
8.000	1.700	3.860
9.000	1.700	4.300
10.000	2.000	3.580
11.000	2.000	3.890
12.000	2.000	4.214
13.000	2.000	4.530
14.000	2.000	4.850
15.000	2.000	5.170
20.000	2.000	6.760
24.000	2.500	5.380
25.000	2.500	5.590
30.000	2.500	6.600
35.000	2.500	7.610
40.000	2.500	8.640
45.000	2.500	9.660
50.000	2.500	10.680
60.000	2.500	12.710
70.000	3.000	10.500
80.000	3.000	11.900
90.000	3.500	10.040
100.000	3.500	11.077
110.000	3.500	12.120
120.000	3.500	13.160
130.000	3.500	14.200
140.000	3.500	15.240
150.000	4.000	12.625

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and horizontal, closed with manhole and GFRP cover

REF: CHC-S

Function:

- Water storage.

Options

Characteristics:

- Salher brand, model CHC-S.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with lateral semi-elliptical sides (Korboggen head type).
- GFRP cover. Cast-iron cover (heavy and pedestrian traffic) and manhole extensions in option.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.
- Supports for installation of the tank.

VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	N° SO-CU
1.000	1.000	1.470	2
1.500	1.200	1.560	2
2.000	1.200	2.007	2
2.500	1.400	1.905	2
3.000	1.400	2.230	2
4.000	1.400	2.880	2
5.000	1.700	2.540	2
6.000	1.700	2.980	2
7.000	1.700	3.420	2
8.000	1.700	3.860	2
9.000	1.700	4.300	2
10.000	2.000	3.580	2
11.000	2.000	3.890	2
12.000	2.000	4.214	2
13.000	2.000	4.530	2
14.000	2.000	4.850	2
15.000	2.000	5.170	3
20.000	2.000	6.760	4
24.000	2.500	5.380	4
25.000	2.500	5.590	4
30.000	2.500	6.600	4
35.000	2.500	7.610	4
40.000	2.500	8.640	4
45.000	2.500	9.660	6
50.000	2.500	10.680	6
60.000	2.500	12.710	7
70.000	3.000	10.500	*
80.000	3.000	11.900	*
90.000	3.500	10.040	*
100.000	3.500	11.077	*
110.000	3.500	12.120	*
120.000	3.500	13.160	*
130.000	3.500	14.200	*
140.000	3.500	15.240	*
150.000	4.000	12.625	*

Data and models of the table may vary.

Isothermal tanks for water storage, cylindrical and vertical, closed with manhole and cover

Isothermal tanks for water storage

Isothermal tanks, Salher brand, keeps the water at a constant temperature in outdoor low temperatures conditions thanks to a structure formed with a double GFRP coat and an intermediary insulating coat of polyurethane monolithic foam.

The high density polyurethane foam is the best insulating material compared to other materials and requires less thickness. Polyurethane spraying is carried out uniformly over the entire tank to avoid thermal bridges and cracks. In addition, the sandwich-like structure greatly increases the structural strength of the equipment in comparison with conventional tanks.

Requires no additional maintenance as polyurethane foam is resistant to aging, retaining its thermal and mechanical properties.

Salher guarantees the maintenance of optimal water process temperatures, as well as the non-freezing during the winter with average temperatures up to -6°C for stored water and up to -25°C for water in continuous flow.

Data and models of the table may vary.

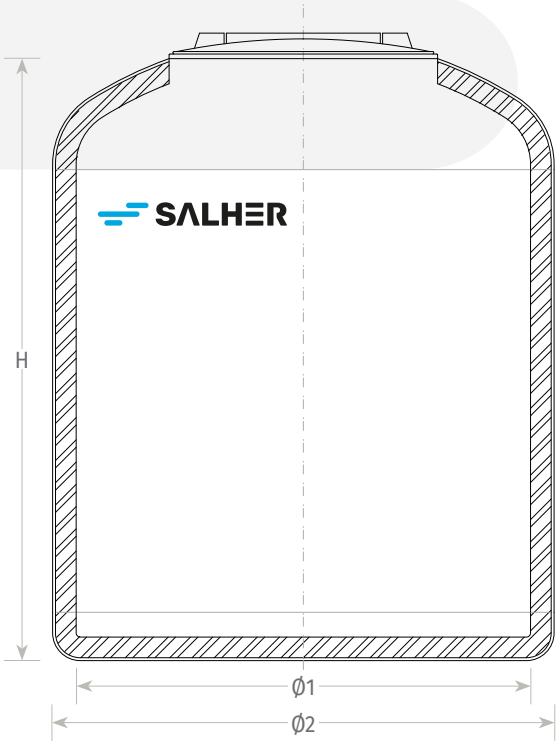
REF: CVC-ISO

Function:

- Water storage.

Characteristics:

- Salher brand, model CVC-ISO.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with flat bottom and semi-elliptical top (Korboggen head type).
- GFRP cover. Screwed cover in option.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.



VOLUME [LITRES]	Ø1 [MM]	Ø2 [MM]	HEIGHT [MM]
5000	1700	1900	2600
5.000	2000	2200	1990
6000	2000	2200	2310
8000	2000	2200	2950
9000	2000	2200	3260
10000	2000	2200	3580
12000	2000	2200	4220
15000	2000	2200	5170
15.000	2500	2700	3500
20000	2500	2700	4520
24000	2500	2700	5330
25000	2500	2700	5540
30000	2500	2700	6560
35000	2500	2700	7570
40000	2500	2700	8590
45000	2500	2700	9610
50000	2500	2700	10630
60000	3000	3200	8980
70000	3000	3200	10400
80000	3000	3200	11810
90000	3500	3700	9900
100000	3500	3700	10930
110000	4000	4200	9340
120000	4000	4200	10130
130000	4000	4200	10920
140000	4000	4200	11720
150000	4000	4200	12500

Data and models of the table may vary.

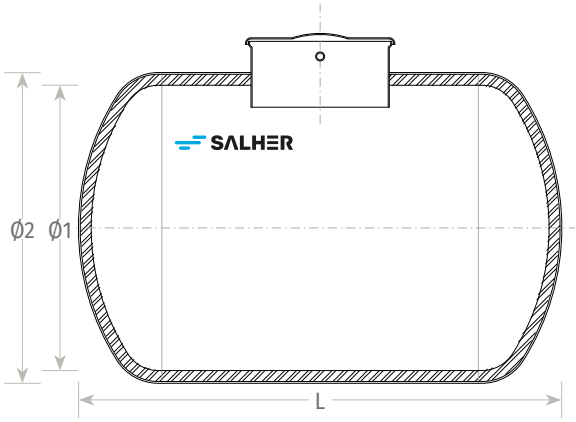
REF: CHC - ISO

Function:

- Water storage.

Characteristics:

- Salher brand, model CHC-ISO.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with lateral semi-elliptical sides (Korboggen head type).
- GFRP cover. Option: cast-iron cover (heavy and pedestrian traffic) and manhole extensions.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.
- Tanks to be installed at a maximum depth of 1000 mm. For other depths, please consult us.



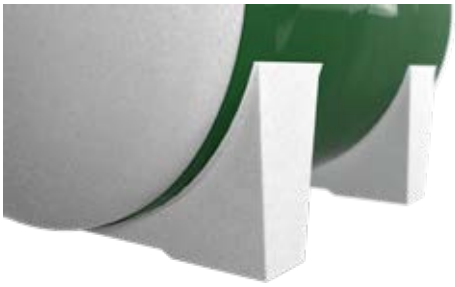
VOLUME [LITRES]	Ø1 [MM]	Ø2 [MM]	LENGTH [MM]
5.000	1700	1900	2740
6.000	1700	1900	3180
7.000	1700	1900	3620
8.000	1700	1900	4060
9.000	1700	1900	4500
10.000	2000	2200	3780
11.000	2000	2200	4090
12.000	2000	2200	4414
13.000	2000	2200	4730
14.000	2000	2200	5050
15.000	2000	2200	5370
20.000	2000	2200	6960
24.000	2500	2700	5580
25.000	2500	2700	5790
30.000	2500	2700	6800
35.000	2500	2700	7810
40.000	2500	2700	8840
45.000	2500	2700	9860
50.000	2500	2700	10880
60.000	2500	2700	12910
70.000	3000	3200	10700
80.000	3000	3200	12100
90.000	3000	3200	10240
100.000	3500	3700	11277
110.000	3500	3700	12320
120.000	3500	3700	13360
130.000	3500	3700	14400
140.000	3500	3700	15440
150.000	4000	4200	12825

Data and models of the table may vary.

REF: SO-CU

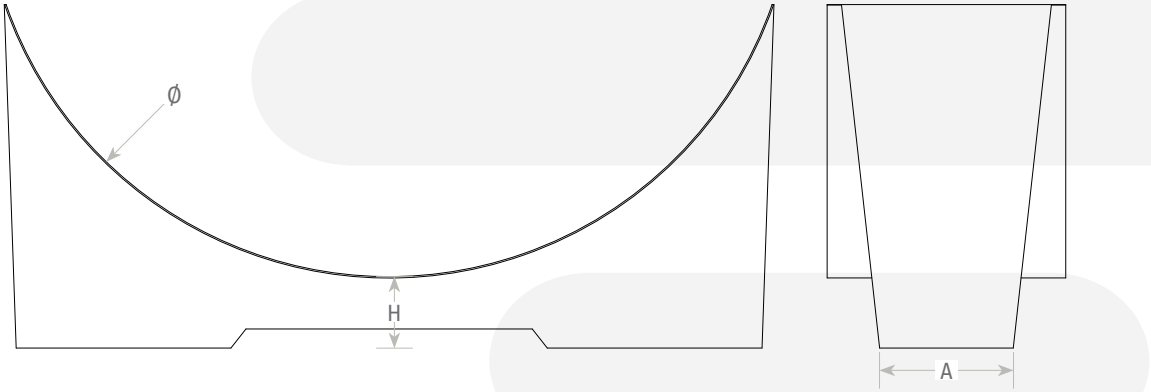
Function:

- Support structure for aboveground installation of horizontal cylindrical tanks (Ref. CHC).



Characteristics:

- Manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins or A 42b laminate steel in accordance with NBE-EA-95/S 275 JR and UNE-EN 10025 for structural applications.



Ø [MM]	A [MM]	H [MM]	MATERIAL
1.000	210	160	GFRP
1.200	210	165	GFRP
1.400	250	160	GFRP
1.700	290	160	GFRP
2.000	320	160	GFRP
2.250	330	150 / 35	GFRP
2.500	370	155	GFRP
3.000	440	150	GFRP
3.500	500	250	STEEL
4.000	560	250	STEEL

Data and models of the table may vary.

Tanks for aboveground and underground installation

Water storage tank, cylindrical and vertical, closed with skid for agitator and screwed cover

REF: CVC-B

Function:

- Tank for agitation with reinforced upper skid.

Characteristics:

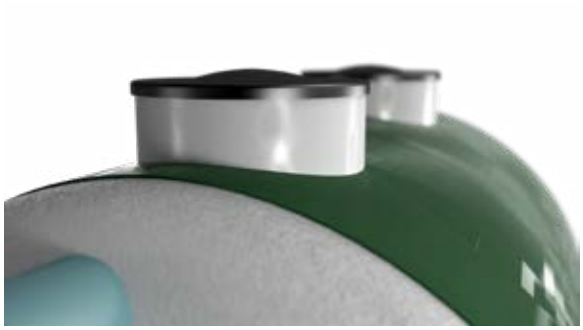
- Salher brand, model CVC-B.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Cylindrical with flat bottom and top.
- Screwed cover of 420 or 600 mm diameter (to be confirmed).
- Upper skid for antivortex agitator in GFRP.
- PVC connections or flanges in option. Indicate the number of connections, diameters and layout.
- Other tank diameters available.

VOLUME [LITRES]	Ø [MM]	H1 [MM]	H2 [MM]
1.000	1.000	1273	1373
1.000	1.200	884	984
1.500	1.200	1326	1426
2.000	1.400	1299	1399
2.500	1.400	1624	1724
3.000	1.700	1321	1421
4.000	1.700	1762	1862
5.000	2.000	1591	1691
6.000	2.000	1909	2009
		OPTION FOR CVC-B	
		ANTIVORTEX	

Data and models of the table may vary.

Supplement for additional manholes
Standard height from 150 to 250 mm

Ø [MM]
500
620
750
1.000
1.200
1.400
1.700
2.000
2.500
3.000



Accessories for tanks

Ferrule support extension

Ø [MM]
500
620
750
1.000
1.200
1.400
1.700
2.000
2.500
3.000

Lateral manhole
Manufactured in stainless steel 440 x 330 mm

LATERAL MANHOLE [MM]
440 X 330

Data and models of the table may vary.

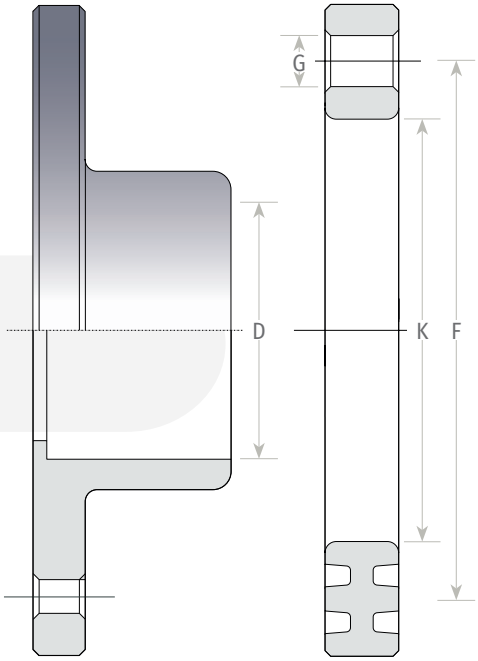
REF: MAN-HEM

Function:

- Kit composed of a straight connection, rubber seal, screws and flanges. The whole content is screwed in the steel to connect the tank to external pipes.

Characteristics:

- Dimensions in accordance with EN 1452-2 for standard pipe connections in accordance with EN 1452-3.
- Plastic material in PP and PVC-U.



D [MM]	PN	E [MM]	K [MM]	F [MM]
20	16	27	65	14 X 4
25	16	33	75	14 X 4
32	16	41	85	14 X 4
40	16	50	100	18 X 4
50	16	61	110	18 X 4
63	16	76	125	18 X 4
75	16	90	145	18 X 4
90	16	108	160	18 X 8
110	16	131	180	18 X 8
125	16	148	210	18 X 8
140	16	165	210	18 X 8
160	10	188	240	22 X 8
200	10	225	270	22 X 8
225	10	248	295	22 X 8
250	10	282	350	22 X 12
315	10	342	400	22 X 12
400	6	432	515	26 X 16

Data and models of the table may vary.

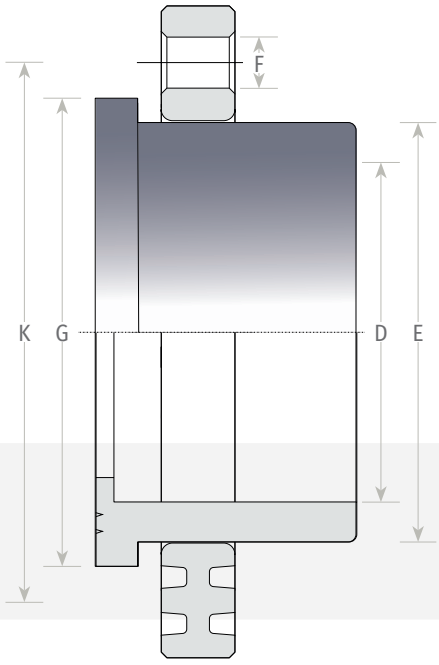
REF: BRIDA

Function:

- Kit composed of a flange-holder sleeve, loose flange and pipe to connect the tank connections with external pipes.

Characteristics:

- Dimensions in accordance with EN 1452-2 for standard pipe connections in accordance with EN 1452-3.
- PVC-U plastic material and galvanized steel material (option).



D [MM]	PN	E [MM]	K [MM]	F [MM]	G [MM]
20	16	27	65	14 X 4	34
25	16	33	75	14 X 4	41
32	16	41	85	14 X 4	50
40	16	50	100	18 X 4	61
50	16	61	110	18 X 4	73
63	16	76	125	18 X 4	90
75	16	90	145	18 X 4	106
90	16	108	160	18 X 8	125
110	16	131	180	18 X 8	150
125	16	148	210	18 X 8	168
140	16	165	210	18 X 8	188
160	10	188	240	22 X 8	213
200	10	225	270	22 X 8	247
225	10	248	295	22 X 8	274
250	10	282	350	22 X 12	328
315	10	342	400	22 X 12	378

Data and models of the table may vary.

Sludge treatment and thickeners

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Table of contents

Sludge treatment

Closed static thickener
REF: CVC-DC-TC 228

Open static thickener
REF: CVA-DC-TC 229

Open static thickener with steel supports
REF: CVA-E-TC 230

Sludge thickener by gravity, closed and open with ferrule-support
REF: CVC-E-TC-VS AND CVA-E-TC-VS 231

Footbridge for sludge thickener
REF: PASARELA 232

Ladder with rail and exit system
REF: EQ-P 232

Sludge dewatering by filter bags
REF: FILSA 233

Filter press
REF: FP 234

Automatic unit for polyelectrolyte preparation
REF: UAP 236

Sludge storage tank, underground
REF: CHC-F 237

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

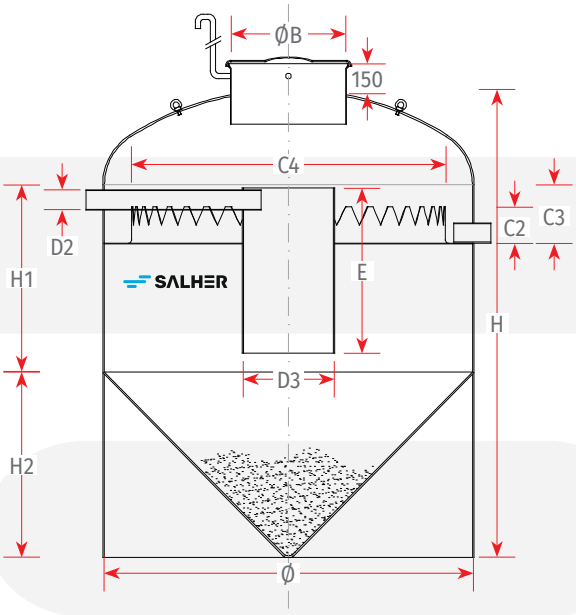
REF: CVC-DC-TC

Function:

- Dehydration or thickening of sludge issued from primary and secondary treatments.

Characteristics:

- Salher brand, model CVC–DC–TC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Installation: underground.
- Geometric shape: truncated.
- Central feeding chamber and Thompson perimetral canal.
- PVC inlet and outlet.
- Possibility to install an air vent on the manhole.



Ø D	CENTRAL CYLINDER [MM]				PARTIAL HEIGHTS [MM]							VOLUME LITRES
	D1	D2	D3	E	H1	H2	H	C1	C2	C3	C4	
1.000	75	75	300	700	800	500	1.563	100	150	300	750	750
1.200	75	75	300	700	800	600	1.720	100	150	300	1.000	1.130
1.400	90	90	300	700	800	700	1.870	100	150	300	1.200	1.590
1.700	90	90	400	900	1.000	850	2.300	150	200	300	1.400	2.910
2.000	110	110	500	900	1.000	1.000	2.530	150	200	300	1.700	4.190
2.500	160	160	620	1.000	1.200	1.250	3.110	250	250	350	2.000	7.930
3.000	160	160	690	1.200	1.400	1.500	3.700	250	250	350	2.500	13.420
3.500	200	200	750	1.400	1.600	1.750	4.265	250	300	400	3.000	21.000
4.000	200	200	1.000	1.600	1.800	2.000	4.840	250	300	400	3.500	30.980

Data and models of the table may vary.

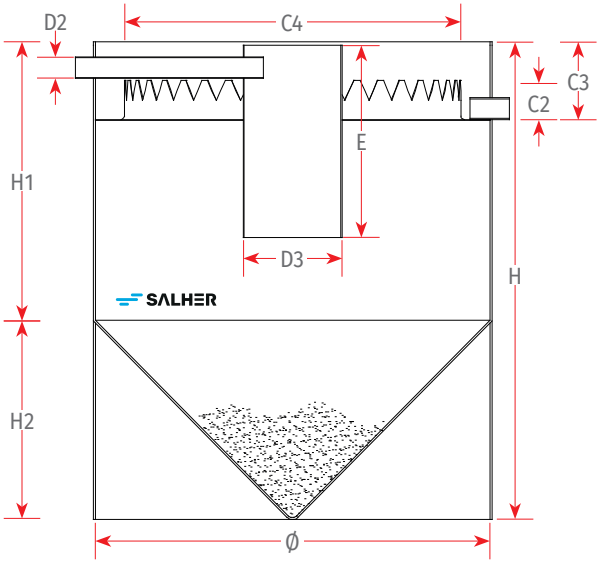
REF: CVA-DC-TC

Function:

- Dehydration or thickening of sludge issued from primary and secondary treatments.

Characteristics:

- Salher brand, model CVA–DC–TC.
- Equipment manufactured in GFRP (Glass Fiber Reinforced Polyester) with orthophthalic resins.
- Installation: underground.
- Geometric shape: truncated.
- Central feeding chamber and Thompson perimetral canal.
- PVC inlet and outlet.
- Open on the top.



Ø D	CENTRAL CYLINDER [MM]				PARTIAL HEIGHTS [MM]							VOLUME LITRES
	D1	D2	D3	E	H1	H2	H	C1	C2	C3	C4	
1.000	75	75	300	700	800	500	1.300	100	150	300	750	750
1.200	75	75	300	700	800	600	1.400	100	150	300	1.000	1.130
1.400	90	90	300	700	800	700	1.500	100	150	300	1.200	1.590
1.700	90	90	400	900	1.000	850	1.850	150	200	300	1.400	2.910
2.000	110	110	500	900	1.000	1.000	2.000	150	200	300	1.700	4.190
2.500	160	160	620	1.000	1.200	1.250	2.450	250	250	350	2.000	7.930
3.000	160	160	690	1.200	1.400	1.500	2.900	250	250	350	2.500	13.420
3.500	200	200	750	1.400	1.600	1.750	3.350	250	300	400	3.000	21.000
4.000	200	200	1.000	1.600	1.800	2.000	3.800	250	300	400	3.500	30.980

Data and models of the table may vary.

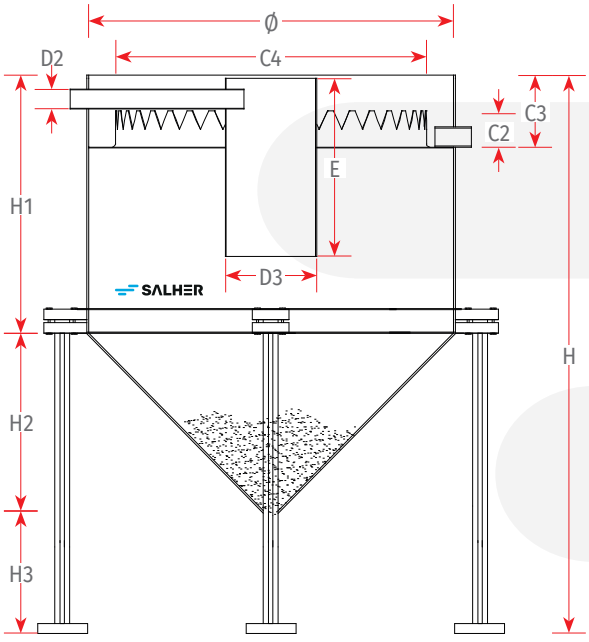
REF: CVA-E-TC

Several layouts are available: under, aboveground, open or closed.

The sketch below presents the open models, with metallic supports for aboveground installation, inlet, outlet and lower drain connection.

En option (please see the next pages):

- Ladder with rail.
- Tramex for the upper part.
- Upper perimetral rail.
- Manual or motorized drain valve.
- Agitator.



Ø D	CENTRAL CYLINDER [MM]				HEIGHT [MM]				CANAL [MM]				VOL. [LITROS]
	Ø D1	Ø D2	Ø D3	E	H1	H2	H3	H	C1	C2	C3	C4	
2.000	200	90	500	700	1.600	1.000	500	3.100	150	200	300	1.700	6.000
2.500	200	90	620	700	1.620	1.250	500	3.370	250	250	350	2.000	10.000
3.000	200	90	620	700	1.620	1.500	500	3.620	250	250	350	2.500	15.000
3.500	200	90	620	700	2.020	1.750	500	4.270	250	300	400	3.000	25.000
4.000	200	90	620	700	2.520	2.000	500	5.020	250	300	400	3.500	40.000

Data and models of the table may vary.

Sludge treatment

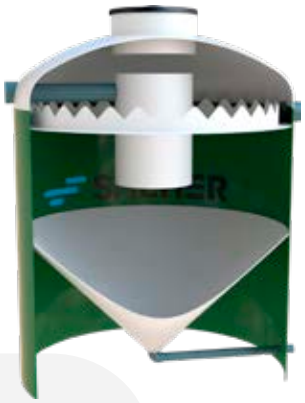
Sludge thickener by gravity, closed and open with ferrule-support

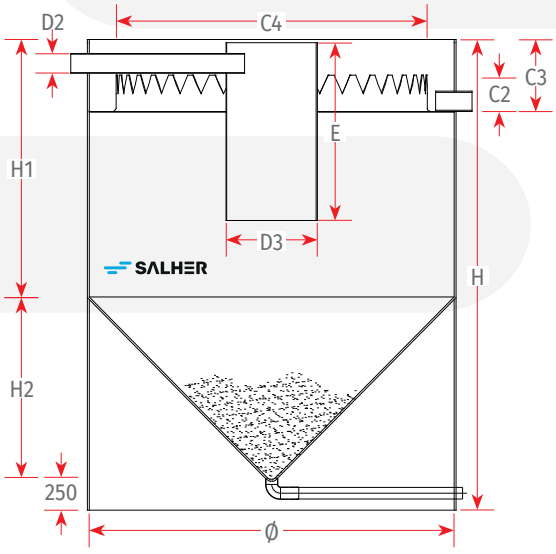
REF: CVC-E-TC-VS AND CVA-E-TC-VS

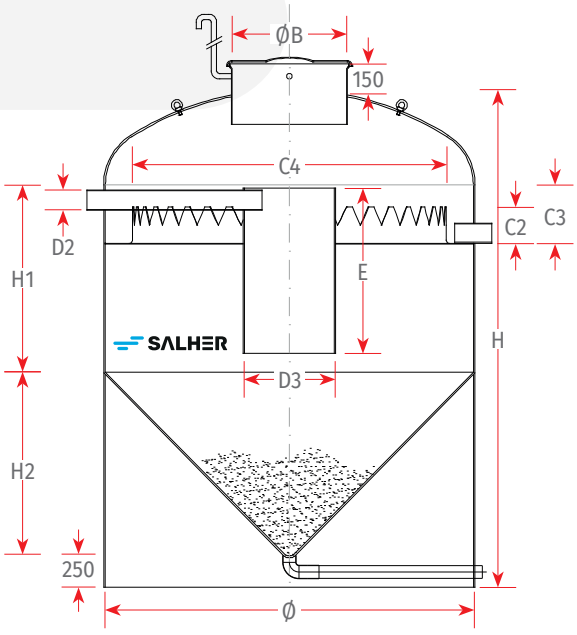
Open or closed thickener, for aboveground installation.
Support through extension of the ferrule-support.

En option (please see the next pages):

- Ladder with rail.
- Tramex for the upper part.
- Upper perimetral rail.
- Manual or motorized drain valve.
- Agitator.







Ø D	CENTRAL CYLINDER [MM]				HEIGHT [MM]				CANAL [MM]				VOL.
	Ø D1	Ø D2	Ø D3	E	H1	H2	H CVC	H CVA	C1	C2	C3	C4	[LITROS]
1.400	200	90	300	500	1.750	850	2.800	2.450	150	200	300	1.200	3.000
1.700	200	90	400	500	1.500	850	2.785	2.350	150	200	300	1.400	4.000
2.000	200	90	500	700	1.300	1.000	2.810	2.300	150	200	300	1.700	5.000
2.000	200	90	500	700	1.600	1.000	3.610	3.100	150	200	300	1.700	6.000
2.500	200	90	620	700	1.620	1.250	3.945	3.370	250	250	350	2.000	10.000
2.500	200	90	620	700	2.650	1.250	4.475	3.900	250	250	350	2.000	15.000
3.000	200	90	620	700	1.620	1.500	4.260	3.620	250	250	350	2.500	15.000
3.000	200	90	620	700	2.350	1.500	4.490	3.850	250	250	350	2.500	20.000
3.000	200	90	620	700	3.050	1.500	5.190	4.550	250	250	350	2.500	25.000

Data and models of the table may vary.

9

REF: PASARELA

All platforms are grey.
The basis of the footbridge is manufactured with a profile in "U" 90x35x8, and the tramex grid has a height of 26 mm.
Perimetral rail with height of 1050 mm from the grid.
Screws, bolts and accessories in inox AISI 316.
All platforms are delivered pre-assembled and drilled for easier installation on thickener.

Option:
- Ladder with rail.
- Tramex for the upper part.
- Upper perimetral rail.

Ø [MM]
1.700
2.000
2.500
3.000
3.500
4.000

Ladder with rail and exit system

REF: EQ-P

Ladder manufactured in GFRP (Glass Fiber Reinforced Polyester) covered with isophthalic resins with resistance against corrosion.

- Ladder with guardrail.
- Exit system at the upper part of the ladder for a safe access to the platform.

HEIGHT IN METERS	
2 - 3	ONLY WITH EXIT KIT
3 - 3,5	EXIT KIT AND RAIL
3,5 4	
4,5 - 4	
4,5 - 5	
5,5 - 5	

Data and models of the table may vary.

REF: FILSA

Function:

- Sludge removal and dewatering from small and medium sized treatment plants.
- After removing most part of water from sludge, bags are placed in the drying area for the final dehydration.

Characteristics:

- Bags made with a porous matter to allow the water and drying air passage, and prevent from the clogging of the retained solids.
- Equipment in polypropylene with inner structure in stainless steel AISI 304.
- Expanding baskets manufactured in AISI 304.
- Wheelbarrow for bag transportation.
- Number of bag heads available of 1, 2, 4 and 8.
- Filter bags manufactured through drying with fixing process.
- Includes 10 bags per head.
- Motorized valve with safety box (option).
- Level probe connected to the panel control.
- Electrical panel board (option).
- Butterfly valve at the inlet of the equipment.
- Butterfly valves for bags connection.
- Automatic filtration phase and filling by gravity.
- Low maintenance and energy cost.
- High efficiency for 10 to 20% dry matter after a few hours, and 40 to 80% of dry matter after outdoor storage.

REF	MAX. FLOW [M3/D]	HEADS/ BAGS [UNITS]	WIDTH [MM]	HEIGHT [MM]	LENGTH [MM]	INLET DN	OUTLET DN	OVERFLOW DN
FILSA 01	1	1 / 10	660	1.690	951	1 X 80	1 X 80	1X100
FILSA 02	2	2 / 20	770	1.750	1.300	1 X 100	1 X 100	1X100
FILSA 04	4	4 / 40	1.100	1.750	1.350	2 X 100	1 X 100	1X100
FILSA 08	8	8 / 80	1.145	1.750	2.250	2 X 100	1 X 100	1X100

* For different flow and number of bags, please consult Salher

Data and models of the table may vary.

REF: FP

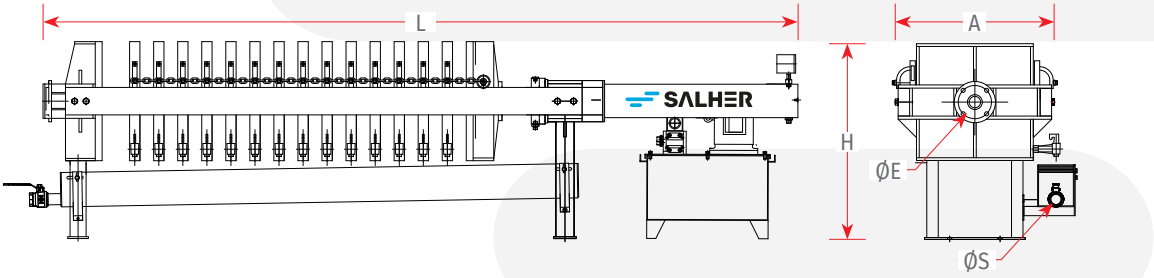
9

Fonction:

- Fully automated equipment for removal and dehydration of sludge issued from small and medium wastewater treatment plants.
- The dehydration through pressure allows to reach better percentages of dryness than using other dehydration systems (approximately 30%, even higher with perfect sludge conditioning).

Characteristics:

- Filter press, Salher brand, REF: FP.
- Main structure manufactured in Q235 high quality carbon steel, processed with sandblast and epoxy printing.
- Vertical plates in polypropylene.
- Filtering clothes in polypropylene.
- Hydraulic group for closure/opening control of hydraulic cylinder. Includes pressure measurement device for equipment automation.
- Combined pressure sensor for sludge pumping measurement at the inlet of the equipment to control the filtering process.
- Inductive sensor to control opening of hydraulic cylinder.
- Clarified water collection canal manufactured in stainless steel.
- Outlet ball valve for clarified water.
- Safety elements for emergency stop.



MODEL	L [MM]	H [MM]	A [MM]	ØE DN	ØS	SIZE OF PLATES [MM]	N° PLATES UNITS	VOLUME FILTERED [L/CYCLE]
FP-60	3300	890	700	65	1 X 2"	520X520	15	60
FP-80	4200	890	700	65	1 X 2"	520X520	20	80
FP-100	2750	1100	1100	65	1 X 2"	700X700	10	100
FP-200	4450	1100	1100	65	1 X 2"	700X700	20	200
FP-300	4400	1250	1250	100	2 X 2"	870X870	16	300
FP-500	4800	1400	1350	100	2 X 2"	1000*1000	17	500
FP-800	5950	1650	1580	125	2 X 2"	1250X1250	20	800
FP-1300	6400	1810	2000	150	2 X 2"	1500X1500	20	1300

Data and models of the table may vary.

Option:

- Automatic polyelectrolyte preparation unit.
- Sludge conditioning tank.
- Screw pump for sludge feeding to the equipment.
- Plates agitation system.
- Hopper for cakes collection.
- Equipment hoist structure.
- Set of lateral protective screen manufactured in transparent metacrylite, with safety control.
- Electrical panel board with PLC and touchscreen.

*The correct operation of the equipment requires a raw water tank with agitation.
*Standard equipment supplied with set of spare parts of filtering clothes.

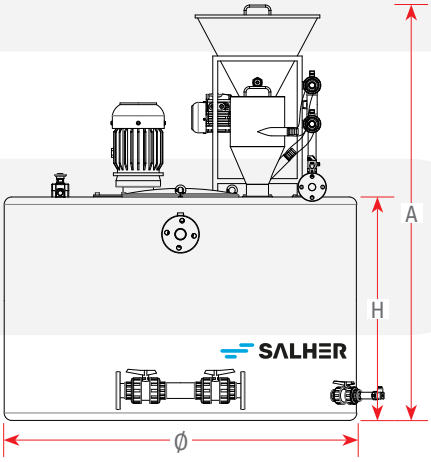
REF: UAP

Function:

- The compact automatic polyelectrolyte preparation unit, Salher® brand, provides a continuous and automatic preparation, maturation and dosage of the polyelectrolyte solution.
- Equipment designed to flocculate the wastewater to facilitate the separation solid-liquid, such as:
  * Urban and industrial wastewater treatment, especially during physical-chemical treatment.
  * Sludge treatment to improve the filter press efficiency.

Characteristics:

- Cylindrical tank manufactured in GFRP.
- Dosing system of polyelectrolyte in granular powder.
- Probe for low level of the product in the hopper.
- Premixing nozzle in AISI 304.
- Filling and mixing electrovalve.
- Hydrostatic transmitter to control the operation levels.
- Mixing polyelectrolyte agitator.
- Flowmeter with analog output on filling connection.
- Granulate polyelectrolyte hopper: 25 litres.



REF	VOL. [LITRES]	Ø [MM]	H [MM]	A [MM]	P [KW]
UAP 1000	1000	1.400	900	1.630	0,95
UAP 2000	2000	1.400	1.300	2.030	0,95
		OPTION			
		ELECTRICAL PANEL BOARD			
		DOSING PUMP			

Data and models of the table may vary.

REF: CHC-F

Function:

- Storage and concentration of sludge issued from secondary settling tanks.

Characteristics:

- GFRP tank for underground installation.
- Set of inlet, air vent and overflow connections at the head of the tank.
- Includes pump to place in the secondary settling tank, pump Vortex type 50 mm, 0,55 kW III 400 V 50 Hz, in INOX. With impulsion outlet in DN 40-50 mm.

VOLUME [LITRES]	Ø [MM]	LENGTH [MM]	POWER OF SLUDGE PUMP [KW] III 400V 50 HZ
2.500	1.400	1.905	0.55
5.000	1.700	2.540	0.55
10.000	2.000	3.580	0.55
12.000	2.000	4.214	0.55
15.000	2.000	5.170	0.55

Data and models of the table may vary.

Accessories

10

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Parshall flume
REF: MC-CP 245
REF: MC-CP-C 245
Flowmeter triangular V-notch
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Accessories for oil/water separators
Storm spillway and flow regulator
REF: CVC-AARC 247
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Sand and solids detection alarm
REF: IDOIL-S 249
Oil, hydrocarbon, sand and solids detection alarm
REF: IDOIL-OS 249
Oil, hydrocarbon, sand, solids and maximum level alarm
REF: IDOIL-LOS 250
Oil, hydrocarbon, sand and solids detection alarm with solar panel charging and warning via mobile
REF: IDOIL-SOLAR 250
Floating hydrocarbon level alarm
REF: SET-OSK2 250

Deodorization
REF: CARBO-VENT 251
REF: CARBO-SAC 252

Bacteria and enzymes
BRICK - 900 - 450 253
CRM DEPUR 253
SEPT 253
DOSEFOSS 253
CLAIR 253

Other dimensions and configurations can be provided upon request. Internal dimensions. Dimensions in millimeters. Volumes in liters, the dimensions indicated may vary according to the needs.

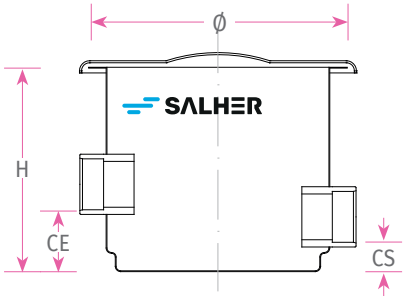
Due to its policy of continuous development, Salher Ibérica, S.L. reserves the right to modify the data that appear in this document without notice.

Sampling manhole

REF: CVA-ATM

- For inspection and control of the water discharge at the outlet of the WWTP, oil/water separators, etc.

Ø MANHOLE [MM]	Ø PIPE [MM]	HEIGHT [MM]	INLET [MM]	OUTLET [MM]
400	125	500	150	50
500	160	500	150	50
500	200	500	150	50
620	250	500	150	50
750	300	500	150	50

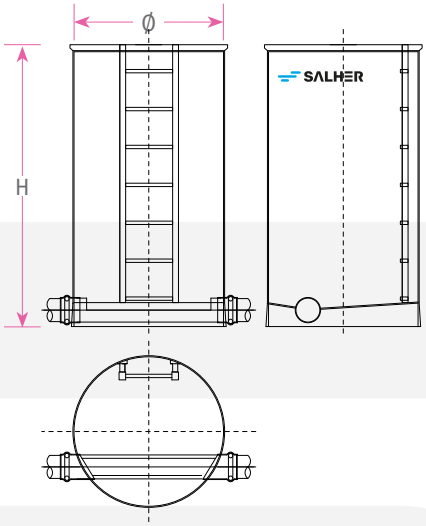


Effluent control manhole

REF: CVA-CAM

- For inspection and control of the discharge at the outlet of the WWTP, oil/water separators, etc.
- Sized in accordance with the Region of Madrid Standard for industrial activity, up the municipal network.

Ø MANHOLE [MM]	Ø PIPE [MM]	HEIGHT [MM]
1.200	200-315	1.000
1.200	200-315	1.500
1.200	200-315	2.000
1.200	200-315	2.250
1.200	200-315	2.500



Manhole extension

REF: CVA-P

- Manhole extension, manufactured in GFRP, to facilitate the installation of the equipment deeper underground for a better protection to outdoors.
- Easy and quick installation. Extensions shall fit together up to the required height or possibility of custom-made extension.

LENGTH [MM]	Ø 250	Ø 400	Ø 500	Ø 620	Ø 750 *	Ø 1000*
250	X	X	X	X	X	X
500	X	X	X	X	X	X
750	X	X	X	X	X	X
1.000	X	X	X	X	X	X

* Dimensions manufactured upon request.

Data and models of the table may vary.

Foldable telescopic cover for pedestrian area

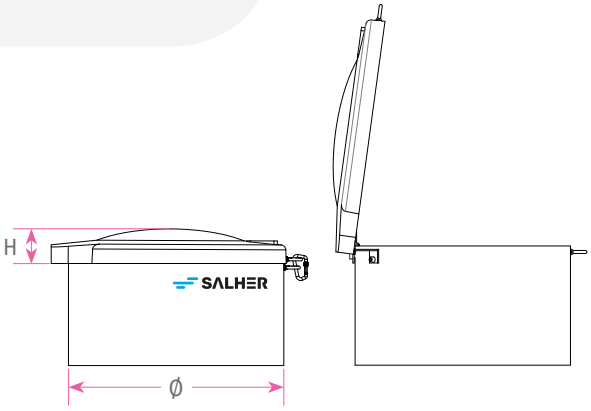
REF: TTAP

Function:

- Foldable cover for protection and closure of tank manholes.

Characteristics:

- Resistant structure in GFRP by moulding.
- Quick and safe access to underground equipment.
- Easy closure by anchoring type ring carabiner to install a safety lock.
- Identification plate with equipment data. Facilitates a quick check without access inside.
- Customizable: possibility to mark with laser a logo/ text (example: symbol of company or other).
- Includes a full kit of installation for on-site mounting in 5 minutes.
- Resistant to bad weather (corrosion and oxidation) and chemical agents.



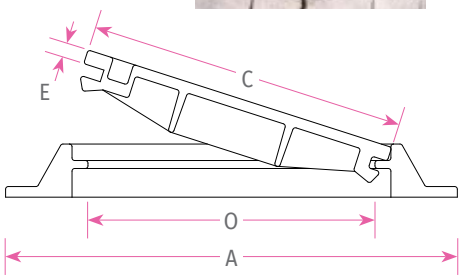
REF	Ø [MM]	H [MM]
TTAP 620	620	110
TTAP 750	750	110
TTAP 1000	1.000	110
TTAP 1200	1.200	110

For manhole extension length over than h=0,5m, please consult Ref. CVA-P
To seal the union, consult the reference KIT, in Accessories.

Cast iron cover class D400 - Breaking Load > 400 kn

REF: TAPA-D40

- Cast iron cover manufactured in accordance with ISO 1083 (1987) according to the class D 400 of UNE-EN-124 (1995), with inscription "water treatment".
- Circular cover with safety locking system, by rotation and protected with plastic screw. Includes anti-noise and anti-slip polyethylene joint.
- The frame contains alveoles to optimize its installation and 4 holes to clamp it to the ground if necessary.
- For roads, including pedestrian streets, roadsides and parking areas for all type of vehicles (group 4 of the UNE-EN-124 of 1995).



DIMENSIONS [MM]					WEIGHT [KG]		
A	C	O	H	E	FRAME	COVER	TOTAL
850	650	600	100	27	29	36	65

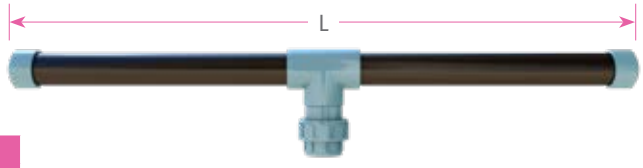
Fine bubble diffusers

REF: DBF

- Diffusers are composed of two PVC pipes connected to a T-shape element. Pipes are covered with an EPDM membrane which distributes the air.
- Micro-openings of membrane operate like a valve which releases the air under pressure, then is closed during the water passage. An air bubble with reduced diameter, 0,5 to 1 mm, rises slowly to the surface. The equipment efficiency is improved by 2 factors:

  * Oxygen transfer surface is increased.

  * The air bubble stays longer in water.



REF	LENGTH [MM]
DBF1000	1.140
DBF500	640

Data and models of the table may vary.

Prefabricated flowmeter

Parshall flume

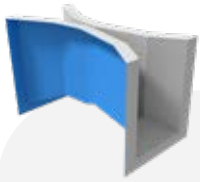
REF: MC-CP

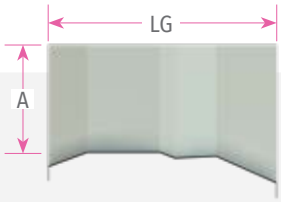
Characteristics:

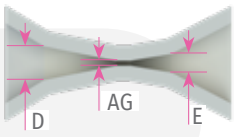
- Flowmeters manufactured by Salher provide an accurate relation between the level and the flow inside the Parshall Flume.
- Throat manufactured in GFRP ready to install in a civil construction canal.

Advantages:

- Accuracy +/- 0,5 mm in the throat.
- Correct and standardized size.
- Smooth surface.
- Easy installation.
- Includes a support for a signal converter sensor.







REFERENCE	FLOW [M³/H]	LG [MM]	A [MM]	AG [MM]	D [MM]	E [MM]
1"	0,32-18,5	1.130	529	25,4	167	93
2"	1-100	1.490	485,7	50,8	214	135
3"	3-275	1.490	665	76,2	259	178
6"	6-600	2.440	650	152,4	397	394

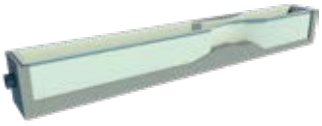
REF: MC-CP-C

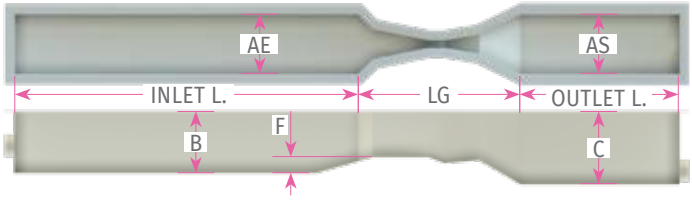
Characteristics:

- Flowmeters manufactured by Salher provide an accurate relation between the level and the flow inside the Parshall Flume.
- Complete canal manufactured in GFRP including measurement throat and proportional part of the inlet and outlet canal ready for hydraulic connection without civil construction.

Advantages:

- Accuracy +/- 0,5 mm in the throat.
- Correct and standardized size.
- Smooth surface.
- Easy installation.
- Includes a support for a signal converter sensor.





REF	FLOW [M³/H]	INLET L. [MM]	OUTLET L. [MM]	C [MM]	B [MM]	F [MM]	AE [MM]	AS [MM]
1"	0,32-18,5	1.700	603	680	600	≥71	400	400
2"	1-100	2.200	1.160	682	600	≥114.3	429,8	429,8
3"	3-275	2.650	1.000	818,7	760	≥96.3	700,7	700,7

Data and models of the table may vary.

REF: MC-VT

Function:

- Flow measurement device. Sampling possible.

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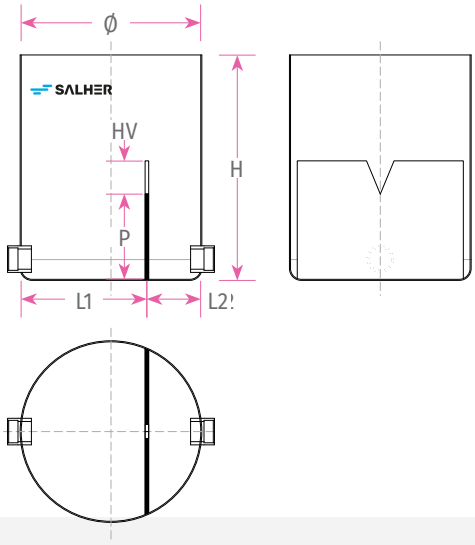
Characteristics:

- Salher brand, model MC-VT.
- Triangular V-notch manufactured in PP and calibrated in accordance with ISO 1438/1, with different angles and flows.
- Low friction coefficient, minimal water absorption and high chemical resistance.
- V-notch manhole composed of a cylindrical and vertical manhole, open on the top, in GFRP (Glass Fiber Reinforced Polyester).
- GFRP wall with box for triangular V-notch.
- PVC inlet and outlet. GFRP upper cover.



FLOW [M3/H]	ANGLE	Ø [MM]	H [MM]	P [MM]	HV [MM]	L1 [MM]	L2 [MM]	CE [MM]	CS [MM]
0 A 15	22,5°	1.000	1.250	300	200	700	300	50	50
1,8 A 30	45 °	1.000	1.250	300	185	700	300	50	50
1,8 A 60	45 °	1.000	1.250	350	245	700	300	50	50

Ultrasound flowmeter for open canals

REF: MC-CU

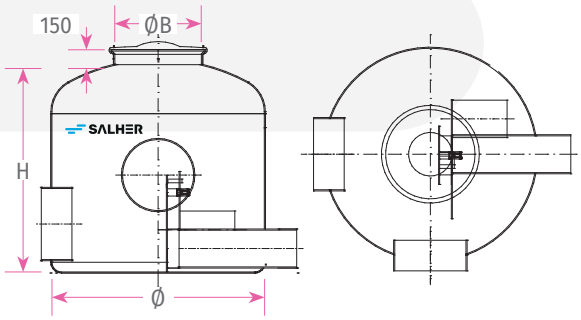
- Principle: ultrasound. Flowmeter in open canals, range: 0-0,3m, 0-1m or 0-3 m with digital indicator. Dimensions 185 x 240 x 115 mm. Output 4-20 mA. Impulse output. Protection IP 65. 12 m cable length; built-in totalizer, indicates instantaneous flow, average flow in the last hour and last 24 hours.
- Option: connections box and extra cable up to 50 m.

Data and models of the table may vary.

REF: CVC-AARC

Characteristics:

- Flow regulator to be installed on the manhole outlet. This manhole can be supplied in option as shown below. The water is stored in the manhole as a storm spillway; finally the flow will be treated by a flow regulator for the needs of the system located downstream.
- With the spillway-regulator, the following can be performed:
  * Regulate the flow at a constant value, independently of the water height in the tank.
  * Avoid the oversizing of the normal rainwater evacuation system.
- The functioning of the regulator consists in a float connected to an articulated arm which triggers an automatic closure device which moves in front of the outlet hole.
- When the water level rises up in the tank, the float rises up, moving rotationally and reducing gradually the outlet hole thus providing a steady flow with a variation lower than 5%.
- The regulator is made of 304-L stainless steel, with bronze ring and washers and a PEHD seat.
- The flow regulator is automatic without power consumption thanks to a mechanical regulator providing a continuous flow with manual opening.
- Flow regulators are tailor-made. To determine the most appropriate equipment, we need the following:
  * Inlet flow.
  * Outlet flow.
  * Inlet and outlet connection diameters.



REFERENCE	REGULATED FLOW [LITRES / SECOND]	MAXIMUM FLOW [LITRES]	Ø [MM]	H [MM]	Ø MANHOLE [MM]	Ø INLET [MM]	Ø BY-PASS [MM]	Ø OUTLET [MM]
DR100	1-5	20	1.400	1.560	620	200	160	125
DR200/150	5,1-24	96	1.400	1.755	620	300	250	160/200
DR200	25-34	136	1.400	1.950	620	350	300	200
DR250	35-60	240	1.700	2.185	620	400	350	250
DR300	61-100	400	1.700	2.400	750	500	500	300
DR350	105-135	540	2.000	2.605	750	600	500	350
DR400	140-200	800	2.500	2.885	1.000	600	600	400
DR500	205-300	1.200	2.500	3.300	1.000	700	700	500
DR600	335-500	2.200	3.000	3.820	1.200	900	800	600
DR700	555-770	3.080	3.500	4.175	1.200	1.000	900	700
DR800	775-1080	4.320	4.000	4.595	1.400	1.200	1.000	800

Data and models of the table may vary.

Maximum level alarm for wastewater tanks

REF: SAM

- Maximum level alarm system for urban wastewater tanks.
- Includes: level float with 5 m cable, especially for wastewater; control box (dimensions 284x222x122mm) with acoustic and visual alarm and switch-off regulator.

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Dissolved oxygen meter

REF: MED-OX

Function:

- System of dissolved oxygen measurement.
- Recommended for aeration bassin during secondary or biological treatments (sludge).

Characteristics:

- Salher brand, model MED-OX.
- Digital regulator for oxygen measurement.
  * Digital regulator with microprocessor and LCD display for oxygen (from 0 to 60 ppm) with automatic measurement/compensation of the temperature.
  * USB port for printer.
  * Instrument on box IP65.
- Amperometric sensor.
  * Oxygen meter amperometric sensor.
  * From 0 to 60 ppm.
  * Temperature compensated (5°c ÷ 50°c, max 1 bar).
  * Required water movement of approx. 20-30 l/h continuous flow.
- Immersion probe-holder.
  * Immersion electrode-holder.
  * Self-cleaning system of the sensor in option.
  * 10m length.

Data and models of the table may vary.

Hydrocarbon level detection alarm

- REF: OMS-1

  - Equipment of level detection of hydrocarbon, oil and grease to install in grease and oil/water separators with working temperatures (-20 to 50°C).

Sand and solids detection alarm

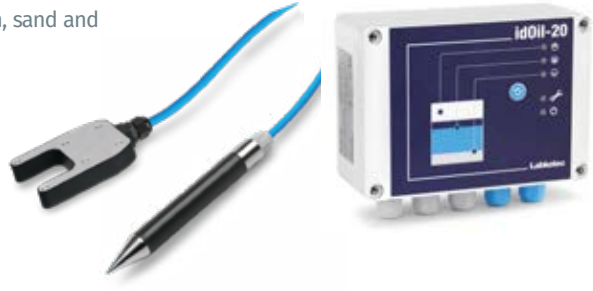
- REF: IDOIL-S

  - Equipment of detection of level of sand and solids to install in grit chambers and solids settling tanks with working temperatures (-20 to 40°C).

Oil, hydrocarbon, sand and solids detection alarm

- REF: IDOIL-OS

  - Combined alarm system for oil, hydrocarbon, sand and solids.



Oil, hydrocarbon, sand, solids and maximum level alarm

- REF: IDOIL-LOS

  - Digital control unit to detect: maximum level of sand, oil and maximum level when clogging occurs.
  - Option: transmitter for status messages and alarm via GSM.

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Oil, hydrocarbon, sand and solids detection alarm with solar panel charging and warning via mobile

- REF: IDOIL-SOLAR

  - Solar panel with alarm and status transmitter via SMS and programmer via MSM message of the different level probes: oils, sand and solids, maximum level.

Floating hydrocarbon level alarm

- REF: SET-OSK2

  - Detection of maximum level of oil and hydrocarbon on the water surface. To be installed in civil construction tanks or open top tanks. The probe is placed on three floats and detects an hydrocarbon layer up to 15 mm thick.

Data and models of the table may vary.

REF: CARBO-VENT

Function:

- Treatment of gas issued from WWTP and septic tanks air vents.

Characteristics:

- Salher brand, model CARBO-VENT.
- Treatment of contaminants issued from WWTPs: hydrogen sulphide, methan and other gas.
- Different types of granules with specific functions for more efficient deodorization.
- Long useful life treatment of gas.
- Granule with color change depending on the use level.
- Working temperature: -10 to 50°C
- Installation at the outlet of the ventilation line. Vertical, horizontal and corner layout.
- Female connection PVC 2" DN50.
- Possibility to connect several equipment in parallel.

REFERENCE	Ø [MM]	LENGTH [MM]	INLET CONNECTION
CARBO-VENT	130	650	DN50

FULL LOAD SPARE FOR CARBO-VENT

REFERENCE
CARGA-CARBO-VENT

REF: CARBO-SAC

Function:

- Filter for treatment of gas issued from WWTP and pumping stations. To be installed in a technical room.

Characteristics:

- Designed for continuous treatment flows from 328 to 768 m³/h.
- Treatment of a wide range of contaminating gas: hydrogen sulphide, mercaptans, volatile organic compounds and other gas.
- Composed of 3 differents types of granules with specific functions for better efficiency and longer useful life. These granules can be changed depending on the gas.
- Granule placed in different nets for an easy changing.
- Electrical panel board for control and operation with hour counter for load changing warning.

REF CARBO-SAC	Ø [MM]	TOTAL HEIGHT [MM]	Ø INLET [MM]	SUCTION FLOW [M3/H]	Ø OUTLET [MM]	POWER [KW/ VOLTAGE/HZ]
250	620	1350	110	288	65	0,076/400/50
750	1000	1350	125	328	95	0,12/400/50
1000	1000	1650	160	384	95	0,75/400/50
1500	1200	1650	200	576	115	1,1/400/50
2000	1400	1650	200	768	115	1,5/400/50

REFERENCE CARGA-CARBO-SAC
250
750
1000
1500
2000

Data and models of the table may vary.

Bacteria and enzymes

BRICK - 900 - 450

- Treatment against grease and bad smell in grease separators with urban or industrial wastewater, septic tanks with high level of grease.
- 24 hours dosage without mechanism.
- Presentation: box with 4/8 units of 900/450 g.

CRM DEPUR

- Biological products for foam removal in WWTP.
- Presentation: container of 25 l.

SEPT

- Effervescent biological pastille which degrades organic matter, avoids clogging and bad smell in domestic and industrial pipes, septic tanks, pumping stations, etc.
- Presentation: container of 6 boxes of 24 individual tablets.

DOSEFOSS

- Biological treatment of pipes, grease separators and septic tanks.
- Presentation: box of 25 water-soluble bags of 200 g.

CLAIR

- Biological activator for WWTP by activated sludge to improve the sludge settling and remove bad smells.
- Presentation: container of 25 kg.

With more than 35 years in the market, we have become one leading supplier for construction and engineering companies, government agencies and installation companies.

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Salher Iberica, S.L.
33 Carrera Toledana
28500 - Arganda del Rey
Madrid (Spain)
+34 918 700 015
salher@salher.com

Salher Factory in Spain
P.I. Henares II, 70
19180 – Marchamalo
Guadalajara (Spain)

Salher Portugal, Lda.
Zona Industrial de Vagos
Lots 44-46
3840-385-Vagos-Aveiro
+351 234 795 821
portugal@salher.com

Salher Poland Sp. z o.o.
62 Łubna
05-532 - Baniocha
+48 22 737 24 95
polska@salher.com

Salher France
+34 608 260 258
france@salher.com

Salher Malaysia SDN BHD
Kuala Lumpur
+601 024 52 108
malaysia@salher.com

Salher Mexico
Mexico City
+52 1 55 7609 9364
mexico@salher.com

Salher Russia
Russia
+48 514 202 115
russia@salher.com

Salher Peru
Lima
+51 948 870 933
peru@salher.com

Salher Paraguay
Asuncion
+595 981 252 845
paraguay@salher.com

www.salher.com