COMPLETE SYSTEMS AND SOLUTIONS FOR THE WASTEWATER INDUSTRY

GENERAL-CATALOGUE_REM_N0910_EN

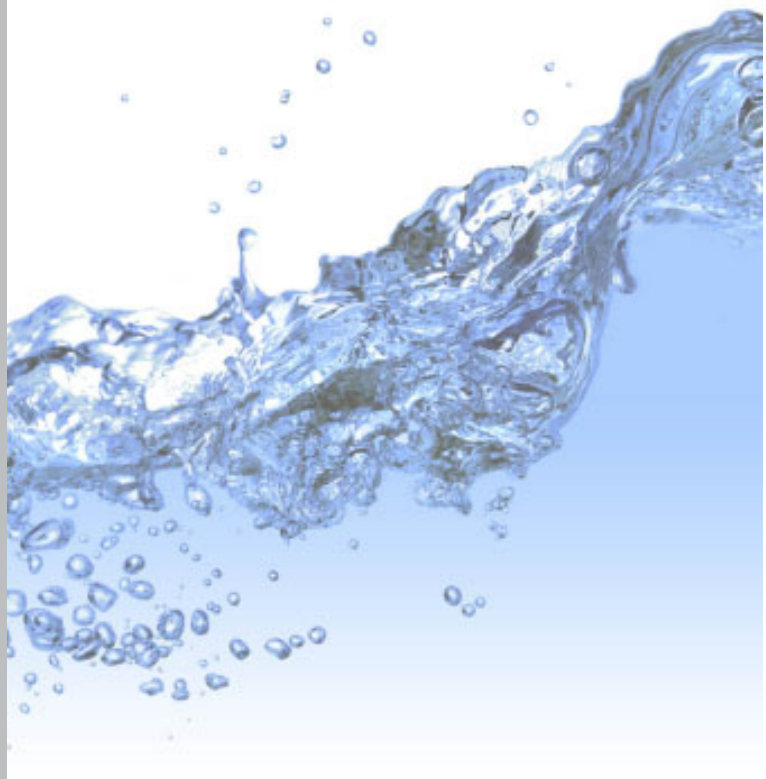
R.E.M. s.r.l.
International Mechanics

R.E.M. srl International Mechanics is a well known international company specialized in design and manufacturing equipment for the treatment of primary, secondary and tertiary wastewater, sludges and drinking water.

The company, founded in 2003, has been constantly growing and today has 2 manufacturing plants in Italy. The constant effort of everyone in the company, a team of valuable engineers and the focus on a continuous innovation on new applications, has led to a fast developing company and a broad product range.
The growth has been marked by the first subsidiary R.E.M. Automation in Inwood, NY for the USA and Canada market.

With more than 1.000 installations worldwide, a range of products that covers the whole wastewater treatment, both municipal and industrial, as well as special applications, R.E.M. is the ideal partner of every system integrator and general contractor.

Ing. Matteo Lirici
President



IN-CHANNEL SCREW SCREENS RSP

Screw Screens for Mechanical solids/liquids separation

MACHINE DESCRIPTION

R.E.M. range of screw screens for solids/liquid separation is a broad and vaste selection where units for every application can be found. **RSP** Screw screens are multipurpose units capable to screen, convey, compact and dewater the screenings.

WORKING LOGIC FOR SCREW SCREENS RSP

REM RSP screw screens are generally installed in municipal applications as they allow to have a single unit performing the whole process. **RSP** screens include the compaction section. Screwscreens are made of the following sections:

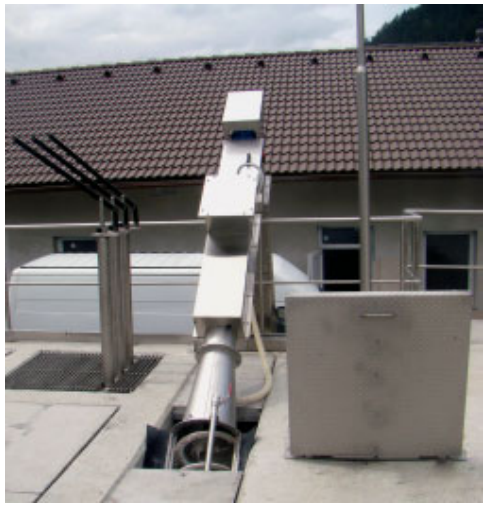
- **Screen**
- **Transport section**
- **Discharge with compactor**
- **Drive**
- **Support**

Screw screens are succesfully installed for the following applications:

- **Municipal sewage**
- **Industrial effluent treatment**
- **Industrial process aplications (i.e. vegetable screenings, entrails screenings, etc.).**

MAIN FEATURES FOR SCREW SCREENS RSP

1. **Screen frame available with perforated or wedge-wire screen aperture in various sizes.**
2. **The machine is self-cleaning, thanks to the brushes fitted on the screw conveyor.**
3. **The shaftless screw conveyor allows lifting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The wide range available makes it possible to choose the right version to suit the application requirements.**
5. **The stainless steel structure along with brushes made of plastic material enable the use of the machine for handling acids, basic products and foodstuffs.**
6. **Entire operation of the machine is handled by the drive units.**
7. **Installation is easy and fast.**
8. **Maintenance is very simple and time saving.**



GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSP

Here we provide some information about technical nature for this type of screens:

- **Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).**
- **Models suitable for channels from 300 to 900 mm wide.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

The main advantages are:

- **reduced installation costs.**
- **high solids capture removal (52% tested).**
- **high screenings volume reduction.**
- **nuisance and leachate reduction.**
- **reduced handling and disposal costs.**

R.E.M. RSP screw screens can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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STANDARD DIMENSIONAL DATA FOR SCREW SCREENS RSP
Here we provide some information about technical nature for this type of screens.

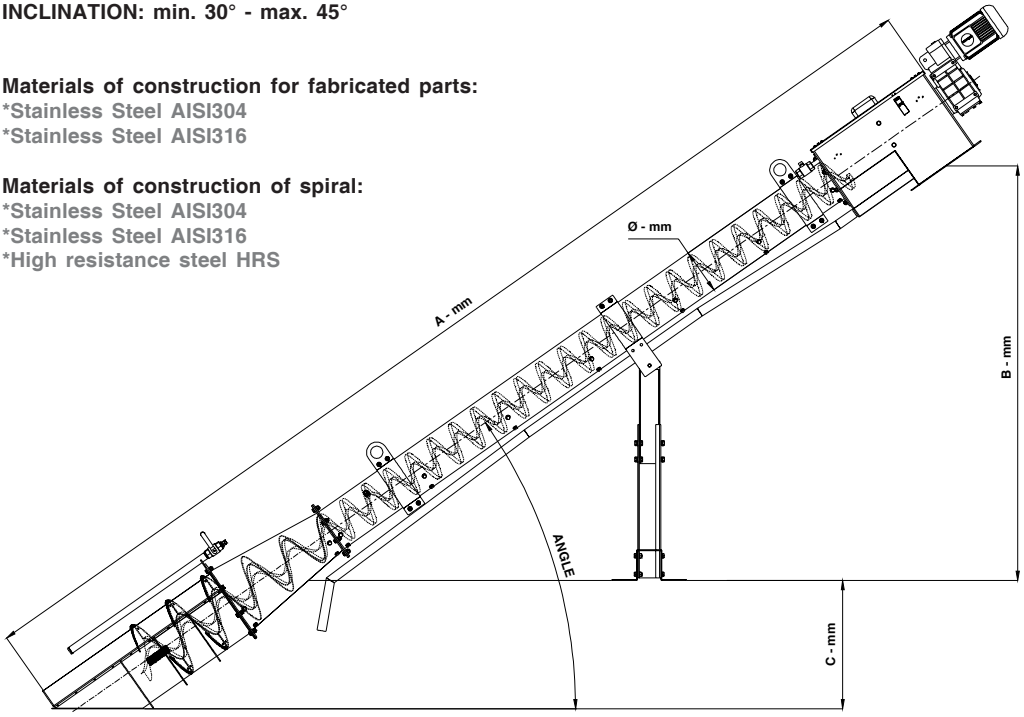
FLOWRATES m³/h

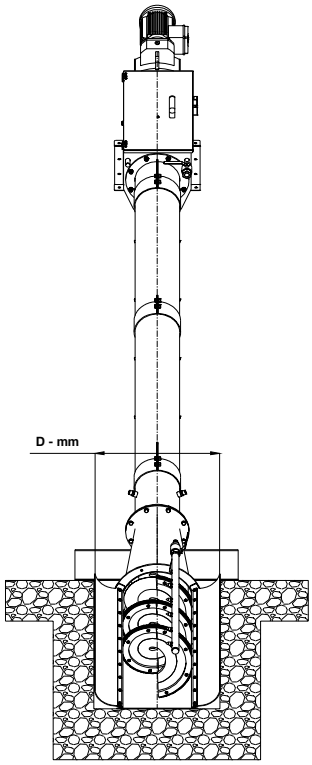
RSP MODELS	PERFORATED PLATE SCREEN - mm				RSP MODELS	WEDGE WIRE SCREEN - mm			
	3	4	5	6		0.25	0.5	1	2
RSP200	75.6	97.2	115.2	129.6	RSP200	28.8	57.6	86.4	108
RSP300	115.2	151.2	169.2	198	RSP300	54	90	126	151.2
RSP400	198	234	270	306	RSP400	79.2	144	216	252
RSP500	324	378	414	468	RSP500	144	234	342	396
RSP600	432	504	576	684	RSP600	180	306	468	540
RSP700	756	900	972	1116	RSP700	324	540	756	900

INCLINATION: min. 30° - max. 45°

Materials of construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS





RSP MODELS	Ø - mm	A - mm	B- mm	C - mm	MIN. D - mm	MAX. D - mm
RSP200	219	4669	1680	653	**350**	**500**
RSP300	219	4841	1815	613	**380**	**600**
RSP400	219	5263	2030	629	**480**	**650**
RSP500	219	5675	1970	901	**580**	**750**
RSP600	323	5963	2090	870	**690**	**900**
RSP700	323	6734	2088	1308	**850**	**1000**

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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IN-CHANNEL SCREW SCREENS RSE

Screw Screens for Mechanical solids/liquids separation

MACHINE DESCRIPTION

R.E.M. range of screw screens for solids/liquid separation is a broad and vaste selection where units for every application can be found. **RSE** Screw screens are multipurpose units capable to screen and convey the screenings.

WORKING LOGIC FOR SCREW SCREENS RSE

REM RSE screw screens are generally installed in municipal applications as they allow to have a single unit performing the whole process. **RSE** Screwscreens are made of the following sections:

- **Screen**
- **Transport section**
- **Discharge**
- **Drive**
- **Support**

Screw screens are succesfully installed for the following applications:

- **Municipal sewage**
- **Industrial effluent treatment**
- **Industrial process aplications (i.e. vegetable screenings, entrails screenings, etc.).**

MAIN FEATURES FOR SCREW SCREENS RSE

1. **Screen frame available with perforated or wedge-wire screen aperture in various sizes.**
2. **The machine is self-cleaning, thanks to the brushes fitted on the screw conveyor.**
3. **The shaftless screw conveyor allows lifting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The wide range available makes it possible to choose the right version to suit the application requirements.**
5. **The stainless steel structure along with brushes made of plastic material enable the use of the machine for handling acids, basic products and foodstuffs.**
6. **Entire operation of the machine is handled by the drive units.**
7. **Installation is easy and fast.**
8. **Maintenance is very simple and time saving.**

GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSE

Here we provide some information about technical nature for this type of screens:

- **Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).**
- **Models suitable for channels from 300 to 900 mm wide.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

The main advantages are:

- **reduced installation costs.**
- **high solids capture removal (52% tested).**
- **nuisance and leachate reduction.**
- **reduced handling and disposal costs.**

R.E.M. RSE screw screens can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type)**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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STANDARD DIMENSIONAL DATA FOR SCREW SCREENS RSE
Here we provide some information about technical nature for this type of screens.

FLOWRATES m³/h

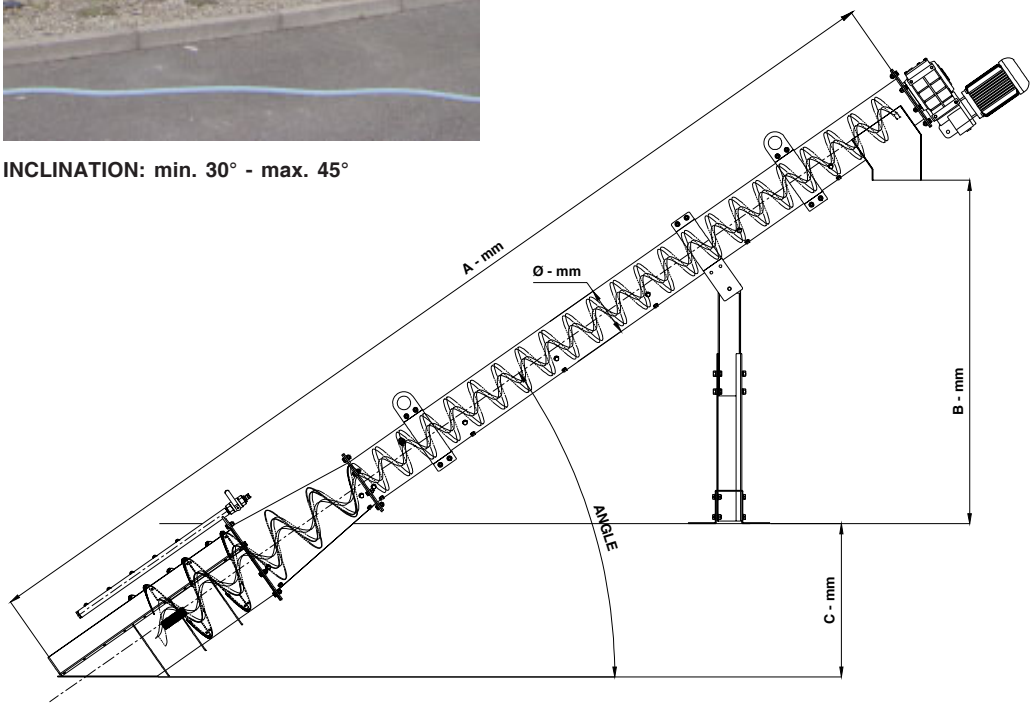
RSE MODELS	PERFORATED PLATE SCREEN - mm				RSE MODELS	WEDGE WIRE SCREEN - mm			
	3	4	5	6		0.25	0.5	1	2
RSE200	75.6	97.2	115.2	129.6	RSE200	28.8	57.6	86.4	108
RSE300	115.2	151.2	169.2	198	RSE300	54	90	126	151.2
RSE400	198	234	270	306	RSE400	79.2	144	216	252
RSE500	324	378	414	468	RSE500	144	234	342	396
RSE600	432	504	576	684	RSE600	180	306	468	540
RSE700	756	900	972	1116	RSE700	324	540	756	900

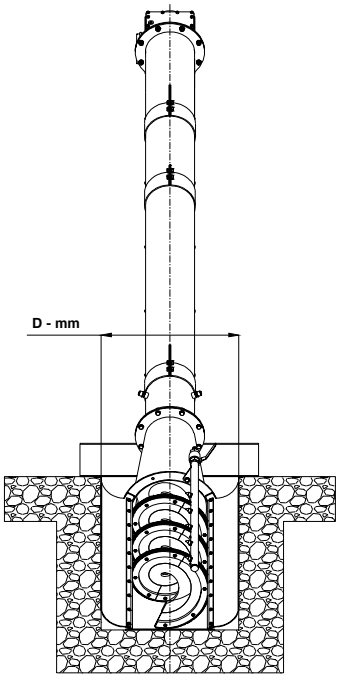
Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

RSE MODELS	Ø - mm	A - mm	B- mm	C - mm	MIN. D - mm	MAX. D - mm
RSE200	219	4000	1300	596	**350**	**500**
RSE300	219	4178	1383	607	**380**	**600**
RSE400	219	4600	1538	686	**480**	**650**
RSE500	219	5006	1538	895	**580**	**750**
RSE600	323	4061	1416	870	**690**	**900**
RSE700	323	5821	1416	1308	**850**	**1000**

INCLINATION: min. 30° - max. 45°





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IN-CHANNEL SCREW SCREENS RSU

Screw Screens for Mechanical solids/liquids separation with high solids content

MACHINE DESCRIPTION

R.E.M. range of screw screens for solids/liquid separation is a broad and vaste selection where units for every application can be found. **RSU** Screw screens are multipurpose units capable to screen and convey the screenings.

WORKING LOGIC FOR SCREW SCREENS RSU

REM RSU screw screens are generally installed in industrial applications as they allow to have a single unit performing the whole process. **RSU screens feature a high solids conveying rate**. Screwscreens are made of the following sections:

- **Screen**
- **Transport section (trough)**
- **Drive**
- **Support**

Screw screens are succesfully installed for the following applications:

- **Industrial effluent treatment**
- **Industrial process aplications (i.e. vegetable screenings, entrails screenings, etc.).**

MAIN FEATURES FOR SCREW SCREENS RSU

1. **Screen frame available with perforated or wedge-wire screen aperture in various sizes-**
2. **The machine is self-cleaning, thanks to the brushes fitted on the screw conveyor.**
3. **The shaftless screw conveyor allows lifting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The wide range available makes it possible to choose the right version to suit the application requirements.**
5. **The stainless steel structure along with brushes made of plastic material enable the use of the machine for handling acids, basic products and foodstuffs.**
6. **Entire operation of the machine is handled by the drive units.**
7. **Installation is easy and fast.**
8. **Maintenance is very simple and time saving.**

GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSU

Here we provide some information about technical nature for this type of screens:

- **Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).**
- **Models suitable for channels from 300 to 900 mm wide.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

The main advantages are:

- **reduced installation costs.**
- **high solids capture removal (52% tested).**
- **nuisance and leachate reduction.**
- **reduced handling and disposal costs.**

R.E.M. RSU screw screens can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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STANDARD DIMENSIONAL DATA FOR SCREW SCREENS RSU
Here we provide some information about technical nature for this type of screens.

FLOWRATES m³/h

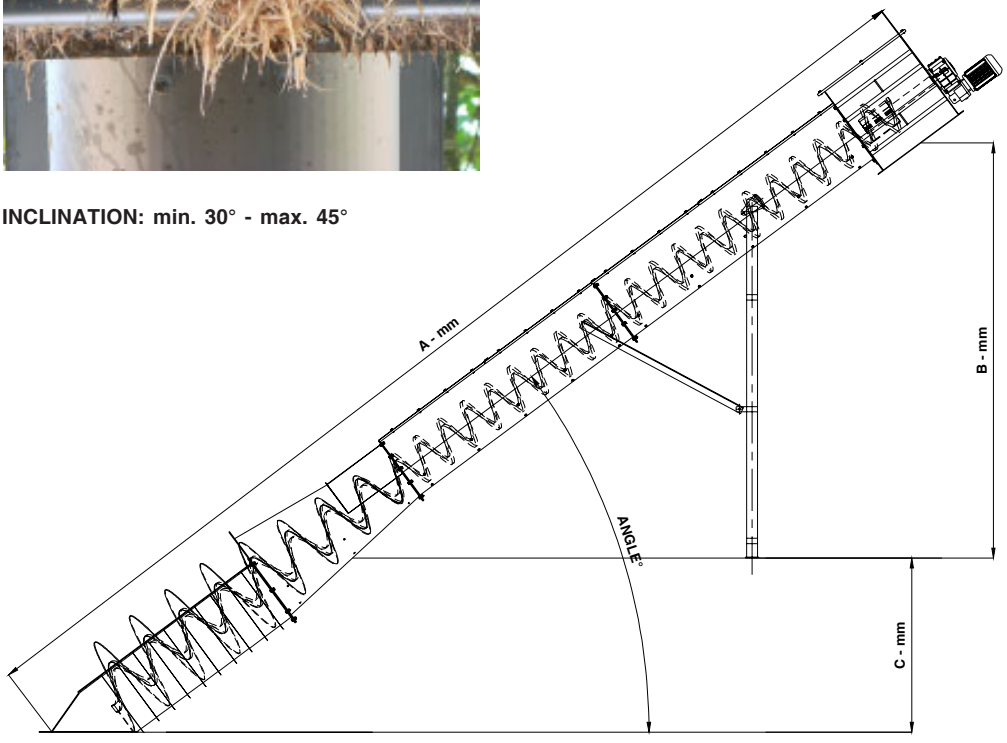
RSU MODELS	PERFORATED PLATE SCREEN - mm				RSU MODELS	WEDGE WIRE SCREEN - mm			
	3	4	5	6		0.25	0.5	1	2
RSU400	198	234	270	306	RSU400	79.2	144	216	252
RSU500	324	378	414	468	RSU500	144	234	342	396
RSU600	432	504	576	684	RSU600	180	306	468	540
RSU700	756	900	972	1116	RSU700	324	540	756	900

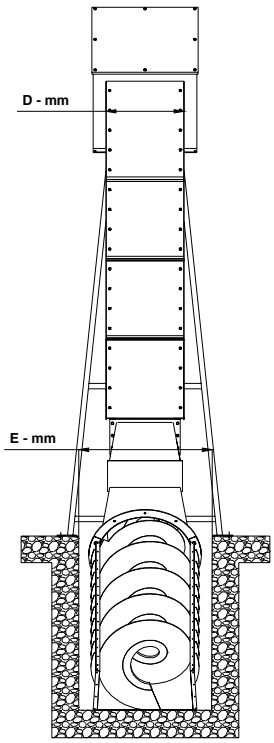
Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

RSU MODELS	A - mm	B- mm	C - mm	D - mm	MIN. E - mm	MAX. E - mm
RSU400	4698	1422	629	200	**480**	**650**
RSU500	5121	1508	901	200	**580**	**750**
RSU600	6140	1889	870	330	**690**	**900**
RSU700	6980	2164	1308	330	**850**	**1000**

INCLINATION: min. 30° - max. 45°





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VERTICAL IN-CHANNEL SCREW SCREENS RSV

Vertical Screw Screens for Mechanical solids/liquids separation

MACHINE DESCRIPTION

R.E.M. range of screw screens for solids/liquid separation is a broad and vaste selection where units for every application can be found. **RSV** Vertical Screw screens are multipurpose units capable to screen, convey, compact and dewater the screenings in pumping stations or deep wells installations.

- **Their simple construction allow a fast installation/removal, generally in less than 1 hour.**
- **The built-in bypass allow to operate the plant even in failure conditions of the screen.**
- **The unit is very silent and can be easily installed in residential areas.**

WORKING LOGIC FOR SCREW SCREENS RSV

REM RSV screw screens are generally installed in municipal applications as they allow to have a single unit performing the whole process. **RSV** screens are designed for straight vertical installation allowing the application as:

- **Pump protection in pumping stations.**
- **Screen for deep narrow pits and piping inflow.**
- **Industrial effluent treatment.**

MAIN FEATURES FOR SCREW SCREENS RSV

1. **Screen frame available with perforated or wedge-wire screen aperture in various sizes.**
2. **The machine is self-cleaning, thanks to the brushes fitted on the screw conveyor.**
3. **The shaftless screw conveyor allows lifting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The wide range available makes it possible to choose the right version to suit the application requirements.**
5. **The stainless steel structure along with brushes made of plastic material enable the use of the machine for handling acids, basic products and foodstuffs.**
6. **Entire operation of the machine is handled by the drive units.**
7. **Installation is easy and fast.**
8. **Maintenance is very simple and time saving.**

GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSV

Here we provide some information about technical nature for this type of screens:

- **Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

The main advantages are:

- **reduced installation costs.**
- **high solids capture removal (52% tested).**
- **high screenings volume reduction.**
- **nuisance and leachate reduction.**
- **reduced handling and disposal costs.**

R.E.M. RSV screw screens can be equipped with the following accessories:

- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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STANDARD DIMENSIONAL DATA FOR VERTICAL SCREW SCREENS RSV
Here we provide some information about technical nature for this type of screens.

FLOWRATES m³/h

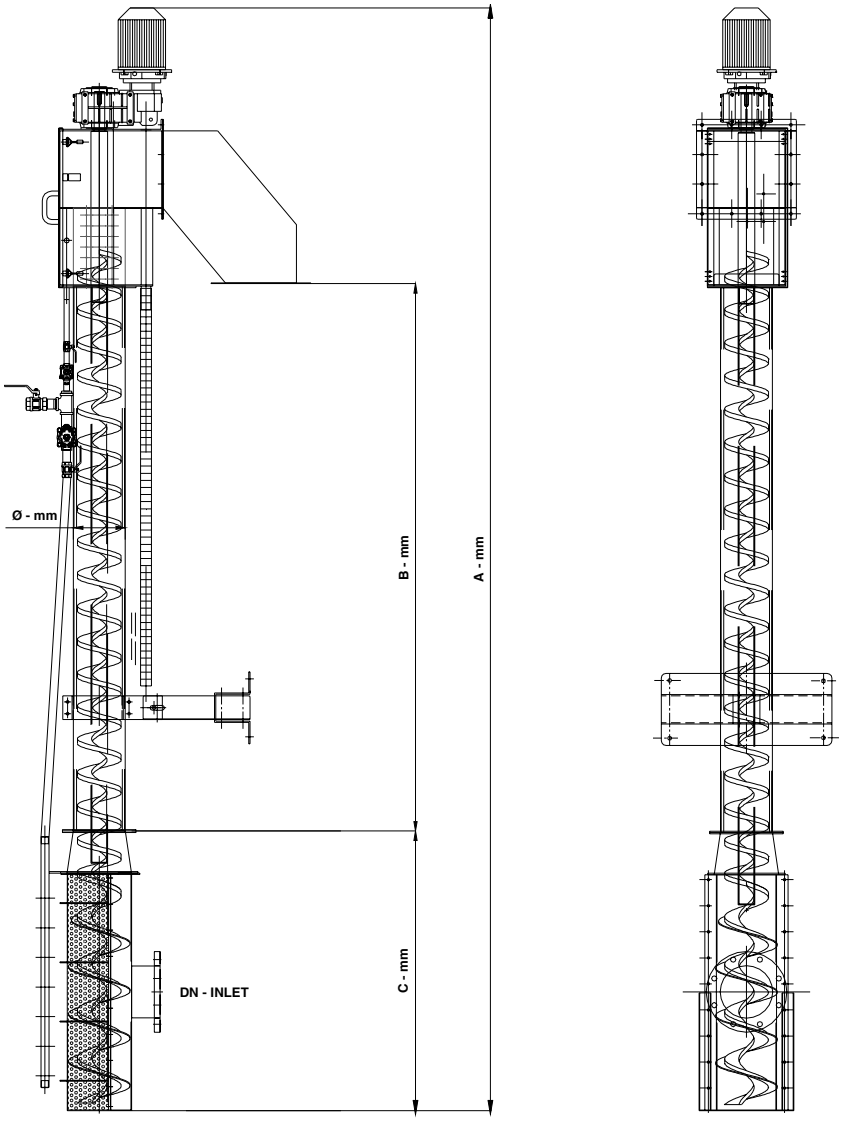
RSV MODELS	PERFORATED PLATE SCREEN - mm		
	3	5	6
RSV300	36	61	90
RSV500	72	162	252
RSV700	151	378	558

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

RSV MODELS	Ø - mm	A - mm	B- mm	C - mm	CHANNEL WIDTH - mm	ØINLET
RSV300	219	5500	3000	1400	400	DN150
RSV500	219	5900	3000	1800	600	DN200
RSV700	323	6000	2000	2500	800	DN250

n.b.: the manufacturer may modify some dimensions or sizes without prior information



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COMPACTING and PRESSING IN-PIPING SCREW SCREENS RSPC

Press Screens for Mechanical screening compacting

MACHINE DESCRIPTION

The **R.E.M.** press screen **RSPC**, is a type of machine designed to treat wastewater deriving from:
1. Treatment of sewage or industrial wastewater.
2. Treatment of sewage from Septic tanks.
3. Treatment of wastewater contained in industrial sludge.

They work by separating the solid parts from the liquid leaving these plants; the models described here are identified as: **Compact Screening and Compacting systems for drain waters - mod. RSPC.**

The **RSPC** model screens are used for processing the following materials:
- **Sewage or industrial wastewater.**
- **Wastewater of another nature.**

These screens are suitable to be installed along pipes carrying wastewaters. The treatment of these wastewaters comprises a screening process necessary to be able to recirculate the water without any problem, filtering it in the best way to remove all the solid parts. For this purpose, press screens are used to extract and convey the solid parts by a screw to the compaction and dewatering module, dumping into a special container to collect waste.

WORKING LOGIC FOR PRESS SCREENS RSPC

The screen is generally controlled by the level indicator ahead of the screen. The unit is equipped with ultrasonic level sensors providing the following signals:
1. Low level
2. High level
3. Alarm

Once the water level reaches the high level, the screw starts rotating and is the **STAY ON** until the water level drops below the low level. In case the water level reaches the **ALARM** a visual signal will be activated as the unit requires attention.

GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSPC

Here we provide some information about technical nature for this type of screens:
- **Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).**
- **Models suitable for piping from DN150 to DN500.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

The main advantages are:

- **reduced installation costs.**
- **high solids capture removal (52% tested).**
- **high screenings volume reduction.**
- **nuisance and leachate reduction.**
- **reduced handling and disposal costs.**

R.E.M. RSPC screw screens can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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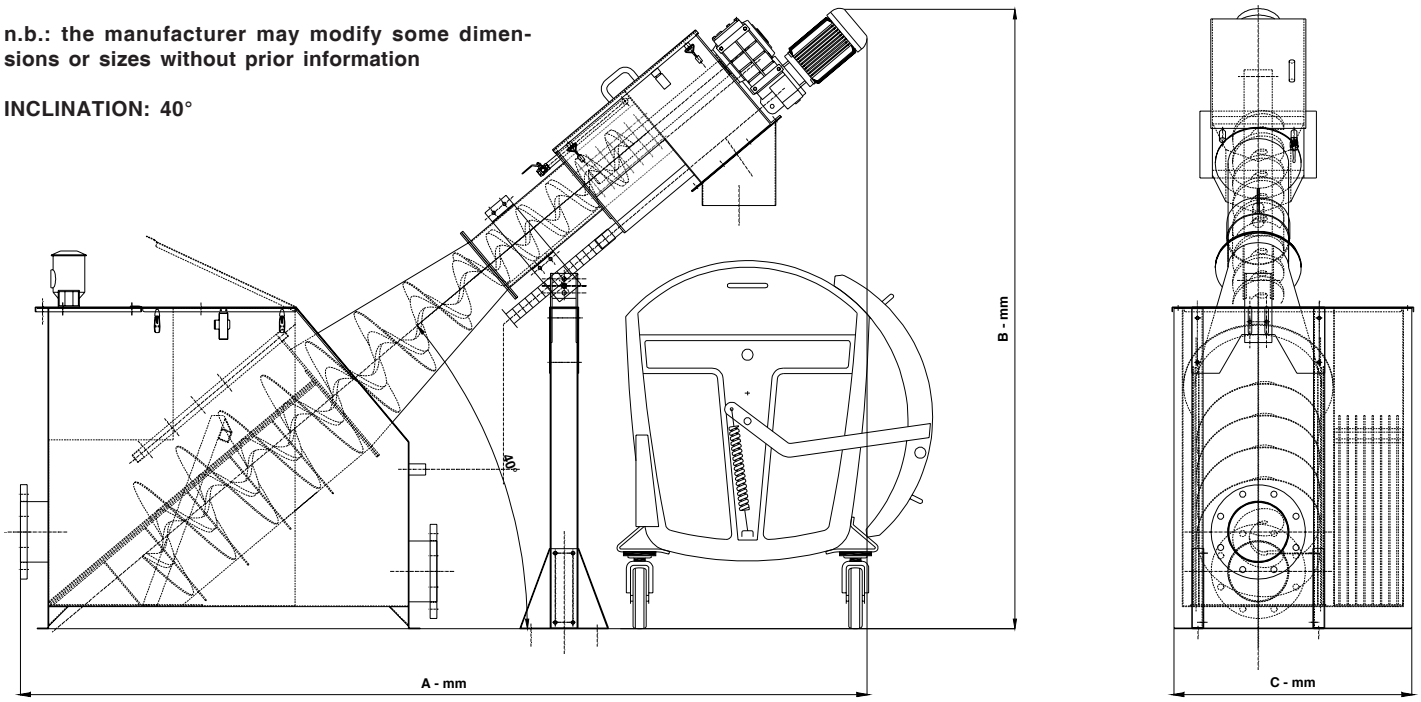
STANDARD DIMENSIONAL DATA FOR PRESS SCREENS RSPC

FLOWRATES m³/h

RSCP MODELS	PERFORATED PLATE SCREEN - mm				RSCP MODELS	WEDGE WIRE SCREEN - mm			
	3	4	5	6		0.25	0.5	1	2
RSPC200	75.6	97.2	115.2	129.6	RSPC200	28.8	57.6	86.4	108
RSPC300	115.2	151.2	169.2	198	RSPC300	54	90	126	151.2
RSPC400	198	234	270	306	RSPC400	79.2	144	216	252
RSPC500	324	378	414	468	RSPC500	144	234	342	396
RSPC600	432	504	576	684	RSPC600	180	306	468	540
RSPC700	756	900	972	1116	RSPC700	324	540	756	900

n.b.: the manufacturer may modify some dimensions or sizes without prior information

INCLINATION: 40°



RSPC MODELS	Ø - mm	A - mm	B - mm	C - mm	Ø INLET	Ø OUTLET
RSPC200	219	2915	2170	640	DN200	DN200
RSPC300	219	2915	2170	640	DN200	DN200
RSPC400	219	2930	2160	715	DN200	DN200
RSPC500	219	3060	2240	860	DN300	DN300
RSPC600	323	3375	2440	1350	DN400	DN400
RSPC700	323	3795	2860	1350	DN400	DN400

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

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IN-PIPING SCREW SCREENS RSEC

In-piping Screw Screens for Mechanical screening discharging

MACHINE DESCRIPTION

The **R.E.M.** screw screen, mod. **RSEC**, is a type of machine designed to treat wastewater deriving from:

1. Treatment of sewage or industrial wastewater.
2. Treatment of sewage from Septic tanks.
3. Treatment of wastewater contained in industrial sludge.

They work by separating the solid parts from the liquid leaving these plants; the models described here are identified as:

- Compact Screening systems for drain waters - mod. RSEC.

The **RSEC** model screens are used for processing the following materials:

- Sewage or industrial wastewater.
- Wastewater of another nature.

These screens are suitable to be installed along pipes carrying wastewaters. The treatment of these wastewaters comprises a screening process necessary to be able to make the water recirculate without any problem, filtering it in the best way to remove all the solid parts. For this purpose, screw screens are used to extract and convey the solid parts by a screw to the discharge module, dumping into a special container to collect waste.

WORKING LOGIC FOR PRESS SCREENS RSEC

The screen is generally controlled by the level indicator ahead of the screen. The unit is equipped with ultrasonic level sensors providing the following signals:

1. Low level
2. High level
3. Alarm

Once the water level reaches the high level, the screw starts rotating and is the **STAY ON** until the water level drops below the low level. In case the water level reaches the **ALARM** a visual signal will be activated as the unit requires attention.

GENERAL DIMENSIONAL DATA FOR SCREW SCREENS RSEC

Here we provide some information about technical nature for this type of screens:

- Filtration with screens sizes ranges from 250 microns (wedge-wire) to 12 mm (perforated).
- Models suitable for piping from DN150 to DN500.
- Screenings removal and conveying to the discharge point with a single drive.
- Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.

The main advantages are:
- reduced installation costs.
- high solids capture removal (52% tested).
- nuisance and leachate reduction.
- reduced handling and disposal costs.

R.E.M. RSEC screw screens can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

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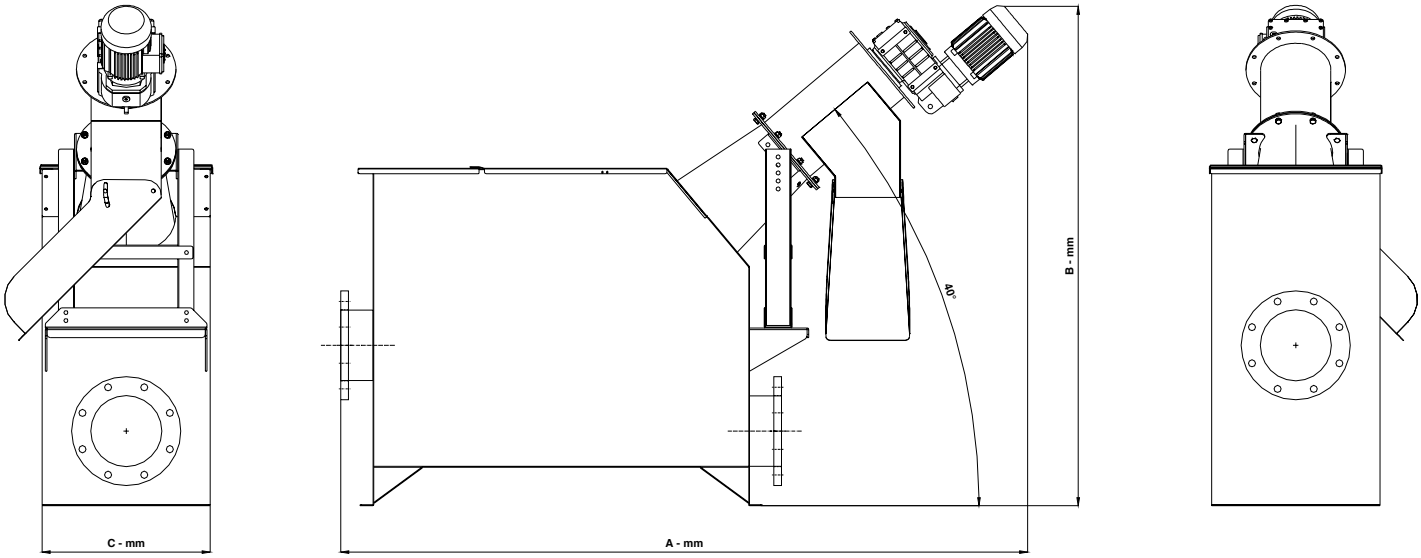
STANDARD DIMENSIONAL DATA FOR PRESS SCREENS RSEC

FLOWRATES m³/h

RSEC MODELS	PERFORATED PLATE SCREEN - mm				RSEC MODELS	WEDGE WIRE SCREEN - mm			
	3	4	5	6		0.25	0.5	1	2
RSEC200	75.6	97.2	115.2	129.6	RSEC200	28.8	57.6	86.4	108
RSEC300	115.2	151.2	169.2	198	RSEC300	54	90	126	151.2
RSEC400	198	234	270	306	RSEC400	79.2	144	216	252
RSEC500	324	378	414	468	RSEC500	144	234	342	396
RSEC600	432	504	576	684	RSEC600	180	306	468	540
RSEC700	756	900	972	1116	RSEC700	324	540	756	900

Materials of construction for fabricated parts: Stainless Steel AISI304 / Stainless Steel AISI316



Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

INCLINATION: 40°

RSEC MODELS	Ø - mm	A - mm	B - mm	C - mm	Ø INLET	Ø OUTLET
RSEC200	219	2915	2170	640	DN200	DN200
RSEC300	219	2915	2170	640	DN200	DN200
RSEC400	219	2930	2160	715	DN200	DN200
RSEC500	219	3060	2240	860	DN300	DN300
RSEC600	323	3375	2440	1350	DN400	DN400
RSEC700	323	3795	2860	1350	DN400	DN400

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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REMSCREEN RS2

Rotating Drum Screen for separating solids/liquids

MACHINE DESCRIPTION

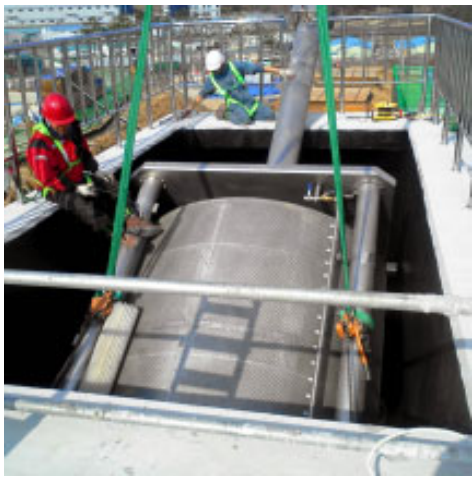
The **REMSCREEN RS2** is designed to accomodate large primary sewage flows. This screen provides optimal separation of the solids from wastewater. Its structure, with a basket fabricated from trapezoidal bars or perforated plate, enable to capture solids of varying sizes depending on aperture selected. This screen is designed to:

- **be installed in civil and industrial treatment plants.**
- **be integrated with multipurpose units, such as for instance cesspool treatment plants (RCT1/2/3 - RCS).**
- **waste disposal processing plants (food, vegetable, plastic industry).**

In addition to wastewater screening, the **RS2** conveys, compacts and dewaters the solids in sewage for optimal treatment. The basket has a high-pressure screening washing system that has been fitted both on the outside and inside (optional).
Its design allows a simple installation, using an adjustable support according to the point where it is used and the angle of the screen (max. 40°), allowing the end user to save time and money in unnecessary maintenance work. Its simple construction allows an easy installation, using an adjustable supporting foot according to the point where it is used and the angle of the screen, allowing the end user to save time and money in unnecessary maintenance work.

WORKING LOGIC FOR ROTATING DRUM SCREENS RS2

The upstream/downstream high screening ability is based on the screen mat sieving effect. The screen mat is not removed immediately, but is used to further capture particles. The level differential (or timer control) starts and stops the screen.



This feature grants greater efficiency in removing the solids that is increased by up to approximately 75%. The screenings are deposited in the extraction screw fitted with a perforated sieve at the bottom to drain the water back into the channel.

APPLICATION ADVANTAGES FOR ROTATING DRUM SCREENS RS2

The following details, for purposes of information and reference, provides some information of a standard nature concerning the advantages of applying this model of screen.

1. **Basket open area: The screen open area is generally around 50%, up to 52% for some versions.**
2. **Solid separating capacity: It is able to reach a percentage of solid/liquid separation greater than 70%.**
3. **Head loss: Minimum load loss thanks to its tilted position.**
4. **Construction material: The RS2 screens are made entirely of corrosion-proof stainless steel.**
5. **Screen cleaning: self-cleaning screen thanks to the double - internal/external - washing system of the basket and the pipe and drain module washing systems.**

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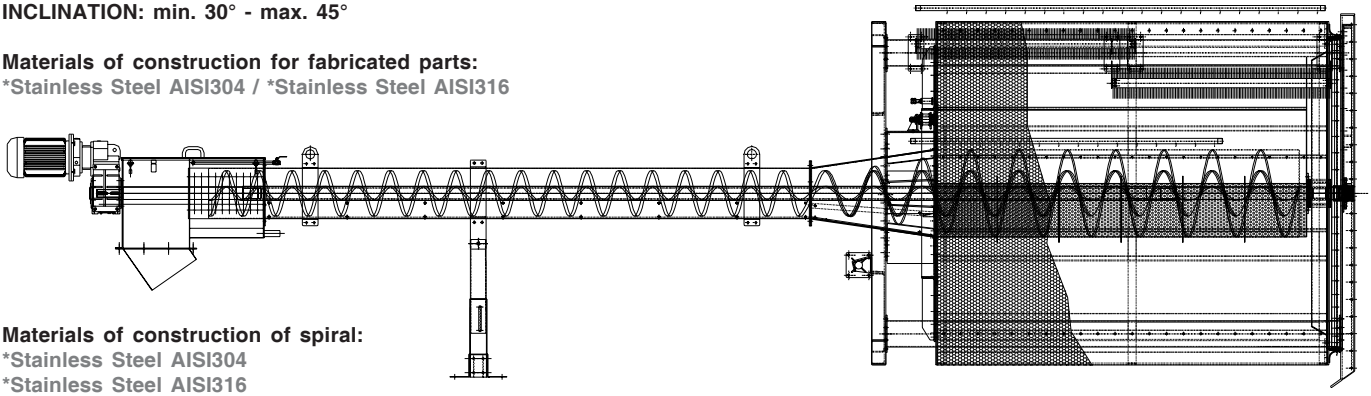
STANDARD DIMENSIONAL DATA FOR ROTATING DRUM SCREENS RS2
Here we provide some information about technical nature for this type of screens.

RS2 MODELS	1000	1200	1400	1600	1800	2000	2200	2400	2600	3000	3400	4000
A - mm	1000	1200	1400	1600	1800	2000	2200	2400	2600	3000	3400	4000
CAPACITY AT 6 MM PERFORATION - m^3/h	700	1050	1400	1700	2200	2800	3400	4000	4600	6000	7000	7500

INCLINATION: min. 30° - max. 45°

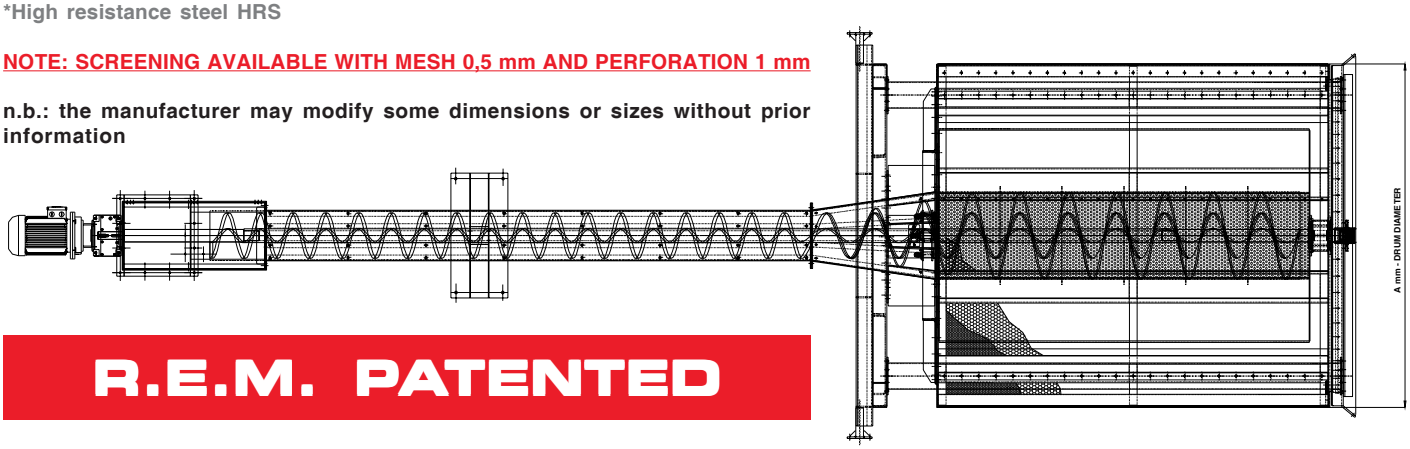
Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316



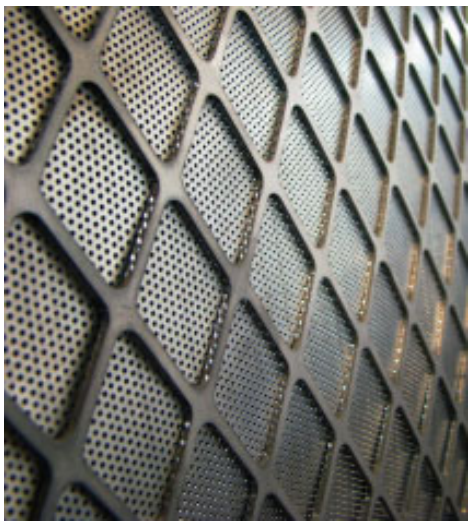
Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

NOTE: SCREENING AVAILABLE WITH MESH 0,5 mm AND PERFORATION 1 mm

n.b.: the manufacturer may modify some dimensions or sizes without prior information



R.E.M. PATENTED



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BAND SCREENS REMGUARD RG

Vertical Band Screens with screening steps

MACHINE DESCRIPTION

The machine that is described here, belongs to a wide range of vertical band screens; this unit is a type of screen with special construction characteristics. This model of screen, studied for installations in wastewater deep channels for almost vertical position, has a high capture efficiency, removing a remarkable amount of screening which need to be compacted and unloaded through the screening conveyor. It is necessary to have a sewage inlet channel with a rectangular cross-section open at the top.

The equipment is installed directly in the channel in contact with the bottom and with the side walls. Its peculiarity is represented by perforated steps that, besides conveying the solid particles in the wastewaters, let the wastewater flow while capturing all the screenings. The band screens mod. **REMGUARD** are used in the following applications:

- SEWAGE.
- INDUSTRIAL WASTEWATER (AGRICULTURAL, FOOD INDUSTRY, ETC.).
- INSTALLATIONS IN CHANNELS OR WASTEWATER PITS.
- WATERS IN RAISING STATIONS TO PROTECT SUBMERSIBLE PUMPS.

The structure of **REMGUARD** makes it easy to install even in confined spaces according to need; they need no particular systems for fastening to the ground or to the sides of the zone of installation. Their operating position is on an angle of 70°. The simple construction shape allows it to be supplied completely assembled avoiding pointless assembly costs.

The panels of the screen, made of stainless steel, capture all the materials of dimensions greater than the gap of the passageway. The movement of the screen panels convey the screened material toward the unloading chute upwards.
The panels are cleaned by an indipendently operated rotating brush. Maintenance work is limited too; the machine is completely self-cleaning.
The panels are called "**screens**" as they are, in fact, perforated sieves of a special shape to ensure a high extraction potential in screening solids of small, medium and large size. The flow rates of treatable wastewaters are variable, up to **15.000 m³/h**.

The diameter of the holes dimension range **from 2 to 6 mm in diameter**. Made in this way, the panels ensure a larger screening zone than the usual screen models with a screening surface of as much as 26% greatert than the front surface.

WORKING LOGIC FOR BAND SCREEN REMGUARD RG

The band screens mod. **REMGUARD** are positioned in the wastewater collection channel; at the top the drive moves the cogged wheel that conveys a chain to which the screening panels are secured by means of nuts and bolts.
With a clockwise movement, the panels collect the solid parts to extract, whether they are small, medium or large in size; at the end an indipendently operated rotating brush have the job of cleaning the screening parts.
The **REMGUARD** screen is a machine based on the so-called **PLUGGING working principle**, that means that a filtering element is fitted on the unit. The filter captures the suspended particles in the effluent inducing a progressive reduction of the open area for the effluent flow.

Whenever the open area is reduced by such amount that the headloss induced reaches a preset value, the cleaning procedure is activated lifting the panels until a set of clear panels are screening the wastewater. Alternatively the screen may be simply controlled by a timer based on a duty/stand-by cycle.
The set up of the timer depends on the working conditions and flow. The panels plugged with screenings are left set before discharge to dewater the screening before arriving to the discarge point where the brush helps to remove all the captured screenings.
The material is thus transported to the top of the machine to to be descharged into special containers for waste. This way, the machine assures high-potential extraction screening ensuring a minimum head loss.

No mechanical part (e.g., bearings) is submersed; in addition, the energy consumption is the lowest possible for this working capacity. Under optimal conditions of installation, it ensures a flow rate up to **15.000 m3/h**.

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MAIN FEATURES FOR BAND SCREEN REMGUARD RG

RG band screens have the following characteristics:

1. **Standard execution in st. st. AISI 304/AISI 316.**
2. **No mechanical parts in direct contact to conveyed product.**
3. **Low speed - No blocking or clogging even when extracting fibrous material.**
4. **Completely sealed unit outside of the channel for leackage and odour-free environments.**
5. **Possibility to discharge in dumpsters or other equipment.**
6. **Extremely easy to transport materials even of difficult composition.**
7. **Maximum versatility, high processing outputs.**
8. **Chain entirely made of stainless steel.**

STANDARD DIMENSIONAL DATA FOR BAND SCREEN REMGUARD RG

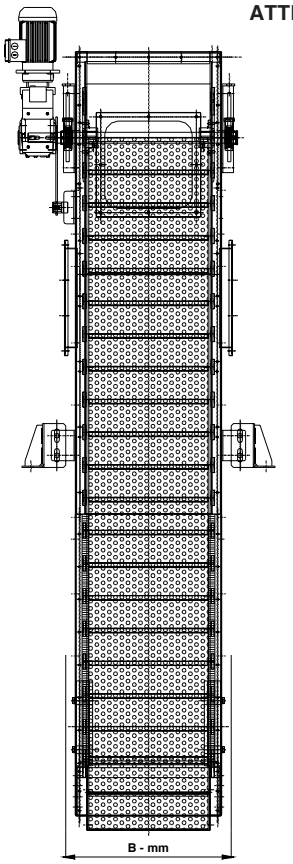
The data in the chart below are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

REMGUARD MODELS	RG500	RG600	RG800	RG1000	RG1200	RG1500	RG1800	RG2000
A - mm	2500	2500	2500	2500	2500	2500	2500	2500
B - mm	500	600	800	1000	1200	1500	1800	2000
CAPACITY AT 6 MM PERFORATION - m^3/h	500	600	900	1100	1400	1800	2500	3000
WATER DEPTH - mm	500	600	800	1000	1200	1500	1800	2000

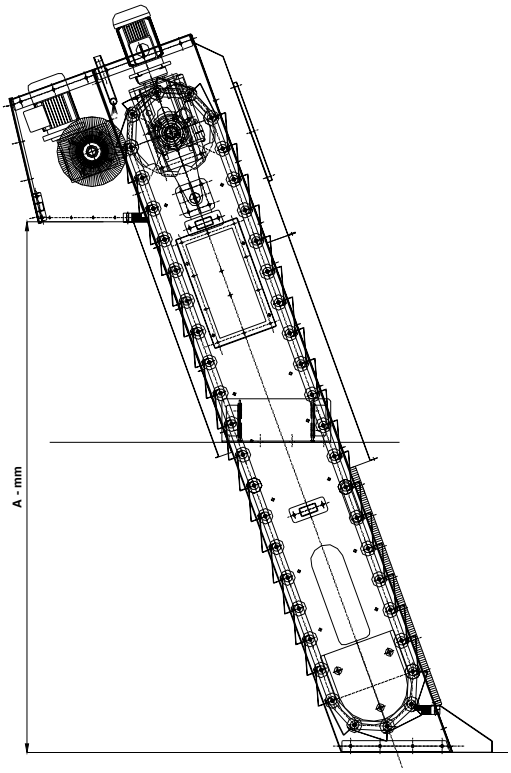
MATERIAL: SCREENINGS

Fabricated parts material:
*Stainless Steel AISI304
*Stainless Steel AISI316

Panels material:
*Stainless Steel AISI304
*Stainless Steel AISI316



ATTENTION THE MACHINE CAN BE USED IN THE INCLINATED POSITION UP TO A MAX. OF 75°



n.b.: the manufacturer may modify some dimensions or sizes without prior information

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STEP SCREENS SSR

In-Channel Screens for separation of solids from wastewaters

MACHINE DESCRIPTION

The fine step screen separates and collects efficiently solids from wastewater. The step screen has a small footprint, which assists installation and maintenance, and connection to existing continuation processes.
The **SSR** is enclosed to eliminate nuisance from odour and splashing. The upstream/downstream high screening ability is based on the screen mat sieving effect. The screen mat is not removed immediately, but is used to further capture particles. The level differential (**or timer control**) starts and stops the step screens.

WORKING LOGIC FOR IN-CHANNEL STEP SCREENS SSR

The screened materials are raised one step at a time to the top of the bars, and ultimately discharged to a press or receptical conveyor. The hook-like shape of the steps effectively prevents the screened material from dropping backwards and the shape of the underside of the bars stops solid matter from collecting under the bars minimizing maintenance.
The screen has no mechanism that forces screened material between the lamella. Available lamella spacing is **1 - 10 mm**. The step screen is manufactured in stainless acid-resistant steel (**AISI 304 St.St., AISI 316 St.St.**).

AUXILIARY EQUIPMENT

R.E.M. also manufactures screening conveyors and screening presses which can be integrated to the screen control itself.

MAIN FEATURES FOR STEPSCREEN SSR

SSR step screens have the following characteristics:

1. **Standard execution in st. st. AISI 304/AISI 316.**
2. **No mechanical parts in direct contact to conveyed product.**
3. **Low speed - No blocking or clogging even when extracting fibrous material.**
4. **Completely sealed unit outside of the channel for leackage and odour-free environments.**
5. **Possibility to discharge in dumpsters or other equipment.**
6. **Extremely easy to transport materials even of difficult composition.**
7. **Maximum versatility, high processing outputs.**
8. **Drive Chain entirely made of stainless steel.**

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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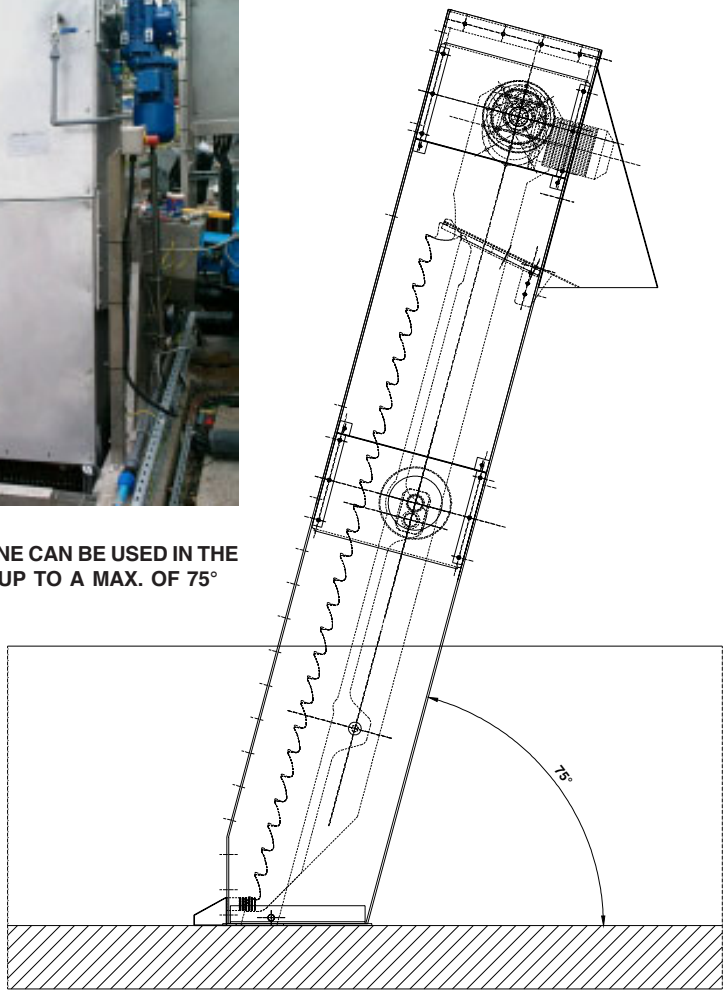
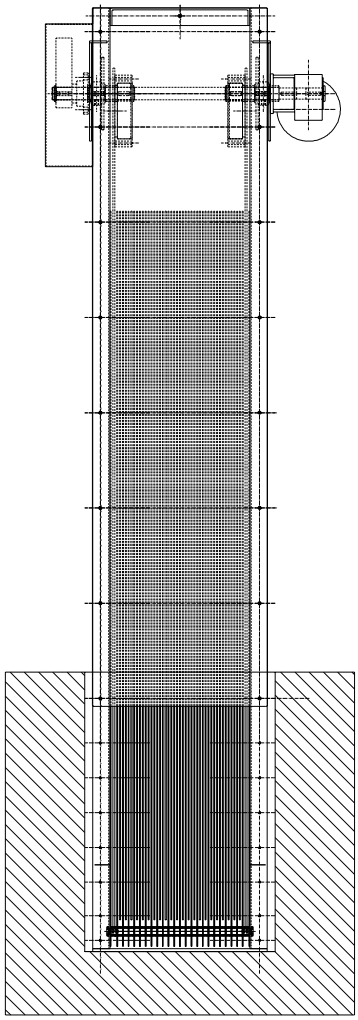
STANDARD DIMENSIONAL DATA FOR IN-CHANNEL STEP SCREENS SSR

In this section all technical and dimensional datas and main features for the step screens manufactured by **R.E.M.**

ATTENTION THE MACHINE CAN BE USED IN THE INCLINATED POSITION UP TO A MAX. OF 75°





SSR MODELS	SSR300	SSR400	SSR500	SSR600	SSR700	SSR800	SSR900
DISCHARGE HEIGHT FROM INVERT - mm	2500	2500	2500	2500	2500	2500	2500
SCREEN NET WIDTH - mm	125	225	325	425	525	625	725
CHANNEL WIDTH- mm	300	400	500	600	700	800	900

MATERIAL: SCREENINGS

Fabricated parts material:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Panels material:
*Stainless Steel AISI304 / *Stainless Steel AISI316

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CHAIN SCREENS RBS

Subvertical Chain Screens

MACHINE DESCRIPTION

Subvertical chain screens, mod. **RBS**, made by **R.E.M.**, are usually used in treatment plants for:

- WASTEWATERS.
- WATERS FROM CIVIL AND INDUSTRIAL PLANTS.
- WATERS IN RAISING STATIONS TO PROTECT SUBMERSIBLE PUMPS.

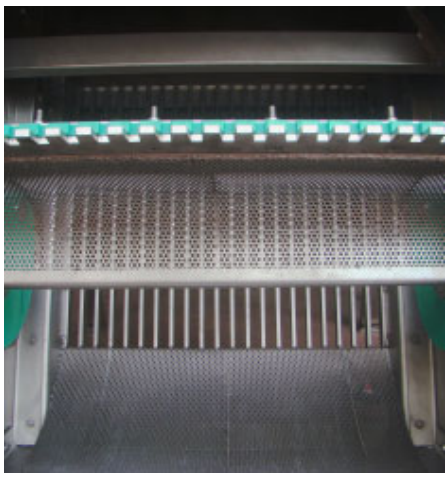
This model of screen, discharges considerable dimensions of screened material that can, subsequently, be compacted and unloaded through the wastewater conveyor chain. It requires to be installed into an open channel. The equipment is installed directly in the channel in contact with the bottom and with the side walls. The bars of the screen, made of stainless steel AISI304, capture all the solids having dimension greater than the gap of the bars.
A special device composed of combs, made of stainless steel, cleans the screen and conveys the screened material toward the unloading chute at a height. The combs are cleaned by a special scraper with a damper piston.

WORKING LOGIC FOR SUBVERTICAL CHAIN SCREENS RBS

The catenary bar screen is a machine based on the so-called “plugging” working principle, that means that a filtering element is fitted on the unit. The filter captures the suspended particles in the effluent inducing a progressive reduction of the open area for the effluent flow.
Whenever the open area is reduced by such amount that the headloss induced reaches a preset value, the cleaning system is activated.

The cleaning system is made of a rake with a collecting perforated spoon capable of removing the captured particles conveying them toward the outlet. A wiper will completely remove the solids from the spoon. The cleaning system is operated by 2 roller chains driven by a single gearmotor.

Alternatively the screen may be simply controlled by a timer based on a duty/stand-by cycle. The set up of the timer depends on the working conditions and flow. In both cases we advice to have the chain to run for 2 complete turns before stopping. The stop position should be in the return section above the maximum water level.



MAIN FEATURES FOR THE BAR SCREEN RBS
RBS bar screens have the following characteristics:
1. Standard execution in st. st. AISI 304/AISI 316.
2. No mechanical parts in direct contact to conveyed product.
3. Low speed - No blocking or clogging even when extracting fibrous material.
4. Completely sealed unit outside of the channel for leackage and odour-free environments.
5. Possibility to discharge in dumpsters or other equipment.
6. Extremely easy to transport materials even of difficult composition.
7. Maximum versatility, high processing outputs.
8. Chain entirely made of stainless steel.

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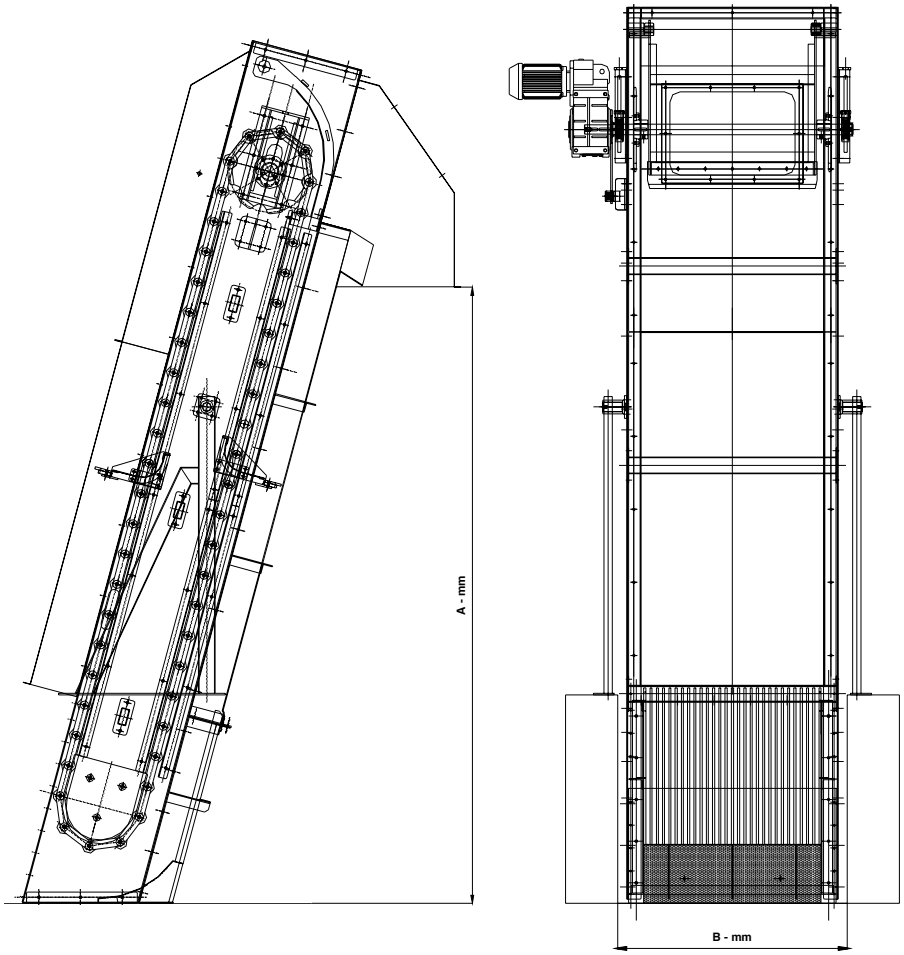
STANDARD DIMENSIONAL DATA FOR SUBVERTICAL CHAIN SCREENS RBS

RBS MODELS	RBS50	RBS60	RBS80	RBS100	RBS120	RBS150	RBS180	RBS200
A - mm	2500	2500	2500	2500	2500	2500	2500	2500
B - mm	500	600	800	1000	1200	1500	1800	2000

MATERIAL: SCREENINGS

n.b.: the manufacturer may modify some dimensions or sizes without prior information

ATTENTION THE MACHINE HERE DESCRIBED CAN BE USED IN THE INCLINATED POSITION UP TO A MAX. OF 75°



Fabricated parts material:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Panels material:
*Stainless Steel AISI304 / *Stainless Steel AISI316

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REMSCREEN RS3

Internally fed drum Screens for separating solids/liquids

MACHINE DESCRIPTION

R.E.M. range of internally fed drum screens features a broad selection where units for every application can be found. **RS3** is a simple and effective unit where the core is represented by a rotating cylinder made of wedge-wire or perforated plate with an internal screw rotating with the drum which conveys the screenings toward the outlet.

The range includes several diameters and lengths to accommodate a large variety of applications and needs. The filtering aperture is selected based upon the waste to be treated and the level of screening required. Aperture ranges between **500 microns (wedge-wire)** and **6 mm perforated**. A set of spraying high impact nozzles are fitted for cleaning purposes. On request it is possible to install a stationary brush on the outer side of the drum. **RS3** are successfully installed in many applications like:

- **ABATTOIRS.**
- **TANNING.**
- **MBRFOR MEMBRANE PROTECTION.**
- **MUNICIPAL WORKS.**
- **INDUSTRIAL APPLICATIONS.**

WORKING LOGIC FOR ROTATING FINE SCREENS RS3

The **RS3** is a unit suitable for screenings of difficult waste streams. It is based on the movement of a rotating cylinder fitted with an internal screw for screenings conveying. The wastewater enters the unit through the inlet flange and is distributed through the weir. The rotation of the drum assures the continuous cleaning and the screw allows the screening to move toward the outlet while sliding along the cylinder inner surface. The filtered water is collected by the underneath hopper and drained through the outlet port. The external spraying system assures the cleaning and efficiency of the unit.

MAIN FEATURES FOR ROTATING FINE SCREENS RS3

1. **Perforated or wedge screen of various sizes.**
2. **The machine is self-cleaning.**
3. **The wide range available makes it possible to choose the right version to suit the application requirements.**
4. **The stainless steel structure allows the use of the machine for handling acids, basic products and foodstuffs.**
5. **Entire operation of the machine is handled by the drive units.**
6. **Installation is easy and rapid.**
7. **Maintenance operations, if necessary, are very simple.**

APPLICATION ADVANTAGES FOR FILTERING DRUM SCREENS RS3

The following details, for purposes of information and reference, provides some information of a standard nature concerning the advantages of applying this model of screen.

1. **Screen open area: The open area can be up to 65% (according to the aperture).**

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2. Solids separating capacity: It is able to reach a percentage of solid/liquid separation greater than 70%.
3. Headloss: Minimum headloss thanks to the rotating drum.
4. Construction material: The RS3 screens are made entirely of corrosion-resistant stainless steel.

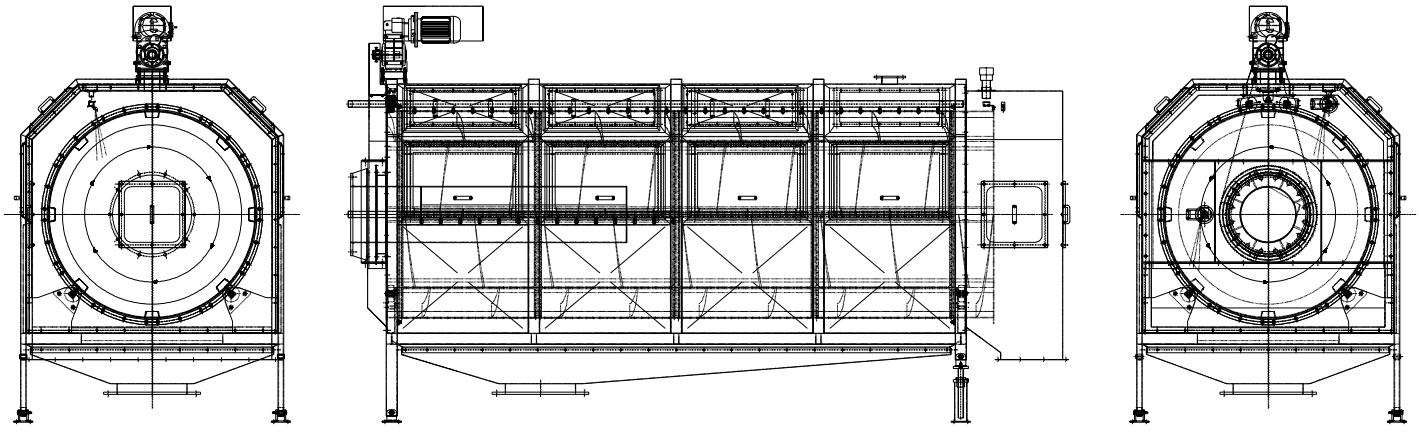
STANDARD DIMENSIONAL DATA FOR ROTATING FINE SCREENS RS3

Here we provide some information about technical nature for this type of screens.

RS3 MODELS	DRUM DIAMETER - Ø mm	DRUM LENGTH - mm	INLET DN - mm	OUTLET DN - mm	CAPACITY l/s - WEDGE WIRE 0.5	CAPACITY l/s - MESH 1 mm	CAPACITY l/s - DRILLING 2 mm
RS3-600/6	600	600	100	200	**15**	**12**	**19**
RS3-600/10	600	1000	100	200	**22**	**20**	**28**
RS3-600/15	600	1500	100	200	**28**	**25**	**37**
RS3-900/10	900	1000	150	250	**36**	**32**	**47**
RS3-900/15	900	1500	150	250	**58**	**55**	**80**
RS3-900/20	900	2000	150	250	**75**	**70**	**98**
RS3-900/25	900	2500	150	250	**105**	**98**	**150**
RS3-1200/15	1200	1500	200	300	**95**	**90**	**135**
RS3-1200/20	1200	2000	200	300	**110**	**102**	**160**
RS3-1200/25	1200	2500	200	300	**150**	**135**	**210**
RS3-1500/15	1500	1500	250	350	**140**	**130**	**175**
RS3-1500/20	1500	2000	250	350	**205**	**180**	**280**
RS3-1500/25	1500	2500	250	350	**300**	**260**	**390**
RS3-1500/30	1500	3000	250	350	**335**	**280**	**435**
RS3-2000/30	2000	3000	300	400	**520**	**420**	**650**

Materials of Construction:
Fabricated parts: *Stainless Steel AISI304 / *Stainless Steel AISI316
Rotary screen: *Stainless Steel AISI304 / *Stainless Steel AISI316

n.b.: the manufacturer may modify some dimensions or sizes without prior information



R.E.M. PATENTED

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REMSCREEN RS4

Externally fed Drum Screens

MACHINE DESCRIPTION

R.E.M. range of drum screens for screens removal offers a broad selection where units for every application can be found. The range includes different size models that can vary in accordance with customer needs.
The models are all based on the same technology. The filtration occurs by letting the water pass through the drum while solids are captured and conveyed upwards toward the scraping doctor blade. The drum screen is recommended for small wastewater treatment plants both industrial and municipal wherever microfiltration (**250 microns to 2,5 mm- all wedge-wire screens**) is requried.

WORKING LOGIC FOR FILTERING DRUM SCREENS RS4

The effluent flowing through the screen deposits the solids on the screen surface that is slowly rotating and the screen material travels within the drum toward its discharge. The stationary scraper (doctor blade) removes the solids and discharge them into the collecting bin (not supplied). The screened effluent is collected in a chamber located beneath the drum. The drained water generated can be used for washwater purposes. Drum screens are made of the following sections:

- **Rotating drum.**
- **Drained water collection tank.**
- **Supporting frame.**
- **Drive unit.**

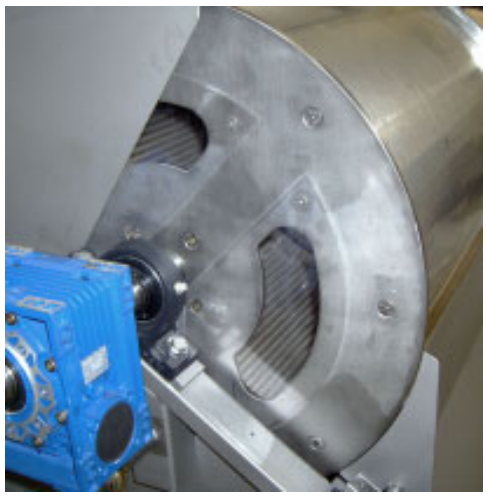
MAIN FEATURES FOR FILTERING DRUM SCREENS RS4

1. Screen available with wedge-wire type openings in various sizes.
2. The machine is cleaned by the doctor blade and the washing system installed inside the drum.
3 The wide range available allows to choose the suitable version for the application requirements.
4. The stainless steel structure allows to install the unit for handling acids, basic products and foodstuffs.
5. Entire operation of the machine is handled by the drive units.
6. Installation is easy and rapid.
7. Maintenance operations, if necessary, are very simple.

APPLICATION ADVANTAGES FOR FILTERING DRUM SCREENS RS4

The following details, for purposes of information and reference, provides some information of a standard nature concerning the advantages of applying this model of screen.

1. Screen open area: The open area can be up to 65% (according to the aperture).
2. Solids separating capacity: It is able to reach a percentage of solid/liquid separation greater than 60%.
3. Headloss: Minimum load loss thanks to the rotating drum.
4. Construction material: The RS4 screens are made entirely of corrosion-resistant stainless steel.



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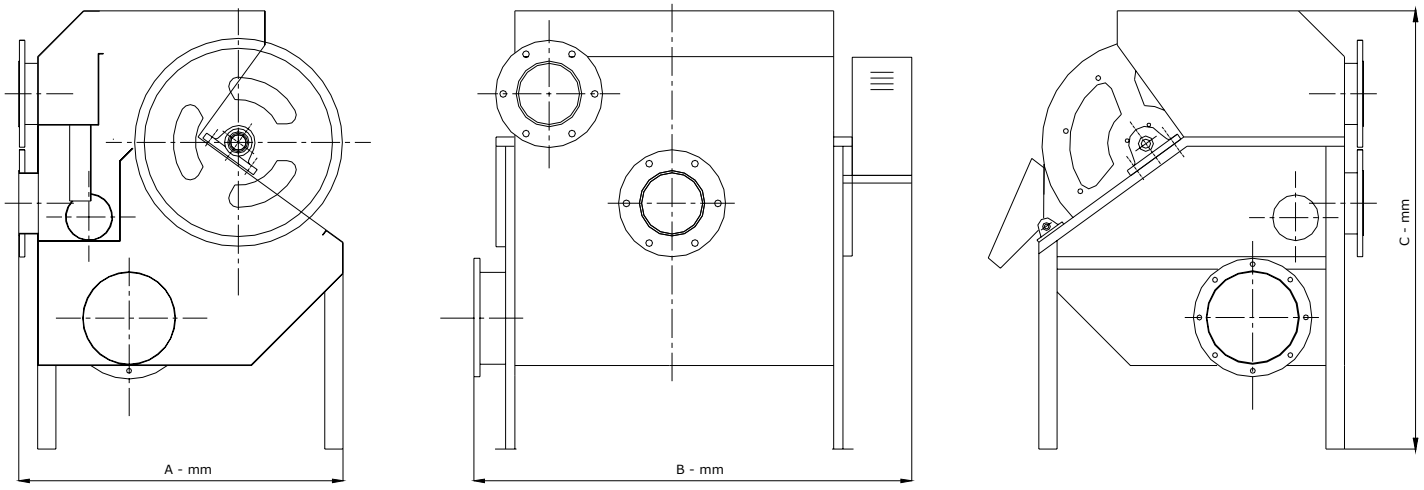
STANDARD DIMENSIONAL DATA FOR FILTERING DRUM SCREENS RS4
Here we provide some information about technical nature for this type of screens.

RS4 MODELS	RS440	RS450/5	RS450/6	RS470	RS4100	RS4130	RS4160	RS4200	RS4300
LENGTH SCREEN - A mm	550	910	1200	1200	1200	1200	1200	1200	1300
WIDTH SCREEN - B mm	800	950	950	1150	1450	1750	2050	2450	3450
HEIGHT SCREEN - C mm	1050	1200	1460	1460	1460	1460	1460	1460	1560
Hydraulic Flow m^3/h - Wedge wire 0.5	**13**	**45**	**99**	**138**	**198**	**250**	**316**	**390**	**731**
Hydraulic Flow m^3/h - Wedge wire 1	**20**	**80**	**165**	**230**	**330**	**427**	**528**	**660**	**1221**
Hydraulic Flow m^3/h - Wedge wire 1.5	**26**	**95**	**210**	**291**	**425**	**544**	**672**	**835**	**1554**
Hydraulic Flow m^3/h - Wedge wire 2	**29**	**100**	**215**	**299**	**428**	**556**	**688**	**855**	**1590**

ATTENTION CAPACITY IS REFERRED TO EFFLUENT AT 200 PPM DS.

Materials of Construction:
Fabricated parts: AISI Stainless Steel 304 / Stainless Steel 316 - Rotary screen: AISI Stainless Steel 304 / Stainless Steel 316



n.b.: the manufacturer may modify some dimensions or sizes without prior information



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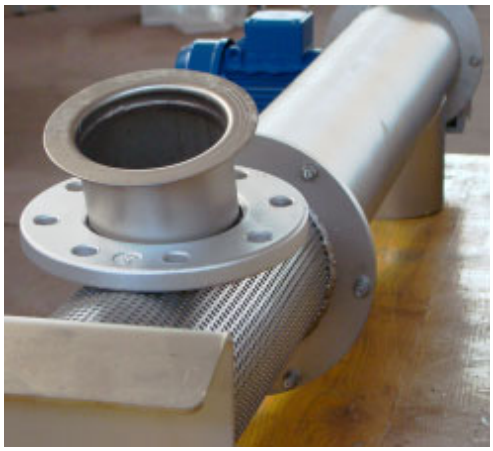
MINISCREEN MINI-RSE

Small Screw Screens for Mechanical solids/liquids separation

MACHINE DESCRIPTION

R.E.M. range of screw screens for solids/liquid separation is a broad and vaste selection where units for every application can be found. **MINI-RSE** Screw screens are multipurpose units capable to screen and convey the screenings.



WORKING LOGIC FOR SMALL SCREW SCREENS MINI-RSE

REM MINI-RSE screw screens are generally installed in municipal applications as they allow to have a single unit performing the whole process. **MINI-RSE** Screwscreens are made of the following sections:

- **Screen.**
- **Transport section.**
- **Discharge.**
- **Drive.**

Screw screens are succesfully installed for the following applications:

- **Municipal sewage.**
- **Pumping stations.**

GENERAL DIMENSIONAL DATA FOR SMALL SCREW SCREENS MINI-RSE

Here we provide some information about technical nature for this type of screens:

- **Filtration with screens sizes ranges from 3 to 6 mm (perforated).**
- **Models suitable for incoming piping from DN150 to DN200 mm.**
- **Screenings removal and conveying to the discharge point with a single drive.**

R.E.M. MINI-RSE screw screens can be equipped with the following accessories:

- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

MAIN FEATURES FOR SMALL SCREW SCREENS MINI-RSE

1. **Screen frame available with perforated screen aperture in various sizes.**
2. **The machine is self-cleaning, thanks to the brushes fitted on the screw conveyor.**
3. **The shaftless screw conveyor allows lifting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The range available makes it possible to choose the right version to suit the application requirements.**
5. **The stainless steel structure along with brushes made of plastic material enable the use of the machine for handling acids, basic products and foodstuffs.**
6. **Entire operation of the machine is handled by the drive units.**
7. **Installation is easy and fast.**
8. **Maintenance is very simple and time saving.**

The main advantages are:

- **reduced installation, handling and disposal costs.**
- **high solids capture removal (52% tested).**
- **nuisance and leachate reduction.**

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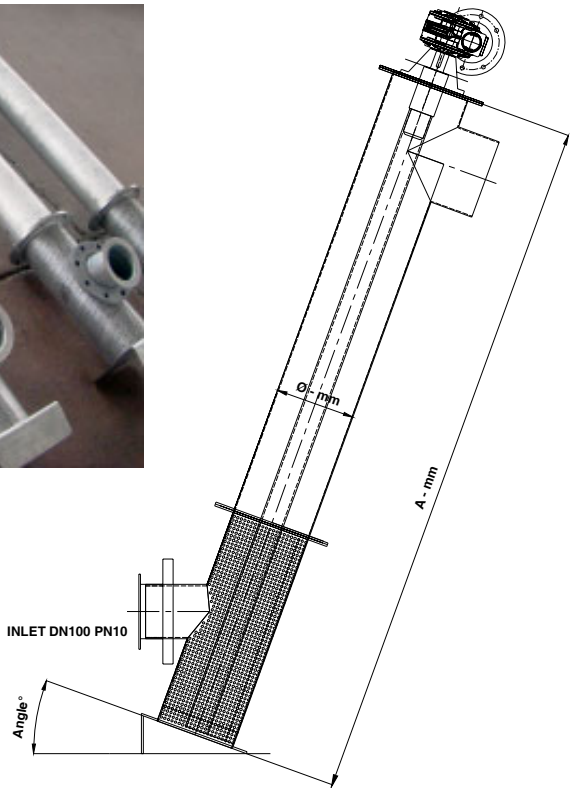
STANDARD DIMENSIONAL DATA FOR SMALL SCREW SCREENS MINI-RSE

MINIRSE MODELS	Ø - mm	A - mm	FLOWRATE - m3/h		
			Perforation Ø3 mm	Perforation Ø5 mm	Perforation Ø6 mm
MINIRSE/168	168	1450	13	20	25
MINIRSE/219	219	1450	17	26	32

INCLINATION: 20°

IMPORTANT THESE MINISCREENS ARE AVAILABLE ALSO FOR PIPELINE INSTALLATION.



Materials of construction for fabricated parts:
Stainless Steel AISI304 / Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

.b.: the manufacturer may modify some dimensions or sizes without prior information

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COMBY PLANTS RCS2

Compact Systems for sewage effluent pre-treatment

MACHINE DESCRIPTION

The sewage acceptance unit is a system studied to receive and mechanically pre-treat sewage with a single compact unit. The wastewater piping is connected to the **RCS2** at the inlet flange. Sewage is filtered to remove large particles, thus sand is settled and washed. The conditioned effluent is afterwards discharged into the biological wastewater treatment plant.

WORKING LOGIC FOR COMBY PLANTS RCS2

Solid large particle included in the waste are captured and removed by the inlet fine screws-creen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed into the screenings themselves.

The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages. At the discharge a built-in compactor is installed reducing the screenings volume by up to 50%.
Once screened the sludge enters the aerated sedimentation tank where sand deposits on the bottom of the tank, while organics are kept in suspension by the air injection.

The coarse air bubbles allow to wash out the sand and the settling of sand with a reduced organic content. The extraction screw removes and discharges the sand into the sand bin.

MAIN ADVANTAGES FOR COMBY PLANTS RCS2

1. **No leaks, smells or aerosols generated by the system.**
2. **Designed to handle wastewater with high organic content.**
3. **No drives in contact with the sludge.**
4. **No concrete casting required.**
5. **Low operation and maintenance costs.**
6. **Low costs for installation and erection.**
7. **Excellent screening performance with up to 52% solids capture ratio.**
8. **Screening aperture: 3 to 6 mm diameter.**

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCS2

Capcity is shown in **m³/h** assuming a **6 mm** perforated screen. Compact plants are available also as extended version.

The extended version have the two conveyors elongated to allow to discharge at a higher level. This configuration is particularly designed for installations underground or in deep channels or pits. Here we provide some information about technical nature for this type of units:

- **Filtration with 6 mm perforated screen.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Sand removal up to 90% of sand having size 200 micron and bigger.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

R.E.M. RCS2 can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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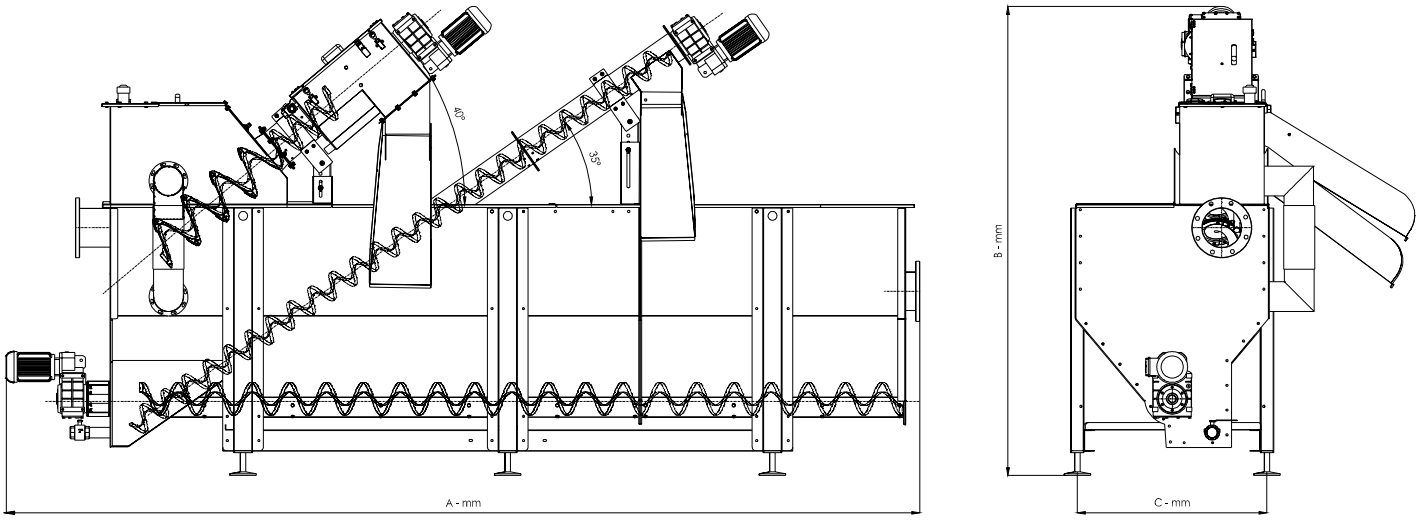
STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCS2

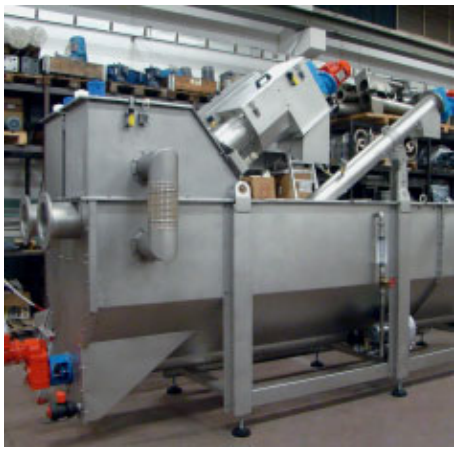
RCS2 MODELS	RCS2/10	RCS2/20	RCS2/30	RCS2/40	RCS2/60	RCS2/80	RCS2/100	RCS2/120	RCS2/150
A - mm	3869	4599	5178	6678	6748	9748	12733	8288	9833
B - mm	2656	2656	2656	2656	4131	4141	4141	4870	4790
C - mm	1074	1074	1074	1074	1430	1429	1429	1930	1929
Ø INLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø OUTLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
FLOWRATES - m^3/h	36	72	108	144	216	288	360	432	540

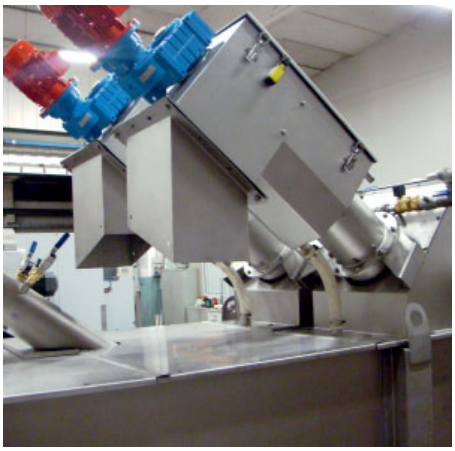
n.b.: the manufacturer may modify some dimensions or sizes without prior information

Materials of construction for fabricated parts: Stainless Steel AISI304 / Stainless Steel AISI316
Materials of construction of spiral: Stainless Steel AISI304 / Stainless Steel AISI316 / High resistance steel HRS



IMPORTANT THE DESIGN IS TAILORED FOR THE APPLICATION AND MAY BE MODIFIED DEPENDING ON CUSTOMER'S NEEDS.





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COMBY PLANTS RCS3

Compact Systems for sewage effluent pre-treatment

MACHINE DESCRIPTION

The sewage acceptance unit is a system studied to receive and mechanically pre-treat sewage with a single compact unit. The wastewater piping is connected to the **RCS3** at the inlet flange.
Sewage is filtered to remove large particles, thus sand is settled and washed. Finally grease and oily particles are floated and scraped from the sludge surface. The conditioned effluent is afterwards discharged into the biological wastewater treatment plant.

WORKING LOGIC FOR COMBY PLANTS RCS3

Solid large particle included in the waste are captured and removed by the inlet fine screws-creen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed into the screenings themselves.
The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages.

At the discharge a built-in compactor is installed reducing the screenings volume by up to 50%. Once screened the sludge enters the aerated sedimentation tank where sand deposits on the bottom of the tank, while organics are kept in suspension by the air injection. The coarse air bubbles allow to wash out the sand and the settling of sand with a reduced organic content. The extraction screw removes and discharges the sand into the sand bin.

The **RCS3** type is also equipped with a grease and oil skimmer. A travelling floating skimmer is installed in a side channel where grease are concentrate by the air pattern and segregate through a reverse Thomson-like baffle. The skimmer removes on a timer the floating parts and discharges them through a discharge pipe.

MAIN ADVANTAGES FOR COMBY PLANTS RCS3

1. **No leaks, smells or aerosols generated by the system.**
2. **Designed to handle wastewater with high organic content.**
3. **No drives in contact with the sludge.**
4. **No concrete casting required.**
5. **Low operation and maintenance costs.**
6. **Low costs for installation and erection.**
7. **Excellent screening performance with up to 52% solids capture ratio.**
8. **Screening aperture: 3 to 6 mm diameter.**

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCS3

Capcity is shown in **m^3/h** assuming a **6 mm** perforated screen. Compact plants are available also as extended version. The extended version have the two conveyors elongated to allow to discharge at a higher level. This configuration is particularly designed for installations underground or in deep channels or pits. Here we provide some information about technical nature for this type of units:

- **Filtration with 6 mm perforated screen.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Sand removal up to 90% of sand having size 200 micron and bigger.**
- **Floating grease and oils reclaiming.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

R.E.M. RCS3 can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

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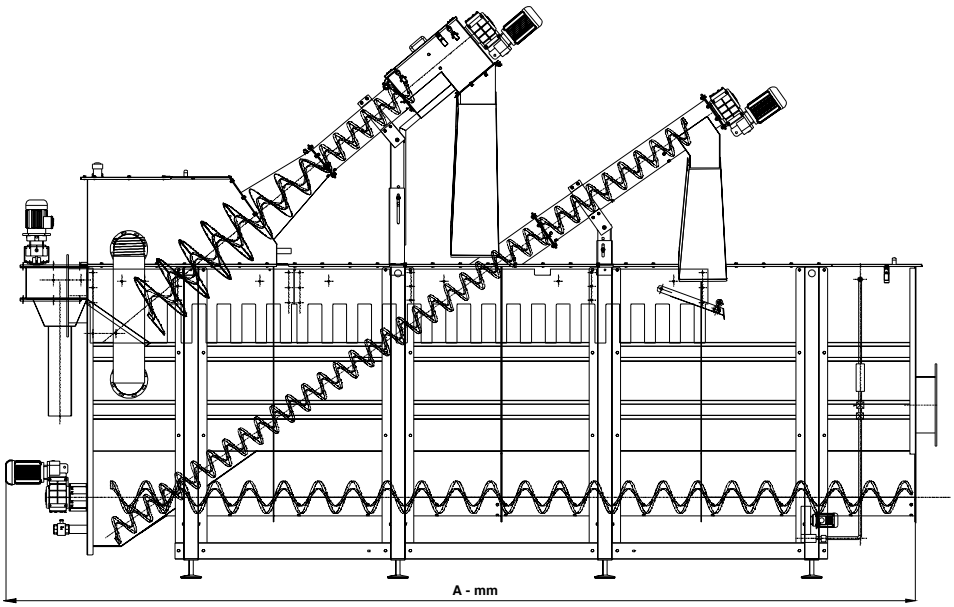
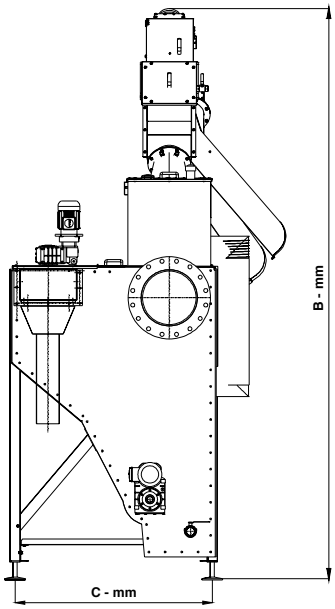
STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCS3

RCS3 MODELS	RCS3/10	RCS3/20	RCS3/30	RCS3/40	RCS3/60	RCS3/80	RCS3/100	RCS3/120	RCS3/150
A - mm	3869	4599	5178	6678	6748	9748	12733	8288	9833
B - mm	2656	2656	2656	2656	4131	4141	4141	4870	4790
C - mm	1074	1074	1074	1074	1430	1429	1429	1930	1929
Ø INLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø OUTLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø GREASE OUTLET - mm	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150
FLOWRATES - m^3/h	36	72	108	144	216	288	360	432	540

IMPORTANT THE DESIGN IS TAILORED FOR THE APPLICATION AND MAY BE MODIFIED DEPENDING ON CUSTOMER'S NEEDS.

Materials of construction for fabricated parts: Stainless Steel AISI304 / Stainless Steel AISI316
Materials of construction of spiral: Stainless Steel AISI304 / Stainless Steel AISI316 / High resistance steel HRS





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COMBY PLANTS RCSD

Compact Systems for sewage effluent pre-treatment

MACHINE DESCRIPTION

The sewage acceptance unit is a system studied to receive and mechanically pre-treat sewage with a single compact unit. The wastewater piping is connected to the **RCSD** at the inlet flange. Pre-screened sewage allows to settle and wash out the sand and grit. Finally grease and oily particles are floated and scraped from the sludge surface (**RCSD3 version**).
The conditioned effluent is afterwards discharged into the biological wastewater treatment plant. The range offered by **R.E.M.** offers the unit in 2 different configurations.

1. Comby plant type RCSD offered with the following configurations:
- RCSD2: sand separation.
- RCSD3: sand separation and grease removal.

WORKING LOGIC FOR COMBY PLANTS RCSD

Sewage, with its solid particles, enters the aerated sedimentation tank; here sand deposits on the bottom of the tank where a sand conveying screw allows the extraction. Organics are kept in suspension by the air injection. The coarse air bubbles allow to wash out the sand and allows the separation of sand having a reduced organic content. The extraction screw removes and discharges the sand into the sand bin.
The **RCSD3** type is also equipped with a grease and oil skimmer. A travelling floating skimmer is installed in a side channel where grease are concentrate by the air pattern and segregate through a reverse Thomson-like baffle. The skimmer removes on a timer the floating parts and discharges them through a discharge pipe.

MAIN ADVANTAGES FOR COMBY PLANTS RCSD

1. No leaks, smells or aerosols generated by the system.
2. Designed to handle wastewater with high organic content.
3. No drives in contact with the sewage.
4. No concrete casting required.
6. Low costs for installation and erection.

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCSD

Capcity is shown in **m^3/h**. Compact plants are available also as extended version. The extended version have the conveyor elongated to allow to discharge at a higher level. This configuration is particularly designed for installations underground or in deep channels or pits. Here we provide some information about technical nature for this type of units:
- Sand removal up to 90% of sand having size 200 micron and bigger.
- Floating grease and oils reclaiming (RCSD3 only).

R.E.M. RCSD can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

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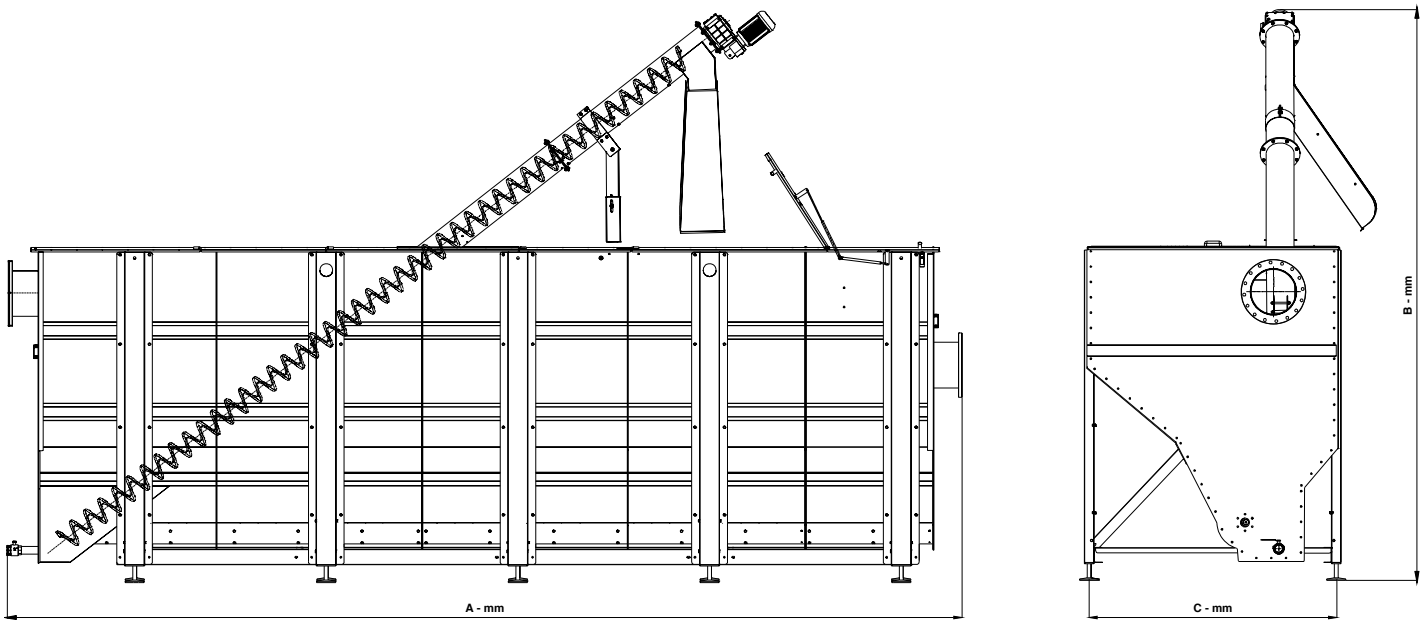
STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCSD

RCSD2 MODELS	RCSD2/10	RCSD2/20	RCSD2/30	RCSD2/40	RCSD2/60	RCSD2/80	RCSD2/100	RCSD2/120	RCSD2/150
A - mm	3869	4599	5178	6678	6748	9748	12733	8288	9833
B - mm	2581	2612	2628	2612	3549	3559	3559	4409	4399
C - mm	1074	1074	1074	1074	1430	1429	1429	1930	1929
Ø INLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø OUTLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
FLOWRATES - m^3/h	36	72	108	144	216	288	360	432	540

IMPORTANT THE DESIGN IS TAILORED FOR THE APPLICATION AND MAY BE MODIFIED DEPENDING ON CUSTOMER'S NEEDS.



Materials of construction for fabricated parts: Stainless Steel AISI304 / Stainless Steel AISI316
Materials of construction of spiral: Stainless Steel AISI304 / Stainless Steel AISI316 / High resistance steel HRS

RCSD3 MODELS	RCSD3/10	RCSD3/20	RCSD3/30	RCSD3/40	RCSD3/60	RCSD3/80	RCSD3/100	RCSD3/120	RCSD3/150
A - mm	3869	4599	5178	6678	6748	9748	12733	8288	9833
B - mm	2581	2612	2628	2612	3549	3559	3559	4409	4399
C - mm	1074	1074	1074	1074	1430	1429	1429	1930	1929
Ø INLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø OUTLET - mm	DN100 PN10	DN200 PN10	DN200 PN10	DN200 PN10	DN300 PN10	DN300 PN10	DN400 PN10	DN400 PN10	DN500 PN10
Ø GREASE OUTLET - mm	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150	DN150
FLOWRATES - m^3/h	36	72	108	144	216	288	360	432	540

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COMBY PLANTS RCT1

Compact Systems for pre-treatment of cesspool-interceptor septage

MACHINE DESCRIPTION

The **RCT1** septage acceptance unit is a system studied to receive and mechanically pre-treat effluents from cesspools with a single compact unit.
The sludges, discharged from tanker trucks, are filtrate to remove large particles. Screenings are pre-washed and compacted to reduce the organic content and the volume. The conditioned effluent is afterwards dischrged into the biological wastewater treatment plant. **R.E.M.** offers the unit in 2 different sizes:

- RCT1-15: screening up to 50 m3/h of cesspool liquor.
- RCT1-30: screening up to 100 m3/h of cesspool liquor.

WORKING LOGIC FOR COMBY PLANTS RCT1

Tanker trucks get connected to the unit through a flex hose **DN100** and clamped by a quick spherical connection. Solid large particles included in the waste are captured and removed by the inlet fine screwscreen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed onto the screenings themselves.
The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages. At the discharge a built-in compactor is installed reducing the screenings volume by up to **50%**.

MAIN ADVANTAGES FOR COMBY PLANTS RCT1

1. **No leaks, smells or aerosols generated by the system.**
2. **No drives in contact with the sludge.**
3. **Compact design and small footprint.**
4. **No concrete casting required.**
5. **Low operation and maintenance costs.**
6. **Low costs for installation and erection.**
7. **Excellent screening performance with up to 52% solids capture ratio.**

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCT1

Here we provide some information about technical nature for this type of units:

- Filtration with 6 mm perforated screen.
- Screenings removal and conveying to the discharge point with a single drive.
- Screenings volume reduction up to 50%.
- Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.
- Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.

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R.E.M. RCT1 septage receiving stations can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCT1

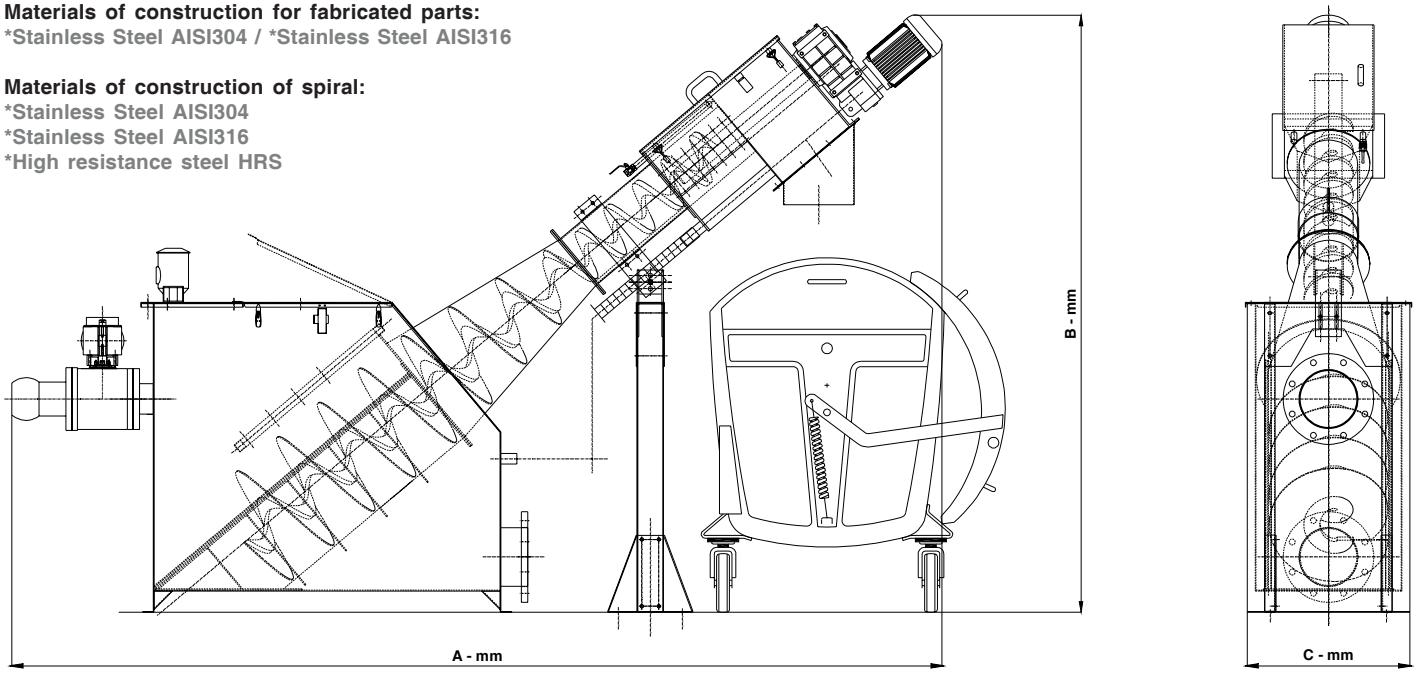
RCT1 MODELS	A - mm	B - mm	C - mm	Ø INLET	Ø OUTLET	FLOWRATES m^3/h
RCT1/15	3490	2240	610	DN100	DN200	50
RCT1/30	4766	3470	1065	DN100	DN200	100

n.b.: the manufacturer may modify some dimensions or sizes without prior information

INCLINATION: 40°

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS



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COMBY PLANTS RCT2

Compact Systems for pre-treatment of cesspool-interceptor septage

MACHINE DESCRIPTION

The septage acceptance unit is a system studied to receive and mechanically pre-treat effluents from cesspools with a single compact unit. The sludges, discharged from tanker trucks, are filtrate to remove large particles, thus sand is settled and washed. The conditioned effluent is afterwards discharged into the biological wastewater treatment plant.

WORKING LOGIC FOR COMBY PLANTS RCT2

Tanker trucks get connected to the unit through a flex hose DN.100 and clamped by a quick spherical connection. Solid large particle included in the waste are captured and removed by the inlet fine screw screen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed into the screenings themselves.
The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages. At the discharge a built-in compactor is installed reducing the screenings volume by up to **50%**.
Once screened the sludge enters the aerated sedimentation tank where sand deposits on the bottom of the tank, while organics are kept in suspension by the air injection. The coarse air bubbles allow to wash out the sand and allows the separation of sand having a reduced organic content. The extraction screw removes and discharges the sand into the sand bin.

MAIN ADVANTAGES FOR COMBY PLANTS RCT2

- **No leaks, smells or aerosols generated by the system.**
- **No drives in contact with the sludge.**
- **Compact design and small footprint.**
- **No concrete casting required.**
- **Low operation and maintenance costs.**
- **Low costs for installation and erection.**
- **Excellent screening performance with up to 52% solids capture ratio.**

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCT2

Here we provide some information about technical nature for this type of screens:

- **Filtration with 6 mm perforated screen.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Sand removal up to 90% of sand having size 200 micron and bigger.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

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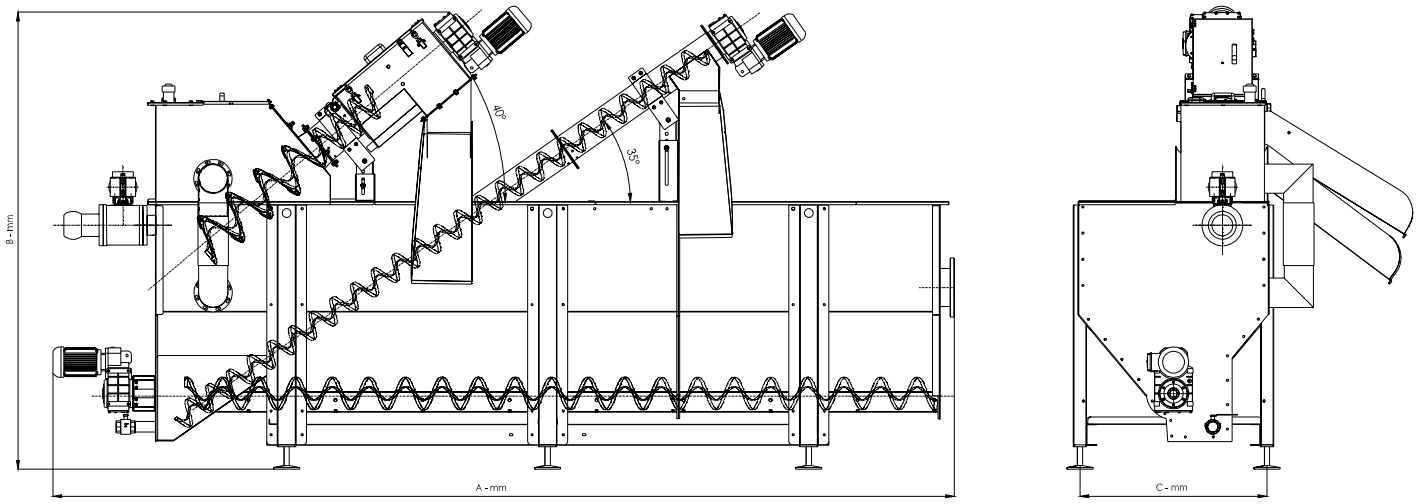
R.E.M. RCT2 septage receiving stations can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCT2

RCT2 MODELS	A - mm	B - mm	C - mm	Ø INLET	Ø OUTLET	FLOWRATES m^3/h
RCT2/15	3700	2650	1070	DN100	DN200	50
RCT2/30	5200	2650	1070	DN100	DN200	100

n.b.: the manufacturer may modify some dimensions or sizes without prior information



Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral: *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

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COMBY PLANTS RCT3

Compact Systems for pre-treatment of cesspool-interceptor septage

MACHINE DESCRIPTION

The septage acceptance unit is a system studied to receive and mechanically pre-treat effluents from cesspools with a single compact unit.
The sludges, discharged from tanker trucks, are filtrate to remove large particles, thus sand is settled and washed, finally grease and oily particles are floated and scraped from the sludge surface. The conditioned effluent is afterwards discharged into the biological wastewater treatment plant.

WORKING LOGIC FOR COMBY PLANTS RCT3

Tanker trucks get connected to the unit through a flex hose **DN.100** and clamped by a quick spherical connection. Solid large particle included in the waste are captured and removed by the inlet fine screwscreen. The screw removes and compact the screenings before discharge. Along the conveying section is installed a washing system consisting of a set of nozzles where pressurised water is sprayed into the screenings themselves. The washing system allows to remove fecal matter from the screenings discharging a neat solid which can be landfilled without bothering of smells or leakages. At the discharge a built-in compactor is installed reducing the screenings volume by up to **50%**. Once screened the sludge enters the aerated sedimentation tank where sand deposits on the bottom of the tank, while organics are kept in suspension by the air injection. The coarse air bubbles allow to wash out the sand and allows the separation of sand having a reduced organic content.

The extraction screw removes and discharges the sand into the sand bin. The **RCT3** type is also equipped with a grease and oil skimmer. A travelling floating skimmer is installed in a side channel where grease are concentrate by the air pattern and segregate through a reverse Thomson-like baffle. The skimmer removes on a timer the floating parts and discharges them through a discharge pipe.

MAIN ADVANTAGES FOR COMBY PLANTS RCT3

- **No leaks, smells or aerosols generated by the system.**
- **No drives in contact with the sludge.**
- **Compact design and small footprint.**
- **No concrete casting required.**
- **Low operation and maintenance costs.**
- **Low costs for installation and erection.**
- **Excellent screening performance with up to 52% solids capture ratio.**

GENERAL DIMENSIONAL DATA FOR COMBY PLANTS RCT3

Here we provide some information about technical nature for this type of screens:

- **Filtration with 6 mm perforated screen.**
- **Screenings removal and conveying to the discharge point with a single drive.**
- **Screenings volume reduction up to 50%.**
- **Sand removal up to 90% of sand having size 200 micron and bigger.**
- **Floating grease and oils reclaiming.**
- **Effective drainage of the screenings along the conveying section combined with a compaction section for more volume reduction and water removal.**
- **Screenings washing performed by the REMSPRAY integrated system using 3 independent washing cycles.**

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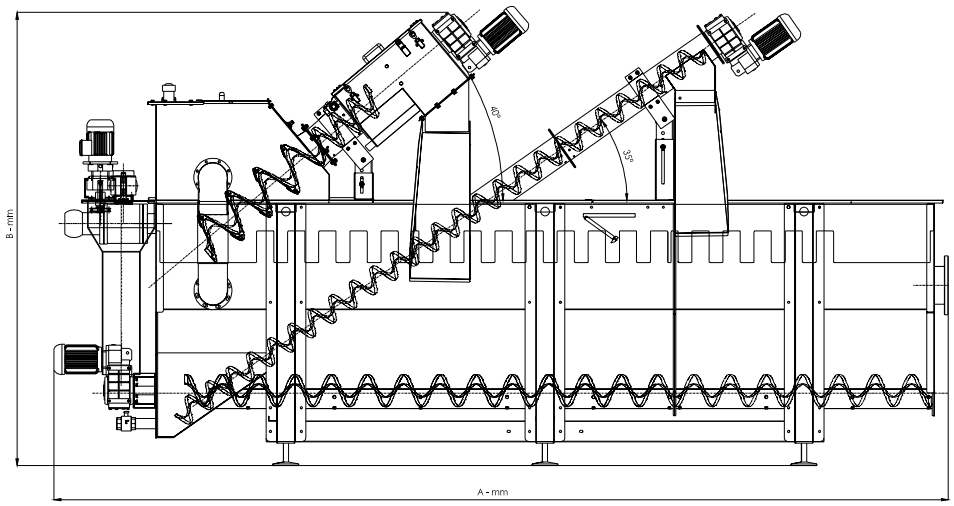
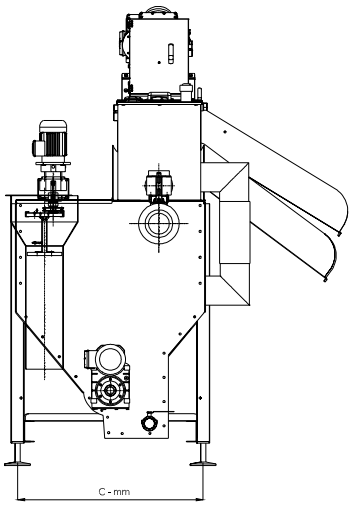
R.E.M. RCT3 septage receiving stations can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

STANDARD DIMENSIONAL DATA FOR COMBY PLANTS RCT3

RCT3 MODELS	A - mm	B - mm	C - mm	Ø INLET	Ø OUTLET	FLOWRATES m^3/h
RCT3/15	3700	2650	1070	DN100	DN200	50
RCT3/30	5200	2650	1070	DN100	DN200	100

n.b.: the manufacturer may modify some dimensions or sizes without prior information





Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral: *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

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SCREW COMPACTORS RPS

Shaftless Screw Compactors

MACHINE DESCRIPTION

This unit is a combined machined that allows to perform 3 features at once: draining, conveying and compacting/dewatering. By effectively reducing the volume of the material handled (**up to 50%**). The range of compactors includes several models for different applications.

R.E.M. offers the compactor manufactured with a trough conveying section and shaftless screw. The covers are tightly bolted onto the trough and seal the enclosure. Shaftless screw compactor can be used for:

- **MUNICIPAL SCREENINGS.**
- **INDUSTRIAL WASTE (FEATHERS - PAUNCH - ENTRAILS).**

WORKING LOGIC FOR SHAFTLESS SCREW COMPACTORS RPS

Compactors are equipped with a loading section where the inlet hopper is located; its dimensions may vary depending on the application. Under the inlet there is an initial draining zone from where the most substantial liquid part of the waste to process comes out.
The screw inside the trough conveys the solid material to a second zone where the machine is equipped with a compacting and unloading module.

Here a cylindrical sieve allows the material conveyed to be permanently relieved of any remaining liquids. In front of the outlet of the compacting and draining module there is a cover fixed on the top that opens only when sufficient dewatered waste material has accumulated inside the sieve until forming a real plug.
The counterweight increases the level of compaction of the waste, the level is adjustable by moving the weight along the rod.
In addition to the counterweight, as an accessory, these models of compactors are equipped with an extension to increase the pressing.

R.E.M. RPS compactors can be equipped with the following accessories:

- **vertical discharge.**
- **bagging (single or endless bag type).**
- **heating and weather protection.**
- **centralized solenoid valves and piping.**
- **control cabinet.**
- **ATEX or UL NEMA 7 EX-proof version.**

MAIN ADVANTAGES FOR COMPACTORS RPS

- **No leaks, smells or aerosols generated by the system.**
- **No drives in contact with the sludge.**
- **Compact design and small footprint.**
- **Low operation and maintenance costs.**
- **Low costs for installation and erection.**
- **Conveying and dewatering performed by a single unit.**

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STANDARD DIMENSIONAL DATA FOR SHAFTLESS SCREW COMPACTORS RPS

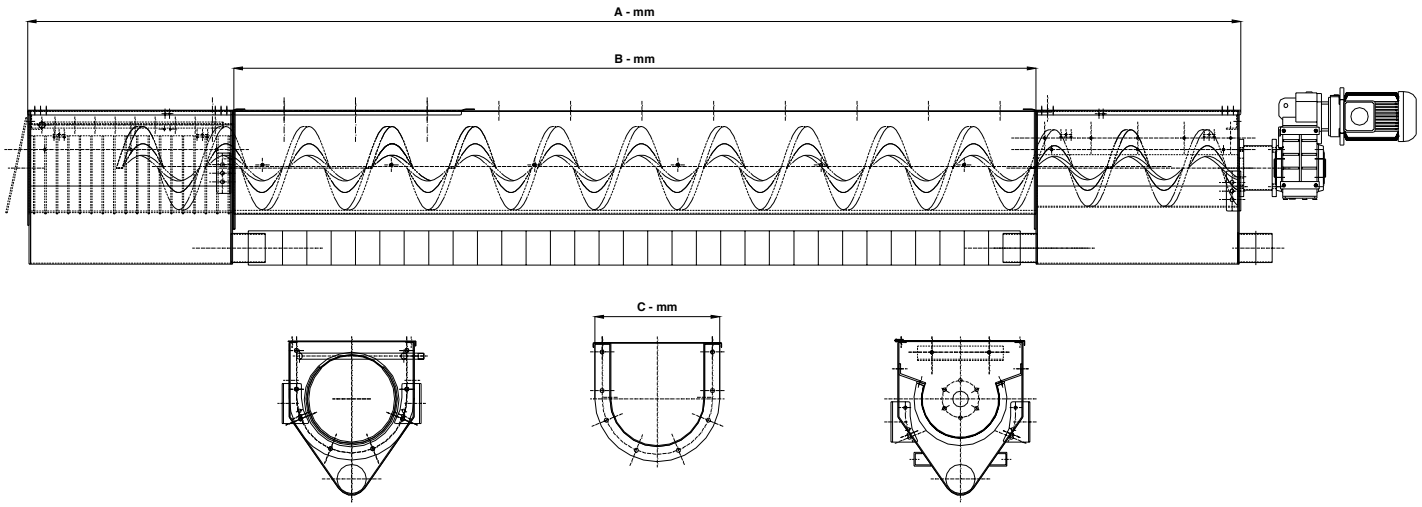
RPS MODELS	A - mm	B - mm	C - mm	CAPACITY - m³/h	POWER - kW
RPS200	3010	2000	231	**2.0**	**1.5**
RPS300	4400	3000	331	**5.0**	**3.0**
RPS400	5819	4000	431	**8.0**	**5.5**

n.b.: the manufacturer may modify some dimensions or sizes without prior information

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral: *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

INCLINATION: 5° - 30°



THE PERCENTAGE OF REDUCTION IN THE VOLUME OF WASTE IS GREATER THAN 40%.

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SCREW COMPACTORS RWC

Shaftless Screw Washing Compactors

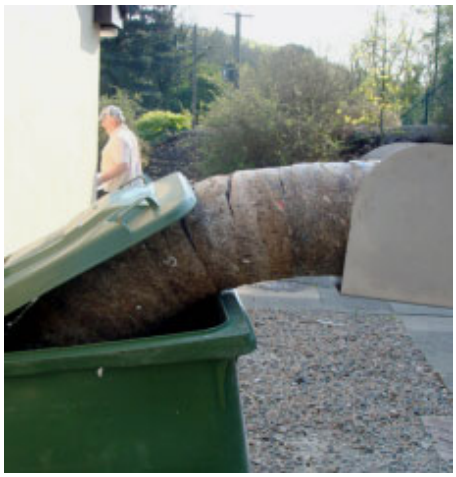
MACHINE DESCRIPTION

The machine described here is to all intents and purposes a system that in a single solution combines a material inlet section with a system for washing, transport and a following compaction and dewatering section. It is able to reduce the volume of the waste material considerably.
R.E.M. offers this **U-trough** conveying-compactor with an internal shaftless spiral, equipped with protective closing caps at the points of material inlet and outlet and that has been designed to compact the material that it receives for treatment but at the same time, compared to the other models of compactor, it features an additional washing system at the inlet, for screenings washing. The **RWC** washing-compactor is used to treat the following kinds of screenings:
- Municipal screenings.
- Industrial screenings.

This unit washes and shakes the screenings separating the fecal material from the waste. This allows a large reduction of fecal material in the final screenings to be disposed.

WORKING LOGIC FOR SHAFTLESS SCREW COMPACTORS RWC

These compactors are equipped with a loading zone comprehensive of a washing system that, on receiving the material to be treated, proceeds with an initial phase of breaking up the organic material from the waste material to treat. Here any lumps of organic material are separated and washed eliminating the attached organic substances.



The following part is the transport zone, where the screenings free of organic matter are conveyed; at the end of the transport module the drain module completely eliminates the liquid residues coming from the washing zone, repeating the waste washing a second time.

The final module compacts the aggregate that is unloaded into special containers. This model of compactor guarantees a reduction in the volume of the waste to treat by over 40% of its initial quantity.
Thanks to its construction shape, installation is fast and very simple; also from the point of view of maintenance the machine doesn't require any special operations.

It adapts to every type of screening removed by the screens.

The noise emissions remains within the limits required by current regulations; these emissions have been measured by applying the method required by the regulations, at a distance of 1 m from the machine in operation.

R.E.M. RWC compactors can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

MAIN ADVANTAGES FOR COMPACTORS RWC
- No leaks, smells or aerosols generated by the system.
- No drives in contact with the sludge.
- Compact design and small footprint.
- Low operation and maintenance costs.
- Low costs for installation and erection.
- Conveying and dewatering performed by a single unit.
- Screenings free of fecal matter.
- No production of leachate.

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STANDARD DIMENSIONAL DATA FOR SHAFTLESS SCREW COMPACTORS RWC

RWC MODELS	A - mm	B - mm	C - mm	CAPACITY - m³/h	POWER - kW
RWC200	3010	2000	231	**2.0**	**1.5**
RWC300	4400	3000	331	**5.0**	**3.0**
RWC400	5819	4000	431	**8.0**	**5.5**

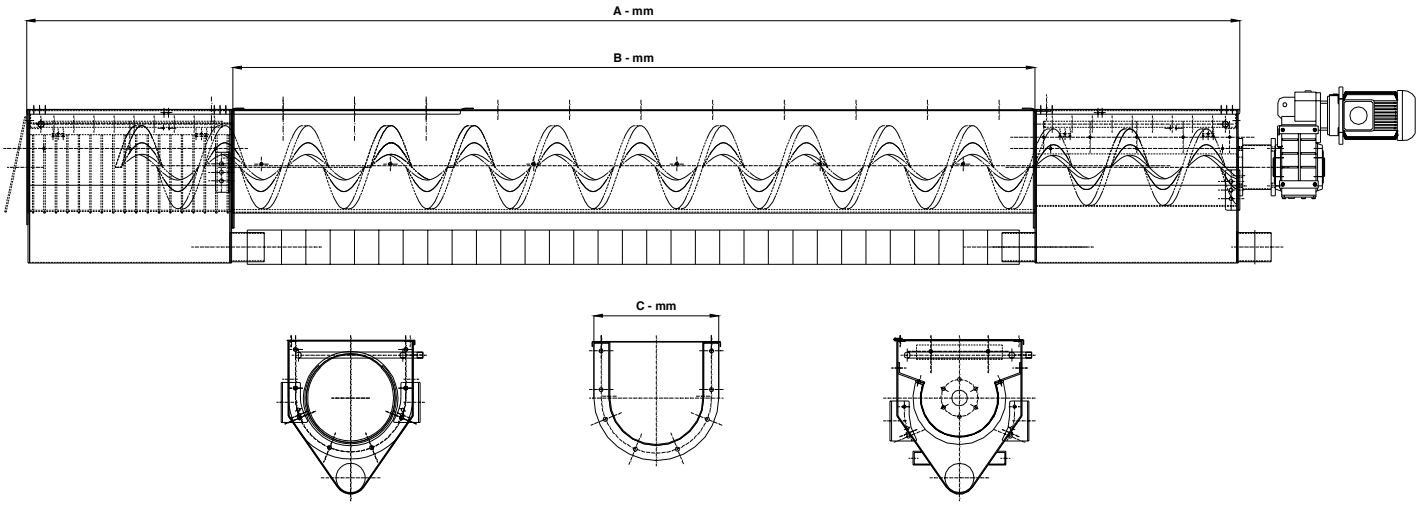
n.b.: the manufacturer may modify some dimensions or sizes without prior information

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral: *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS

INCLINATION: 5° - 30°

THE PERCENTAGE OF REDUCTION IN THE VOLUME OF WASTE IS GREATER THAN 40%.



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HIGH PRESSURE SCREW COMPACTORS RHW

High Pressure Shafted Screw Washing Compactors

MACHINE DESCRIPTION

R.E.M. high pressure washing compactors, mod. **RHW**, are units used to wash, dewater and compact screenings extracted from:

- Municipal or industrial waste water treatment plants.
- Intermediate process water treatment.

The **RHW** washer compactor is suitable for washing, compacting and dewatering screenings from any screen but it is mainly designed for installations where the screenings quality is mostly relevant.
The basic design is a shafted screw compactor combined with an elephant trunk discharge. The screw has a double flighting to have a more even pression during the working cycle. The flighting is shafted and directly coupled to the drive.
The main body features a slotted **tube** that drains the free water directly. The spiral is also equipped with brushes to keep the drainage section clean and free from sediments. The collecting assembly is also equipped with a washing system to remove any residual fecal material and avoid the formation of odours.
The separated liquid is drained through the outlet port underneath the drive (equipped with hose). A complex system of washing systems along the body and the elephant trunk allows a good washing effect and prevents from blockages at any time.

The inlet hopper and the elephant trunk can be easily modified to accommodate the layout needs. The **RHW** washer compactor is suitable for the following applications.
- Screenings with high organic content.
- By-products from solid waste.
- Food industry by-products.

WORKING LOGIC FOR HIGH PRESSURE COMPACTORS RHW

The **RHW** high-pressure compactor is generally installed underneath a screen. A mixture of screenings and water are loaded and, while conveyed toward the discharge section, are washed and compacted at the compaction section. All the liquid is discharged through the drain.

MAIN FEATURES FOR HIGH PRESSURE COMPACTORS RHW

RHW compactors are made in different versions, all without intermediate supports. The characteristics of the **RHW** compactors are:
1. Standard construction AISI 304/AISI 316.
2. Square, rectangular or inclined Inlets and outlets (inclination 15 deg max).
3. Liner is AISI304 wear bars (in the compaction section only).
5. No mechanical components in direct contact to the handled product.
6. No clogging or blockages risks even with fibrous materials.
7. Unit entirely enclosed for odour/spillages prevention.
8. Possibility to discharge in plastic bags.
9. No nuisance or emissions.
10. Easy and quick maintenance.

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R.E.M. RHW washer compactors can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

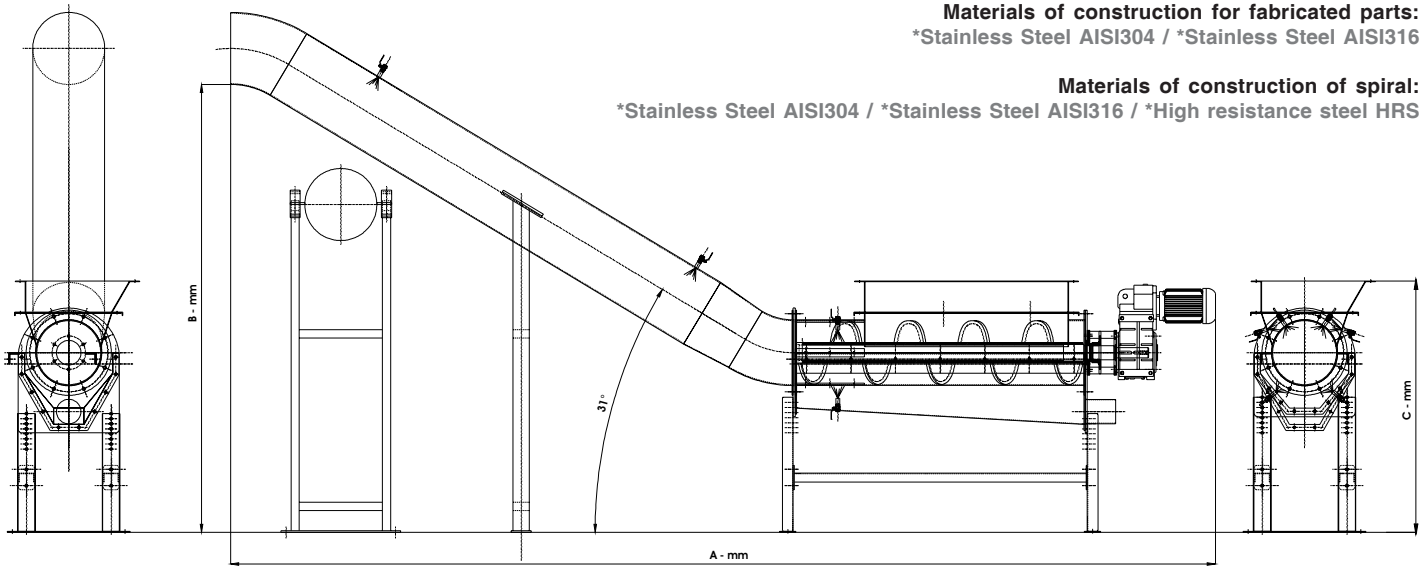
STANDARD DIMENSIONAL DATA FOR HIGH PRESSURE COMPACTORS RHW

RHW MODELS	A - mm	B - mm	C - mm	SOLIDS REMOVAL CAPACITY
RHW200	4657	1409	1000	**2 m³/h**
RHW300	4657	2206	1238	**3 m³/h**

The percentage of the dry metter, present in solid extracted is, at least, equal to a 25%. That percentage depends on type of waste.
THE PERCENTAGE OF REDUCTION IN THE VOLUME OF WASTE IS GREATER THAN 60%.

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS



n.b.: the manufacturer may modify some dimensions or sizes without prior information

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SCREW COMPACTORS REMPRESS RPR

High Pressure Shafted Screw-screen Compactors

MACHINE DESCRIPTION

R.E.M. high performance screw-screen compactors, mod. **RPR**, are type of compactors used for separating and compacting solids present in wastewater. So, these units are capable to screen, compact and dewater the screenings.
RPR screw compactors dewatering is a 2 steps process, dewatering by gravity in the feeding area and follwoing squeezing out of the liquid from the incoming slurry. The result is a dry solid and a clear liquid of very high quality for final disposal or reuse. The solids produced by the **RPR** screw compactors are drip-free and thus are easy to transport to final disposals, can be re-used, recycled before or after refining treatment. The liquids separated:

1. **ARE EASY TO HANDLE WITH STANDARDS PUMPS.**
2. **REQUIRE LESS STORAGE SPACE THAN THE SLURRY.**
3. **CAN BE DISCHARGED BEFORE OR AFTER ADDITIONAL TREATMENT AND CLARIFICATION.**
4. **THE SEPARATED SOLIDS CAN BE FURTHER CONCENTRATED BY DRYING IN THE OPEN AIR, COMPOSTING OR MECHANICAL DEWATERING.**

These type of screw compactors are succesfully installed for the following applications:
- **Slurry of animal origin (cattles, pigs and rabbits).**
- **Slurry of vegetable origin (potato, carrots).**
- **Pulp and paper from paper industries.**

WORKING LOGIC FOR SCREW COMPACTORS RPR

A mixture of liquids and solids is pumped or delivered by gravity to the inlet section that consists of a hopper directly mounted on top of the auger of the separator. The stainless steel auger convey the mixture of liquids and solids into the screw conveyor press section. Here a stationary cylindrical screen allows the filtration and compaction; the screen is designed with open slots and the auger has very tight fit to ensure a continuous cleaning of the screen itself and to keep the slots clean for the liquid part of the material to exit.

Free gravity liquid is filtered out in to the screen area and exits through the liquid discharging pipe. Bonded liquid that is attached to the solids, is squeezed out by the compression that occurs within the last two flights of the auger. At the end of the auger a plug of solids is created to provide resistance to the horizontal movement of the solids. The **squezeed solids** are discharged through the pressing chamber and crumble while exiting the machine. The pressing chamber is a U-trough fitted with a hinged flap connected to a weight arm attachment, adjusting the position of the weights along the arm is possible to control the pressure exerted on the plug. The number of weights hanging and the position at which they hang can be adjusted depending on how dry the separated solids have to be when exiting the separator.
The weight arms must always be freemoving in order to be able to accomodate the movement of the dried-up solids which are squeezed out through the mouthpiece. These solids form what is called the **PLUG**; at the first start-up the plug must be manually created. The separator will be running and the slurry being pumped to the separator. Separated liquid is exiting the separator's outlet on the bottom of the machine's body.

MAIN FEATURES FOR SCREW COMPACTORS RPR

1. **Screen frame available only with wedge openings in three different sizes (from 0,5 to 2 mm).**
2. **The machine is self-cleaning, thanks to the scraping effect in the wedge screen area.**
3. **The shafted screw conveyor allows transporting of materials of different shapes and sizes, which are, however, difficult to transport.**
4. **The stainless steel structure enable the use of the machine for handling acids, basic products and foodstuffs.**
5. **Entire operation of the machine is handled by the drive units.**
6. **Installation is easy and rapid.**
7. **Maintenance operations, if necessary, are very simple.**
8. **The screw compactor is suitable in treatment of sewages with suspended solids up to 10%.**
9. **Solids / liquids sparation is assured starting from of 0,1 % SS.**
10. **Content of dry matter after separation, can be up to 70%. The results of the separation is adjustable.**
11. **Particles with size smaller than the screen slots can be tied to the dry matter and entrained.**
12. **ADJUSTABLE AXIAL POSITION OF THE SCREW: A SPECIAL FEATURE ONLY FROM R.E.M. THAT ALLOWS TO INCREASE OR REDUCE THE COMPACTION OF THE PLUG.**

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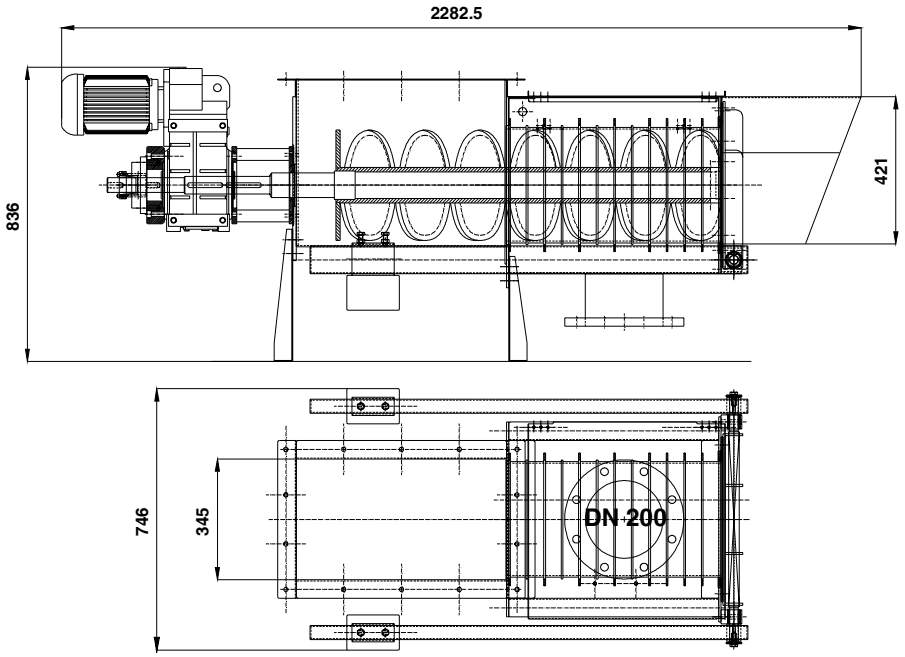
STANDARD DIMENSIONAL DATA FOR SCREW COMPACTORS RPR

RPR MODEL	CAPACITY l/s - WEDGE WIRE 0.5	CAPACITY l/s - WEDGE WIRE 1	CAPACITY l/s - WEDGE WIRE 1.5	SOLIDS REMOVAL CAPACITY
RPR300	30	45	65	**2.5 m³/h**

The percentage of the dry metter, present in solid extracted is, at least, equal to a 35%. That percentage depends on type of waste.

Materials of construction for fabricated parts: *Stainless Steel AISI304 / *Stainless Steel AISI316
Materials of construction of spiral: *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS



n.b.: the manufacturer may modify some dimensions or sizes without prior information

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GRIT SEPARATORS RGS

Grit classifiers

MACHINE DESCRIPTION

Grit classifiers mod. **RGS** are a range of machines designed to separate the sand and grit from the wastewater by settling. They can be equipped with additional features for removing the organic matter from the sand both by means of air injection and spraying clean water.

R.E.M. can supply this type of machines in different models, or in different sizes, according to the needs of the end Customer. We shall now see in detail how they are composed and how they work. The **RGS** model sand extractors are used for:

- SEPARATING AND EXTRACTING SANDS FROM WASTEWATERS OF DIFFERENT NATURE, WITH SUBSEQUENT WASHING OF THE ORGANIC PORTIONS.

The materials from which the sand extractor extracts the sands are:
- Sewage.
- Industrial wastewater.
- Sludges of various kinds (biological, organic, etc.).

The machine has an inlet on the cover of the hopper, this is where the materials to be treated enter; the hopper is used as a sedimentation tank where the solid portions (sands) are deposited on the bottom.

WORKING LOGIC FOR GRIT SEPARATORS RGS

The machine is equipped with a sand and grit removal screw conveyor that, by slowly rotating, moves upwards the deposited sands without any repropagation. From here the extracted sands go up along the trough to the outlet at the top.
The treated liquid portion comes out clarified through a side outlet. At the bottom of the trough is fitted an emergency ball valve, to operate only for maintenance purposes.
Its function is very simple, like all the installation and maintenance operations, which are are minimal and fast thanks to its design. Vibrations are minimal as well as the noise emissions.

MAIN FEATURES FOR GRIT SEPARATORS RGS

1. **Separation of sands up to a percentage of 90%.**
2. **Removal of sands with a particle size equal to or even smaller than 200 microns.**
3. **Treatment of wastewaters with medium flow rates of considerable importance and equivalent capacity of extraction of the sands they contain.**
4. **Structure of simple construction equipped with a thick screw conveyor, without a pipe, that permits withstanding wear and stresses of different type.**

These machines can be requested with different accessories, one of which is the air blower system that, by blowing in air, permits moving the wastewaters in order to avoid stagnation.

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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GENERAL DIMENSIONAL DATA FOR GRIT SEPARATORS RGS

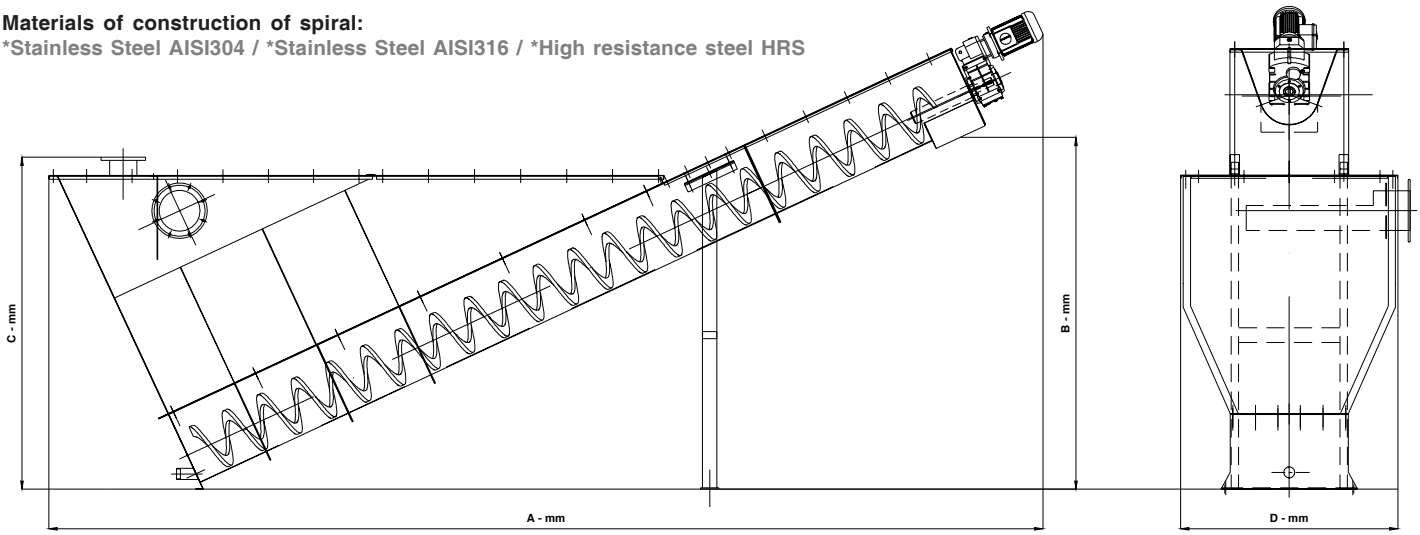
INCLINATION: 5°

n.b.: the manufacturer may modify some dimensions or sizes without prior information

RGS MODELS	A - mm	B - mm	C - mm	D - mm	FLOWRATE m^3/h	Sand Removal Capacity m^3/h
RGS800	4024	1337	1357	835	**27**	**0.4**
RGS1500	5133	1754	1856	835	**55**	**0.7**
RGS2500	6020	2161	2256	835	**90**	**0.7**

Materials of construction for fabricated parts: *Stainless Steel AISI304 / *Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS



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REMGRIT RGW

Sand Washing System

MACHINE DESCRIPTION

The **RGW** grit washer is a system which combines a circular and conical design with natural vortex and gravity forces; it provides the highest quality of captured grit and highest washing efficiency over a wide range of flowrates. When influent enters the stainless steel unit, centrifugal forces create a spiraling horizontal motion to separate organics.

The water and lightweight organics discharge over an upper weir plate while grit and heavier materials settle in the conical-shaped hopper where they are agitated gently by mixer arms and washed.
Organics released during agitation and washing are collected in a capture cone and removed through the blowdown valve.
The inclined grit screw draws washed grit from the hopper and provides optimal dewatering. Discharge is typically 90% dry weight or greater, and organics are less than **5%**.

WORKING LOGIC FOR SAND WASHING SYSTEMS RGW

The unit is made of 3 sections, each one having a different purpose:

1. **Top section of the hopper: the wastewater enters tangentially and it is set to spin in a vortex by the stirrer. The conical shape increases the centrifugal separation effect of the sand from the water.**
2. **The bottom section of the hopper is where the sand is collected and washed out by the air and water injection. The organic matter concentrate toward the center of the hopper around the mixer shaft.**
3. **The extracting screw starts running only when a certain level of sand is reached. The level is determined by the torque exerted on the stirrer and controlled by the torque limiting system. The screw extracts the washed sand and stops as soon as the sand level has dropped.**

MAIN FEATURES FOR SAND WASHING SYSTEMS RGW

1. **Sand removal having size of 200 microns and density 2,65: 90%.**
2. **Maximum organic content at 600 degC: 3% (test performed removing coarse organic particles).**
3. **Removal of sands with a particle size equal to or even smaller than 200 microns.**
4. **Treatment of wastewaters with medium flow rates of considerable importance and equivalent capacity of extraction of the sands they contain.**
5. **Structure of simple construction equipped with a thick screw conveyor, without a pipe, that permits withstanding wear and stresses of different type.**

These machines can be requested with different accessories, one of which is the air blower system that, by blowing in air, permits moving the wastewaters in order to avoid stagnation.

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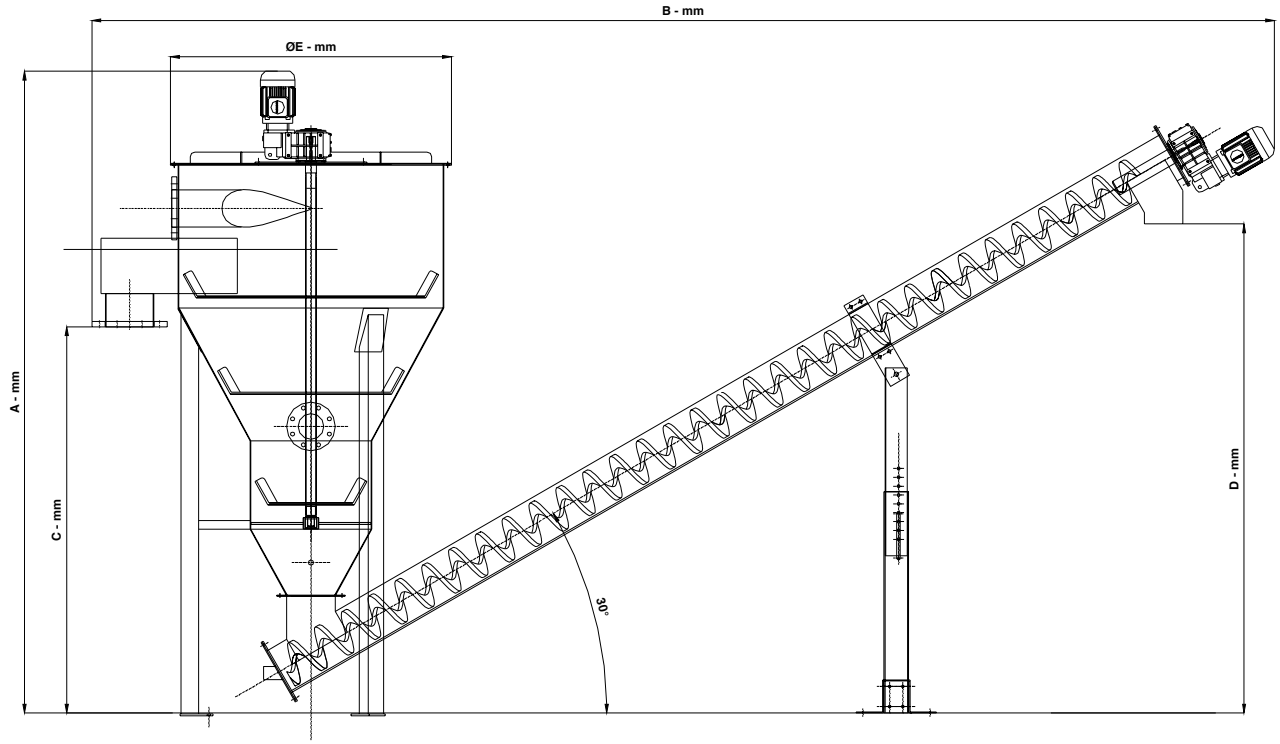
R.E.M. RGW grit washer can be equipped with the following accessories:
- vertical discharge.
- bagging (single or endless bag type).
- heating and weather protection.
- centralized solenoid valves and piping.
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.

STANDARD DIMENSIONAL DATA FOR SAND WASHING SYSTEMS RGW

RGW MODELS	A - mm	B - mm	C- mm	D - mm	E - mm	FLOWRATE	SAND REMOVAL CAPACITY
RGW1000	2240	4109	1303	1750	1000	**50 m³/h**	**1 m³/h**
RGW2000	2900	5346	1746	2210	1270	**100 m³/h**	**1.5 m³/h**



CAPACITY: UP TO 100 m³/h. MAXIMUM GRIT CONTENT: 1,5 m³/h

Materials of construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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SPIRAL SCREW CONVEYORS STC

Shaftless Screw Conveyors

MACHINE DESCRIPTION

R.E.M. range of screw conveyors is a broad and vaste selection where units for every application can be found. **R.E.M.** screw conveyors are multipurpose transport systems. The models are all based on the same technology; screw conveyors are made of the following sections:

- **Screw.**
- **Trough.**
- **Inlet.**
- **Discharge.**
- **Drive.**
- **Support.**

R.E.M. offers this type of machine, that can treat the following materials:

- **dewatered, conditioned or thickened biological sludges.**
- **screenings.**
- **solid urban waste.**
- **floating substances from civil or industrial plants.**
- **waste deriving from food processing (both animal and vegetable foodstuffs).**

REM STC screw conveyors are composed of a **U**-shaped trough that contains a screw of high thickness; the screw is **SHAFTLESS type**.

REM STC screw conveyors are composed of a **U**-shaped trough that contains a screw of high thickness; the screw is **SHAFTLESS type**. This allows the machine to be able to process materials whose entangled or thread-like nature doesn't succeed in clogging up the processing zone on the whole length of the conveyor. On the bottom of the conveyor there is a liner of **HDPE** material in the form of plates that are easily adapted at the base of the trough and fastened to it by external nuts and bolts. This liner is totally antifriction and wear-resistant. At the machine outlet is possible to fit an axial type of outlet. The machine is completely closed thanks to covers fixed to the structure by nuts and bolts; this, clearly, allows to operate without any leakage and bad smells that can be released by the treated material.

WORKING LOGIC FOR SHAFTLESS SCREW CONVEYOR STC

The screw conveyors are equipped with an inlet zone that, depending on the flow rate requirements of the incoming material, can have three different sizes, i.e.:

1. **SQUARE INLET.**
2. **RECTANGULAR INLET.**
3. **INCLINED INLET.**

The material is conveyed from the inlet zone to the outlet. The screw conveyors are perfectly adaptable machines, in length, to the transport requirements of the material.

GENERAL DIMENSIONAL DATA FOR SHAFTLESS SCREW CONVEYORS STC

Datas in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

MAIN FEATURES FOR SHAFTLESS SCREW CONVEYORS STC

The shaftless screw conveyors, mod. **STC**, are offered in different variants that do not need intermediate bearings. **STC** screws have the following characteristics:

1. **Standard execution in st. st. AISI 304/AISI 316.**
2. **Inlets and outlets having square, rectangular or inclined (15°/30°) shape.**
3. **Trough made of st. st. AISI 304/AISI 316.**
4. **Spiral made of high resistance micro-alloy carbon steel, st. st. AISI 304/316 (optional).**
5. **Liner made of HDPE or (optional) wear strips made of st. st. AISI304/AISI 316 (optional).**
6. **No mechanical parts in direct contact to conveyed product.**
7. **Low speed - No blocking or clogging even when conveying fibrous material.**
8. **Entirely sealed unit for leackage and odour-free environments.**
9. **Possibility to discharge in bags.**
10. **Extremely easy to transport materials even of difficult composition.**
11. **Complete absence of emission of bad smells, as equipped with closing covers.**
12. **Minimum overall dimensions and maximum versatility, high processing outputs.**

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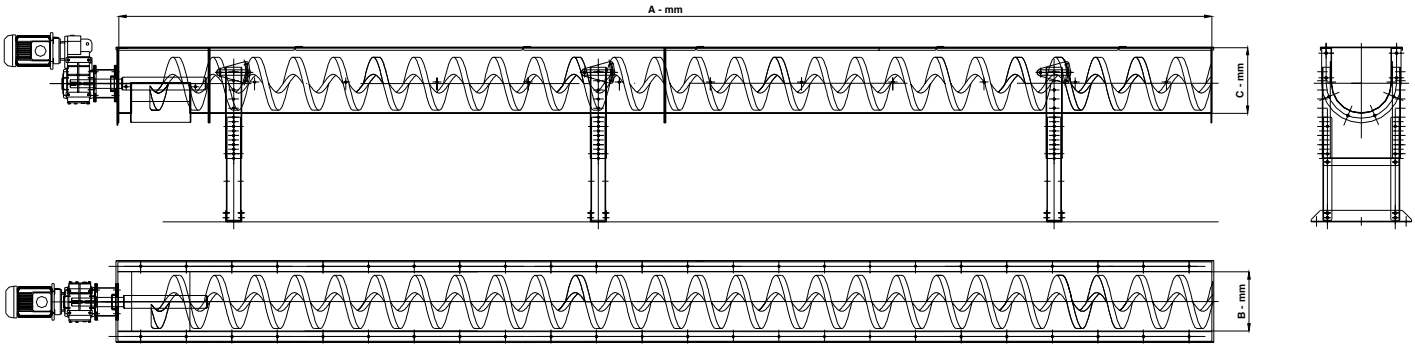
MATERIAL TO BE HANDLED: WASTEWATER - SLUDGE OR SCREENINGS

STC MODELS	A min. - mm	A max. - mm	B - mm	C - mm	Flowrates m^3/h	CAPACITY RATE ANGLE 30° MAX.
STC200	1000	15000	231	255	**4**	**45%**
STC250	1000	20000	281	303	**8**	**45%**
STC300	1000	20000	331	365	**15**	**45%**
STC400	1000	22000	431	488	**23**	**45%**
STC500	1000	22000	531	608	**34**	**45%**

ATTENTION THE MACHINE CAN BE USED INCLINATED UP TO A MAX. OF 30°

n.b.: the manufacturer may modify some dimensions or sizes without prior information



Materials of construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

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VERTICAL SPIRAL SCREW CONVEYORS STCV

VERTICAL Shaftless Screw Conveyors

MACHINE DESCRIPTION

R.E.M. range of screw conveyors is a broad and vaste selection where units for every application can be found. **R.E.M.** screw conveyors are multipurpose transport systems. The range includes:
- Vertical Shaftless Screw Conveyors model STCV.

The models are all based on the same technology; screw conveyors are made of the following sections:
- Screw.
- Trough.
- Inlet.
- Discharge.
- Drive.
- Support.

R.E.M. offers this type of machine, that can treat the following materials:
- dewatered, conditioned or thickened biological sludges.
- screenings.
- solid urban waste.
- floating substances from civil or industrial plants.
- waste deriving from food processing (both animal and vegetable foodstuffs).

REM STCV conveyor is a system analog to the **STC**; this conveyor differs from standard for its vertical installation which allows an installation in a tight space. The footprint is very small as it has a tubular body which contains the screw.
The tubular construction assure that no leaks or odours may occur. The screw contained in the conveyor has the characteristic of not being equipped with an internal shaft. This allows the machine to be able to process materials whose entangled or thread-like nature doesn't succeed in clogging up the processing zone on the whole length of the conveyor.

Inside the tube of the conveyor there is a combined **HDPE** and AISI304 liner material that are adapted at the tube diameter and fastened to it by external nuts and bolts. This liner is totally antifriction and wearproof.
The machine is completely closed; this, clearly, makes it possible to operate without any leaking and bad smells that can be given off by the treated material.

WORKING LOGIC FOR VERTICAL SHAFTLESS SCREW CONVEYORS STCV

The vertical shaftless conveyors are equipped with a round inlet which requires to be flanged to a horizontal screw feed which screw enters the inlet until reaching the tube of the vertical unit. The feeder assure that the material is always conveyed upwards without falling backwards. From the inlet the material is conveyed toward the outlet at the top end. The vertical shaftless conveyors are units suitable for handling different type of materials.

MAIN FEATURES FOR VERTICAL SHAFTLESS SCREW CONVEYORS STCV

The shaftless vertical screw conveyors, mod. **STCV**, are offered in several configurations, all of them do not require intermediate supports or hangers. The **STCV** conveyors have the following characterics:

1. **Standard execution in st. st. AISI 304/AISI 316.**
2. **Body made of st. st. AISI 304/AISI 316.**
3. **Spiral made of high resistance micro-alloy carbon steel, st. st. AISI 304/AISI 316 (optional).**
4. **Liner made of HDPE or (optional) wear strips made of st. st. AISI304/AISI 316 (optional).**
5. **No mechanical parts in direct contact to conveyed product.**
6. **Low speed.**
7. **No blocking or clogging even when conveying fibrous material.**
8. **Entirely sealed unit for leackage and odour-free environments**
9. **Possibility to discharge in bags.**
10. **Complete absence of emission of bad smells, as completely closed.**
11. **Minimum overall dimensions and maximum versatility.**
12. **High processing outputs.**

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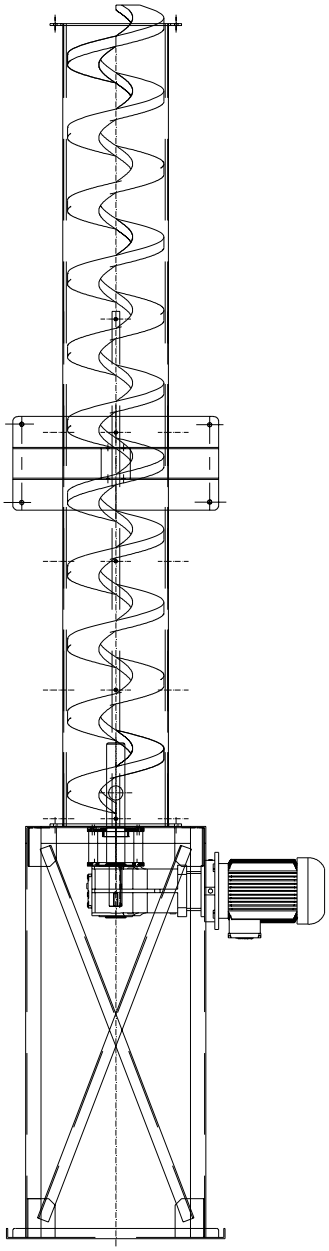
GENERAL DIMENSIONAL DATA FOR VERTICAL SHAFTLESS SCREW CONVEYORS STCV

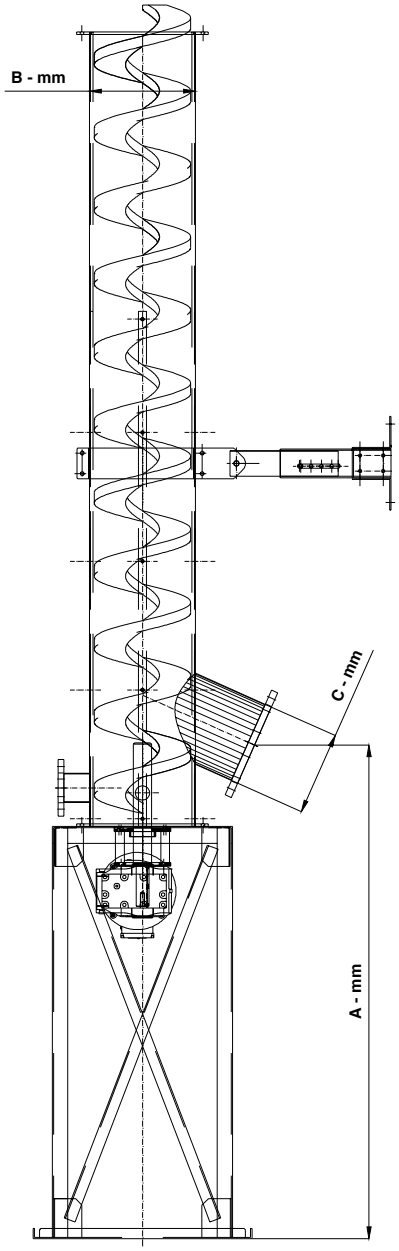
The data in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

STCV MODELS	STCV200	STCV250	STCV300	STCV400	STCV500
A - mm	1200	1200	1200	1200	1200
Ø B - mm	219	273	323	406	508
C - mm	300	350	420	500	600
Flowrates - m^3/h	**2.5**	**5**	**9**	**12**	**20**

Materials of construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS





ATTENTION THE MACHINE CAN BE USED ONLY IN VERTICAL POSITION

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DOUBLE SPIRAL SCREW CONVEYORS STCD

Double Shaftless Screw Conveyors

MACHINE DESCRIPTION

R.E.M. range of screw conveyors is a broad and vaste selection where units for every application can be found. **R.E.M.** screw conveyors are multipurpose transport systems which include:

- Double Shaftless Screw Conveyors model STCD.

The models are all based on the same technology; screw conveyors are made of the following sections:

- Twin Screw.
- W-shaped Trough.
- Inlet.
- Discharge.
- Twin Drive.
- Supports.

R.E.M. offers this type of machine, that can treat the following materials:

- dewatered, conditioned or thickened biological sludges.
- screenings.
- solid urban waste.
- floating substances from civil or industrial plants.
- waste deriving from food processing (both animal and vegetable foodstuffs).

The **STCD** double shaftless conveyor is dedicated to convey large quantity of material and/or bulk material that might get stuck in between the flighting. With the double spiral any long part may sit between the spiral and be conveyed by the spirals toward the outlet allowing to convey even very long or large parts.
The counter rotating spirals can be sincronized or independent based upon the installation needs. Dimension and thickness of the spiral is related to the working conditions. The design of the unit allows to handle long fibrous material that may get wrapped around shafted elements.
The shaftless design allows to remove easily any material that may get caught as it would "unscrew" along the flighting toward the discharge with the natural rotation of the unit. The spirals are sitting on an **HDPE** liner that reduces friction and prevent sticking material to build-up in the trough. All bolts used to hold the liner are removable from outside. The discharge is a front fully-open outlet to allow large parts to be discharged without obstuction. The conveying section is equipped with bolted raised covers to increase inner space and avoid odours or splashing. Vents can be fitted onto the covers.

WORKING LOGIC FOR DOUBLE SHAFTLESS SCREW CONVEYOR STCD

The double screw conveyors are equipped with an inlet zone that, depending on the flow rate requirements of the incoming material, can have three different sizes, i.e.:

1. SQUARE INLET.
2. RECTANGULAR INLET.
3. INCLINED INLET.

The material is conveyed from the inlet zone to the outlet. The screw conveyors are perfectly adaptable machines, in length, to the transport requirements of the material.

MAIN FEATURES DOUBLE SHAFTLESS SCREW CONVEYOR STCD

The double shaftless screw conveyors, mod. **STCD**, are offered in different variants that do not need intermediate bearings. **STCD** screws have the following characteristics:

1. Standard execution in st. st. AISI 304/AISI 316.
2. Inlets and outlets having square, rectangular or inclined (15°/30°) shape.
3. Trough made of st. st. AISI 304/AISI 316.
4. Spiral made of high resistance micro-alloy carbon steel, st. st. AISI 304/316 (optional).
5. Liner made of HDPE or (optional) wear strips made of st. st. AISI304/AISI 316 (optional).
6. No mechanical parts in direct contact to conveyed product.
7. Low speed - No blocking or clogging even when conveying fibrous material.
8. Entirely sealed unit for leackage and odour-free environments.
9. Possibility to discharge in bags.
10. Extremely easy to transport materials even of difficult composition.

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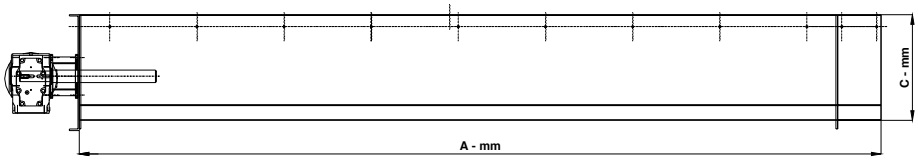
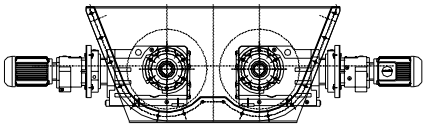
GENERAL DIMENSIONAL DATA FOR DOUBLE SHAFTLESS SCREW CONVEYORS STCD

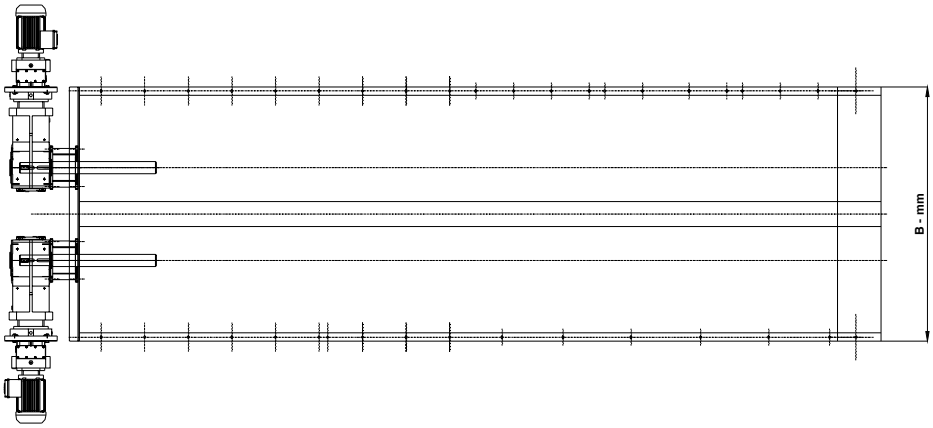
The data in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

STCD MODELS	A min. - mm	A max. - mm	B - mm	C - mm	Flowrates m³/h	CAPACITY RATE ANGLE 30° MAX.
STCD200	1000	8000	231	250	**10**	**60%**
STCD250	1000	8000	281	280	**15**	**60%**
STCD300	1000	12000	331	380	**20**	**60%**
STCD400	1000	12000	431	500	**35**	**60%**
STCD500	1000	12000	531	606	**50**	**60%**

ATTENTION THE MACHINE CAN BE USED IN THE INCLINATED POSITION UP TO A MAX.







Materials of construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

Materials of construction of spiral:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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TUBOLAR SPIRAL SCREW CONVEYORS STU

Tubolar Shafted Screw Conveyors

MACHINE DESCRIPTION

R.E.M. range of screw conveyors is a broad and vaste selection where units for every application can be found. **R.E.M.** screw conveyors are multipurpose transport systems. The range includes:
- Tubular Shafted Screw Conveyors model STU.

The models are all based on the same technology; screw conveyors are made of the following sections:
- Shafted screw.
- Conveying tube- Inlet.
- Discharge.
- Drive.
- Supports.



R.E.M. offers this type of machine, that can treat the following materials:
- lime.
- polymer.
- granular material.
- powders.

REM STU conveyor is a system analog to the **STC**; this conveyor differs from standard for its tubolar design installation which allows an installation in a tight space. **REM STU** conveyor is a system analog to the **STC**; this conveyor differs from standard for its shafted construction with a thinner spiral which allows an installation in a tight space. The footprint is very small as it has a tubular body which contains the screw. The tubular construction assure that no leaks, odours or dust may escape. The screw contained in the conveyor has the characteristic of not equipped with an internal shaft. This allows the machine to be able to process granular or bulky material in order to convey it but also to dose it. The shafted construction does not require any liner. The machine is completely closed; this, clearly, makes it possible to operate without any dust or liquid escape that can be released by the treated material.

WORKING LOGIC FOR SHAFED SCREW CONVEYOR STU

The screw conveyor are equipped with an inlet zone that, depending on the flow rate requirements of the incoming material, can have three different sizes, i.e.:
1. SQUARE INLET.
2. RECTANGULAR INLET.
3. INCLINED INLET.

The material is conveyed from the inlet zone to the outlet. The screw conveyors are perfectly adaptable machines, in length, to the transport requirements of the material.

MAIN FEATURES FOR SHAFTED SCREW CONVEYORS STU

The shafted screw conveyors, mod. **STU**, are offered in different variants that do not need intermediate bearings. **STU** screws have the following characteristics:
1. Standard execution in st. st. AISI 304/AISI 316 or painted mild steel.
2. Inlets and outlets having square, rectangular or inclined shape.

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3. Tube made of st. st. AISI 304/AISI 316.
4. Spiral made of mild steel, st. st. AISI 304/316 (optional).
5. Constant or variable pitch.
6. No mechanical parts in direct contact to conveyed product.
7. Entirely sealed unit for leackage and odour-free environments.
8. Possibility to use the conveyor as doser.
9. Possibility to install up to 45° inclination.

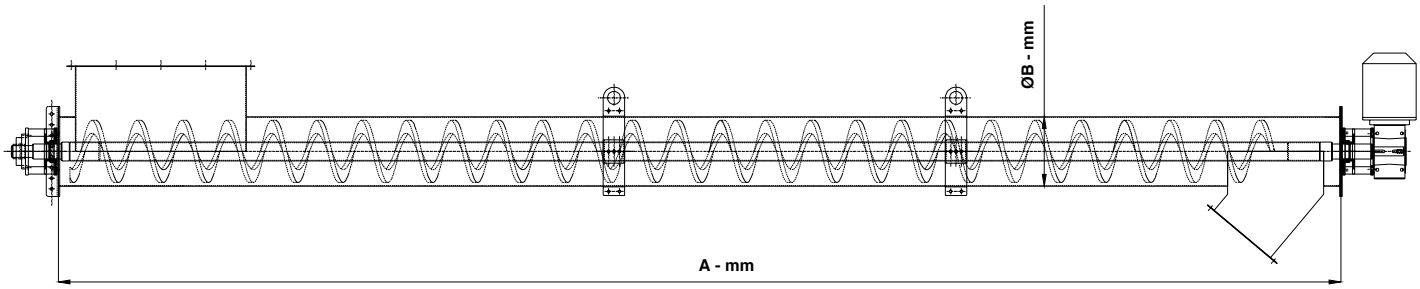
GENERAL DIMENSIONAL DATA FOR SHAFTED SCREW CONVEYORS STU

Datas in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

STU MODELS	A - mm	ØB - mm	Flowrates - m^3/h
STU168	6000 (std.)	168	3
STU219	6000 (std.)	219	7
STU323	6000 (std.)	323	20

Materials of construction for fabricated parts:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / * Painted maild steel

Materials of construction of spiral:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS



n.b.: the manufacturer may modify some dimensions or sizes without prior information

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BELT CONVEYORS RNT

Belt conveyors for transport and feeding

MACHINE DESCRIPTION

Belt conveyors are devices used for handling and conveying bulky material. These conveyors are very popular when it comes to convey inerts, large parts or boxes; they can be installed horizontal or inclined (**up to 30°**). **RNT** Belt conveyors are made with a fully enclosed frame to prevent release of dust or odour. The frame supports a double set or rollers on the convey and return side, each roller is fitted with ball bearings. The rollers support the PVC or Rubber belt depending on the application. The range of products include:

1. Flat Belt conveyors RNTP.
2. 3-Roller set type of support RNTT.

All belt conveyors are made of the following parts:

- **Frame.**
- **Belt - material: Rubber SIG EP400/3 5+2 CA - 3 Plies or PVC.**
- **Supports.**
- **Scraper.**
- **Flat rollers (RNTP).**
- **3-Roller set-up rollers (RNTT).**
- **Drive roller rubber coated.**
- **Driven ruller.**

Belt conveyors are suitable for conveying the following products:

1. dewatered sludge.
2. screenings.
3. municipal solid waste.
4. scum and grease.
5. food by-products.

The main advantages are:

1. suitable to convey sticky or bulky materials.
2. simple and limited maintenance.
3. low power consumption.
4. possibility to install them up to30°.

MAIN FEATURES BEL CONVEYORS RNT

RNT belt conveyors are offered in several configuration:

1. Standard execution in st. st. AISI 304/AISI 316 or painted mild steel.
2. Inlets and outlets having square, rectangular or inclined shape.
3. Drain pan made of st. st. AISI 304/AISI 316.
4. Belt made of rubber or PVC.
5. No mechanical parts in direct contact to conveyed product.
6. Entirely sealed unit for leackage and odour-free environments.
7. Possibility to use the conveyor as doser.
8. Possibility to install up to 45° inclination.

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PLOUGHSHARE MIXERS RMM

Single Shaft Ploughsshare mixers

MACHINE DESCRIPTION

RMM Ploughshare mixers are dedicated to mixing suldge or inerts together with additives and lime. The vortex energic action generated by the special shape of the ploughs allow to incorporate the additives into the main media saving on the amount of additives required and increasing the quality of the final product.
The robust and rugged construction allow to perfectly homogenize also coarse particles or inerts like gravel. **R.E.M.** offers this type of machine, that can treat the following materials:

- dewatered sludges.
- screened materials containing high percentages of sands.
- solid urban waste.
- contaminated soil and inerts.

The main advantages of the **RMM** mixers are:

1. High dispersion of the additive into the media.
2. Possibility to handle material of different sources.
3. Continuous operation.
4. Fast process.
5. Residue of minimum amount.

WORKING LOGIC FOR PLOUGHSHARE MIXERS RMM

Ploughshare mixers **RMM** are fed with the material to be treated through the main inlet located on one end of the mixing chamber (drive side), the additives are inserted through a separate inlet for solids or a set of nozzles located along the cylinder for the liquids. While conveyed toward the outlet the components are mixed and lifted assuring a perfect blend and dispersion. Liquids are completely absorbed by the product. A weir installed at the outlet allows to modify the residential time of the product and the mixing capacity. The discharge, through the outlet located opposite to the inlet, is continuous and does not require any valve. The main advantages are:

1. Possibility to handle and mix material of different nature or source and not constant over time.
2. Easy maintenance and cleaning.
3. Short mixing time.
4. High Throughput.

MAIN FEATURES OF PLOUGHSHARE MIXERS RMM

RMM ploughshare mixers are offered in several versions and materials of construction depending on the material nature. The main characteristics are:

1. Standard execution in mild steel or st. st. AISI 304/AISI 316 (optional) or Hardox Carbon steel (optional).
2. Inlets and outlets having shape in reference to the layout of installation.
3. Shaft and ploughs made of high resistance micro-alloy carbon steel, st. st. AISI 304/316 (optional) or Hardox Carbon steel (optional).
4. No mechanical parts in direct contact to mixed and conveyed product.
5. High speed.
6. Entirely sealed unit for leackage and odour-free environments.
7. Possibility to discharge in hoppers, screw conveyors, belt conveyors.
8. Extremely easy to mix materials even of difficult composition.
9. Complete absence of emission of bad smells, as equipped with closing covers.
10. No nuisance or emissions.
11. Perfect mixing of the materials (even liquids as option).
12. Easy and quick maintenance.

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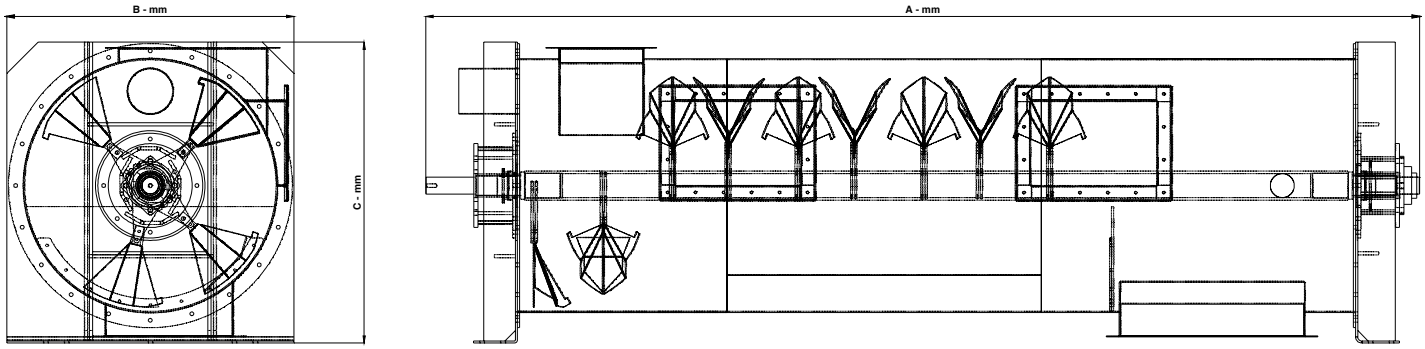
GENERAL DIMENSIONAL DATA FOR PLOUGHSHARE MIXERS RMM

The data in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

RMM MODELS	A - mm	B - mm	C - mm	Ø - mm	CAPACITY - m³/h
RMM2000	2500	1000	1150	800	**20**
RMM3000	3500	1000	1150	800	**30**
RMM4000	3000	1250	1400	1000	**40**
RMM6000	4000	1250	1400	1000	**61**
RMM8000	4250	1500	1650	1200	**82**
RMM10000	4750	1500	1650	1200	**105**
RMM15000	6750	1500	1650	1200	**160**

Fabricated parts material:
*Stainless Steel AISI304 / *Stainless Steel AISI316 / * Painted maild steel

Shaft and ploughs material:
*Mild Steel / *Stainless Steel AISI304 / *Stainless Steel AISI316 / *High resistance steel HRS



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TWIN SHAFT PADDLE MIXERS RMW

Twin shaft paddle mixers / conveyors

MACHINE DESCRIPTION

R.E.M. range of twin shaft paddle mixers, are made of stainless steel and completed with paddles installed on shafts.
The peculiaruty of this type of mixers is a shaftless section at the loading endside which does both the feeding system and the support of the mixer itself. The design of the paddles is studied to improve the sludge/lime mixing and conveying ability of the machine; mixers are made of the following sections:

- **Transport section.**
- **Mixing section.**
- **Discharge.**
- **Drive.**
- **Support**

R.E.M. offers this type of machine, that can treat the following materials:

- **dewatered sludges.**
- **floating substances from civil or industrial plants.**
- **waste deriving from food processing (both animal and vegetable foodstuffs).**

WORKING LOGIC FOR TWIN SHAFT PADDLE MIXERS RMW

REM RMW are twin shaft mixers featuring 2 counter-rotating rotors fitted with paddles. Paddles have an adjustable inclination to adjust the process of mixing enhancing the mixing effect of the throughput.
The counter-rotating set-up allows to convey the sludge toward the center of the mixer and have and exchange between the right and left side of the mixer itself increasing the mixing efficiency.

The shallow design and the possibility to install the mixer on an angle allow to install the mixer in confined spaces. The 2 rotors also allow to convey the material.
An extended version version of the mixer will consequently allow to have a longer mixing time and some conveying facility too. **RMW** mixers are mostly used for:

- **Dry or humid solids (but still pileable).**
- **Sludges at minimum 18% DS.**

The main advantages are:

1. **Possibility to handle and mix material of different nature or source and not constant over time.**
2. **Easy maintenance and cleaning.**
3. **Short mixing time.**
4. **Shallow construction.**
5. **Conveying and mixing at once.**

MAIN FEATURES FOR TWIN SHAFT PADDLE MIXERS RMW

RMW twin shaft paddle mixers are offered in several versions and materials of construction depending on the material nature. The main characteristics are:

1. **Standard execution in mild steel, st. st. AISI 304/AISI 316 (optional).**
2. **Inlets and outlets having shape in reference to the layout of installation.**
3. **Twin shaft paddles mixer made of high resistance micro-alloy carbon steel, st. st. AISI 304/316 (optional).**
4. **No mechanical parts in direct contact to mixed and conveyed product.**
5. **Low speed - No blocking or clogging even when fibrous materials has to be mixed and conveyed.**
6. **Entirely sealed unit for leackage and odour-free environments.**
7. **Possibility to discharge in bags.**
8. **Ease of conveying of not-free-flowing materials.**
9. **Complete absence of emission of bad smells, as equipped with closing covers.**
10. **Minimum overall dimensions and maximum versatility, high processing outputs.**
11. **No nuisance or emissions.**
12. **Perfect mixing of the materials (even liquids as option).**
13. **Easy and quick maintenance.**
14. **Low power consumption.**
15. **Tungsten carbide coated paddles.**
16. **HDPE liner of the mixer chamber.**

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GENERAL DIMENSIONAL DATA FOR TWIN SHAFT PADDLE MIXERS RMW

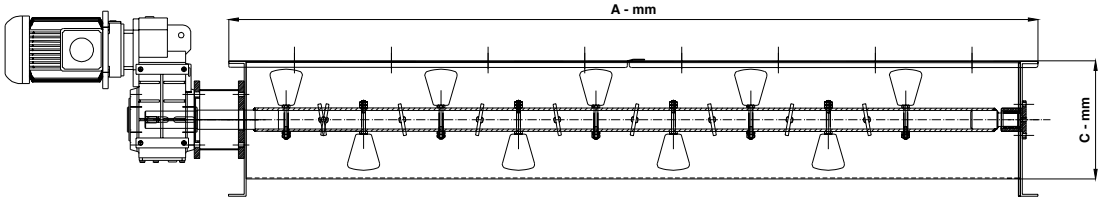
The data in the chart are to be considered approximate; since the machine is able to process materials of different types and therefore of different organic compositions, take these values as illustrative references that must be clarified and requested from our Engineering - Sales department.

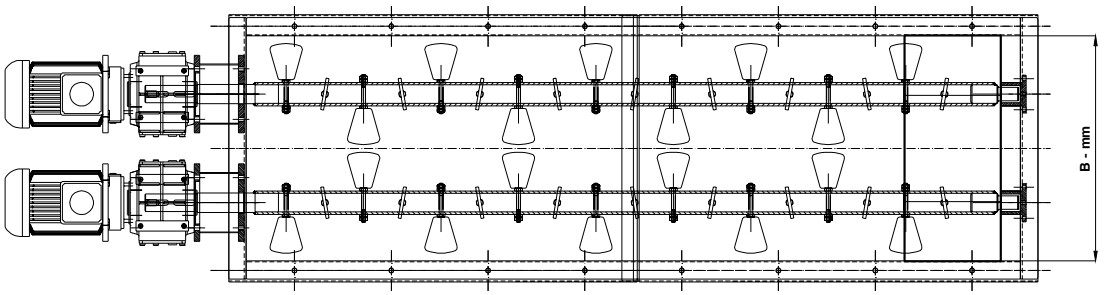
RMW MODELS	A min. - mm	A max. - mm	B - mm	C - mm	Flowrates m^3/h	CAPACITY RATE ANGLE 30° MAX.
RMW200	1000	15000	400	255	3	**60%**
RMW250	1000	20000	520	305	6	**60%**
RMW300	1000	20000	620	365	12	**60%**
RMW400	1000	22000	780	488	18	**60%**
RMW500	1000	22000	980	608	25	**60%**

ATTENTION THE MACHINE CAN BE USED IN THE INCLINATED POSITION UP TO A MAX. OF 15°

Fabricated parts material:
*Stainless Steel AISI304
*Stainless Steel AISI316

Shaft paddle mixer material:
*Stainless Steel AISI304
*Stainless Steel AISI316
*High resistance steel HRS





n.b.: the manufacturer may modify some dimensions or sizes without prior information

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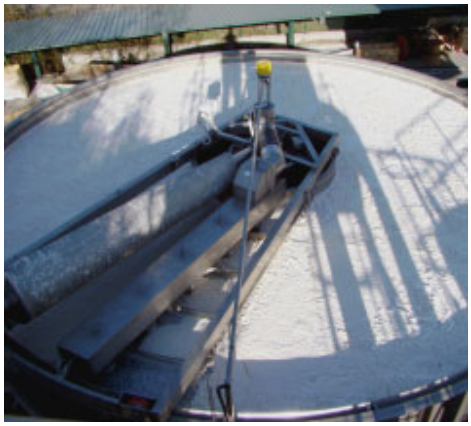
AIR FLOTATORS RAF

Dissolved Air Flotation System

MACHINE DESCRIPTION

R.E.M. produce a wide range of flotators which consists of a compartment for expansion and flocculation, set up for receiving simultaneously the wastes to be treated as well as the water enriched with dissolved air coming in from a pressurization system. The unit is about sludge treatment which comes from waste waters; the range refers to: **DISSOLVED AIR FLOTATOR - MODEL RAF**.
The series of flotators are of the circular type with low hydraulic head with peripheral traction rotary bridge. The most important feature of the flotator is the supply and distribution system. It consists of a compartment for expansion and flocculation, set up for receiving simultaneously the wastes to be treated as well as the water enriched with dissolved air coming in from the pressurization system. It also includes a flow distribution system capable of compensating the speed of the incoming waste and providing the ideal hydraulic conditions according to the **STOKES law - low speed of wastes, laminar motion - Uniform distribution**.
Before explaining all the points regarding the working of this series of flotators in detail, the theoretical considerations concerning the description of the flotator and flotation are given below.



WORKING LOGIC FOR DISSOLVED AIR FLOTATION SYSTEM RAF

Flotation is the process which allows separation of solid impurities from the water by transferring these to the surface. Suspended particles are removed from the liquid phase (which is usually water) by introducing a gaseous phase (usually air) in the suspension. Because of the different physical/chemical characteristics of their surfaces, the solid particles bind together with the gaseous bubbles surrounding themselves.
The particles that tend to remain in the air and thereby not get wetted by water are referred to as aerophylic or lyophobic; those that tend to get wetted with water are hydrophylic or lyophylic. While the process of hydraulic classification is essentially based on the difference in specific weight of the solids treated, this difference is not a determining factor in flotation.

Separation takes place because of the forces acting (adsorption and surface tension) to overcome gravity. Simultaneously with air a surfactant substance can be introduced into the liquid, so that increasing the surface tension of the liquid will allow the air bubbles to become persistent and form foam.

The aerophylic solid thus adheres to the bubbles and floats on the suspension while the hydrophylic solid sinks to the bottom. Separation is obtained by removing the foam from the surface and the sludge from the bottom. To understand the theoretical basis of the flotation process, let us consider the state of a solid particle (or granule) resting on the free surface of a liquid.
Both force of gravity and surface tension of the supporting liquid act on this granule. Because of the effect of the force of gravity, the particle will tend to get immersed in the liquid while the surface tension makes the free liquid surface behave like a stretched membrane preventing the phenomenon of immersion. In this situation two events are possible:
1. the gravity is in agreement.
2. in disagreement with the surface tension, respectively.

In the first case, the granule of treated material will not get wet and will cause the liquid to assume a concave shape at the relative point of contact. In the second case the granule will get wet and the liquid will assume a convex shape at the point of contact with the particle.
Depending on which of the two events takes place, the materials can be differentiated as described earlier:
- AEROPHYLIC, THOSE THAT TEND TO STAY IN THE AIR AND NOT BE WETTED BY WATER.
- HYDROPHYLIC, THOSE THAT GET WETTED BY WATER.

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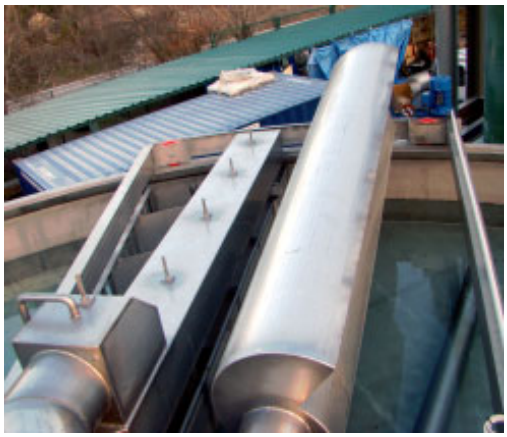


PRINCIPLE OF THE AIR DISSOLUTION SYSTEM RAF

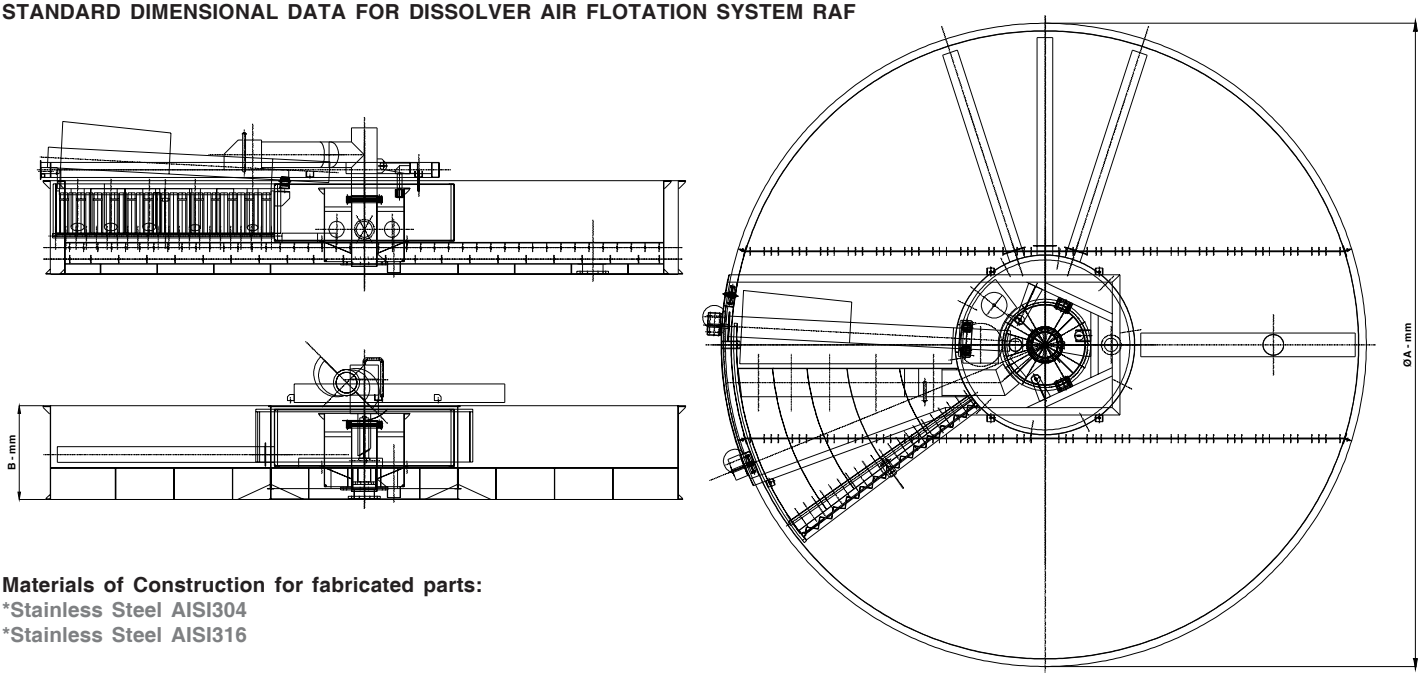
Flotation system removes the solid impurities contained in the water by transferring these to the surface, thanks to the tiny air bubbles which anchor themselves to the particles (or floc) dragging them to the surface. The air bubbles are formed by the following mechanism:

1. **THE AIR COMING FROM THE PRESSURE REDUCER AT 4.5 BAR IS ADDED TO WATER, IN A CONTROLLED QUANTITY IN THE PRESSURIZATION CELL.**
2. **THE WATER IS PRESSURIZED AT A PRESSURE OF 4 BAR BY MEANS OF THE PRESSURIZATION PUMP.**
3. **THE WATER REMAINS PRESSURIZED FOR ABOUT 20 SECONDS IN THE PRESSURIZATION CELL SO THAT THE AIR AT THAT PRESSURE IS DISPERSED IN THE WATER.**
4. **AFTER THIS TREATMENT, THE WATER CONTAINING DISPERSED AIR, IS MADE TO PASS THROUGH AN ACTIVATE FLOW VALVE OPERATED IN SUCH A MANNER AS TO RELEASE THE PRESSURE: AT THIS POINT THE WATER CAN NO LONGER RETAIN THE EXCESS AIR THAT WAS ABSORBED, AND THUS RELEASES TINY AIR BUBBLES WHICH IMMEDIATELY SPREAD THROUGH THE LIQUID.**

The main advantages are:
1. Very high suspended and dissolved solids removal efficiency.
2. Easy maintenance and cleaning.
3. Elimination of short-circuiting flow.
4. Reduced polymer consumption

RAF Dissolved air flotators are mostly used for:
1. Dairies.
2. Slaughterhouses
3. Petroleum applications
4. Waste streams with high grease concentration.

STANDARD DIMENSIONAL DATA FOR DISSOLVER AIR FLOTATION SYSTEM RAF



Materials of Construction for fabricated parts:
*Stainless Steel AISI304
*Stainless Steel AISI316

RAF MODELS	RAF20	RAF25	RAF30	RAF40	RAF50	RAF67	RAF80	RAF100
ØA DIAMETER - m	2.0	2.5	3.0	4.0	5.0	6.7	8	10
B TANK HEIGHT - m	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FLOWRATE - m^3/h	18	28	42	75	120	210	300	470

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SKIMMER RSK

Surface Grease Skimmer

MACHINE DESCRIPTION

R.E.M. produce a wide range of surface grease skimmers; the unit is about sludge treatment which comes from waste waters. The system includes a **U-channel** frame having tapered profile which guides a double chain with plastic rollers that carry the scrapers.
During the rotation the scrapers push the grease and the scum toward the discharge point which is more elevated than the water level. This simple and easy device is delivered fully assembled to be installed in the basin. The drive is generally located outside the basin for maintenance purposes.

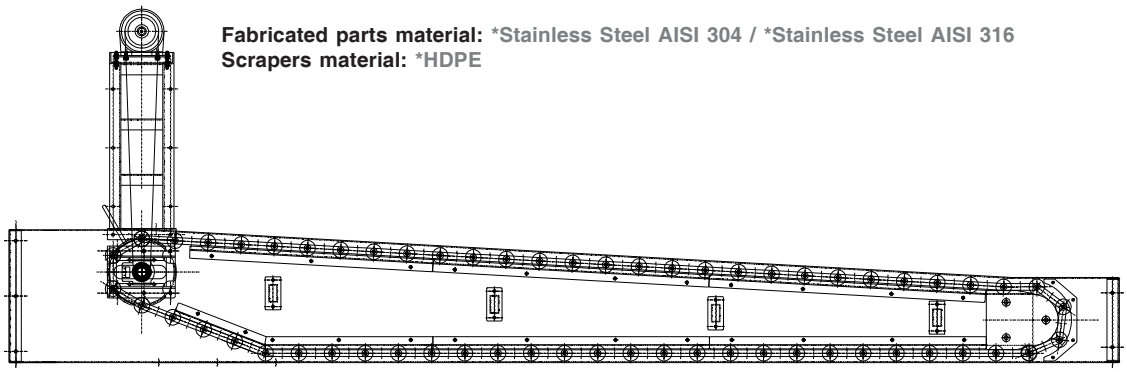
WORKING LOGIC FOR SURFACE GREASE SKIMMERS RSK

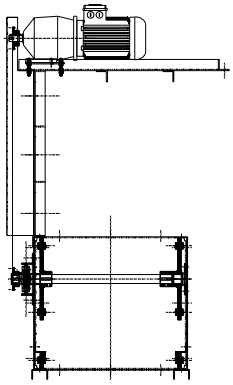
The surface grease skimmer is a device designed to remove the floating grease and scum that accumulates in the "**CALM**" area of the basin.
The unit is a catenary equipped with several blades which enter the liquid surface and pushes the greasy material toward the discharge point where a small ramp follows the raising profile of the skimmer.
The grease is elevated and discharged into the following scum pit. The catenary generally completes a full rotation or a portion when long, and then stops for an adjustable time.

MAIN FEATURES FOR SURFACE GREASE SKIMMERS RSK

RSK skimmers have the following characteristics:
1. Standard execution in st. st. AISI 304/AISI 316.
2. No mechanical parts in direct contact to treated liquids.
3. Low speed - No blocking or clogging.
4. Maximum versatility, high processing outputs.

Fabricated parts material: *Stainless Steel AISI 304 / *Stainless Steel AISI 316
Scrapers material: *HDPE





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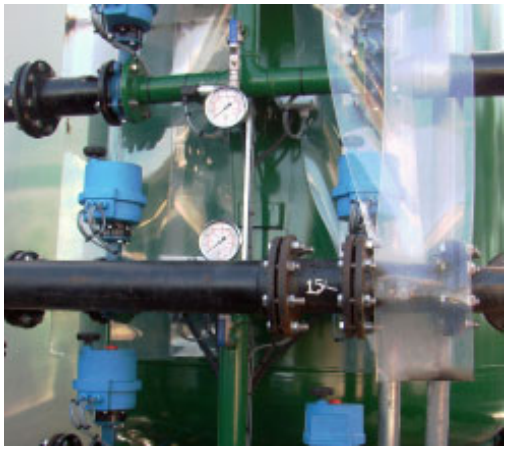
PRESSURE FILTERS RFA

Automatic Pressure Filters

MACHINE DESCRIPTION

The physical filtration systems, mod. **RFA**, of the primary and effluent waters are divided in 2 categories:
1. FILTRATION USING QUARTZ SAND.
2. FILTRATION BY ADSORPTION USING ACTIVATED CARBON or ZEOLITE.

The quartz sand filter captures suspended particles having size as small as 20 microns. The activated carbon absorptive filter captures colloidal and suspended particles.



The process is cyclical: **FILTRATION THEN WASHING**. During filtration, the effluent is introduced inside the filter and forced through the filtering layer made of quartz sand and activated carbon in the bottom.
During the wash cycle, clean water (or air) is introduced inside the filter from the bottom of the container. This injection causes the expansion of the filtering layer and its resultant washing, the wash cycle is automatic.

WORKING LOGIC FOR AUTOMATIC PRESSURE FILTERS RFA

The working of sand filters is divided into two phases which are the following.

Filtration: The effluent enters the filter through the inlet valve and flows through the filtering material (activated carbon and/or quartz sand) placed on the nozzleholder filter plate or at the bottom of the filter.

Regeneration of filtration layer: The regeneration phase may be manual by using the hand wheels on the valves, or automatic by means of the following methods:

1. TIMED.
2. INPUT / OUTPUT PRESSURE DIFFERENCE.
3. VOLUME OF FILTERED WATER.
4. SET-POINT ON FLOW METER WITH CALIBRATED FLANGE.

Features of pressure filters:
1. SEPARATE MICROSCOPIC SUSPENDED SOLIDS.
2. ELIMINATE ODOURS.
3. ELIMINATE COLOURS.
3. REMOVE IRON.
4. REMOVE MANGANESE.

Configuration available:
1. REGENERATION BY WASHWATER ONLY (5 VALVES).
2. REGENERATION BY WATER AND AIR (6 VALVES) - REQUIRES PED CERTIFICATION.

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R.E.M. RFA pressure filters can be equipped with the following accessories:
- control cabinet.
- ATEX or UL NEMA 7 EX-proof version.
- Pneumatic valves.
- Electrically actuated valves.
- Safety release valve.
- Backwash pump.
- Food grade painting (for drinking water).

STANDARD DIMENSIONAL DATA FOR PRESSURE FILTERS FA

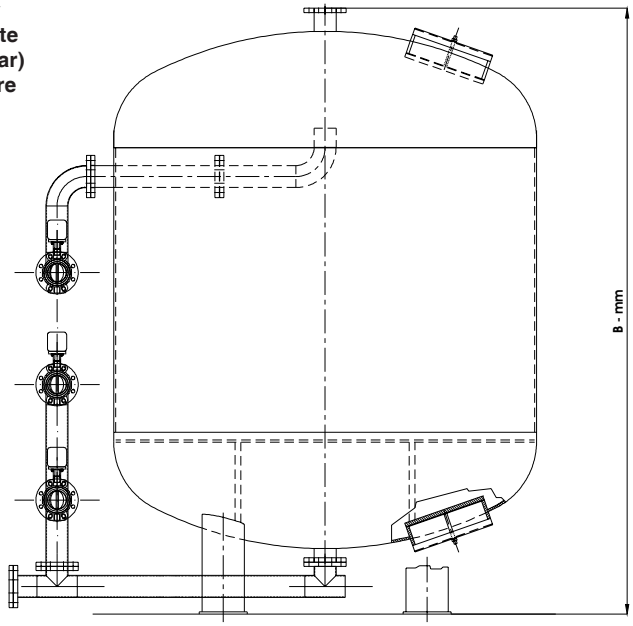
RFA MODELS	RFA600	RFA800	RFA900	RFA1000	RFA1200	RFA1400	RFA1600	RFA1800	RFA2000	RFA2200	RFA2500	RFA2800	RFA3000
ØA - mm	600	800	900	1000	1200	1400	1600	1800	2000	2200	2600	2800	3000
B - mm	1900	2000	2300	2400	2600	2750	3000	3200	3300	3500	3600	3700	3800
Inlet - Outlet Disharge	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16	DN50 PN16	DN50 PN16	DN65 PN16	DN65 PN16	DN80 PN16	DN100 PN16	DN100 PN16	DN100 PN16	DN100 PN16
AIR INLET	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN40 PN10	DN50 PN10	DN50 PN10	DN65 PN10	DN65 PN10	DN65 PN10	DN65 PN10

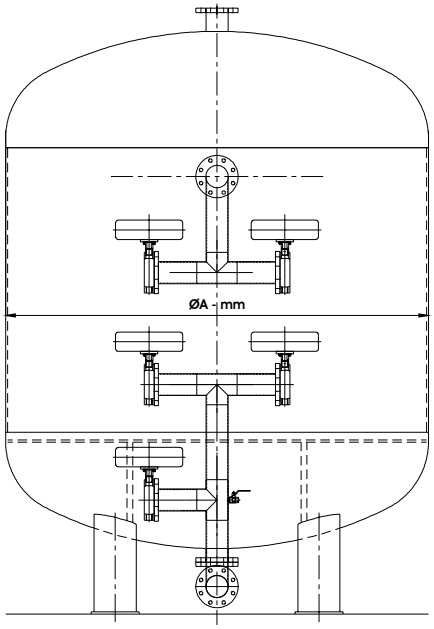
SAND AND ACTIVATED CARBON PRESSURE FILTERS: DATA CALCULATED AT VELOCITY V=10 M/H.

IMPORTANT! FOR SMALL FILTERS A NOZZLEHOLDER BAR IS PROVIDED WHILE LARGE FILTERS HAVE NOZZLEHOLDER PLATE WITH ABOUT 54 NOZZLES / SQUARE METER.

Fabricated parts material: *Painted Mild Steel / *Stainless Steel AISI 304 / *Stainless Steel AISI 316

Q_e: Working capacity
Q_c: Backwash flowrate
Q_a: Air flowrate (0.5 bar)
PR_e: Working pressure





RFA MODELS	RFA600	RFA800	RFA900	RFA1000	RFA1200	RFA1400	RFA1600	RFA1800	RFA2000	RFA2200	RFA2500	RFA2800	RFA3000
Q_e (m^3/h)	4	5	7	8	10	15	20	25	30	40	50	60	70
Q_c (m^3/h)	6	8	10	16	20	30	40	50	60	80	100	120	140
Q_a (Nm^3/h)	15	30	35	40	50	75	100	125	150	200	250	300	350
PR_e (bar)	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4

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SLIDE GATES VGA

Decanter Off-spec sludge Gates

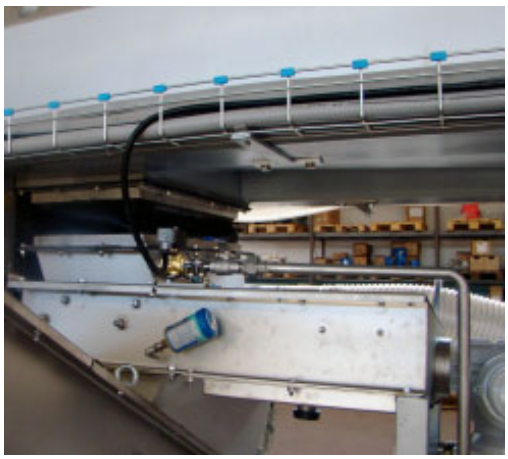
MACHINE DESCRIPTION

The **VGA** series gate valve is an **On-Off** device designed for installation at the outlet of centrifuges. The valve opens and closes the flow of material to be intercepted by means of the movement of a steel blade, bringing about the action of a pneumatic actuator activated by the relative solenoid valve. The gate valve has two operating positions:

1. COMPLETELY OPEN POSITION.
2. COMPLETELY CLOSED POSITION.

The valve open/closed status is detected by two magnetic proximity switches installed on the cylinder of the pneumatic actuator near the two stroke end points of the relative piston.
The valve is specially designed according to a compact design so that the dimensions of the decanter to which it is connected remain unchanged, making sure there are no projecting parts or parts that limit access to the decanter.

To ensure perfect alignment of the blade, the unit is equipped with two rack shafts placed on the sides of the blade, on which, two cogged wheels forming an integral part of the blade slide. Further reliability of movement of the blade is provided by a series of sliding rollers installed on all the internal side panels of the valve outlet side. All the sliding rollers and supports are protected from the direct flow of sludge.



In the inner perimeter of the valve, on the inlet spout side, a heavy-duty industrial gasket is fitted to ensure a water-tight seal against atmosphertic pressure with the valve closed. The valve is also provided with a drainage hopper that must be placed at the decanter outlet and a suitable flexible rubber bellows for coupling it with the decanter outlet flange. The valve is equipped with high pressure nozzles for washing the sludge from the blade with the valve closed.

WORKING LOGIC FOR SLIDE GATES VGA

The gate valve is designed specifically for installation at the outlet of a decanter. The aim is to divert the sludge and water deriving from washing of the decanter towards the drainage hopper outlet by its closure. The valve movements must be controlled by means of an electric panel with external control (not included in the supply) which must power the coil of the pneumatic actuator solenoid valve. The valve is normally open and closes when the actuator solenoid valve coil is energized. The movements are only possible in the presence of a suitable compressed air pressure value. The change in status of the two proximity magnetic sensors installed on the pneumatic actuator cylinder allow the electric control panel to define whether the valve is completely open or completely closed. Management of the operating logic is the responsibility of those who process the automation of the electric control panel.

MAIN FEATURES FOR SLIDE GATES VGA

1. THE RANGE OF GATE VALVES COVERS THE WHOLE RANGE OF DECANTER CURRENTLY IN PRODUCTION, BASED ON CORRECT APPLICATION AND THE FEATURES OF THE MATERIALS HANDLED.
2. THE UNIT IS EQUIPPED WITH A SET OF HIGH PRESSURE NOZZLES FOR INTERNAL CLEANING. THE WASHING SYSTEM ALLOWS TO DISCHARGE SOLID SLUDGE HAVING A HIGH DRY SOLID CONTENT BUT STILL NOT MEETING THE SLUDGE REQUIREMENT FOR DISPOSAL.
3. THE ENTIRE PROCESS OF THE MACHINE MUST BE AUTOMATED DEPENDING ON THE MACHINES CONNECTED.
4. INSTALLATION IS EASY AND FAST.
5. MAINTENANCE, WHEN REQUIRED, IS QUITE EASY.
6. THE UNIT HAS A PORT FOR SAMPLING THE SLUDGES TO BE ANALYZED (OPTIONAL).

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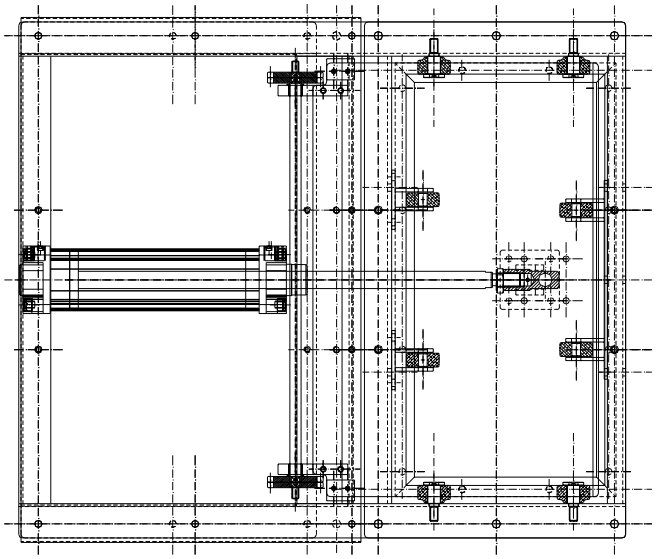
Configuration available:
1. PNEUMATIC ACTUATOR WITH SOLENOID VALVE AND LIMIT SWITCHES.
2. AUMA ELECTRIC ACTUATORS.

R.E.M. VGA slide gates can be equipped with the following accessories:
- CONTROL CABINET.
- ATEX OR UL NEMA 7 EX-PROOF VERSION.
- PNEUMATIC ACTUATOR.
- ELECTRICAL ACTUATOR.
- SAMPLING SCOOP.

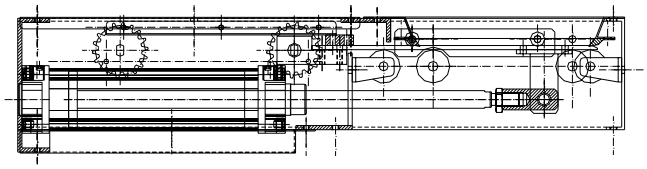
STANDARD DIMENSIONAL DATA FOR SLIDE GATES VGA

VGA MODELS	VGA10	VGA20	VGA40	VGA45	VGA60	VGA75	VGA80	VGA95	VGA100	VGA115	VGA120	VGA125
INLET - mm	370 x 180	480 x 260	468 x 286	590 x 310	690 x 381	635 x 400	690 x 381	750 x 400	800 x 454	850 x 500	1120 x 515	910 x 550

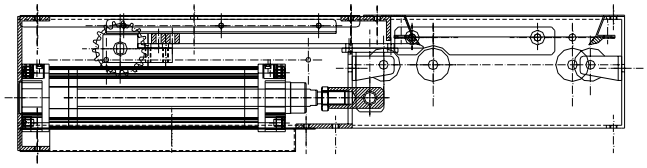
Fabricated parts material: *Stainless Steel AISI304 / *Stainless Steel AISI316
Rollers material: *Teflon

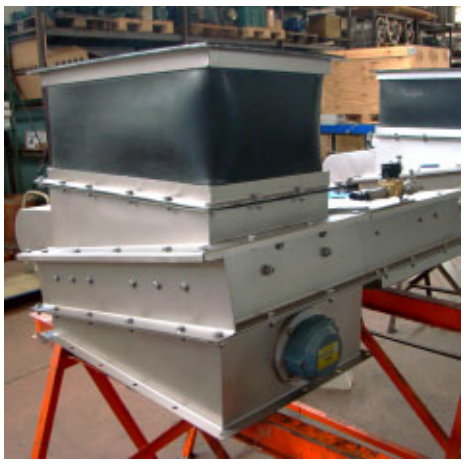


GATE CLOSED



GATE OPEN





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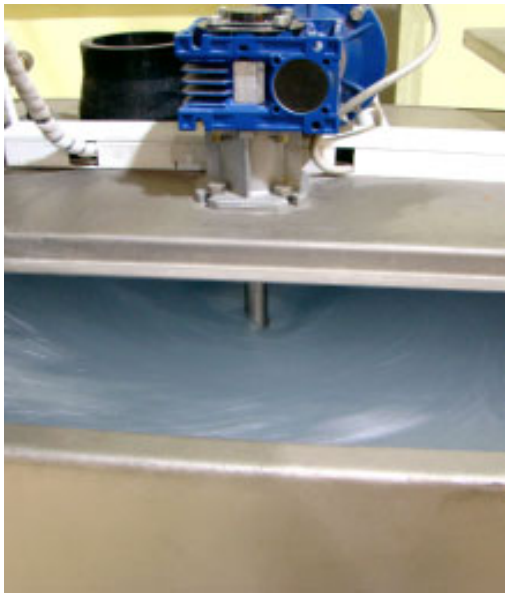
POLYMER PREPARATION STATIONS STPL

Polymer Preparation Stations for polymer powder

MACHINE DESCRIPTION

R.E.M. produce a wide range of sludge treatment units; the range here refers to:
- Automatic Polymer preparation units - model STPL.

The polymer preparation unit, mod. **STPL**, is used to automatically prepare polymer solutions which are used as coagulants for the suspended particles in the effluents treated in the waste water treatment plants. Polymer addition is used in the treatment of water both in the primary clarification-flocculation phase and in the last sludge dehydration phase.



The powder, fed by a shaftless screw feeder with integrated lump breaker, is dosed into the wetting and mixing cone in proportion to the water loaded in the tank. This special feature allows to control carefully the amount of powder optimising the process and reducing the powder consumption. The flowmeter installed at the water infeed measures the amount of water loaded in each batch. The value, preset by the control, is divided in 4 smaller batches.
Once calibrated the doser and set the concentration required, the system will calculate the amount of powder required and will dose the polymer necessary for the concentration in each fraction of batches. The pressurised water generate a funnel in the wetting cone and a vacuum effect which reduces the release of mist or humidity preventing the doser from clogging. The **3-tank** set-up allows to have a mixing tank, a curing tank and a feeding tank. An ultrasonic level control let the customer control the exact amount of polymer in the feeding tank.
The control is entirely automatic and no manual valves or regulation are allowed reducing the risk of misplacement or incidents. The touchscreen control is very flexible and allows to control each parameter of the system including an Ethernet port for connection to the **SCADA system**.

WORKING LOGIC FOR AUTOMATIC POLYMER PREPARATION STATIONS STPL

The polymer make-up unit is used for the automatic preparation of polymer solution required as coagulants for the suspended particles present in the wastewater. The working logic is simple and reliable. The tank is always kept at the highest filling level. Once the level of the solution drops below the “low” level, the unit opens the intake solenoid valve and starts dosing the polymer.
The water is loaded in volume checking the right amount through the turbine flowmeter, while the polymer is dosed by time. A cross check of the water flow is made to verify there is water in the line.

MAIN FEATURES MOD. STPL

1. THE WIDE RANGE OF PRODUCTS ALLOW CHOOSING THE CORRECT MODEL BASED UPON THE APPLICATION AND THE CHARACTERISTICS OF THE EFFLUENT.
2. THE UNIT MAY BE EASILY CLEANED BY USING PRESSURE WATER TO REMOVE SEDIMENTS OR LUMPS OF POLYMER NOT PROPERLY DISSOLVED.
3. THE UNIT IS ENTIRELY CLOSED BY COVERS WHICH MAY BE OPENED FOR INSPECTION. THE PRESENCE OF COVERS PREVENTS THE RELEASE OF ODORS OR SPILLAGES.
4. THE ENTIRE PROCESS IS AUTOMATED.
5. THE INSTALLATION IS SIMPLE AND FAST.
6. WHEN REQUIRED, MAINTENANCE IS PRETTY SIMPLE.

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R.E.M. AUTOMATION INC. - 530 Burnside Avenue - Inwood, NY 11096 - United States
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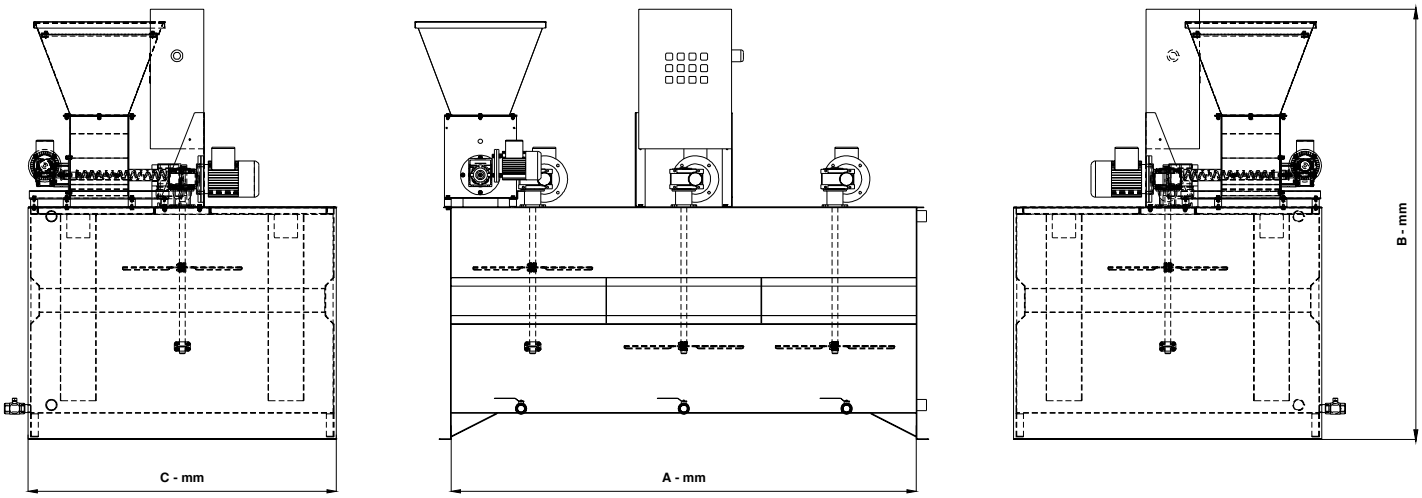
R.E.M. STPL polymer preparation units can be equipped with the following accessories:
- ATEX or UL NEMA 7 EX-proof version.
- UL version.
- Combined system with powder and emulsion dosing.
- Vacuum loading system.
- Big-bag emptying system.
- Ladder with platform.
- Dosing pump.
- Magnetic flowmeter.

STANDARD DIMENSIONAL DATA FOR AUTOMATIC POLYMER PREPARATION STATIONS STPL



Fabricated parts material: *Stainless Steel AISI 304 / *Stainless Steel AISI 316
Wetting group material: PVC

STPL MODELS	STPL750	STPL1000	STPL1500	STPL2000	STPL2500	STPL3000	STPL4000	STPL5000	STPL7000	STPL10000
A - mm	1500	2000	3000	2000	2000	3000	4000	4000	6000	6000
B - mm	1666	1666	1666	1666	1666	1666	2216	2216	2216	2216
C - mm	825	825	825	1325	1325	1325	1325	1325	1325	1725
Hopper capacity - kg	30	30	30	30	30	30	50	50	50	100
Hourly capacity - l/h	750	1000	1500	2000	2500	3000	4000	5000	7000	10000
Dry weight - kg	300	450	450	450	560	600	680	700	750	1200

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POLYMER PREPARATION STATIONS STPLL

Polymer Preparation Stations for liquid polymer emulsion

MACHINE DESCRIPTION

R.E.M. produce a wide range of sludge treatment units; here the range refers to:
- Polymer preparation units for liquid polymer - model STPLL.

The polymer preparation unit, mod. **STPLL**, is used to automatically prepare polymer solutions which are used as coagulants for the suspended particles in the effluents treated in the waste water treatment plants. Polymer addition is used in the treatment of water both in the primary clarification-flocculation phase and in the last sludge dehydration phase.

The emulsion, fed by a membrane pump or a wobble pump depending on flowrates, is dosed into the wetting and mixing cone in proportion to the water loaded in the tank. This special feature allows to control carefully the amount of emulsion optimising the process and reducing the polymer consumption. The flowmeter installed at the water infeed measures the amount of water loaded in each batch. The value, preset by the control, is divided in 4 smaller batches.
Once calibrated the doser and set the concentration required, the system will calculate the amount of emulsion required and will dose the polymer necessary for the concentration in each fraction of batches. The pressurised water generate a funnel in the wetting cone and a vacuum effect which reduces the release of mist or humidity preventing the doser from clogging.
The **3-tank** set-up allows to have a mixing tank, a curing tank and a feeding tank. An ultrasonic level control let the customer control the exact amount of polymer in the feeding tank.
The control is entirely automatic and no manual valves or regulation are allowed reducing the risk of misplacement or incidents. The touchscreen control is very flexible and allows to control each parameter of the system including an Ethernet port for connection to the **SCADA system**.

WORKING LOGIC FOR AUTOMATIC POLYMER PREPARATION STATIONS STPLL

The polymer make-up unit is used for the automatic preparation of polymer solution required as coagulants for the suspended particles present in the wastewater. The working logic is simple and reliable. The tank is always kept at the highest filling level. Once the level of the solution drops below the “low” level, the unit opens the intake solenoid valve and starts dosing the polymer.
The water is loaded in volume checking the right amount through the turbine flowmeter, while the polymer is dosed by time. A cross check of the water flow is made to verify there is water in the line.

MAIN FEATURES MOD. STPLL

1. THE WIDE RANGE OF PRODUCTS ALLOW CHOOSING THE CORRECT MODEL BASED UPON THE APPLICATION AND THE CHARACTERISTICS OF THE EFFLUENT.
2. THE UNIT MAY BE EASILY CLEANED BY USING PRESSURE WATER TO REMOVE SEDIMENTS OR LUMPS OF POLYMER NOT PROPERLY DISSOLVED.
3. THE UNIT IS ENTIRELY CLOSED BY COVERS WHICH MAY BE OPENED FOR INSPECTION. THE PRESENCE OF COVERS PREVENTS THE RELEASE OF ODORS OR SPILLAGES.
4. THE ENTIRE PROCESS IS AUTOMATED.
5. THE INSTALLATION IS SIMPLE AND FAST.
6. WHEN REQUIRED, MAINTENANCE IS PRETTY SIMPLE.

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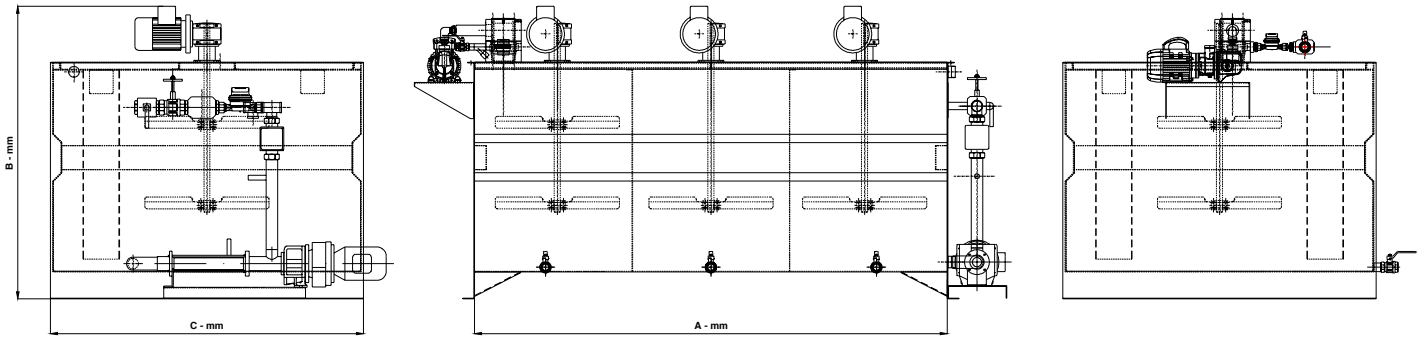
R.E.M. STPLL polymer preparation units can be equipped with the following accessories:
- ATEX or UL NEMA 7 EX-proof version.
- UL version.
- Dosing pump.
- Magnetic Flowmeter.

STANDARD DIMENSIONAL DATA FOR AUTOMATIC POLYMER PREPARATION STATIONS STPLL

STPLL MODELS	STPLL750	STPLL1000	STPLL1500	STPLL2000	STPLL2500
A - mm	1500	2000	3000	2000	2000
B - mm	1666	1666	1666	1666	1666
C - mm	825	825	825	1325	1325
Hourly capacity - l/h	7500	10000	15000	20000	25000

Fabricated parts material:
*Stainless Steel AISI 304
*Stainless Steel AISI 316

Wetting group material: PVC



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LIME DOSING SYSTEMS SDD

Lime storage and dosing Plants

MACHINE DESCRIPTION

The lime dosing system is used for the lime storage; the system can be combined to:
- A DISSOLVING SYSTEM.
- A MIXING SYSTEM (SYSTEMS).

The first one is used to dissolve the lime to obtain milk lime. The second one is used, instead, for the dehydration and/or conditioning of sludge, obtaining stabilised material. To identify the function, here we specify the four sections that compose itself. That four sections are:
1. STORAGE SECTION.
2. EXTRACTION SECTION.
3. DOSING SECTION.
4. LIME APPLICATION.

STORAGE SECTION

Storage section represents the first section of the process. The lime is penumatically loaded into the storage section. The tank truck which delivers the lime shall not be at a distance higher than 4 meters from the loading point. Looking at the components it is possible to identify the path of the lime. Lime enters the silo through the quick coupling and the loading pipe.
The air used for the conveying is discharged through the filter installed on top of the silo. The filter type depends on the lime and the customers' needs.

Generally it is used a cartridge filter where number, dimension and type of cartridges may vary upon the lime capacity and the layout. As per the **CE** norms the silo is fitted with all the safety devices: vertical shipladder with cage and handrail on the silo top. On the silo roof is installed the safety valve necessary to limit the pressure inside the silo during the filling operations and while emptying. The silo is fitted with 3 to 5 level indicators or an ultrasonic level meter. Silo shall be refilled when the level reaches the "**empty**" level. The tanker truck that delivers the lime shall have a compressor to provide the necessary air to convey the lime into the silo (**maximum working pressure of the conveying system is 1 bar**). The loading pipe shall not be damaged and must be loaded in such a way that there are no bends formed. Start loading the lime paying attention to stop filling as soon as the Full level is reached. During such operation the filter backwash system will be activated by the limit switch installed at the quick coupling. Once completed loading the lime the cover must be replaced to close the loading pipe.

EXTRACTION SECTION

The next section is the extraction. Depending on customer's needs it can be done eitherway by a a vibrating bin activator or a pneumatic fluidization system complete with control board. The bin activator is installed at the silo hopper outlet, while the fluidization is composed of fluidizing pads installed inside the silo hopper. Both systems are aimed to increase the lime flowability. Installed at the outlet of either systems is located the manually actuated slide gate. During normal operation the gate is open. Gate shall be closed during loading or for any maintenance purpose. The status of the gate is shown by the limit switches installed inside the gate and their corresponding bulbs fitted on the control cabinet.

DOSING SECTION

The third section is the lime feeding and dosing which is done by the lime dosing screw conveyor. The dosing screw allows to achieve high dosing accuracy. Dosing is volumetric type. The screw can be installed at an angle between 0 and 40 deg. The drive can be eitherway installed at the loading or at the discharge end. For fine dosing or small feed rates a rotary valve is installed instead.

LIME APPLICATION

The last section does the lime application. Depending on the system configuration it can be:
1. DISSOLVER.
2. MIXER.

At the present the lime can be discharged into a dissolver to produce lime milk or in mixer where it is mixed together with the sludge to be conditioned. The number and type of components may vary depending on the customer needs. **ATTENTION: The use of quick lime (CaO) is not compatible with the lime milk production.**

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LIME STORING AND DOSING PLANT ACCESSORIES

1. BLOWER: It is used in compliance with the fluidizing system. The machine supplies to the plant the air required for lime fluidization in the silo.
It works continuosly, with started plant. It should be positioned under the silo near the fluidizing panel.

2. LEVEL DETECTING PROBE FOR CONDUCTIVE LIQUIDS or ULTRASONIC SENSOR: It is an electrode designed for three probes and complete with terminal board guard. It is supplied mounted on lime milk dissolver complete with AISI 304 rods with adjustable length according to the capacity dissolver. On request, another electrode holder can be mounted to check the middle level in dissolver. That has to be connected to different relay. Alternatively an ultrasonic sensor can be installed.

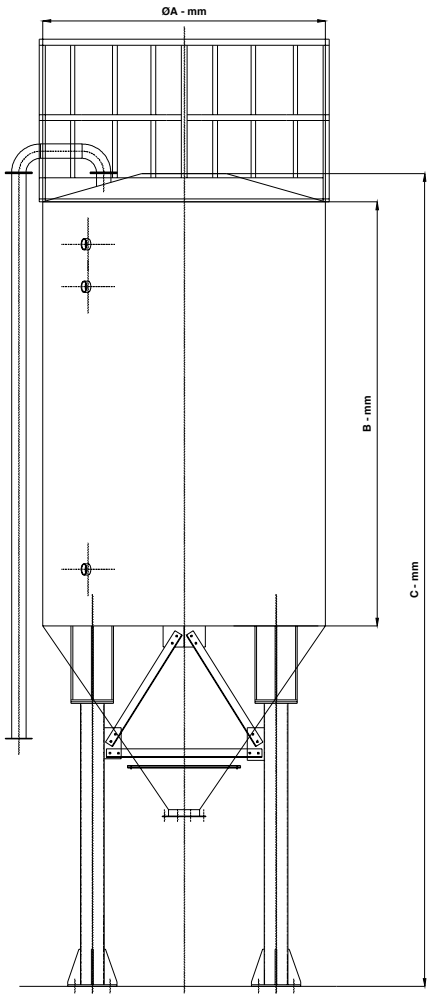
3. ROTARY VALVE: The rotary gate is an accessory mounted between slade valve and dosing screw. The rotary gate will dose the lime instead of the dosing screw which will only convey the lime; the present rotary gate it is complete of drive unit. This accessory is used for small dosages of lime.

4. CONTROL CABINET: Lime dosing systems are generally supplied with our control cabinet as our experience has allowed us to develop the right handling and dosing expertise to provide the control with the optimized logic. Controls can be supplied with Ethernet interface and GSM remote control.

Configuration available:
1. SDD for QUICK LIME
2. SDD for Hydrated Lime
3. SDD for additives

R.E.M. SDD silos can be equipped with the following accessories:

- **control cabinet**
- **ATEX or UL NEMA 7 EX-proof version**
- **Air compressor**
- **Electrically actuated valves**
- **Safety release valve**
- **Vibrating Dust filter**



SDD MODELS	SDD10	SDD15	SDD16	SDD22	SDD29	SDD36	SDD43	SDD50/24	SDD50/28	SDD57	SDD60	SDD70
NOMINAL CAPACITY - m^3/h	10	15	16	22	29	36	43	50	50	57	60	70
THEORETICAL MAX. CAPACITY - m^3/h	11.47	16.18	16.18	23.78	30.56	37.34	44.12	51.69	51.69	58.84	60.81	70.89
NET MAXIMUM CAPACITY - m^3/h	9.05	13.76	13.76	20.28	27.06	33.84	40.62	46.81	46.81	45.01	56.03	66.03
MEDIUM CAPACITY - m^3/h	6.53	8.88	8.88	13.27	16.66	20.05	23.44	28.06	28.06	32.67	32.67	43.17
NET MINIMUM CAPACITY - m^3/h	3.39	3.39	3.39	5.36	5.36	5.36	5.36	8.09	8.09	8.09	8.09	9.64

SDD MODELS	SDD 10	SDD 15	SDD 16	SDD 22	SDD 29	SDD 36	SDD 43	SDD 50/24	SDD 50/28	SDD 57	SDD 60	SDD 70
ØA - mm SILO DIAMETER	2000	2400	2000	2400	2400	2400	2400	2400	2800	2400	2800	2800
B - mm CYLINDER HEIGHT	3000	3000	4500	4500	6000	7500	9000	10500	7500	12000	9000	10500
C - mm TOTAL HEIGHT	6480	6820	7980	8320	9820	11320	12820	14320	11720	15820	13220	14700

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BIG-BAG UNLOADING STATION REMBAG

Unloading, storage and dosage product from big-bags

MACHINE DESCRIPTION

REMBAG system is a small modular system which may be variously configured. The system allow to empty big-bags or standard dimension up to 2 m^3 of capacity.

REMBAG systems are made of a main frame having an adjustable height, an unloading hopper where the bag sits on and a tubular screw conveyor for the bulk material extraction and transport.
Should a metered extraction be required it is possible to insert a rotary valve or install a dosing screw conveyor instead.

The upper part of the main frame can be completed with the big-bag holding frame suitable for handling with a fork-lift or, optionally, with an electric hoist for bags lifting and a manual trolley for sliding the bag in place.
The main hopper can be open type with a protective grating or be completed with a **PVC** ring seal to prevent from dust escape. The open area can be closed by a cover while the big-bag is not in place.
Optionally, the unit can be fitted with a flow aid device made of 2 pneumatic cylinders that push the bottom of the bag from the sides alternatively to allow a uniform discharge.

The level indicator installed in the hopper allows to monitor the level of the material in the hopper. The hopper may be equipped with a vibrator or a bin activator for difficult materials.

R.E.M. big-bags unloading station **REMBAG** can be equipped with the following accessories:
- CONTROL CABINET.

MAIN FEATURES FOR BIG-BAG UNLOADING STATIONS REMBAG

1. REMBAG ALLOWS TO HANDLE, LOAD AND DISCHARGE BIG-BAGS UP TO 2 M3 CAPACITY (1,5T MAX. WEIGHT) EITHER FOR POWDER OR GRANULAR MATERIAL.
2. REMBAG CAN BE USED FOR LIME, POLYMER, ADDITIVES, CARBON, POTASSIUM PERMANGANATE.
3. THE LIFTING SYSTEM IS SUITABLE FOR BEING USED WITH FORKLIFTS.
4. ALTERNATIVELY AN ELECTRICALLY ASSISTED LIFTING DEVICE (HOIST) CAN BE SUPPLIED.
5. HOPPER FOR PARTIAL STORAGE OF MATERIAL (500 LITERS).
6. EXTRA CAPACITY HOOPER CUSTOM MADE (2 TO 5 M3 CAPACITY AVAILABLE).
7. OPTIONAL DUST EXTRACTION SYSTEM WITH DUST FILTER AND FAN.
8. OPTIONAL SMALL BAGS DISCHARGE PORT.
9. BIN ACTIVATOR FOR MATERIAL EXTRACTION.
10. DOSAGE BY ROTARY VALVE OR CONVEYOR.
11. OPTIONAL WEIGHING STATION.

n.b.: the manufacturer may modify some dimensions or sizes without prior information

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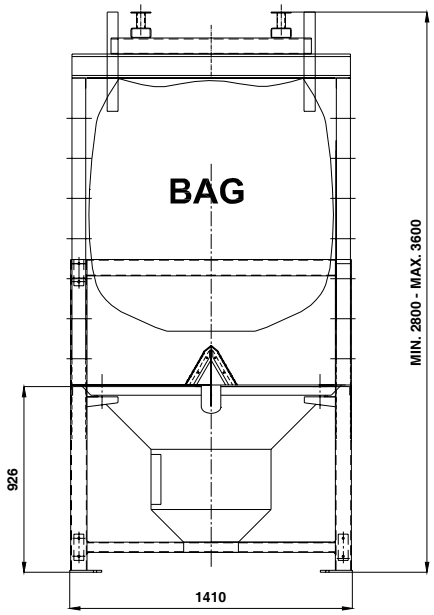
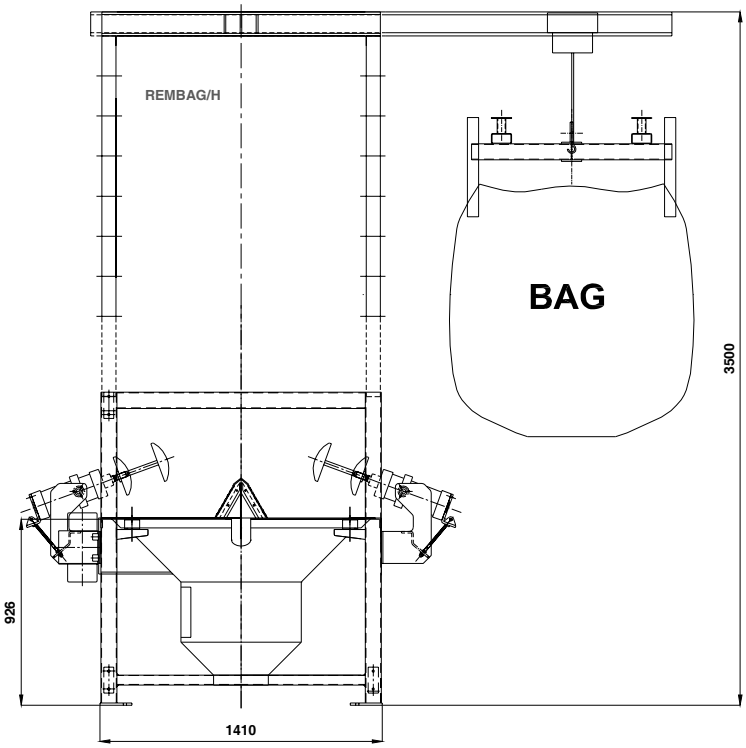
STANDARD DIMENSIONAL DATA FOR BIG-BAG UNLOADING STATIONS REMBAG

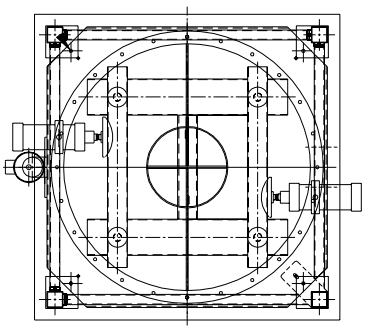
Materials of construction for fabricated parts:
*St.St. AISI304 / *St.St. AISI316 / * Painted maild steel

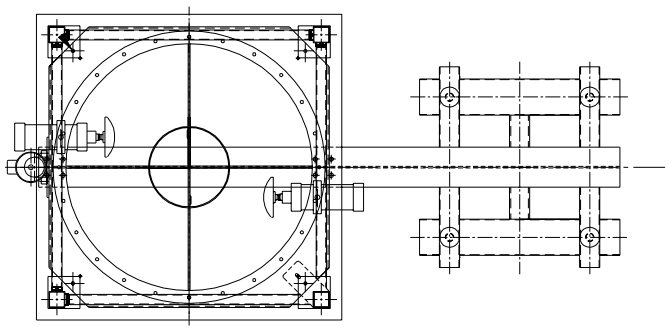
REMBAG/F



REMBAG/H







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INTERMEDIATE BEARINGS IHB

Intermedate Bearings for horizontal shafted screw conveyors

MACHINE DESCRIPTION

R.E.M. Intermediate Hanger Bearings **IHB** are top of the range and the only in the market capable to withstand torques **up to 150,000 Nm** (**1,327,000 in.lb.**). **R.E.M.** intermediate hanger bearings have been successfully installed at the Singapore Changi **WWTP**, the biggest **WWTP** in the world. The particular configuration of the plant and the high performance requirements have driven the engineers toward bearings designed to last a Century (100 years).

WORKING LOGIC FOR STORAGE INTERMEDIATE HANGER BEARING IHB

The intermediate hanger bearings are **mechanical components** used to connect to separate sections of spirals and support the spiral itself. The hanger bearing is complete with a supporting channel, as shown in the picture, bolted to the trough through the slots on the channel itself. The hanger bearing is kept lubricated by the automatic greasing system installed on the top side of the channel. Supports are made of the parts listed below. In the following pages are shown the dimensions and the main components of the intermediate hanger bearings.

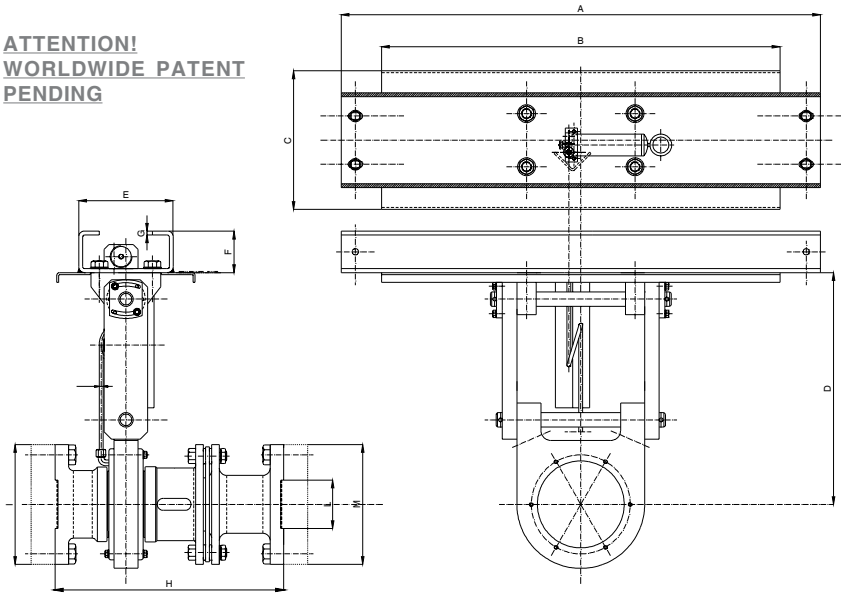
MAIN FEATURES FOR INTERMEDIATE HANGER BEARING IHB

1. **Main bearing enclosed in a grease chamber, sealed with mechanical seals.**
2. **Discs coupling made of high strength stainless steel whose corrosion resistance is better than AISI316.**
3. **Double hinged connection to allow axial movements without any torque transmitted to the bearing or the main support frame.**
4. **AISI316 Automatic greasing system.**
5. **No plastic inserts used in any component.**
6. **Adjustable height with eccentric insert (optional).**

STANDARD DIMENSIONAL DATA FOR INTERMEDIATE HANGER BEARING IHB

Materials of Construction: **Fabricated parts Stainless Steel AISI304 / Stainless Steel AISI316**

ATTENTION!
WORLDWIDE PATENT PENDING



IHB MODELS	A - mm	B - mm	C - mm	D - mm	E - mm	F - mm	G - mm	H - mm	ØI - mm	ØL - mm	M - mm	SHAFT CORE DIAMETER - mm
IHB100	**AS PER CUSTOMER REQUEST**				196	86	8	474	248	100	248	**100**
IHB120					196	86	8	529	248	100	248	**120**
IHB180					196	62	8	640	328	160	328	**180**

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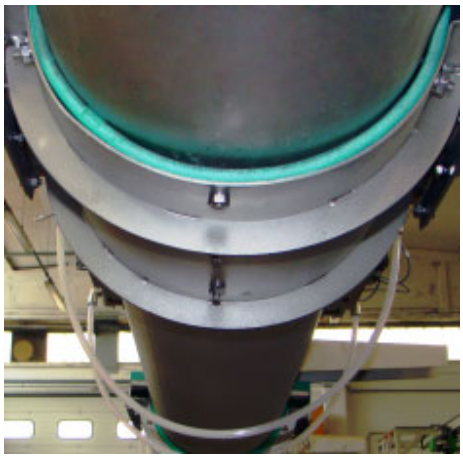
REM CONTOUR

Special valves for screw conveyors

MACHINE DESCRIPTION

The **CONTOUR** slide gates are optional components to be installed on screw conveyors. The gates are used as additional outlets to allow multiple material discharge points along the conveyor.
The key function is to have a dust tight gate which has no sludge or material layer formed between the bottom of the trough and the surface of the gate. In most constructions the layer of material is continuously build-up and packed while the material is conveyed over it forming a solid plug. Once the gate is open such layer does not break up and consequently does not allow the discharge resulting in a carry-over of the material.

CONTOUR gates eliminate such problem as the thin layer, of just **10 mm** instead of the usual **50-80 mm thickness**, and the curved shape of the layer do not allow to form a hard plug which consequently break immediately allowing the full discharge.



WORKING LOGIC FOR SPECIAL VALVES CONTOUR REM

CONTOUR slide gates open and close the outlet by means of a pair of pneumatic cylinders. The inner side of the gate is lined with HDPE to reduce friction of the conveyed material to the surface of the gate and to have a smooth movement of the gate itself. The working positions are:
1. OPEN
2. CLOSED

The status of the gate is signaled by the **REED** magnetic limit switches installed along the cylinder. The gate shall be controlled by a control cabinet (not included) which will pilot the solenoid valve. The gate is generally closed and will open only when the coil is energized and the compressed air is in the line.
The limit switches allow to control the status of the gate. If the gate is not discharging into another conveyor but on a pile it is possible to team the gate with an ultrasonic level indicator.

MAIN FEATURES FOR SPECIAL VALVES CONTOUR REM
1. CONTOUR slide gates are available in different sizes as per the size of the conveyor they shall be fitted on.
2. The control system shall be linked to the conveyor control system.
3. The installation is simple and fast.
4. Maintenance is very simple and scarcely required.

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REM CONTROLS

Automation and control cabintes division

CONTROLS DESCRIPTION

R.E.M. is organized with a division dedicated to the automation and control. Through its team of professionals **R.E.M.** can supply controls for the whole waste water treatment works but also for automation other than the waste water.
Our experience ranges between small electromechanical controls to large multiplatform **PLC** based systems with **PC** and **SCADA** supervision.

Controls are available both in **IEC/CE** standard and **UL** standard. **ATEX** certified controls are available as well.

Within our production we can list:
- POLYMER PREPARATION UNITS CONTROLS.
- SCREENS CONTROLS.
- COMPLETE HEADWORKS CONTROLS.
- COMPLETE DEWATERING TREATMENT CONTROLS.
- FULLY AUTOMATIC STORAGE ROOMS CONTROL.
- FULLY AUTOMATIC BOTTLING AND PACKAGING LINES.
- FULLY AUTOMATIC TIN CANS LINES.
- AUTOMOTIVE TESTING AND REPORTING SYSTEMS.

We implement the following PLC and controls on a regular basis:
- Siemens S7.
- Allen Bradley.
- Omron.
- Schneider.
- Unitronics.
- B&R.

Our experience in communication covers:
- ETHERNET.
- MODBUS.
- CANBUS.
- PROFIBUS.

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