

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 following 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 conveys the mixture of liquids and solids into the pressing section of the screw conveyor. 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 **squeezed 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 free-moving 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.**

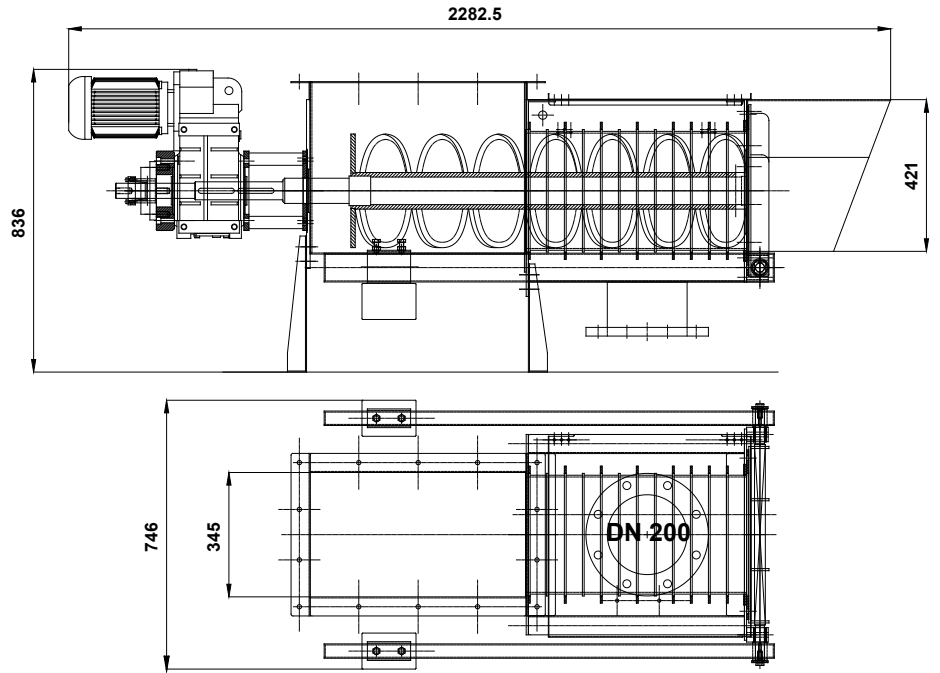
STANDARD DIMENSION DATA FOR SCREW COMPACTORS RPR

RPR MODELS	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 matter, 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