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Technical Documentation

SuperRECYcler[®] 412



SuperRECYcler® 412

Technical Documentation

SERIES: SuperRECYcler® 412
DATE: APRIL 2018
SHEET: 1 OF 15

Tank

Volume

12 m water and/or sludge. Approved for 1.0 bar positive pressure and 85% vacuum respectively, according to EU directive no. 97/23/EEC (PED).

Movable partition

The tank is equipped with a movable partition, which can be locked in two pre-set positions. The partition divides the tank into two compartments of flexible size.

The locking bolts fixing the partition in the pre-set positions are pneumatically operated.

The partition is moved pneumatically by pressure/vacuum created by the compressor.

An air-pressurised gasket is fitted in the partition to ensure that the sludge is kept separate from the water. The pressure in the gasket is controlled from the control panel.

End cover

A fully automatic end cover hydraulically operated.

Manhole

One manhole placed on top of the tank.

Ball valves

One 6" pneumatically operated top suction valve and one 6" pneumatically operated bottom suction valve. Inside the tank, the top suction valve is fitted with a vertical pipe, which takes the incoming sludge to the top of the tank. Both valves are mounted with Camlock couplings.

Sloped tray

Light material and water is emptied through the bottom valve by pressurising the sludge compartment. Heavy material is emptied through the open end cover by means of the partition pushing out the material onto the sloped tray.

Tank level indicators

A sludge level indicator with pointer. The pointer is connected to a float ball placed in the end of the sludge compartment.

Electronic measurement of jetting water level in the front tank, with indicator lamps in the control panels.

Glass pipe

For indication of water level, placed on front tank.

Bottom emptying

3" bottom emptying valve, led to the rear.

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High-Pressure Unit

Main pump type

Urac KD 718G

Capacity

390 litres per minute at 140 bar.

Control of pressure and flow from the control panel.

Hose reels

One hydraulically operated hose reel including 150m 5/4" thermoplastic jetting hose, hydraulic swivel.

One hydraulically operated hose reel with 50 m 3/4" and 60 m 1/2" thermoplastic jetting hose, hydraulic swivel.

Protection of pumps

A water filter mounted on the suction side of the pump protects the pump.

The pump is automatically switched off when the amount of water in the tank is reduced to minimum level. The operator may however, use the remaining water by manually activating the switch on the control panel. The running hours of the high-pressure pumps are registered on an hour counter.

Water filling

Water-filling pipe with air gap free fall mounted on the side of the tank and equipped with a ball valve.

RECYCLING SYSTEM

System

Buchert Municipal continuous water recycling system, type B, with automatic PLC controlled level system.

Media pump

Hydraulically driven media pump, type DESMI.

Cyclone filters

7 – Centrifugal cyclones, mounted on the side of the unit.

Filter cleaning

Internal jetting of coarse filter and fine filter with manual changeover valve.

Vacuum Unit

Type

CVS Vacustar WR 3100

Liquid ring pump, with intercooler.

Capacity

Max capacity 51.667 l/m ≈ 1825 cfm at free flow

Max 87 % vacuum.

Protection of vacuum

A filter unit in the pipe system protects the pump. Two mechanical float valves, one placed in the top of the end cover pump and one placed inside the cyclone, prevent the sludge from entering the compressor in case of the tank being full.

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Vacuum Unit (continued)

Cassette system

A system for easy operation and positioning of the suction hose.

The cassette is mounted on top of the tank in the full length of it. The cassette hose is 6". The suction hose fits inside the cassette and will form a u-curve when it is pulled out of the cassette or drawn back into it. Limit switches ensure the correct operation of the hose.

The hose is pulled and drawn by means of a hydraulically operated roller system mounted as an integrated part of the cassette.

At one end of the cassette, the hose is connected to the top of the sludge tank through a socket and the pneumatically operated cassette suction valve. The cassette suction valve is insulated and electric heated.

At the other end of the cassette, the hose guided by rollers continues over the large jetting hose reel. This allows both the jetting hose and the suction hose to be easily positioned above the manholes in the sewer system. After passing the reel, the hose is mounted in a double telescopic arm.

The 6" suction hose may be lowered 8-10 m below surface. The end of the suction hose is fitted with a coupling that allows different equipment such as hose extensions, nozzles, etc. to be connected to the suction hose. The hose is fitted with a 6" Camlock coupling.

The cassette has a hydraulic hose arm which allows 2000 mm extension and 1600 mm lift.

Compressor

CVS RSL 400

Capacity

6.000 litres/min, 1.0 bar over pressure.

2" piping for emptying and moving partition. 2" coupling for air injection. Air injection nozzle and 20m 2" injection hose.

Transmission

PTO

Semi-hydraulic transmission. The unit is driven via power take-off. From the PTO power is transferred to the countershaft via a cardan drive. The V-belt pulley is placed on the countershaft powering the high-pressure pump. The oil pump is placed at the end of the countershaft powering auxiliary functions.

Auxiliary hydraulics

For powering of end cover, hose reels, recycling filters and Desmi pump.

Cooling system

The hydraulic system is fitted with an extra cooling system which ensures continuous operation in tropical conditions.

Control

PLC

The unit is equipped with a bus based PLC.

Control panels

The complete operation of the sewer cleaning tanker (vacuum pump, high-pressure pump, position of partition, etc.) is carried out from the control panels. One control panel is mounted at the back of the tanker and one on the side.

The control panels are made of stainless steel and equipped with lockable glass covers.

All buttons are equipped with English texts.

Pneumatics

Reverser for pressure/vacuum, front/rear tank, feed pipe for the high-pressure pump, jetting valve, bottom drainage for the front compartment, partition, water filling and cassette shut-off valve, locking pins, 2 pcs. of suction valves, valves for the recycling system.

Remote control

12 function Scanreco remote control

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Lights and Reflectors

Work lamps

5 pcs. work lamp, LED

Beacon lights

4 pcs. Beacon lights.

Sidelights

6 pcs. sidelights with built-in reflectors.

Cabinets and Shelves

Cabinets

Two double cabinets made of aluminium, placed at the rear end, left-hand side. The rear most cabinet is fitted with hand wash facility with hot water tap and dispenser for paper towels and soap.

Shelves

One hose shelf with rails placed on the right-hand side.

One hose shelf with rails placed on the left-hand side.

One tool shelf with bottom drainage placed on the right-hand side and one tool shelf in front of the cabinets on the left-hand side.

Aluminium shelves and cabinets are made of aluminium.

Chassis

Type

Scania R400 LB 8X4 chassis with medium day cab CR16 to be delivered by J. Hvidtved Larsen, see specification below.

Mudguard

Mudguards on all axles made of plastic, original Scania.

Cyclist protection bar

One cyclist protection bar on each side made of aluminium.

Grilles

In front of rear lights.

Finish

Undercarriage

Colour: Scania sub Grey 95

Cabin

Colour: Ivory white

Tank

Colour: Ivory white

Cabinets and shelves

Cabinets and shelves are anodised.

Sign plates

One aluminium sign plate on each side of the tank and one at the back of the tank. Anodised and painted.

Text and striping

Possible text and striping to be agreed and invoiced separately.

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Additional equipment

Bench vice

Bench vice mounted above the ¾" jetting hose reel.

Suction pipe

6" cassette suction pipe included.

Nozzle Package

1 – 1/2" standard ENZ nozzle package.

1 – 5/4" standard ENZ nozzle package.

Approvals

General

Buchers Municipal vehicles are CE marked.

Buchers Municipal vehicles are approved by the Danish Directorate of Labour Inspection before dispatch.

Buchers Municipal vehicles are furnished with product liability insurance.

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