RS MaxLiner® System

DN 70 - DN 400

- Including In-House Approval
- KOMO certification according to the new BRL 5217 regulation
- DIBt approvals: Z- 42.3 - 389, Z- 42.3 - 454, Z- 42.3 - 487
RS Technik AG is one of the leading suppliers of systems for trenchless rehabilitation in the wastewater sector and can draw on many years of experience in the development and marketing of repair and rehabilitation systems.

The abbreviation „RS“ stands for „Rohrsanierung“ which means “pipe rehabilitation“. For more than 25 years, we have been offering comprehensive solutions for the rehabilitation of pipes and sewers. Our customers are executing companies that are involved in house connection rehabilitation, in-house rehabilitation or in the renovation and repair of main pipes.

In addition to high-quality systems, techniques, products and materials, we also offer comprehensive advice to our customers. We organise theoretical and practical training courses and develop tailor-made solutions. RS Technik is your partner during all phases of the project.
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RS LinerGun® Inversion device

Properties

- Small and compact
- Flexible application
- No liner length limitation, max. length only depending on material and processing time
- Liner inversion via compressed air
- Heating possible with water or steam
- Time-saving: Inversion during the impregnation process calibration possible
- Robust and reliable, easy handling, fully maintenance-free
**Technical specifications**

- **Range of application:** DN 50 - DN 300
- **Accessories:** RS Control unit, Attachment rings DN 150 & DN 200, air hoses, collapsible basic frame (also usable with the manual RS calibration hose)
- **Dimensions (L x W x H):**
  - With frame: 900 x 500 x 750 mm
  - Without frame: 500 x 400 x 450 mm
RS LinerCannon® Inversion device

Properties

Pressure drum in very light design

Material: stainless steel, sand-blasted or glass bead blasted silver matt

Liner inversion via compressed air

Heating with steam or water possible

Available in different sizes: 600, 800, 1000

Mobile structure with transport wheels and carrying handles

Viewing window above the steering wheel and temperature display on the hopper

Hand wheel with parking brake/locking pin

Shaft with loop for retaining strap

Safety valve 1.5 bar

pressure indication
RS LinerCannon® 1000 (up to DN 400)
RS LinerCannon® 800 (up to DN 300)
RS LinerCannon® 600 (up to DN 200)

Technical specifications

1” water outlet
2 x air connection to drum,
3/4” socket, 1/2” pressure gauge
Connection Storz coupling for attachment
ring (D 600 + D 800: 8”, D 1000: 10”)

temperature display
RS Calibration roller  DN 300

Properties

Two electrically driven, synchronous specially coated rollers

Forward and reverse drive

Infinitely variable speed control

Manually height-adjustable upper calibration roller

Simple, millimetre-accurate gap adjustment via a setting wheel

Simple reading of the gap setting via the setting wheel display

On/Off switch, speed control and direction of rotation are achieved via switches on the unit

EMERGENCY OFF switch

Transparent safety flap with stop function

Also available as a manual version and DN 400
230 V connection

Made of high quality stainless steel

Sandblasted / glass bead blasted for matting the surface

Can also be used with RS LinerGun® and RS Manual calibration roller

For liner dimensions up to DN 300
RS CMU Mixing unit

Properties

Material:
- stainless steel (tank, mechanics)
- Aluminium (lid)
- Hard anodised aluminium (pumps, valves)
- Partly galvanized steel

Control:
- Pneumatic, volume control via pneumatic stroke
- Preselection counter
- Operating lever with 3 positions
- Mixing - Stop - Circulate
- Hardener selection lever for selection of tank 1 or 2

Safety:
- Tank level switch, pressure limitation pneumatics to 8/5 bar, safety control lever on mixing head,
- Hoses made of resistant material, pressure resistant, fuse against mixing lever misuse

Mixing head:
- For static mixers, with start/stop lever
## Technical specifications

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions:</strong></td>
<td>L 750 mm, W 480 mm, H 1250 mm</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>approx. 160 kg empty</td>
</tr>
<tr>
<td><strong>Tank volume:</strong></td>
<td>Tank 1: 60 litres</td>
</tr>
<tr>
<td></td>
<td>Tank 2: 30 litres</td>
</tr>
<tr>
<td></td>
<td>Tank 3: 15 litres</td>
</tr>
<tr>
<td><strong>Conveying capacity:</strong></td>
<td>Approx. 7.5 kg/min/250 g mixture</td>
</tr>
<tr>
<td></td>
<td>per double stroke</td>
</tr>
<tr>
<td><strong>Pumps:</strong></td>
<td>3 piston dosing pumps patented, design as</td>
</tr>
<tr>
<td></td>
<td>submersible pumps in tanks, double-acting,</td>
</tr>
<tr>
<td></td>
<td>with pneumatic control, seals / O-rings</td>
</tr>
<tr>
<td></td>
<td>resistant to materials</td>
</tr>
<tr>
<td><strong>Drive:</strong></td>
<td>pneumatic cylinder, operating pressure 5 bar</td>
</tr>
</tbody>
</table>
RS CCM® Mixing unit

Properties

Siemens touch panel

Conveying capacity 10 kg/min | 18 kg/min

External vacuum pump

Climate system for resin and hardener
(heating coil system available as an option)

External filling device with return line for circulation directly in the IBCs

Complete documentation of the mixing parameters, transfer via USB
heating coils optionally available

SPS control

Siemens Touch Panel

Progressive cavity pump for resin/hardener

Filling lances for refuelling the system from IBC or drum

Mixing head, filling hoses & spare parts set (stators etc.) included
Complete heating system with digital control
Fueled with diesel, supply 230V
Small, mobile and lightweight
Drivable
Throughput or circulating mode possible
Technical specifications

- Heating capacity: 60 kW | 105 kW, 18 l tank
- 1 water circulation pump: 8000 l / h, 6 bar
- 1 universal water end plug: DN 100 - DN 300, stainless steel, pressure relief valve 0.9 bar
- 3 m + 10 m hot water hose 1”
- 10 m pressure suction hose 1”
- Achievable water temperature: 95 °C
- Dimension (L x W x H):
  - HB 60: 800 x 450 x 747 mm | HB 105: 800 x 660 x 975 mm
RS MicroCutter® incl. accessories

Properties

For internal pipe diameter 80 mm to 200 mm

Bend mobility of up to 90°

Can be clamped in the tube (exact milling)

For precise work with integrated part-turn gearbox

Purely pneumatically operated

Scope of delivery: Plastic box incl. RS MicroCutter® with pneumatic motor and 20 m supply hose,
Operating handle, camera holder, accessories for inner pipe diameters 80 mm - 200 mm and the necessary tools

Colorkamera mC30Duo Set
for pipes from 15 - 200 mm

Camera head diameter: 29 mm and 13 mm

Monitor 5.6” TFT-LCD with recorder in carbon housing

VA reel with parking brake

5m push-pull cable on inner reel basket

30 m/ 6.7 mm, glass fibre tape on outer reel basket

Control unit with infinitely variable light regulation

Meter counter with electronic video insertion

Battery for over 2h operating time
Technical specifications

Dimensions: L x Ø = 290 mm x 63 mm

Radial clamping stroke: 27 mm

Part-turn gearbox: Reduction ratio i = 1 : 2.36

Radial deflection: 92° of the milling head

Radial stroke: 110 mm

Weight MicroCutter: 2.8 kg
(without pneumatic motor and accessories)

Weight of equipment: 19.5 kg

Air requirement: min. 700 l / min. at 8 - 10 bar

Motor power: approx. 0.37 kW at 22,000 rpm.
RS Steam Unit Steam generator

Properties

- Built-in diesel tank incl. diesel burner
- Mobile or installation in vehicle/trailer possible
- Polyethylene feed water tank available
- Electronic level control
- High-quality feed water pump
- Incl. control panel
Technical specifications

- Capacity from 100 kg/h - 150 kg/h
- 220 V / 50 Hz
- 5 m + 10 m + 20 m steam hoses
- 1 lance 1/2", 1 lance 3/4"
- 2 end nozzles for rehabilitation with open end up to DN 200
- 1 end nozzle for rehabilitation with open end from DN 200
- Dimensions (L x W x H): 1100 x 600 x 1400 mm
RS Steam trailer

Properties

Closed floor made of slip-resistant screen printing plates, sealed

Walls and roof in plywood, waterproof glued with special plastic coating

Hinged doors incl. door stop, 270° reversible, lockable via espagnolette lock

Powder-coated steel corner reinforcements for added stability

Edging profiles at door opening and rain bar above the door

Torsion-resistant rear portal

Screwed and galvanized german brand chassis

Original Humbaur axle

Maintenance-free rubber spring axles with independent wheel suspension

Braked with automatic reversing

Steam Unit 150

Control panel externally operable
Loading height approx. 530 mm
Permissible total weight: 2500 kg
Payload: approx. 1550 kg
Inner box dimensions: 4010 x 1810 x 2000 mm
RS MaxLiner® Rehabilitation vehicles

Vehicle equipment

< 7,5 t

- RS CCM® mixing plant incl. Siemens touch panel (conveying capacity 18 kg/min) incl. air conditioning system, SPS system & standard mixing head
- External vacuum pump V-VTN 16 (pumping speed: 16m³/h)
- Incl. RS calibration roller table DN 300, electrically operated with drum motors
- built-in underframe
- External filling device
- One progressive cavity pump for each, resin & hardener
- Tanks conforming to machine guidelines (Resin 260 L | Hardener 122 L)
- Generator power: 5 kW
Vehicle equipment

12 t

RS CCM® mixing system incl. Siemens touch panel with remote mainenance incl. air conditioning system & standard mixing head

(capacity of resin mixing plant 18 Kg/min)

External vacuum pump V-VTN16 (pumping speed: 16 m³/h)

RS calibration roller table DN 300/ DN 400, electrically operated with drum motors & underframe

External filling device with return line

One progressive cavity pump for each, resin & hardener

Tanks conforming to machine guidelines (Resin 480 L | Hardener 160 L)

Version with one or two hardener tanks possible
RS MaxLiner® Rehabilitation vehicles

Vehicle equipment

18 t

- RS CCM® mixing system incl. Siemens touch panel with remote maintenance incl. climate system, PLC system & standard mixing head (output 18 kg/min)
- External vacuum pump V-VTN16 (pumping speed 16m³/h)
- RS Calibrating roller table DN 300 /DN 400, electrically operated with drum motors & underframe
- External filling device with return line
- One progressive pump cavity for each, resin & hardener
- Tanks conforming to machine guidelines (Resin 480 L | Hardener 160 L)
- Version with one or two hardener tanks possible
- Social room incl. kitchenette, dishwasher/washbasin, storage cupboards & lounge
RS CCM® incl. calibration roller

lounge incl. sink unit, worktop, microwave and refrigerator
RS MaxLiner® Hose liner

**Fix**

- Seamless, flexible polyester fibre hose with PU coating
- Can be bent up to 90°, dimension change possible
- For dimensional changes and bends a calibration hose is to be used
- Cold hardening and hot hardening with water
- Available from DN 70 to DN 200

**Flex**

- Flexible needle felt liner with PU coating
- Can be bent up to 45°
- Wall thickness stable needle felt material
  - (ensures 3 mm minimum wall thickness)
- Cold hardening and hot hardening with water or steam
- Available from DN 70 to DN 400
Flex S
Highly flexible needle felt liner with PU coating
Can be bent up to 90°, dimension change possible
Installations with closed end can also be implemented for dimension changes
Wall thickness stable needle felt material
(ensures 3 mm minimum wall thickness)
Cold hardening and hot hardening with water or steam
Available from DN 70 to DN 400

Flex 4 D
Extremely flexible needle felt liner with PU coating
Can be bent up to 90°, up to 4 dimension changes possible (DN 150 - DN 250)
Installations with closed end can also be implemented for dimension changes
Wall thickness stable needle felt material
(ensures 3 mm minimum wall thickness)
Hot hardening with water or steam
Available from DN 75 to DN 400

Superflex
Highly flexible needle felt liner with PU coating
Can be bent up to 90°, dimension change possible
Installations with closed end can also be implemented for dimension changes
Wall thickness stable needle felt material
(ensures 4.5 mm minimum wall thickness)
Cold hardening and hot hardening with water or steam
Available from DN 70 to DN 400
## RS Calibration hoses

<table>
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<th>Type</th>
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| **Lite** | PVC-coated fabric hose with overlapping welded seam  
Heatable up to a maximum of 40 °C  
Can bent up to 90°  
Available from DN 80 to DN 200                                                                                                      |
| **LiteTube** | PVC-coated fabric hose with sewn and welded seam  
Heatable up to a maximum of 80 °C  
Can be bent up to 90°  
Available from DN 100 to DN 300                                                                                                     |
| **LitePlus** | PVC-coated fabric hose with welded seam  
Heatable up to a maximum of 80° C  
Can be bent up to 90°  
Available from DN 100 to DN 300                                                                                                    |
| **LiteBlue** | PVC-coated fabric hose with sewn and welded seam  
Heatable up to a maximum of 80 °C  
Extra flexible with lightweight fabric  
Available from DN 100 to DN 300                                                                                                 |
| **HotPlus** | PVC coated fabric hose with welded surface seam  
Heatable up to a maximum of 80 °C  
Not bendable  
Available from DN 200 to DN 400, further dimensions upon request                                                        |
**Preliner**
PE film tube with welded seam
Serves as an outer film to protect the liner from ground water and seepage water

**PU-Outer hose**
Thin polyester felt layer with PU coating
Serves as preliner and DIBt-approved integrated external coating
Prevents excess resin in the inlets
**MaxPox® 15M**
Resin component for processing with hardeners 20, 40, 70 and 120
Solvent- and filler-free

**MaxPox® 20**
Hardener component for processing with MaxPox® 15M resin
Working time at 20 °C approx. 25 min.
Suitable for cold hardening, hot hardening with water or steam

**MaxPox® 40**
Hardener component for processing with the resin MaxPox® 15M
Working time at 20 °C approx. 40 min.
Suitable for cold hardening, hot hardening with water or steam

**MaxPox® 70**
Hardener component for processing with MaxPox® 15M resin
Working time at 20 °C approx. 70 min.
Suitable for cold hardening, hot hardening with water or steam
MaxPox® 120
Hardener component for processing with MaxPox® 15M resin
Working time at 20 °C approx. 70 min.
Suitable for cold hardening, hot hardening with water or steam

MaxPox® Fill
Filled and yellow coloured two-component epoxy resin system
High viscosity for good grip in the carrier material
Application time at 20 °C approx. 30/60/90 min (depending on hardener components)
Hot and cold hardening possible

MaxPox® Thermo
Red coloured two-component epoxy resin system
High temperature resistance up to 90 °C
Long processing time at 20 °C approx. 16 h
Not suitable for cold hardening, hot hardening with water or steam
RS MaxPatch® Consumables

RS MaxPatch® Comp. A 2K Fast

RS MaxPatch® Comp. A Winter

RS MaxPatch® Comp. A Summer

RS MaxPatch® Comp. C

Features & Benefits

- Silicate-isocyanate resin with very good adhesion properties and chemical and thermal resistance
- Available as three- or two-component system
- Adjustment of the processing time by targeted dosing of the C-component
- Optimum adaptation to ambient conditions
**RS MaxPatch® Glass mats**

RS MaxPatch Advantex ECR glass

Glass mats rolls 330 mm/ 415 mm/ 510 mm and 1300 mm wide

Basis weights: 1086 g/ m² or 1387 g/ m²