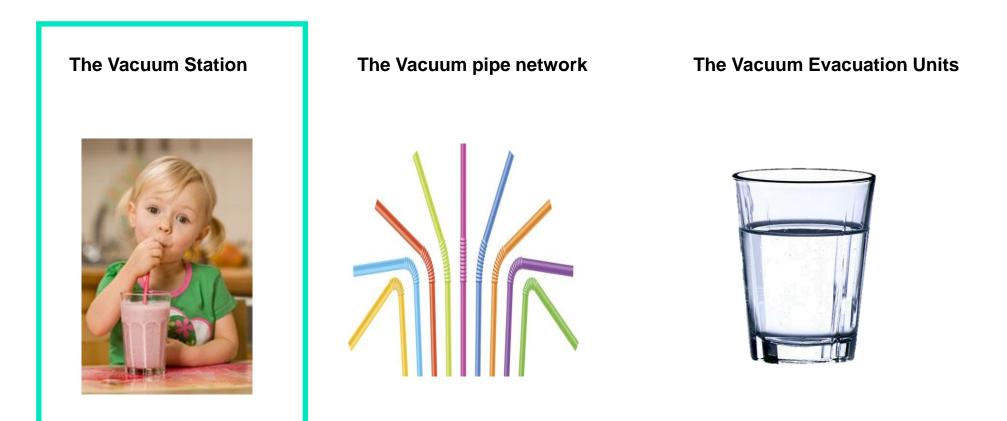


Acc. DIN EN 12109 a vacuum system consists of three major components:



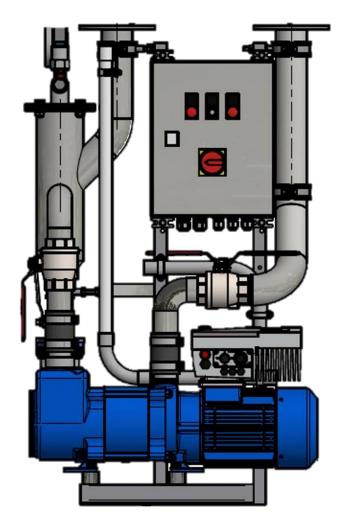
Vacuum Stations



| Pump Stations | | Tank Stations | | |
|----------------------|----------------------|-------------------------|----------------------------|--|
| Single Pump Stations | Double Pump Stations | Compact Vacuum Stations | Individual Vacuum Stations | |
| Comp Type 15 FU | Comp Type 30 FU | Comp Type 70 | 5 m³ | |
| Comp Type 25 FU | Comp Type 40 | Comp Type 85 | 10 m³ | |
| Comp Type 70 FU | Comp Type 50 FU | Comp Type 140 | 20 m³ | |
| | Comp Type 130 FU | Comp Type 360 | | |
| | | | | |

Vacuum Stations Double Pump Station





ROEDIGER COMPACT STATION TYPE 30/50/130

Characteristics:

- Double pump configuration
- Screw pumps
- No collection tank
- Frequency switch with CPU
- All exiting and incoming pipes interruptable via ball valves
- Only one electrical supply point for the whole system
- No ventilation pipe required

Vacuum Stations Tank Station





ROEDIGER COMPACT STATION

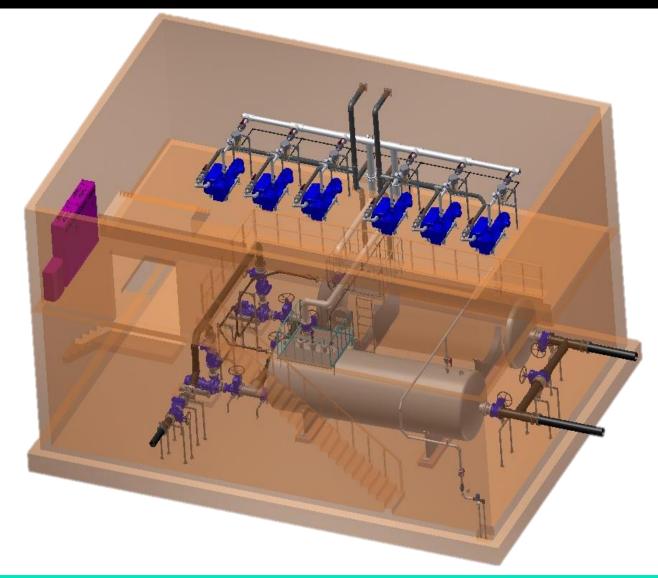
- **TYPE 85/140/360**
- **Characteristics:**

Preassembled skidmounted unit including:

- Collection tank
- Two/Three vacuum pumps
- Two discharge pumps
- Control panel
- Pipes and fittings
- Inspection manhole
- Wastewater inlet socket
- Wastewater discharge socket
- Ventilation socket

ROEDIGER VACUUM STATIONS INDIVIDUAL ROEDIGER VACUUM STATION





INDIVIDUAL ROEDIGER VACUUM STATION

Characteristics:

Individually designed Vacuum Station including:

- Redundant pump configuration -Adaptable to project requirements
- Collection tanks 1/3 wastewater storage 2/3 Vacuum buffer
- Tank volume radar controlled
- All exiting and incoming lines interruptable via ball valves
- Only one electrical supply point for the whole system
- Only one ventilation pipe
- Assembly at the jobsite

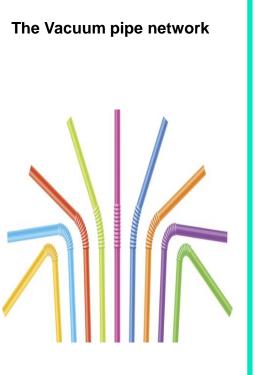
COMPONENTS OF A VACUUM SYSTEM – THE VACUUM PIPE NETWORK



Acc. DIN EN 12109 a vacuum system consists of three major components:

The Vacuum Station





The Vacuum Evacuation Units





The Acceptable Different Piping Materials and Dimensions for the Installation of Vacuum Pipes

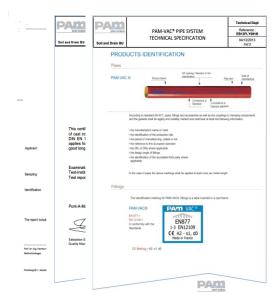
| Pipe type | PAM-VAC | PE-HD | Steel / | Press- |
|----------------|------------------|-------------------|---------------------|-------------------|
| | without coupling | SDR 11 / PE 100 | Stainless Steel | Stainless Steel |
| | Cast Iron Pipe | | Plug-in Socket Pipe | Press-Socket Pipe |
| Application | In the Building | In the Building | In the Building | In the Building |
| | Engine room | Engine room | Engine room | |
| | Plant room | Plant room | Plant room | |
| Standards | DIN 8074 | DIN 19522 | EN 1124-1 | DIN 17122 |
| | DIN8075 | DIN EN 877 | EN 1124-2 | DIN 17455 |
| | DIN EN 12201 | | | |
| | DIN EN 12109 | | | |
| Maximum | -0,90 bar | -0,80 bar | -0,80 bar | -0,80 bar |
| Under pressure | | | | |
| Connection | SMU-Coupling | Electric- | Plug-in Connection | Press-Sockets |
| Туре | G-INOX Connector | Welding-Fitting | with special | |
| | | | Lip seal | |

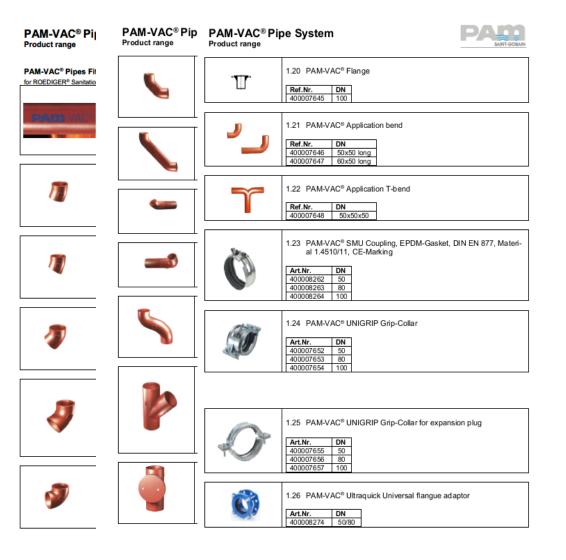
VACUUM PIPE NETWORK -SAINT-GOBAIN PAM-VAC VACUUM PIPES



Saint-Gobain PAM-VAC

- Tested and certified acc. DIN EN 12109
- Dimensions DN 50/80/100
- Contains all required fittings
- Contains all required couplings





ROEDIGER PIPE MONITORING SYSTEMS – ROEDIGER PIPE MONITORING SYSTEMS WIRELESS



Pipe Monitoring System - wireless

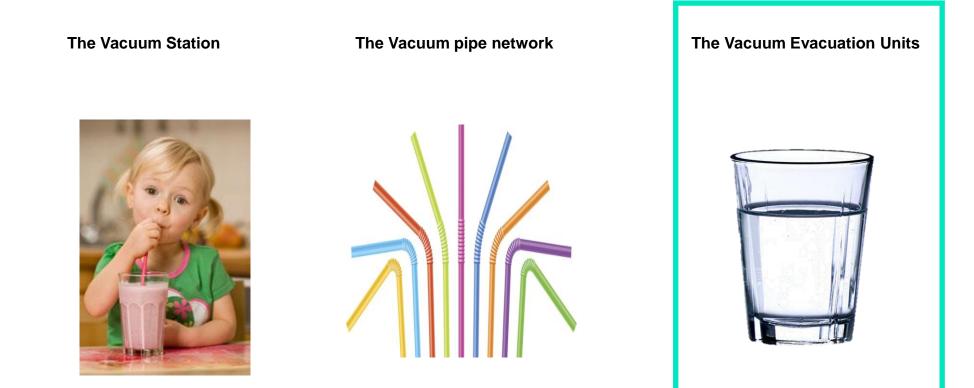
- Application: Wireless Monitoring Of Vacuum Pipes/Evacuation Units
- Components:
- GSM Module Power Pack VES – Plug with Sensor Connection Cable



COMPONENTS OF A VACUUM SYSTEM – ROEDIGER VACUUM EVACUATION UNITS



Acc. DIN EN 12109 a vacuum system consists of three major components:





| Vacuum Toilets | | Liquid Evacuation Units | | |
|-------------------------|-------------------------|-------------------------|---------------------------|--|
| Wall Mounted Toilets | Floor Mounted Toilets | Tank Evacuation Units | Membrane Evacuation Units | |
| Type Roediger | Type Roediger | Type 1 | BA | |
| Type Roediger Silentium | Type Roediger Silentium | Туре 5 | GK | |
| Type Laufen | Type Stainless Steel | Туре 7 | | |
| Type Stainless Steel | | Type 25 | | |
| | | | | |







ROEDIGER VACUUM EVACUATION UNITS VACUUM TOILETS





ROEDIGER VACUUM EVACUATION UNITS VACUUM TOILET TYPE LAUFEN TOILET BOWL



Roediger Vacuum Toilet Type Laufen

Toilet Bowl

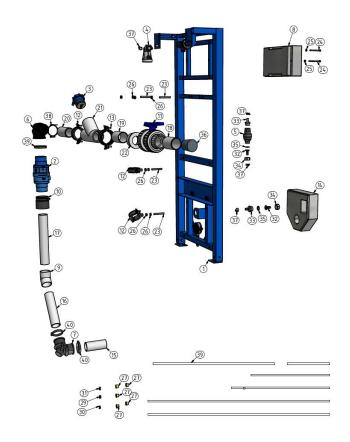
- Wallmounted Toilet
- Vitreous Chinα
- Slim Walls
- Weight: appr. 17 kg
- Integrated Vacuum Buffer
- Rimless
- Efficient Flushing Nozzles
- Hygienic No Overspray; No Cross-Contamination
- Water Consumption 11/flush
- Integrated Silentium Technology
- Noise Emission: 76,9 dB (A)
- Contemporary Design (Pro-S)
- Various Seats Available

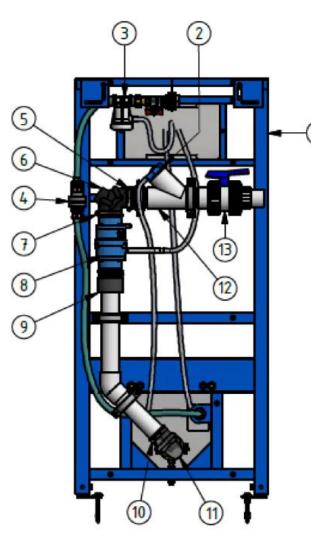




ROEDIGER VACUUM EVACUATION UNITS VACUUM TOILET TYPE LAUFEN - FRAME







Roediger Vacuum Toilet Type Laufen

Pre-Assembled Frame

- Water valve
- Aqua-Stop
- Vacuum valve AV 40
- UVE-plug
- Push Button Controler
- Pneumatic Control and Operation
- Adjustable Water/Evacuation Time
- Memory Effect
- Integrated Odour Removal
- Operating vacuum: 300 hPa (mbar) to - 600 hPa (mbar)
- Maintenance-Free

ROEDIGER VACUUM EVACUATION UNITS LIQUID EVACUATION UNITS – TANK UNITS





ROEDIGER VACUUM EVACUATION UNITS EVACUATION UNIT TYPE 5/7 - TECHNICAL DATA



Pre-assembled Evacuation Unit Type 5/7

Tank material: Application:

Operating data: Operating vacuum: Sensor pipe level: Evacuation performance: Evacuation volume:

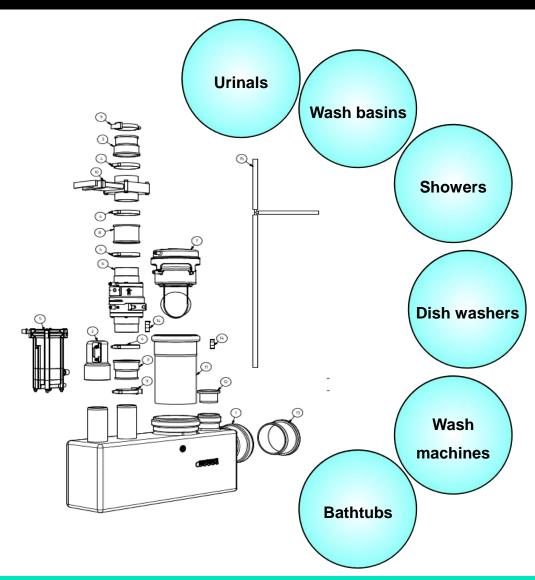
Weight :

HDPE/Stainless Steel liquids

- 300 hPa (mbar) to – 600 hPa (mbar) 70 mm approx. 140 l / min approx. 5.0 l/7.0 l

net approx. 5,5 kg





ROEDIGER VACUUM EVACUATION UNITS LIQUID EVACUATION UNIT – TYPE 1



Pre-assembled Evacuation Unit Type 1

Tank material: Application:

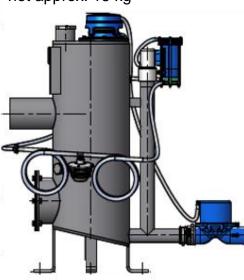
Operating data: Operating vacuum: Sensor pipe level: Evacuation performance: Evacuation volume:

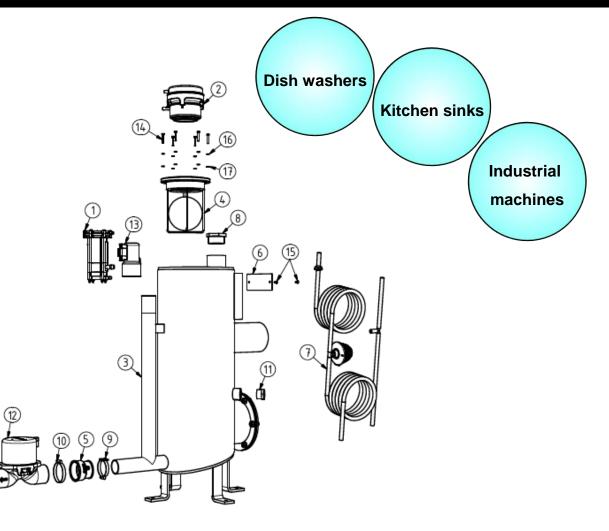
Weight :

Stainless Steel liquids

- 300 hPa (mbar) to – 600 hPa (mbar) 200 mm approx. 140 l / min approx. 15 l

net approx. 15 kg





ROEDIGER VACUUM EVACUATION UNITS LIQUID EVACUATION UNIT – AE 25



Pre-assembled Evacuation Unit Type AE 25

Tank material: Application: Stainless Steel liquids

Operating data: Operating vacuum: Evacuation performance: Evacuation performance:

Weight :

- 300 hPa (mbar) to – 600 hPa (mbar) 0,25 l/cycle approx. 7,5 l / min l

> Connection to Vacuum System

net approx. 1,5 kg

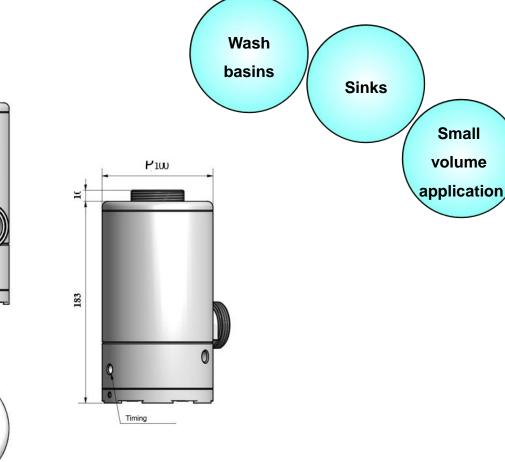
Flush-mounted Connection Wash Basin Inlet

79



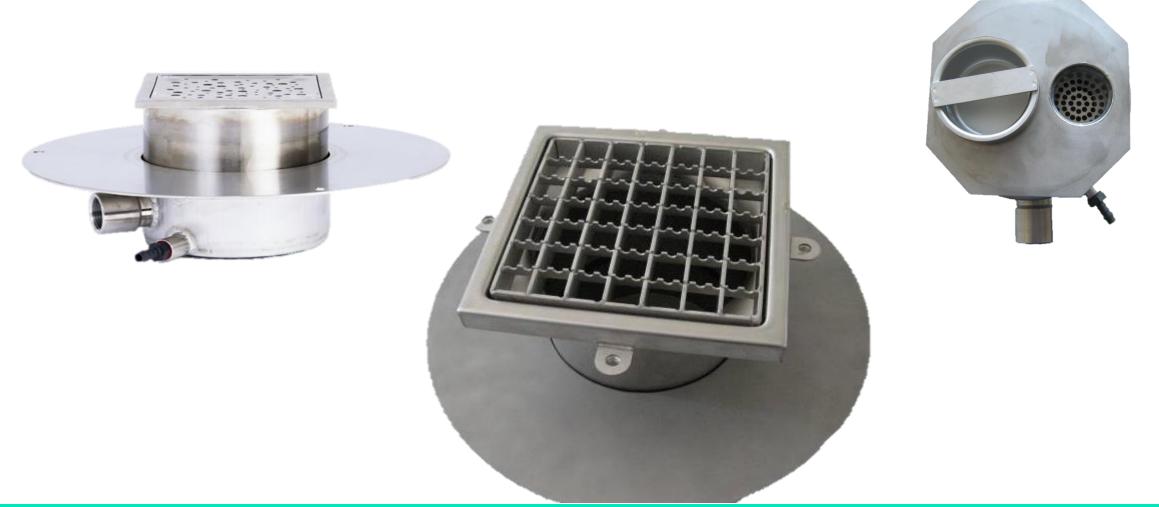
Water Inlet G 1 1/2





ROEDIGER VACUUM EVACUATION UNITS LIQUID EVACUATION UNITS – MEMBRANE UNITS

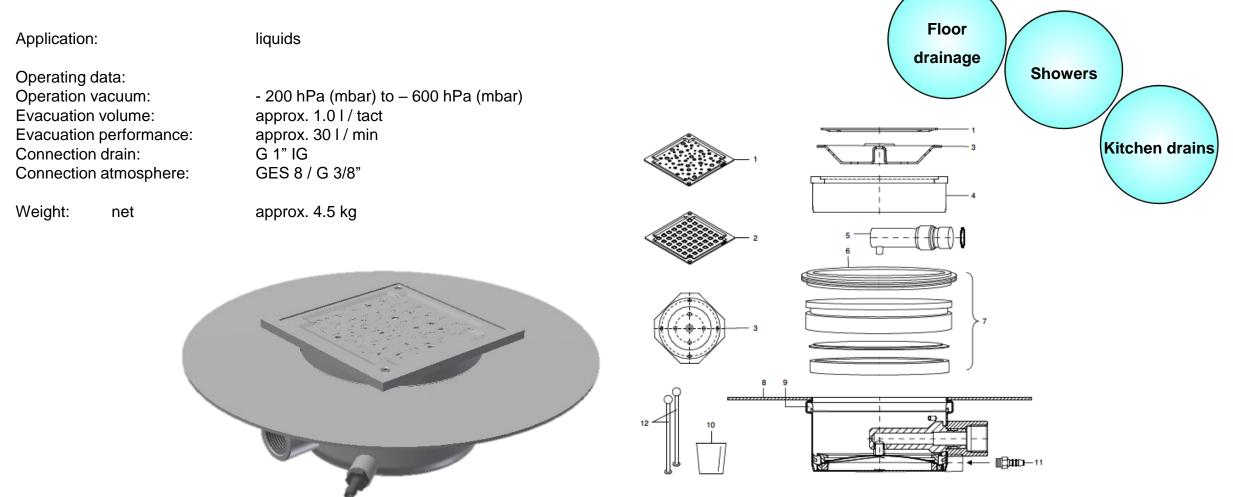




ROEDIGER VACUUM EVACUATION UNITS EVACUATION UNIT FLOOR DRAIN - TECHNICAL DATA



Evacuation unit Floor Drain



ROEDIGER VACUUM EVACUATION UNITS MEMBRANE UNITS – GK



Evacuation unit Floor Drain Greywater Application: liquids (via pipe connection) & Condensate Sinks Operating data: Operation vacuum: - 200 hPa (mbar) to - 600 hPa (mbar) Industrial Evacuation volume: approx. 1.0 I / tact approx. 30 I / min Evacuation performance: machines Connection drain: G 1" IG GES 8 / G 3/8" Connection atmosphere: Weight: net approx. 2.2 kg Wash basins