

# Environmental Technology

Quotation No. 4435/09

## **Suction / Pressure Vehicle (Vacuum tank unit 20.000 l.)**

Dear Sirs,

thank you for your interest in our new range of products and your request.

We would like to offer you our industrial standard of suction / pressure vehicles.

Following you find our quotation about our vacuum tank body, model:

### **BC Germany 20.000**

You can find the closer specification concerning the vehicle bodywork in the enclosed technical description.

Warranty:	12 months from delivery (excluded wearing parts)
Origin of the goods:	Germany

The scope of the order includes an operating manual in English and the training of your personnel in the place of the final destination.

We would be happy to provide any further information you may require.

## Technical Description of vacuum tank truck “BC Germany 20.000”



20.000 l. vacuum tank with top-mounted door



Inside view of vacuum tank

### Vacuum Tank

- cylindrical steel container (S235JR+AR) with curved soils, waterproofed welded reinforcement rings at the extent and full door
- Volume approx. 20.000 litres
- Material thickness min. 6 mm
- torsion-free stored in front on one support saddle and two universal joint bearings in the back
- multipurpose support frame, hot-dip fire galvanised
- 2 wash- plates
- mounting plates for suction hoses
- for operation with 1 bar working pressure

### Discharge Flap

- side-mounted solid door over the complete cross section
- connection between door and tank with oil-proof gasket
- to be opened manually
- closing with manual locks
- platform left and right at the end



### Container Discharge

- discharge by free outflow at the back
- additional with high pressure made by the vacuum pump



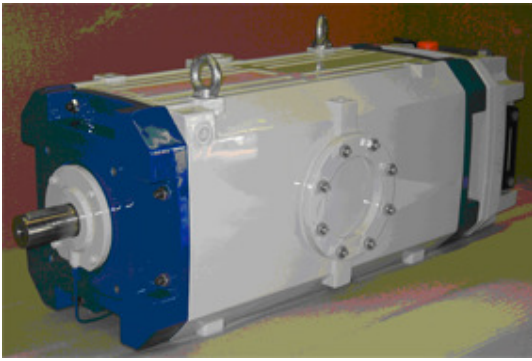
### Outflow Device

- below the discharge flap
- of fire galvanised sheet steel



### Control of Filling the Mud Chamber

- floating ball scale with scale sub-division 500 litres



### Vacuum Pump

- “CVS VacuStar” W1300 (or adequate)
- Suction capacity: approx. 1.300 cm<sup>3</sup>/h.
- driving power approx. 45 kW
- Max. vacuum: 100 mbar
- Continuous speed: 1500 1/min.
- Weight: 279 kg

CVS develops and produces in its own shop compressor vacuum pumps for installation in Suction Trucks

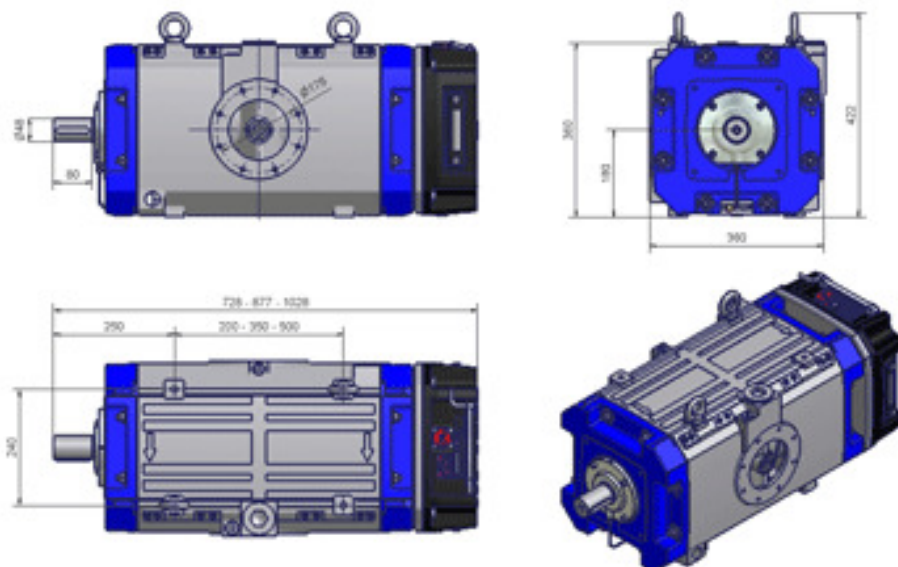
- Combined Suction / high pressure jetting Trucks
- Combined Suction / high pressure jetting Trucks with water recovery system

CVS Eng. compressor vacuum pumps offer higher suction level and suction performance. CVS products work longer thanks to robust design, while the compact and lightweight design of the machines makes it possible for you to deploy more payloads per truck.

The integrated cell aeration system reduces the end temperature of the air. This lower thermal stress increases the life cycle of the vanes, bearings, oil and housing.

A higher operating vacuum of up to 100 mbar/27” Hg provides higher suction power, giving higher suction levels.

CVS Eng. compressor vacuum pumps are **MADE IN GERMANY.**



### Vacuum pump cooling

- circulation pump and vane cooler with fan for continuous operation



### Suction and Discharge Connection

- in the lower and upper part of the discharge flap
- DN 100 with pneumatic valve
- attachment-V-part system Bauer with screw cap



### Vacuum Pump Drive

- of the auxiliary drive of the chassis over drive shafts with V-belt drive
- tightening device and protective cover
  - Maintainable structure, well accessible, simple clamping device



### Piping of the Vacuum Pump

- DN 100, isolated against structure-borne noise
- laid for effective flow



### RAC-Safety-System for the Vacuum Pump

- suction dome with integrated protection against overfilling (floating ball ) to the evacuation of the mud chamber
- Centrifugal separator with baffle plates and filter inset as well as ball stop valve
- Silencer with combined oil separator
- Vacuum pressure pipe with check valve and type tested 1,0 bar pressure relief valve
- Suction filter installed in front of the vacuum pump
- four-way cock in the vacuum and pressure pipe
- manual possibility to switch to "suction" and "venting" and "pressurization"



### Control Console V2 A Steel

mounting fixed at the rear right end of the container

- engine control = revolutions control (electrical), rev counter
- vacuum operating = vacuum manometer
- Emergency Stop button



### Hose Container

- open container on the right and left side
- made of high-grade steel, fire galvanised



### Engine Vehicle Equipment

- lightning at both sides
- spare wheel holder located at the body side
- mudguards at the rear tires
- truck display language: English

### Varnishing

- superstructure one colour painted on acryl basis
- standard RAL colour after customers request (outside tank)
  - 1x sand blasting
  - 2x priming coat
  - 1x covering varnish
  - 1x coating with epoxy inside the tank
- additional coating with hot wax for sea transportation



### Marks

- reflecting foil (red / white) in accordance with DIN 30710, front and rear of the vehicle



**Technical Inspections and Acceptances**

- TÜV-acceptance after German guidelines
- Our vacuum technology meets the international safety-standards

**Quality**

- design in accordance with DIN 30705, German "StVZO", ZH 1/74, ZH 1/406 und BGV D29
- Our production facility is certified in accordance with DIN ISO 9001:2000





## OPTIONAL EQUIPMENT

### Vacuum Pump

- CVS VacuStar 900 (or adequate)
- suction capacity: approx. 900 cm/hr
- driving power approx. 30 kW



### Vacuum Pump Drive

- of the auxiliary drive of the chassis with hydraulic pump and motor (Parker or Rexroth)
- Maintainable structure, well accessible, simple clamping device
- 2 coolers (100.000 KJ/h)

### Vacuum control

- pneumatic possibility to switch to "suction", "venting" and "pressurization"

### Discharge Flap

- top-mounted solid door over the complete cross section
- hydraulic safety installation against lowering of the opened solid door
- hydraulic control for opening/ closing in field of view
- to be opened hydraulically
- closing with manual locks
- included hydraulic-system



### Back-Spraying-Bar

- with 10 nozzles equipped
- can be manually controlled (from the cabin of the truck) to let water flow out (start / stop)



### Tool Container

- lockable device container made from stainless steel
- volumes approx. 80 l
- mounted in a suitable position, special protected



**All-round Position Lamp**

- at the rear end of the tank

**Working floodlight**

- 2 fixed mounted halogen working floodlight

## Other equipment

- **8 Suction hoses** à approx. 5 m length, DN 100 with coupling-system Bauer
- **1 Suction tube**, fire galvanised, 2.000 mm long with coupling-system Bauer



- **Aluminium- ladder** approx. 2.800 mm long  
(Fixed between left hose carrier and tank body)
- **Fire extinguisher in plastic box**



- **Second diesel tank** (400 l. steel) Total capacity: 800 l.



### **Container Discharge**

- by a hydraulic tilting device (= lifting cylinder) approx. 40°
- discharge by free outflow at the back
- additional with pressure by the vacuum pump



## **ADR-Options**

- Tank out of S235J2G3 with wall thickness of 7 mm (Please note: minimum insulation thickness for ADR is 5 mm)
- Model accreditation for ADR/GGVS
- For suction cleaning tank code is L4BH
- Tank dimensioning for a potential explosion pressure of 10 bar
- Tank tested for 4 bar overpressure
- Allowed cleanout pressure 0,5 bar
- Roll bar on top of the tank
- Seal on the suction dome is operated remote controlled with pneumatic gear
- Tank hold down plate
- Locking device towards opening the cleanout seal when tank is under pressure
- Suction and cleanout connectors made of non-sparking material
- Suction and cleanout connectors lockable towards unintended opening
- Under ride protection at the back of the vehicle
- Grounding skewer and wire lead with winder
- Two extinguishers, each 6 kg, with clamp for fire classes A, B, C
- Plexi protection cap for the extinguishers
- Yellow warning signs with replaceable numerics at front and back of the vehicle
- Tank inscription with vehicle weight
- Second sealing ability for all connectors up to 80% of the tank level
- Compression-proof suction filter (original from manufacturer) for the vacuum pump
- Bumpers at the back of the vehicle to protect the connectors
- Compression-proof security jar of the vacuum system up to 10 bar
- Prescribed burst disc with security valve on top of each chamber, installed on the tank peak
- Electrical system protected against explosion damages
- 6x tank locking mechanism for tank caliber of 1800 mm, 4x tank locking mechanism for tank diameter of 1600 mm
- locking armature out of high-grade material (high-quality steel, ductile graphite iron)



Training of your personnel in the place of the final destination

free of charge