



Pump specifications		
Type	ZD 900	ZD 600
Design	with gear casing	with gear casing
Max Capacity	95 m <sup>3</sup> /h	65 m <sup>3</sup> /h
Max Discharge head	2bar/ 20 mwc	2bar/ 20 mwc
Max Suction head	9.6 mwc	9.6 mwc
Noise level (Diesel)	47 dB(A) at 10 m	47 dB(A) at 10 m
Noise level (Elektro)	40 dB(A) at 10 m	40 dB(A) at 10 m
Connecting parts	4"/6"	4"/6"
Weight (empty)	1665 kg	1665 kg
Diesel engine	Hatz 1D81Z	Hatz 1D81Z
Electric motor	5.5 kW	5.5 kW

### ZD 900 - COMBI

This COMBI pump group offers the combination of an electrical driven pump and a diesel engine driven pump. It is possible to switch very quickly from electric to diesel engine. Noise level is limited to 40 dB(A) when operating with electric motor and 47 dB(A) with diesel engine.

The GEHO ZD series is a twin-cylinder quadruple-acting crankshaft-driven piston pump. The GEHO design is purpose build contractor proven and is extremely suitable for wellpoint dewatering by gravity or vacuum and for horizontal dewatering (drainage).



### Advantages of a ZD piston pump

- Constant water and air flow, independent of suction and discharge head
- Self-priming with a suction lift (vacuum) of 9.6 mwc without the aid of an separate power absorbing vacuum pump
- Permanent high efficiency minimizing energy consumption
- About twice as efficient as a conventional vacuum priming impeller pump
- Robust design for ease of transportation and handling
- Rapid and economical maintenance and low spare parts usage
- economical and longer carefree service life reducing overall project costs
- Unprecedented high availability allowing continuous and unattended operation
- accessibility for ease of inspection and maintenance which require no special skills
- Resistant to brackish water
- Permit universal application. Depending on soil conditions, up to 100 wellpoints and up to 300 metres of header pipe can be connected to a single pump
- Can run dry without causing damage to the pump

### Operational characteristics

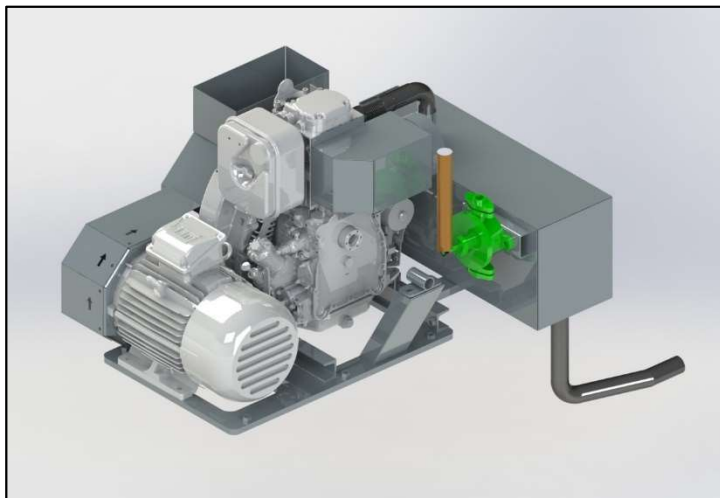
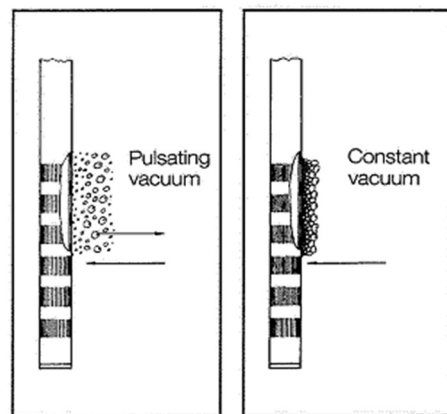
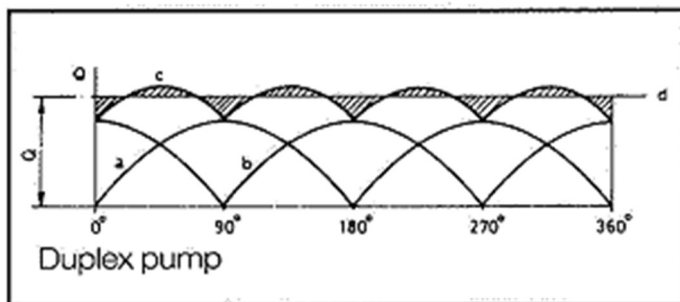
Water, air or water and air mixtures are primed and discharged 4 times per crankshaft revolution. Two crankshaft driven pistons are arranged in a Vee at  $90^\circ$ , so that the four piston strokes for each revolution follow in regular succession. The crank timing produces a moderate pulsating type action in the dewatering line that prevents clogging of the wellpoint strainers and achieves priming from greater depths.

#### Why a ZD pump from Clasal?

- Compact and light, yet large in capacity, efficiency and service life
- Original GEHO spare parts
- The sides and top can be opened  $180^\circ$  degrees, which makes all parts easily accessible for maintenance
- Autonomy with 180l fuel tank: one week

#### Clasal controls the complete line of production

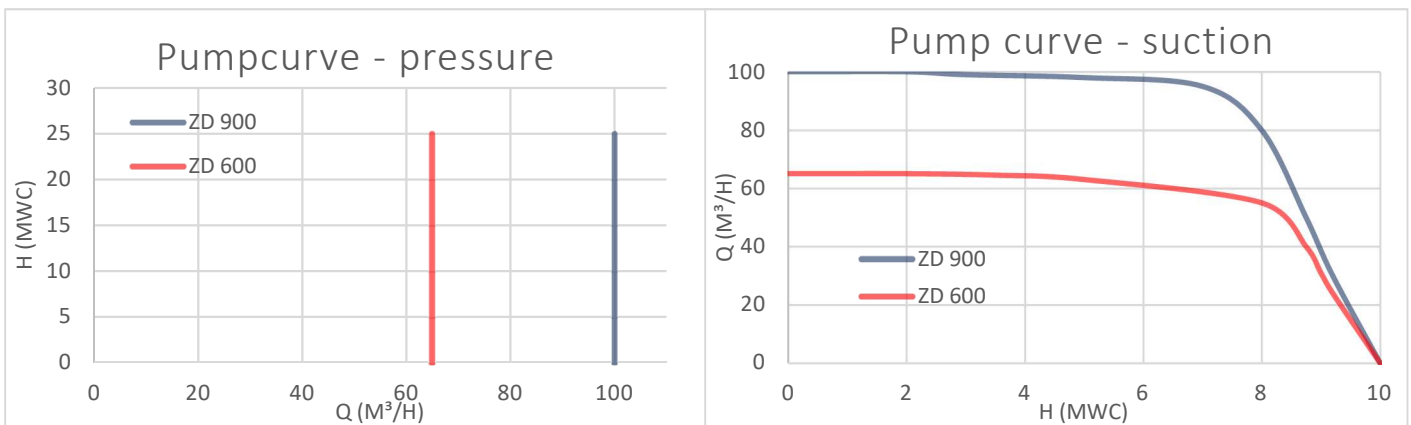
- Full control over the entire production line
- More than 100 years of experience as manufacturer of piston pumps
- Every pump is extensively tested
- Use of wear-resistant and durable materials
- Own foundry which is ISO 9001 certificated



It is easy to switch from the electric engine to the diesel engine

### STANDARD TECHNICAL SPECIFICATIONS FOR THE ZD 600 AND ZD 900

<b>Gearbox</b>	Tough, compact construction with integral single helical precision gears
<b>Lubrication</b>	Self-contained oil splash lubrication
<b>Piston discs</b>	Wear resistant high molecular polyethylene
<b>Cylinders</b>	Stainless steel, easy replaceable
<b>Piston rod</b>	abrasion and corrosion resistant hard surface piston rods
<b>Valve seats</b>	Bronze, saltwater resistant
<b>Valve system</b>	Rubber discs with stainless steel guides
<b>Gearbox, pump body</b>	Alloyed cast iron
<b>Inspection covers</b>	Covers at the side of the pump body for cleaning
<b>Cross head</b>	Attached to the connecting rod with sleeve bearings
<b>Crankshaft</b>	Antifriction type drive shaft and crankshaft bearings

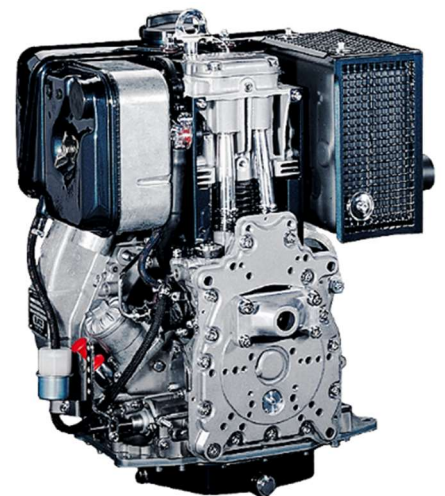


### Diesel engine

Brand	Hatz
Type	1D81Z
Engine rating	7,5 kW
Max.rounds per minute	1900 rpm
Fuel consumption	0,7 - 1,1 l/hour
Cylinder capacity	0,667 l
Number of cylinders	1
Cooling system	Air cooled
Starting system	Electrical start & stop

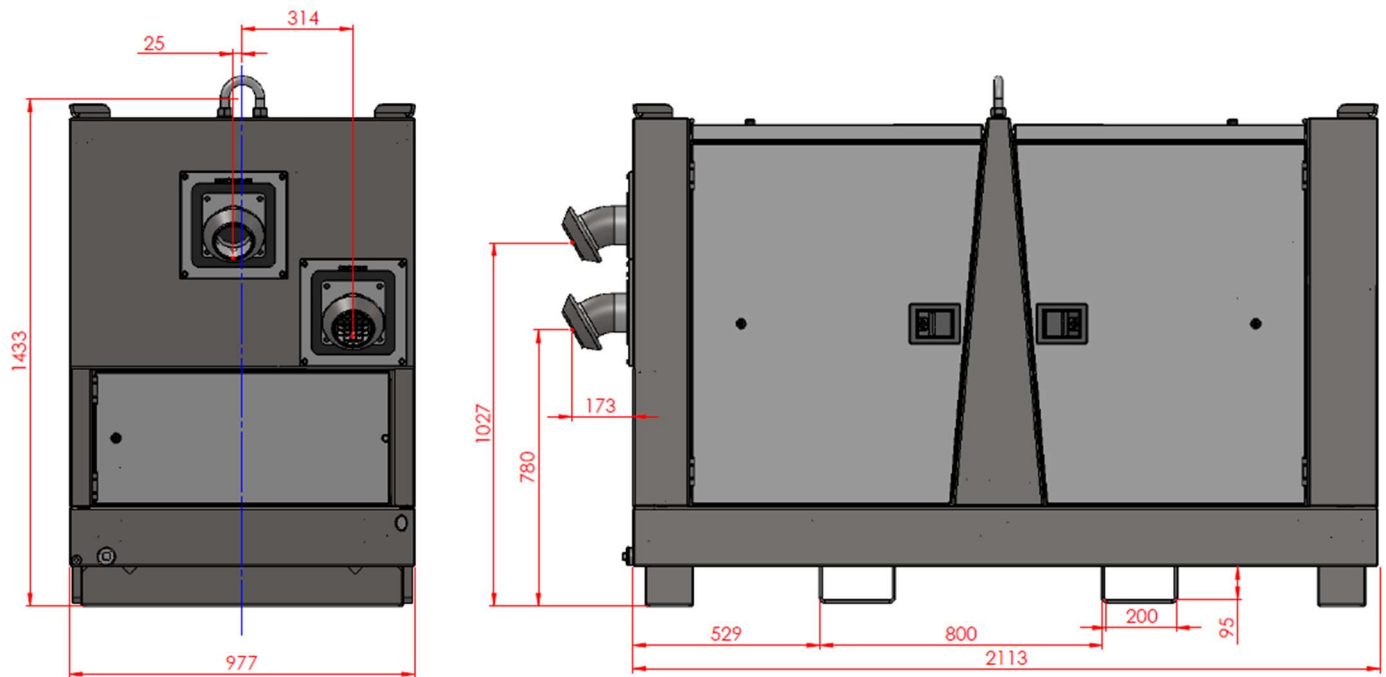
### Control box

Hour meter
Start-stop control with key
"Oil pressure" indicator lamp
"Battery" indicator lamp
Battery 12 V



### CANOPY – COMPACT SILENT

Type	COMPACT
Dimensions LxWxH	2100 x 970 x 1495 mm
Weight	1665 kg
Base frame	Hot-dip galvanised
Panels	Made of galvanised panels with powder coating
Roof panels	Can be opened 180°
Door panels	4 Lockable side doors
Lifting eye	Central lifting eye on centre
Forklift sleeves	2 forklift sleeves: 200 x 95 mm
Canopy	Stackable
Exhaust system	Fully integrated in canopy



Actual dimensions (in mm) may vary depending on the selected couplings





Bronze valve seats and optimal hydraulics ensure the highest efficiency and the best vacuum.



All parts are finished at Clasal using high-tech machines.



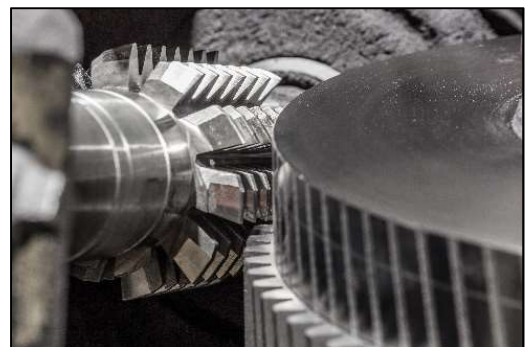
Clasal can use its own foundry.



Either an electric motor or a diesel engine can be used.



Because we have all the technology in-house, we can always guarantee the same top quality.



Gear wheels are finished in our own workshop.



The panels are 2 cm inside in the frame to prevent damaging during transport.



Clasal only works with SKF bearings