



geo drilling solutions ab

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High pressure water pump

GDS 850 Twin

Pump type:	2 x Pratissoli 3-plunger pump
Volumetric flow:	Up to max. 1 x 846 or 2 x 423l/min by parallell or separate flow feed connection
Working pressure:	Up to max. 160 bar
Weight:	5400 kg
Measurements:	385 x 160 x 210 (L x W x H) (cm)
Engine:	Diesel engine, Cat C9.3 9 litre, rated power 325kW
Emission class:	Tier IV Final

**Twin built high pressure water pump for drilling with water hammers.
Compact build and easy-to-use diesel powered unit.**

General features

Easy-to-use Twin Pump with basic functionality for water hammer drilling.
The pump can supply a single large water hammer (5", 6" or 8") or two small to medium size (2" to 5") hammers with propelling water.
Economical and flexible design with Twin pump arrangement.
The pump is compact built, has a small footprint and is easily operated and maintained.

Frame and enclosure

The complete unit is mounted in a rigid steel frame enclosure with 4 lifting lugs and fork lift sockets.

The Diesel engine, flexible coupling and twin-mounted pumps are mounted on a separate steel frame which is attached to the unit frame on vibration absorbers.
The enclosure is noise insulated and has large double service doors on each side for easy access to the unit.
All service means are possible to provide from the service doors at operating panel side. This means the pump unit can be arranged close to a wall if there is space restrictions at site.
Enclosure frame is painted RAL 5017 Traffic Blue, enclosure ends, sides, roof and doors are made from polished aluminum checker plate.



Dimensions: 385 x 160 x 210 (L x W x H) (cm), weight 5400kg

Cooling

The Diesel engine is cooled from the hammer propelling water and requires only a minimum of air for cooling.

Diesel- and AdBlue tank

The pump has an integrated Diesel fuel tank with a volume of 400 l and a AdBlue tank of 45 l volume for extended intervals between filling is required.

Water flow

The Twin pump water supply fitting is G 2-1/2" external and the incoming water line includes a stainless steel buffer water tank with 1400 liter volume which is integrated in the enclosure frame.

The Twin pump feed line includes a 50 micron mesh wire double filter serving as pre-filter.

The pre-filter is exchangeable during operation without need of stopping the operation of the pump, however the pump needs to be off-loaded.

The water filters has differential pressure gauge that indicate for required filter change.

The gauges have a connection for connection to external alarm function.

The water feed line also comprises a belt driven centrifugal booster pump driven by the main engine.



The outgoing water pressure level is regulated over air operated pressure relief valves, 3/2 valves, (one for each high pressure water pump) with return of any spill water back to the buffer tank. The relief pressure is continuously adjustable from the radio remote control units.

Control system

The control system comprises Easy-To-Use functionality with a Siemens LOGO logic module for safe operation.

The twin pump control system allows for the following features;

Operation of one single hammer with high flow requirement, hammer size from 5" and upwards:

- Both Twin Pumps water line is connected in parallel, all water is supplied in one single line.

- Outgoing water pressure is operated from a single radio control and both pumps work together.

- The pump flow is set with the engine speed control.

Operation of two hammers with moderate flow requirement, up to hammer size 4":

- Each Twin pump water line is connected separately, the water is supplied from each pump to each single hammer respectively.

- Outgoing water pressure for each hammer is operated from a separate radio control.

- The pump flow is set with the engine speed control and the hammer with highest flow demand decides the engine speed setting.

Operation of one single hammer up to 4" with moderate flow requirement:

- Twin pumps water line is connected separately, the water is supplied from the first pump to the hammer. The flow from the second pump is circulated back to the buffer tank without building up any pressure.

- Outgoing water pressure for the hammer is operated from a single radio control.

- The pump flow is set with the engine speed control.

The water from the second Twin Pump which is not used, is simply circulated back to there buffer tank without building up any pressure.

The control system has the following safety functions:

Pump shutdown in case of:

- Depressed emergency stop (hard wired)
- Diesel engine, oil pressure (min level)
- Diesel engine, coolant temperature (max level)
- Booster pump pressure (min level)
- Booster pump water temperature at suction side of HP pump (max level)
- Water level in tank low (min level)

Warning in case of:

- Intake water filter clogged (differential pressure high)

Diesel engine panel as supplied from engine manufacturer.

Documentation including operation and maintenance instructions in Swedish.

The pump is CE-marked.



