

TRANSPORT SOLUTION

FOR DOZERS AND DRILLS



DB120



EQUIPMENT
PLACEMENT

Quality Products for Mining and Industry

SLEIPNER DB120 TRANSPORT SOLUTIONS FOR DOZERS AND DRILLING RIGS

BENEFITS

- Fast and efficient, average speed up to 30 km/h in mine site conditions
- Can handle dozers up to D11T, max load 120 tonne
- Compact 11 metre turning radius
- Short loading time for dozers, less than 2 minutes
- Suitable for both dozers and drills on the mine site
- Stairs for safe operator access to dozer/drill cab
- Hydraulic winch option; can retrieve disabled dozers.

ADVANCED BRAKE SYSTEM

Drag brake system

- Trailer tail features braking surfaces on the underside
- When travelling downhill, the trailer tail automatically tilts towards the ground
- ADT is in towing mode when travelling downhill
- Emergency brake feature
- Safe – no risk of brake fading.



TRAILER FEATURES

- Works in rough terrain
- Tandem axle with pivot allows smooth drive
- Tyre size 24.00-35 (2190 mm diameter)
- 500 mm ground clearance
- Main dimensions
- Total length 14.7 m
- Max width 7.2 m
- Track width 6.5 m
- Especially suitable for drilling machines
- Smooth transport between drilling sites
- Avoids unnecessary undercarriage wear
- Trailer gooseneck is equipped with hydraulic suspension to minimise drill boom stress during transport.



TYPICAL RISKS DURING LOADING

- Narrow trailer bed increases risk
- Very dangerous on uneven ground
- Machine rocks on ramps
- Requires extreme operator skill



TRAILER TOWING WITH ARTICULATED DUMP TRUCK

- Recommended solution: Volvo A40E FS
- 6x6, maximum towing performance in difficult conditions
- Volvo Solutions offers ready platform for trailer towing
- Active suspension enables higher average speed
- Average operating speed up to 30km/h.

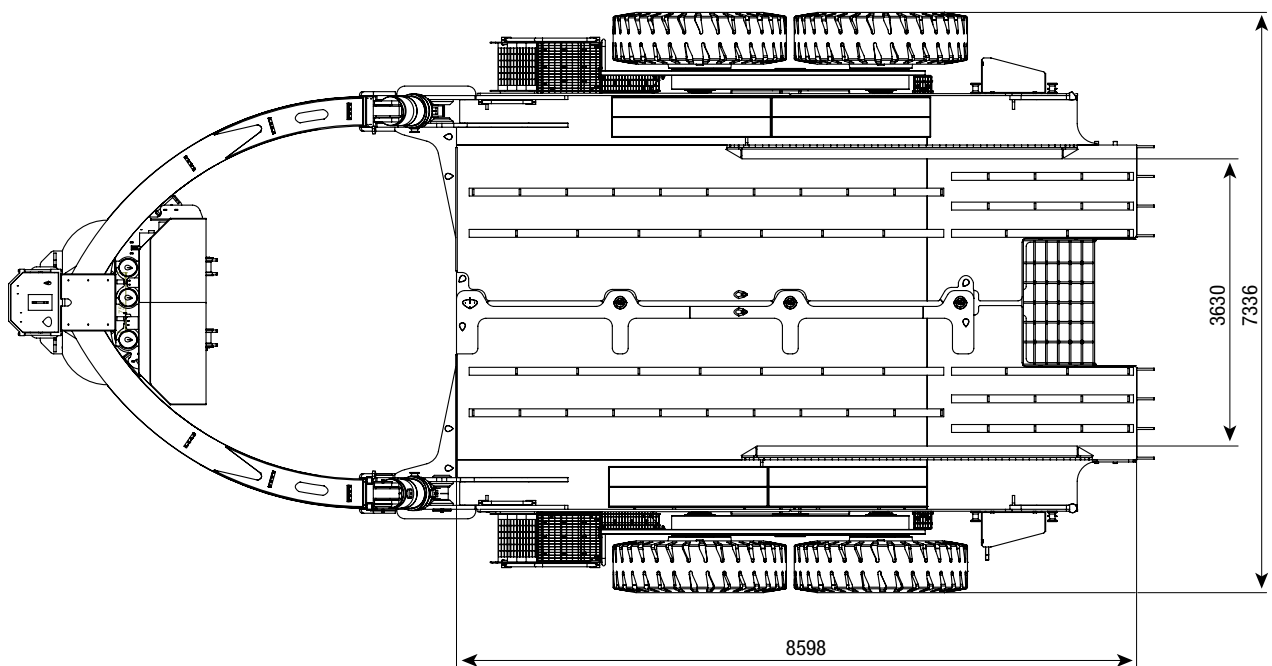
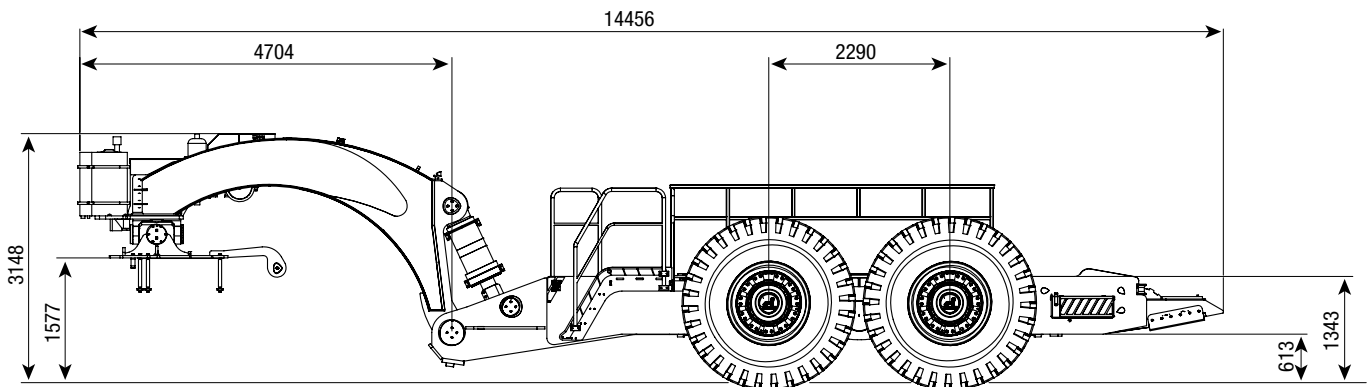


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DB120 Dimensions





DB120 Technical Specifications

Frame

- Short span length between fifth wheel and trailer axle line
- Load carrying deck, welded cell structure, excellent weight /payload ratio
- FEM optimized structure, high strength steel plates in critical places
- Deck and bottom plates from Hardox 400
- Deck wearing rails from Hardox 500
- Guide rails show widest load place on the deck
- Anti-slip coating on the deck
- Frame can be spilt to two pieces for sea or road transport
- In line bored pivot points for tandem axle, gooseneck and hydraulic cylinders. Hardened pins with bronze bearings for all pivot points.

Gooseneck

- Hardened pins and bronze bearings for pivots and cylinders
- FEM optimized structure, high strength steel plates in critical places
- Gooseneck can be spilt to two pieces for sea or road transport
- Design allows good clearance for bulldozer ripper and ADT wheel during turning
- Both goosenecks have own hydraulic cylinders for trailer bed tilting
- Gooseneck is connected to centre piece with machined keys and is secured bolts
- Centre piece support hydraulic tank and pressure accumulators.

Fifth wheel

- Tailor made 3-way pivot mechanism, designed to carry 120t loads day to day
- Allow wide turning angles what are needed in rough terrain
- Fifth wheel is assembled to sub frame. Sub frame is connected to ADT truck bed rear pivot points and secured by U-bolts under the ADT frame. No modifications needed to ADT, just remove truck bed + hoist cylinders.

Tandem axle

- Tandem axle allows smooth ride in rough conditions
- Tandem axle beam is machined from one ultra high strength steel piece
- Tandem pivot axle is supported to frame with bronze bearings. Pivot axle has been made hi-strength CrMo steel
- Wheel axles has been made hi-strength CrMo steel, tapered roller bearings in oil bath for wheel hubs
- Cast iron custom made wheel hubs.

Hydraulics

- Independent hydraulic system, get power from ADT hoist cylinder outlet. Hydraulics pressure from ADT runs hydraulic motor what is connected to trailer hydraulic system. Trailer tilting cylinders + pressure accumulators need more oil than ATD own hydraulic can serve.
- 340 litre hydraulic oil tank, operating pressure 200 bar.
- Standard components and valves, simple solution without servo valves
- Hydraulic running only when is needed to adjust trailer bed angle on fill in accumulators, no heat issues caused by continuous running
- Pressure accumulators stores energy for emergency stop function.

Brake system

- Trailer sophisticated brake system works in any condition, from sub zero to heat
- Under the trailer tail are brake surfaces (from Hardox 500)
- Brake system is equipped strain gauge sensors witch measuring how much trailer is pushing or pulling ATD
- Brake force is adjusted according to measuring signal from strain gauge sensors (closed loop control)
- During downhill trailer tail brake surfaces touch to ground and brake system adjust brake force according to need. ADT need to tow trailer to the pit, absolute safety
- Different brake control modes to up/downhill and flat ground
- Inclinometer measuring slope grade and control gives warning signal to operator if operator does not follow right working procedure. No place for human error.
- Emergency stop function; pressure accumulators have stored energy for emergency stop. Operator have emergency stop button in the cabin. Pressing of button release energy from the accumulator to the cylinders and braking activated with full force.

Control system

- Build in fault-tolerant embedded control system, which is designed to toughest conditions; 100 G vibration endurance, class IP67 water and dust resistance, wide operating temperature range
- CAN bus communication between modules
- 5.7" TFT color screen for operator, user interface designed for this application
- Operator control all functions from the screen function buttons
- Display shows always current road grade % and trailer payload in tons
- In build diagnostic, parameter settings, service mode
- Joystick for trailer bed manual control.

Options

- Central lubrication system (Lincoln)
- Hydraulic winch for towing disabled dozer to trailer (not suitable for rescuing bogged dozers).