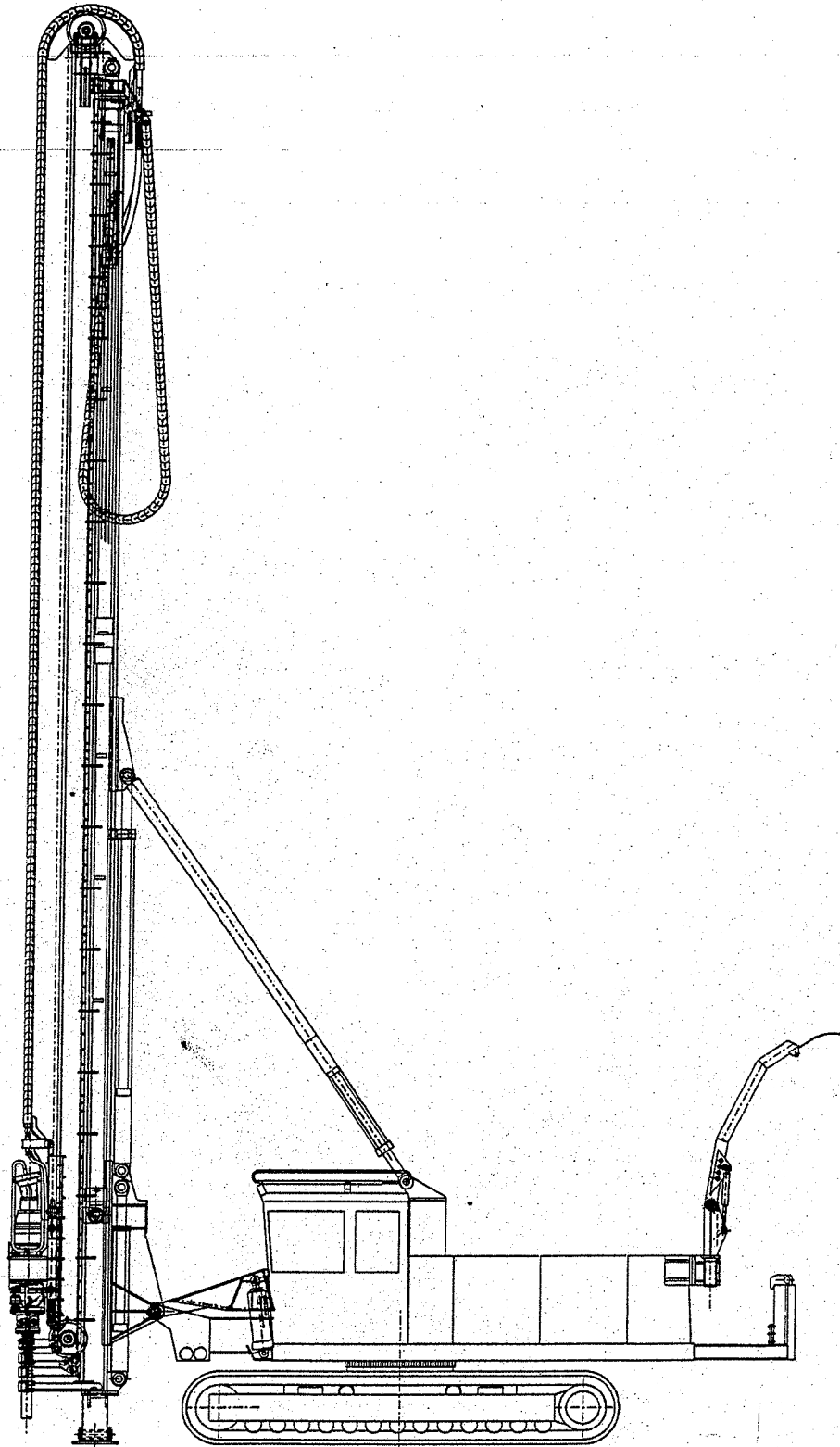


OPERATOR'S MANUAL

JUNTTAN

DS25LC Deep stabilisation rig s/n 1180



OPERATOR'S MANUAL

MANUAL REFERENCE NUMBER: DS25LC11801998

THIS MANUAL COVERS THE OPERATOR'S INSTRUCTIONS OF

DEEP STABILATION RIG

MODEL	DS25LC
SERIAL NUMBER	1180
YEAR OF MANUFACTURE	1998

Manufacturer: JUNTTAN OY
Full address: Ankkuritie 3
SF-70460 KUOPIO
FINLAND

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SF-70461 KUOPIO
FINLAND

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LC-6

PILING RIG SPECIFICATIONS MANUAL**1. GENERAL IDENTIFICATION**

Trade mark of the machine:	Junttan DS25LC
Type of the machine:	Deep stabilation rig
Product range and serial number(s):	DS25LC 1180
Name and address of manufacturer:	Junttan Oy PL 1702 70461 Kuopio Finland
Year of manufacture:	1998

2. CHARACTERISTICS OF THE BASE MACHINE**2.1 GENERAL DIMENSIONS**

Dimension refer to the attached illustrations

Maximum height in working:	30 800 mm
Maximum width in working:	4 250 mm
Maximum over all length:	10 650 mm
Maximum drilling depth:	25 000 mm

2.2 TYPE OF MOUNTING

Junttan DS25LC is crawler mounted

2.3 CRAWLER

Dimension between sprocket axis and the idler axis:	4 520 mm
Total length of crawler base:	5 390 mm
Transverse width over tracks in transport:	3 420 mm
Transverse width over tracks in full working width:	4 250 mm
Size of track shoes:	1000 mm
Number of track shoes:	2*65
In each track idler at one end and sprocket at the other end.	

2.4 ENGINE

INTERNAL COMBUSTION ENGINE

Name of manufacturer:	Cummins
Type of engine:	Turbo-charged diesel
Model of engine:	M11-C
Serial number of engine:	34871555
Number of cylinders:	6 (in line)
Bore:	125 mm
Stroke:	147 mm
Displacement:	10.8 l
Rated power:	246 kW(330 hp)/ISO 9249
Type of fuel filter:	3315843
Type of oil filter:	3318853
Type of air filters:	P77-7414 P77-7409
Type of cooling system:	By liquid
Fuel tank capacity:	~ 600 l

2.5 ROTATING STRUCTURE

Method of attachment to and rotation on main frame:

- Machinery deck attached with a slewing ring to the undercarriage.
- Swing drive and transmission mounted on the machinery deck.
- Spurgear on the swing transmission rides on the spurgear on the slewing ring.

System of swing control:

- controls of the swing drive and slewing mechanism lock in the cab
- spring loaded swing brake which opens with hydraulic pressure

2.6 MAIN POWER TRANSMISSION ACCESSORIES

HYDRAULIC PUMPS:

- model:	A4VG125EP2
- type:	variable displacement axial pump for closed circuit, electrical controlled with proportional solenoid
- rated capacity/rotation speed:	max. 2*356 l/min at 2850 rpm
- service operating pressure:	max. 350 bar
- model:	A10VO100DFR1
- type:	variable axial displacement pump, LS-controlled
- rated capacity/rotation speed:	max. 200 l/min at 2000 rpm
- service operating pressure:	max. 280 bar
- model:	0 510 665 354
- type:	double gear pump
- rated capacity/rotation speed:	max. 32+22 l/min at 2000 rpm
- service operating pressure:	max. 280 bar

DISTRIBUTOR GEAR UNIT:

- model:	STIEBEL D51545 WAL.DBROEL
- type:	4272.F9.09903.97
- serial number:	464359
- ratio:	i=1.1311

When the diesel engine is running at 1800 RPM the pumps are running at 2034 RPM.

HYDRAULIC MOTORS AND TRANSMISSIONS:

Travel motor and transmission (2)	A2FE80 / O&K F100
- type:	hydraulic axial piston motor with transmission
- torque:	~ 56 kNm/motor
- operating pressure max:	300 bar
Swing motor and transmission	A2FE80 / Lohmann
- type:	hydraulic axial piston motor with transmission
- torque:	~ 12,5 kNm
- operating pressure max:	250 bar

CYLINDERS

The data below reflect the operating conditions. No losses are taken into consideration. The manufacturer's maximum values are equal or higher.

Leader erection device cylinders (2)	
- type:	double acting telescopic cylinder
- number of telescopic stages:	2
- stroke:	1050 mm
- operating pressure:	210 bar
- load holding valve installed	

Lateral inclination cylinders (2)	
- type:	double acting
- stroke:	1400 mm
- operating pressure:	250 bar
- load holding valve installed	

Forward inclination cylinder	
- type:	double acting
- stroke:	3700 mm
- operating pressure:	250 bar
- load holding valve installed	

Leader foot cylinder	
- type:	double acting
- stroke:	1500 mm
- operating pressure:	180 bar
- load holding valve installed	

Horizontal slide cylinder	
- type:	double acting
- stroke:	1500 mm
- operating pressure:	160 bar
- locking valve installed	

Track width adjustment cylinders (2)	
- type:	double acting
- stroke:	1000 mm
- operating pressure:	260 bar
- load holding valve installed	

Counterweight cylinders(2)
 - type: double acting
 - stroke: 1000 mm
 - operating pressure: 260 bar

Leader feeding cylinder
 - type: double acting
 - stroke: 2*6500 mm
 - operating pressure: 200 bar
 - locking valve installed

2.7 AUXILIARY CIRCUITS AND TRANSMISSIONS

Hydraulic valve blocks, hydraulic pilot valves, hydraulic oil filters, hydraulic tank, hydraulic oil cooler in open system. See attached schematic diagram of hydraulic circuits of the machine and of the various items of equipment.

Piping: Steel hydraulic pipes and reinforced hydraulic hoses.
 Cooling system: Hydraulic oil coolers with fans.
 Filters:
 - pressure: FF7006.F025.BS35.GL20, cartridge FC7006.F025.BK
 - return: FK1097.F005.BA16.SX32-M, cartridge FC1097.F005.BS
 - leak oil: FF1003.F005.BA16.GT12, element FC1003.F005.BS

2.8 ELECTRICAL COMPONENTS

Battery type and capacity: 2 * 12 V 155 Ah
 Details of electrical controls and equipment: 24 VDC with fuses and relays
 Wire operated remote control

See attached schematic diagram of electric circuits of the machine and of the various items of equipment.

2.9 WINCHES

The data below reflect the operating conditions. No losses are taken into consideration. The manufacturer's maximum values are equal or higher.

Service winch
 - make and serial number of motor: GBL2
 - type: hydraulic radial piston motor
 - lifting capacity: 1 ton
 - ropeline specification: $\text{Æ}10 \text{ mm} - 40 \text{ m}, 35\text{LS} * 7 \text{ ZS } 1960 \text{ N/mm}^2$

2.10 SAFETY DEVICES**AUDIBLE ALARMS**

- swing
- counterweight
- track
- compressors 1 and 2
- power pack
- hose holders

VISUAL ALARMS

- position of the safety lever
- leader inclination meters
- base carrier inclination meters
- filter blockage
- hydraulic oil level
- counterweight fully out
- leader lift device ready to use
- leader lift device fully up
- leader backward inclination $>30^\circ$
- air filter
- engine oil pressure
- charge indicator
- fuel level
- compressors 1 and 2
- power pack
- hose holders

WARNING SIGNS

- warning not to stay within the operating radius
- warning for the counterweight

OTHER

- safety lever to deactivate controls in the cab
- engine emergency stop
- sensors in leader erection
- sensor for horizontal slide in-position
- sensor for leader position on leader lift device
- sensor for leader lift device top-position
- sensor for lateral inclination cylinder in-position

2.11 GENERAL CHARACTERISTIC OF THE MACHINE**2.11.1 WEIGHT (WORKING)**

Base machine without accessories:	55 000 kg
Counterweight:	6 050 kg
Rotary head:	1 800 kg
<u>Total weight:</u>	<u>62 850 kg</u>

2.11.2 APPROXIMATE SHIPPING WEIGHT

Approximate weight:	62 850 kg
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2.11.3 OVERALL SHIPPING DIMENSIONS

(Base machine without accessories)

See to the attached illustrations of the machine

Min. length:	17 200 mm
Min. width:	3 420 mm
Min. height without rotary head:	3 300 mm
Min. height with rotary head:	3 450 mm

2.11.4 TRAVELLING SPEED

Travelling speed:	0,7 km/hour
For travelling see operations manual	

MACHINE DATA**1. MAJOR COMPONENTS**

Refer to Figures 1a, 2, 3a and 3b.

The construction of the machine is a rotating machinery deck with leader on crawler-mounted undercarriage.

The piling leader consists of a leader and basic leader. The bottom of the leader is connected with the cross joint to the horizontal slide. The lateral inclination cylinders and the forward/backward inclination cylinder control the inclination of the leader through the upper slide. These allow vertical and horizontal positioning of the leader. The leader slides axially in relation to the basic leader. The leader lift device erects and lowers the leader from and to the transport position.

2. OPERATING INSTRUCTIONS

This machine should only be operated by authorised personnel.

The operating instructions are covered in detail in chapter DAILY OPERATION.

3. POWER PLANT

The power plant of the machine is a diesel engine connected to hydraulic pumps and valves for different functions with hydraulic motors or hydraulic cylinders. For detailed specifications refer to the specifications manual. There is a separate manual for the diesel engine from the manufacturer.

4. LOCATION OF THE SERIAL NUMBERS

For the location of the product identification number (PIN) see Figure 4.

For the location of the engine serial number see Figure 5.

For the location of the track drive serial numbers see Figure 6.

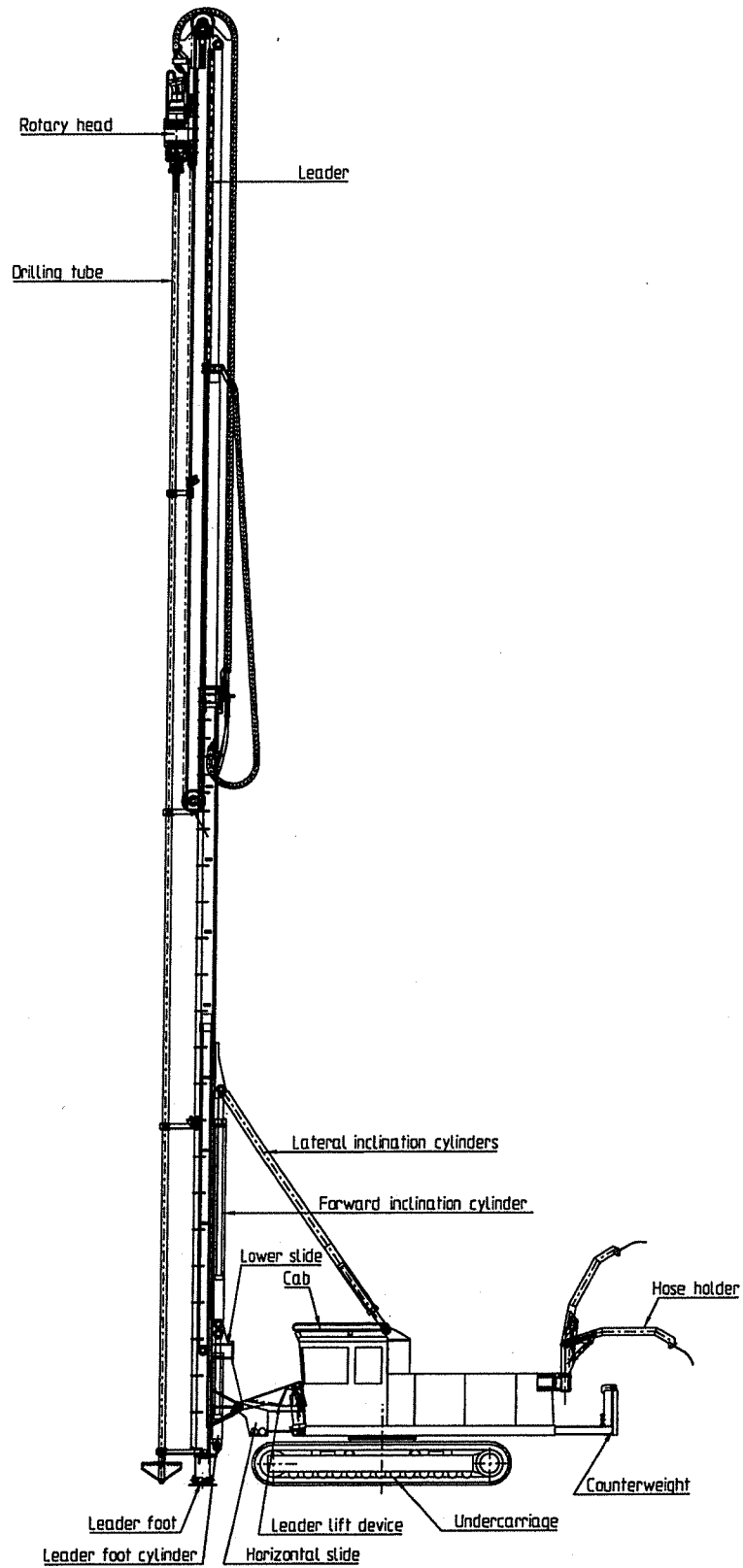
For the location of the swing drive serial number see Figure 7.

5. LOCATION OF THE HOUR METER

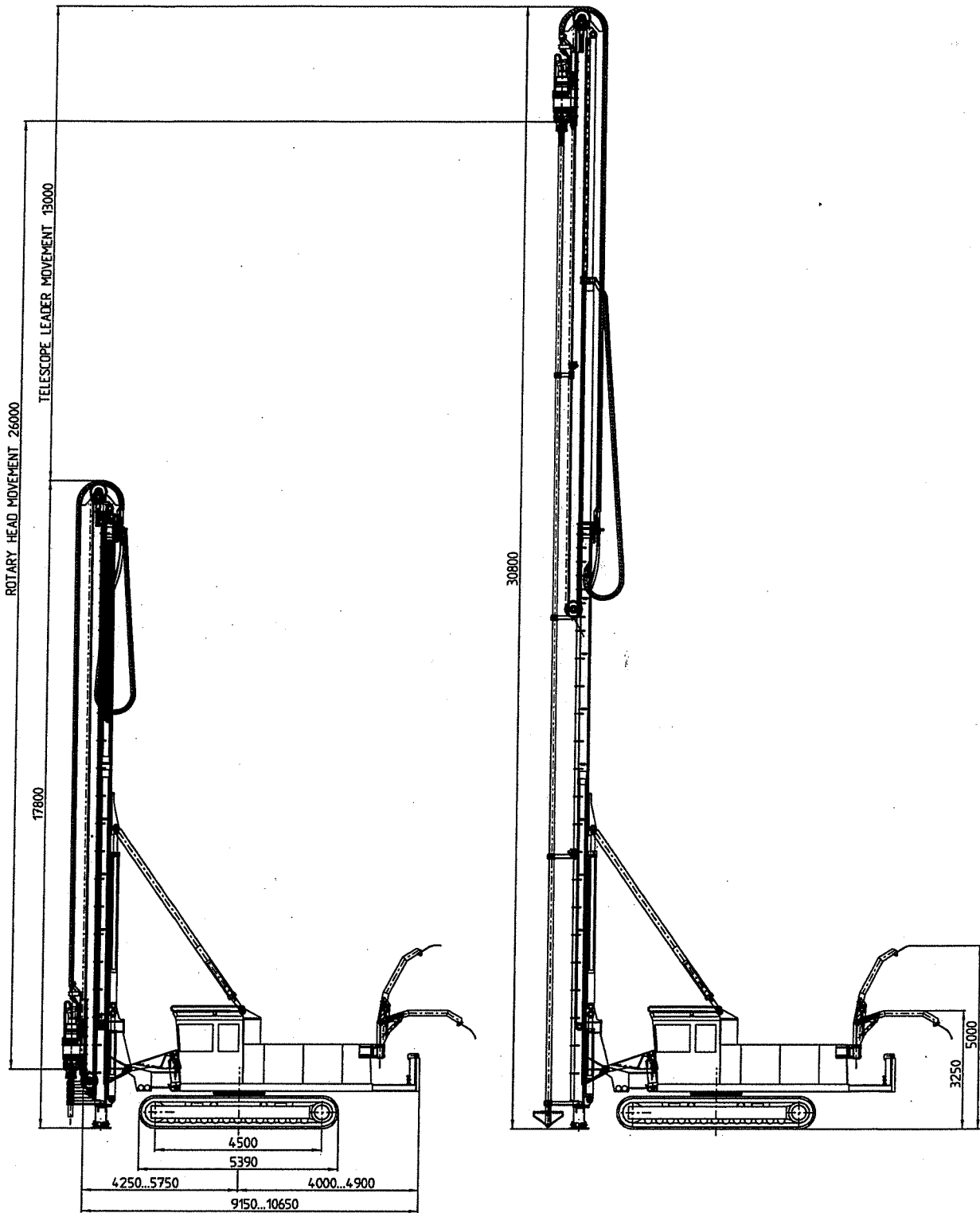
The hour meter is on the right hand console in the cab and its location is illustrated in section OPERATOR'S CONTROLS.

6. INSTRUMENT PANELS AND OPERATOR'S CONTROLS

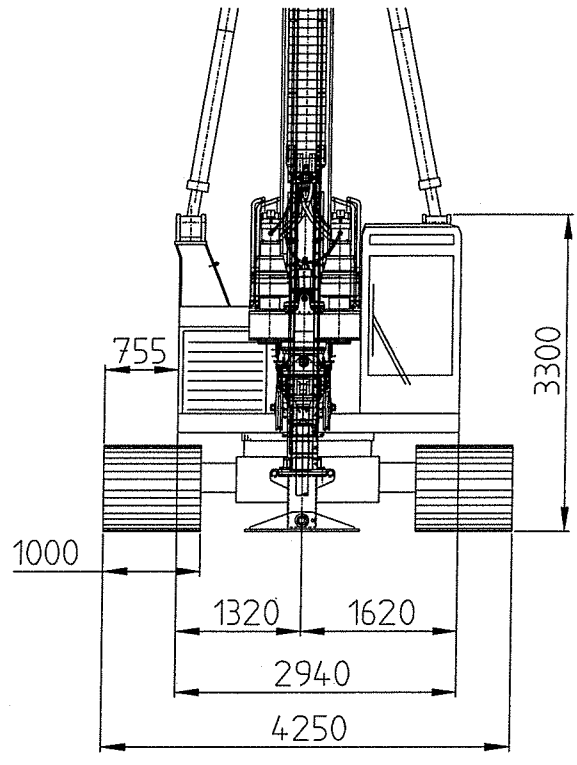
Layout of instrument panels and positions of the operator's controls are illustrated in section OPERATOR'S CONTROLS.



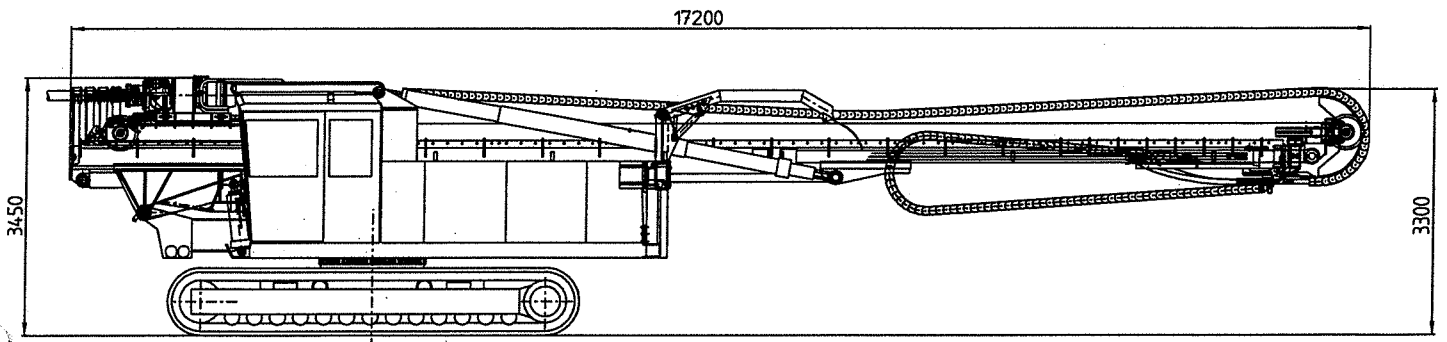
Main components Fig. 1



Main dimensions Fig. 2



Width and height Fig. 3a



Transport dimensions Fig. 3b