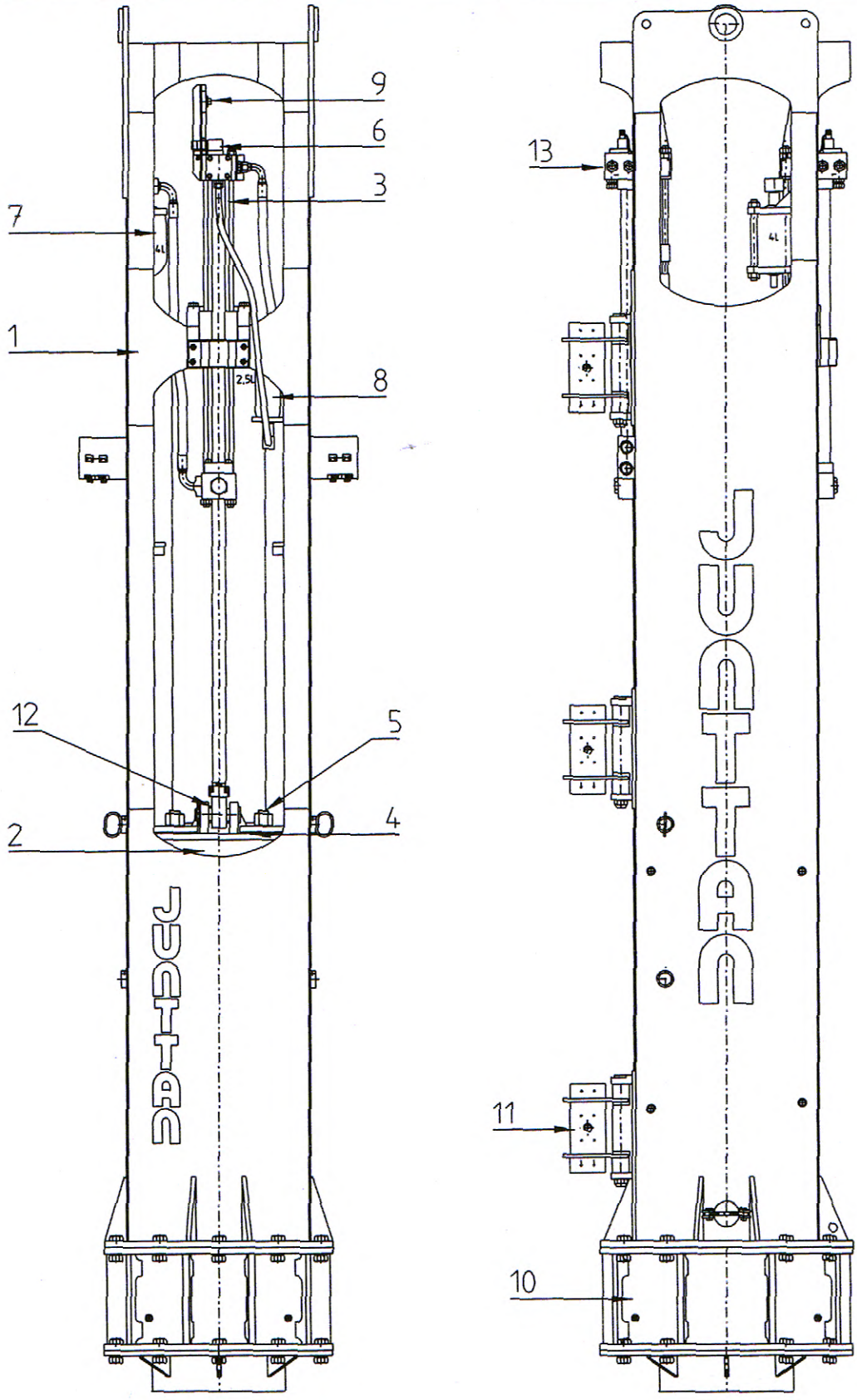
1. TECHNICAL DESCRIPTION JUNTTAN HHHKA-HAMMER

The JUNTTAN HHHKA-hammer is a hydraulically-powered drop hammer for impact driving. The cage frame houses the components of the HHHKA-hammer. There are bolted wear pads on each corner of the ram block which slide along inside the frame uprights. There is a hole inside the ram block. The ram block is bolted together with a top plate. There is a rubber plate between the top plate and the ram block to reduce the effect of the return stress wave during driving. A shaft connects the top plate to the piston rod of the lifting cylinder through the lifting eye. The spool valve which controls the lifting cylinder is built into the top end of the cylinder. The spool valve is operated by a solenoid pilot valve. The position of the piston rod is sensed with an inductive proximity switch. The lift buffer on the top plate limits the stroke of the lifting ram during lift. For pile driving the hammer is placed on the top of the pile. The hammer frame goes down until the drive cap inside the drive cap housing moves against the rebound ring. In that position the drive cap is at the end of its stroke and the ram block rests on cushion.

With reference to the Drawing of HHHKA-hammer(Fig. 1), the main components of the hammer are:

1. frame
2. modular ram block
3. lifting cylinder/ram, 2 pcs
4. top plate
5. hammer bolts, 4 pcs
6. solenoid valve
7. hydraulic accumulator on the pressure side for storing energy, 2 pcs
8. hydraulic accumulator on the return side to even pressure surges, 2 pcs
9. proximity switch
10. drive cap housing incl. drive cap, cushion and rebound ring
11. leader guides, 3 pcs
12. ram block lifting eye
13. spool valve



Main assembly Fig. 1

2. HYDRAULIC HAMMER SPECIFICATIONS MANUAL

2.1 GENERAL IDENTIFICATION

Trade mark of the hammer:	Junttan
Type of the hammer:	HHHK-5A
Product range and serial number:	HHHK-5A s/n 2532
Name and address of manufacturer:	Junttan Oy Ankkuritie 3 70460 Kuopio FINLAND
Year of manufacture:	1998

Maximum theoretical characteristic of the hammer:

Ram block mass:	5 000 kg
Max. drop height:	1 200 mm
Max. impact energy:	80 kNm

6.2 CHARACTERISTICS OF THE HAMMER

2.2.1 GENERAL DIMENSIONS

Dimension refer to the attached illustration

Maximum height:	6 549 mm
Maximum width:	1 190 mm
Maximum length:	1 190 mm

2.3 TYPE OF MOUNTING

Cage type frame and ram block attached to hydraulic cylinder.
Built in drive cap.

2.4 HYDRAULIC CYLINDERS

Ram block lifting hydraulic cylinder	
- stroke:	1 200 mm
operating pressure	
- with 5 ton weight:	170 bar

2.5 HYDRAULIC ACCUMULATORS

- pressure side (4 L), 2 pcs
  - type: elastic bladder in steel case
  - nitrogen pressure: 55 bar / 20 °C
- return side (2,5 L), 2 pcs
  - type: elastic bladder in steel case
  - nitrogen pressure: 6 bar / 20 °C

Pre-set pressure is stamped to accumulators.
See also hydraulic accumulators operating instructions.

2.6 ELECTRICAL COMPONENTS

Electric pilot valve, inductive proximity sensor.
24 VDC

2.7 CUSHION

- size: Ø 760/510 mm * 200 mm, plastic

2.8 REBOUND RING

- Rebound ring: Ø 1010/850 * 105 mm, rubber, 2 pcs

2.9 WEIGHT (WORKING)

Ram block (5 ton):	5 000 kg
Frame:	2 370 kg
Drive cap housing:	450 kg
Drive cap:	1020 kg
Cylinder:	270 kg
Top plate:	160 kg
Guide claws:	290 kg
Accumulators:	50 kg
Cushion:	50 kg
Rebound ring:	40 kg
Ram block bolts:	50 kg
Drive cap locking plates:	220 kg
Total weight (equipped as specified):	**10 800 kg**

2.10 MAIN DIMENSIONS

Fig. 1a

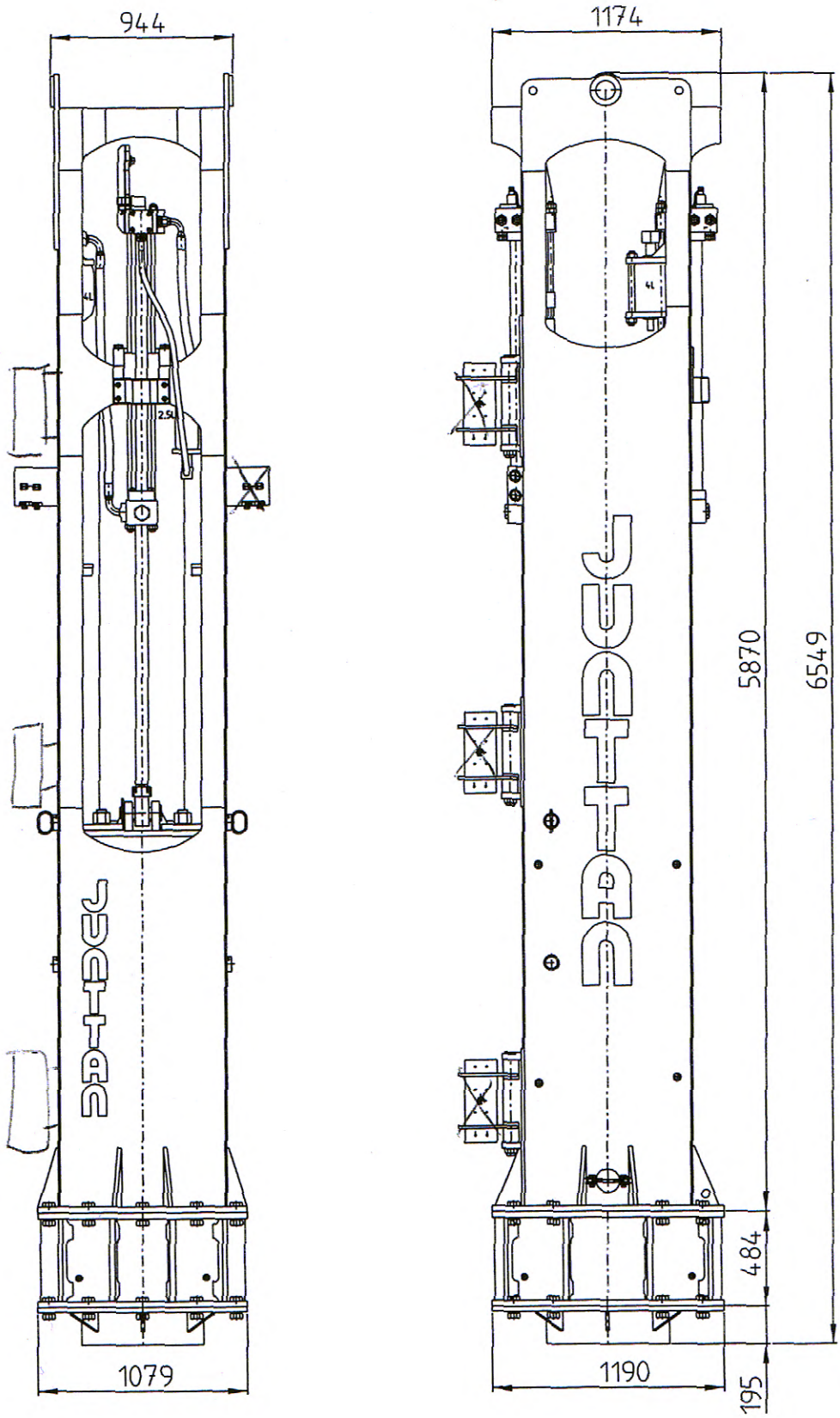


Fig. 1a