

Workshop manual

W3017EN1.pdf

Hydraulic pressures and hydraulic diagram

Vibratory roller CA134/CA144

From serial number :
81270134, 81370134, 83270144, 83370144

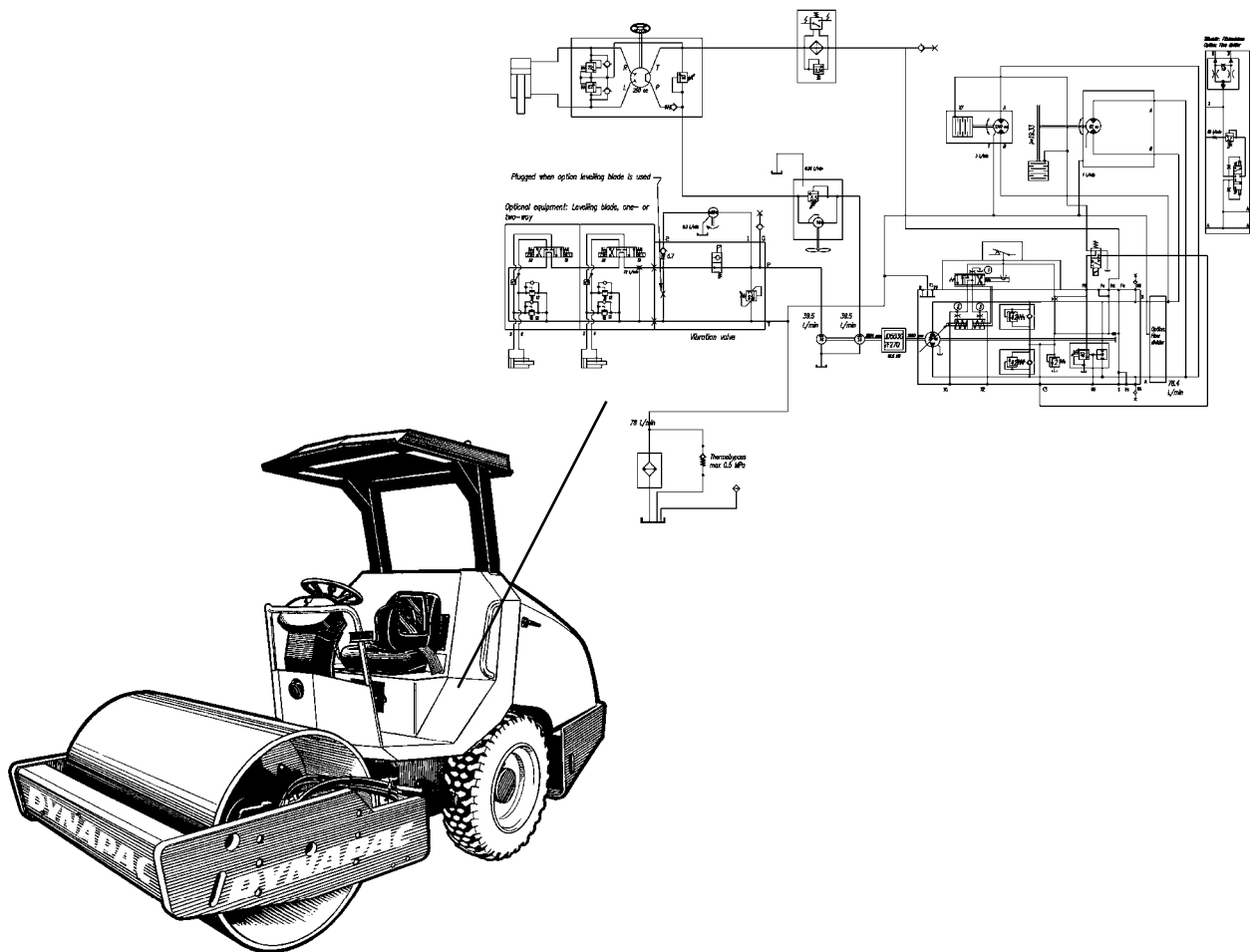


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Introduction

Warning symbols



WARNING ! Marks a danger or a hazardous procedure that can result in life threatening or serious injury if the warning is ignored.



CAUTION ! Marks a danger or hazardous procedure that can result in damage to the machine or property if the warning is ignored.

Safety information



Ensure good ventilation (extraction of air by fan) where the engine is run indoors.

General

- Familiarize yourself with the equipment on the machine.
- Only operate the machine if you are familiar with how the controls work and how the machine functions.
- Use your safety equipment such as helmet, protective shoes and hearing protection.
- Familiarize yourself with the machine's area of work.
- Only use the machine for its intended purpose.



The safety manual supplied with the machine must be read by all roller operators. Always follow the safety instructions. Do not remove the manual from the machine.

Safety regulations

Before start

- Study and understand the operating instructions before start.
- Check the machine for any serious faults.
- Do not operate the machine with defective instruments, warning lights or control elements.
- All safety devices must be in a secure position.
- Do not carry loose or secure them to the machine.
- Keep oily and inflammable material away from the machine.
- Before entering the driver's platform, check if persons or obstacles are in the way of or underneath the machine.
- Be careful when entering the driver's platform, use the steps.
- Adjust your seat before starting.

Start

- When starting, all operating levers must be in "neutral position".
- Only start the machine from the driver's seat.
- Check the indicating instruments after start to ensure that all functions are in order.
- Do not leave the machine unattended when the engine is running.

Jump starting



Do not connect the negative cable to the negative terminal on the dead battery. A spark can ignite the oxy-hydrogen gas formed around the battery.



Check that the battery used for jump starting has the same voltage as the dead battery.

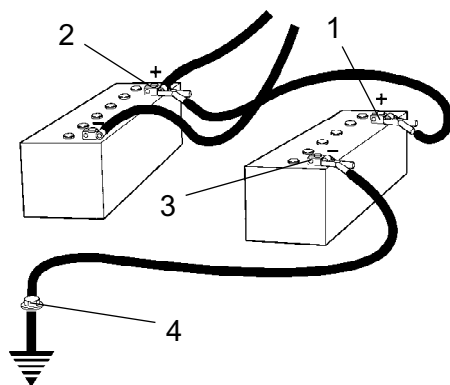


Fig. Jump starting

Turn the ignition and all power consuming equipment off. Switch off the engine on the machine which is providing jump start power.

First connect the jump start battery's positive terminal (1) to the flat battery's positive terminal (2). Then connect the jump start battery's negative terminal (3) to, for example, a bolt (4) or the lifting eye on the machine with the flat battery.

Start the engine on the power providing machine. Let it run for a while. Now try to start the other machine. Disconnect the cables in the reverse order.

Electrical and hydraulic equipment

Personal safety must be observed when batteries are handled or tested.

A fully equipped medical kit, including eye-wash facilities, should be available and protective clothing, including eye protection, should be worn.



Acid splashes in the eye should be treated immediately with plenty of clean water and neutralized with sodium bicarbonate solution.

Acid splashes on clothing must be treated with an alkali, such as ammonia, if holes are to be avoided.



A safety hazard exist during or after battery charging due to emission of a highly flammable hydrogen gas. Any testing involving production of sparks, e.g. electrical load test, must not be performed until the gas has dispersed from the cell. A similar hazard occurs when a battery is fitted on to a vehicle immediately after the battery has been removed from a charging plant.


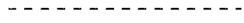


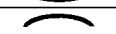







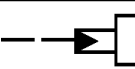

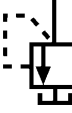






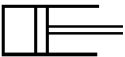

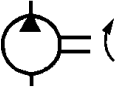
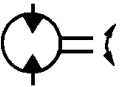
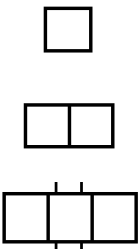
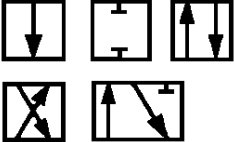





Hydraulic equipment is under high pressure. Fluids (fuel, hydraulic oil) which escape under high pressure can penetrate the skin and cause serious injury. Therefore immediately consult a doctor if such injury occurs.



Notice that failure on the hydraulic or electrical system may give the roller an unpredictable and dangerous function.

Hydraulic symbols

Symbol	Description
	Main line
	Drain or pilot line
	Limit line for functions or component
	Line connection
	Orifice
	Flexible pipe, hose
	Regulator, variable
	Rotating shaft
	Manual control: General symbol
	Manual control: Lever
	Mechanical control: Spring
	Electrical control: Solenoid, single coil
	Pressure control: Indirect., pilot controlled
	Check valve
	Pressure relief valve
	Flow divider
	Filter or strainer
	Cooler
	Pressure switch

Symbol	Description
	Cylinder
	Reservoir: Open to atmosphere
	Hydraulic pump
	Hydraulic motor
	Valves
	Flow paths
	Combustion engine
	Transmission
	Brake
	Steering wheel
	Steering valve (simplified symbol)

Measure points and values**Charge pressure**

This pressure is measured with the measuring nipple close to the hydraulic filter on right side of machine.

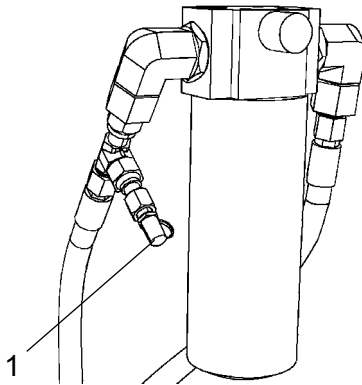


Fig. Right side of the machine.
1. Measure point

Vibration pressure

This pressure is measured with the measuring nipple on the vibration hydraulic block located inside front right side of tractor frame.

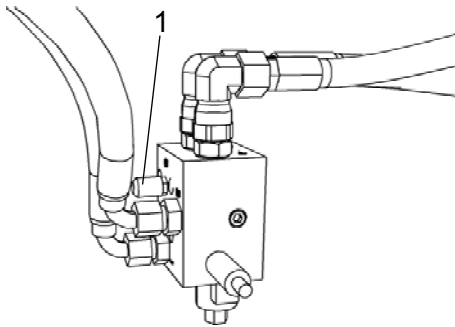


Fig. Inside front right side of tractor frame
1. Measure point

Drive pressures

These pressures are measured with the measuring nipples on left side of propulsion pump. The lower measuring nipple is for driving forward and the upper one for driving backwards.

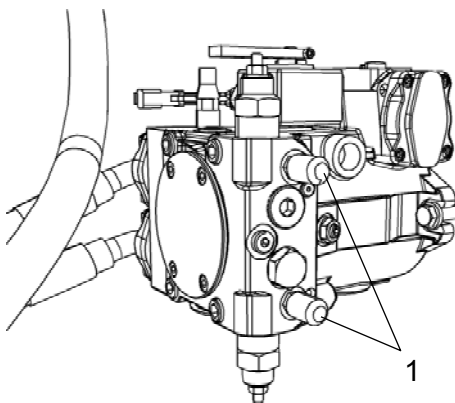


Fig. Left side of the machine
1. Measure points

Pressure type	Value	Note.
Charge pressure	2 MPa (20 bar)	Measured at low idle engine speed. Charge pressure may deviate +0,5/-0 MPa (+5/-0 bar).
Vibration pressure	22 MPa (220 bar)	Listed pressure is "valve opening pressure". Measure pressure is up to 2 MPa (20 bar) higher. The "valve opening pressure" can only be measured during the first seconds after activating the vibrations.
Drive pressure High pressure valves Pressure cut off valve	42 (420 bar) 40 (400 bar)	Listed pressure is "valve opening pressure". Measure pressure is up to 2 MPa (20 bar) higher.

Adjust points

Charge pressure

This pressure is adjusted on the propulsion pump. Remove relief valve and shim the spring pressure.

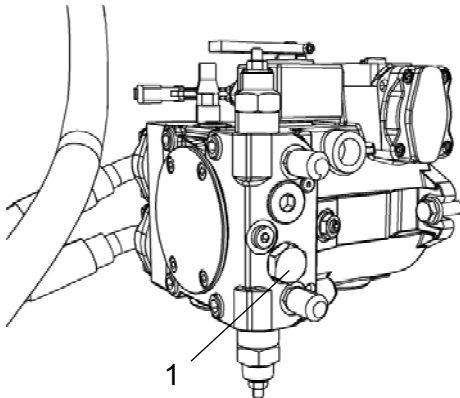


Fig. Propulsion pump
1. Adjust point

Vibration pressure

This pressure is adjusted on the vibration valve block located inside front right side of tractor frame. Loosen the lock nut and adjust on the socket head cap screw.

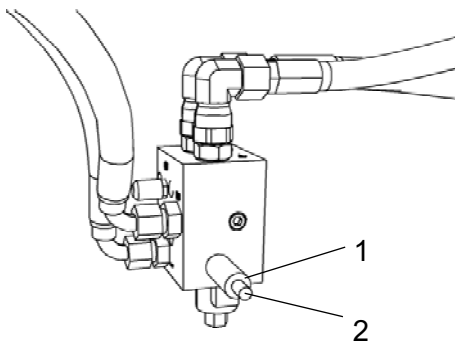
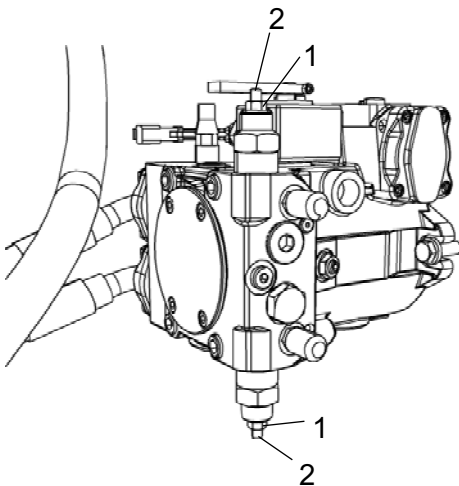
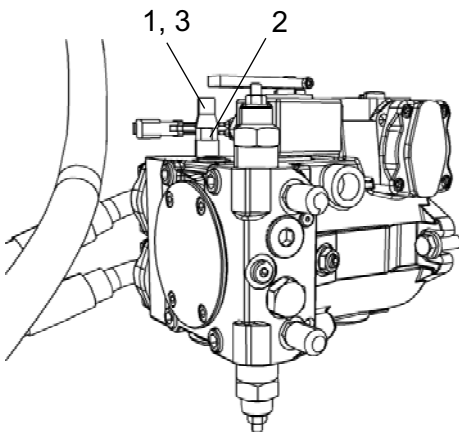


Fig. Vibration valve
1. Lock nut
2. Socket head cap screw

**Drive pressure**

The "high pressure valves" (42 MPa; 420 bar) are adjusted on the propulsion pump. Loosen the lock nut and adjust on the socket head cap screw.

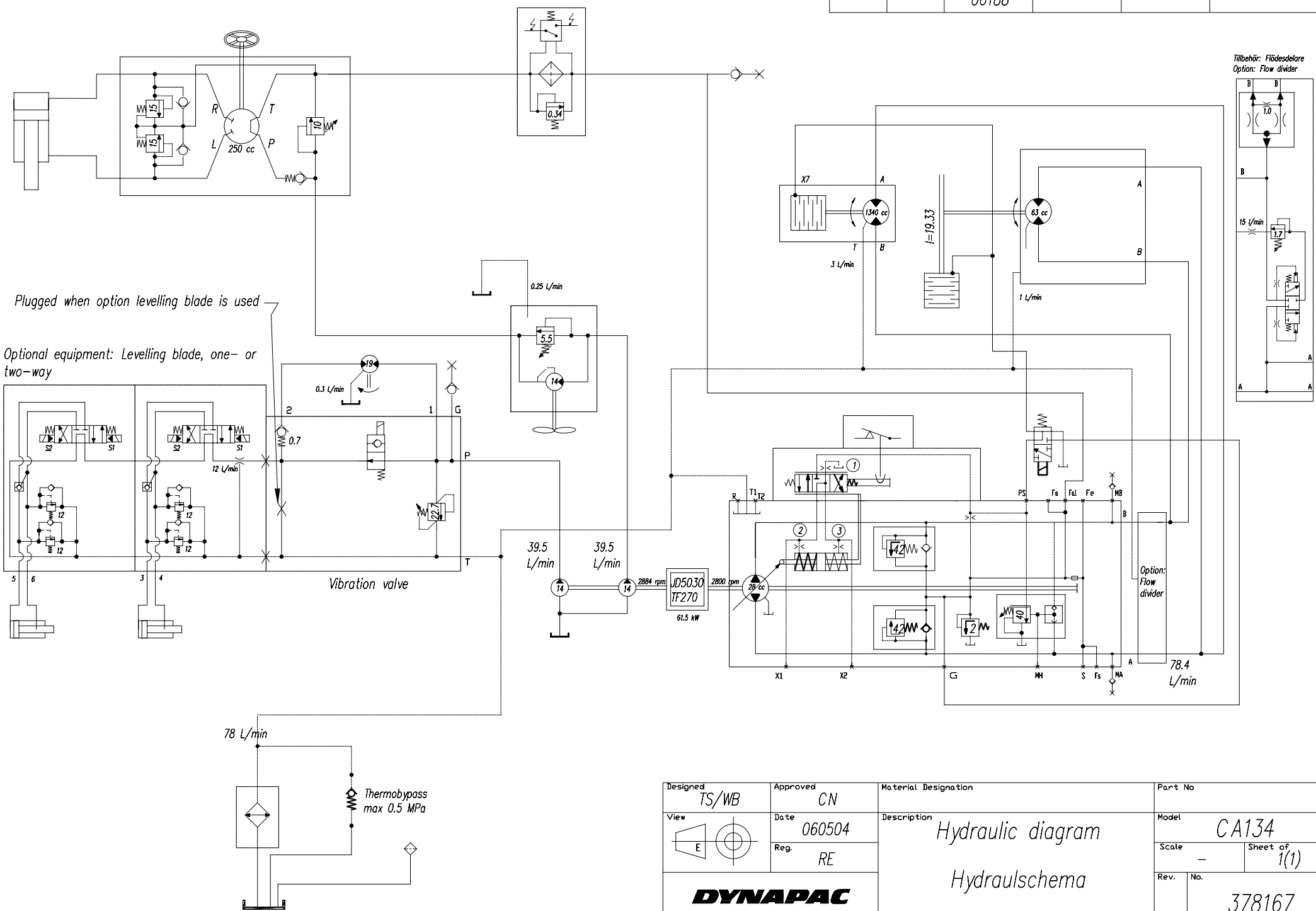
Fig. Propulsion pump
1. Lock nut
2. Socket head cap screw



The "pressure cut off valve" (40 MPa, 400 bar) is adjusted on the propulsion pump. Remove the plastic cap and loosen the lock nut. Adjust on the socket head cap screw.

Fig. Propulsion pump
1. Plastic cap
2. Lock nut
3. Socket head cap screw

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Designed TS/WB	Approved CN	Material Designation	Part No
View 	Date 060504	Description <i>Hydraulic diagram</i> <i>Hydraulschema</i>	Model CA134
	Reg. RE		Scale -
DYNAPAC		Rev.	No. 378167

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