

## Technical Product Information No. 1130 EN

### Hydraulically actuated clutch Series 0 127

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## About this Technical Product Information (TPI)

### Who is this TPI directed at?

This TPI is directed at qualified personnel who

- are entrusted with the assembly, commissioning and operation of the product and who
- have obtained the necessary qualifications by reading and understanding the instructions by training or instruction

It is intended for

- Fitters at the manufacturer of the machine / plant
- Maintenance fitters at the machine users.

### What will you find in the TPI?

The TPI provides all the necessary information for the assembly and maintenance of the product described on the title page

### Notes on the symbols used in the text

On the pages which follow, important sections of text are highlighted with the following symbols.



This symbol means:

There is a risk of injury during the activity described or in operational running!



This symbol means:

There is a risk of material damage during the activity described or in operational running!



This symbol indicates sections of text to which particular attention must be paid.

### The Ortlinghaus numbering system

**Example:** 0 111 - 222 - 33 - 444 555

0 = Code for products	_____		_____		_____		_____		_____
Code number for the model range	_____		_____		_____		_____		_____
Code number for design features	_____		_____		_____		_____		_____
Size	_____		_____		_____		_____		_____
Sequential number	_____		_____		_____		_____		_____
Other design features	_____		_____		_____		_____		_____



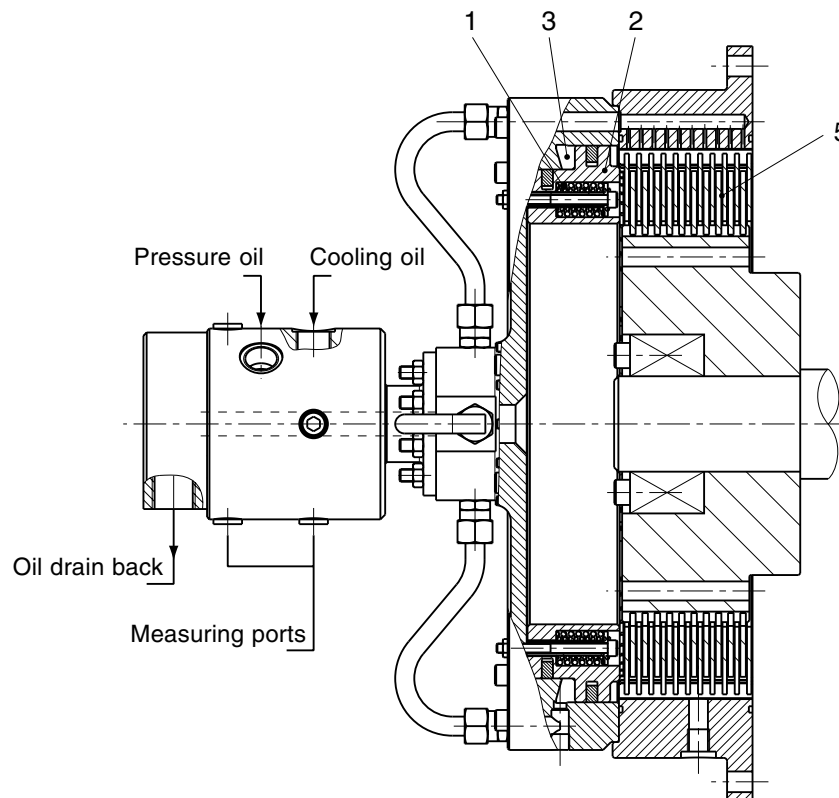
Pass this TPI on to your customers ! You can either order further copies of this TPI from us or you are free to make copies, for use by your customers.

## About the product

### Purpose of use and function of the clutch

Hydraulically actuated clutches are excellent for use in presses due to their small space requirements, low moment of inertia and high permissible number of actuations. They are largely maintenance free. In addition, due to their multi-plate construction they permit the transmission of higher torques at lower thermal loadings.

Due to their low actuation noise of around 85 dB (A) the clutches also operate without the extra expense of noise protection.



**Figure 1: The function of the clutch**

**Operation of the clutch:** Compression springs **1** load piston **2** in the cylinder. This opens the clutch plates.

Pressure oil **3** moves the piston against the force of the compression springs. This causes the clutch plates to grip **5**.



The normal operating pressure is **50 + 5 bar**, maximum permissible pressure is 60 bar. **Never operate the clutch at a higher pressure** as otherwise there is the risk of the bolts breaking.



Fit a throttle directly before the main valve to prevent short term pressure peaks above **60 bar**.

## Delivered state of the clutch

The clutch is supplied with the housing bolted and the plates inserted. The hub is supplied loose.



## Transport

Avoid any hard impacts during transportation.

## Design variants

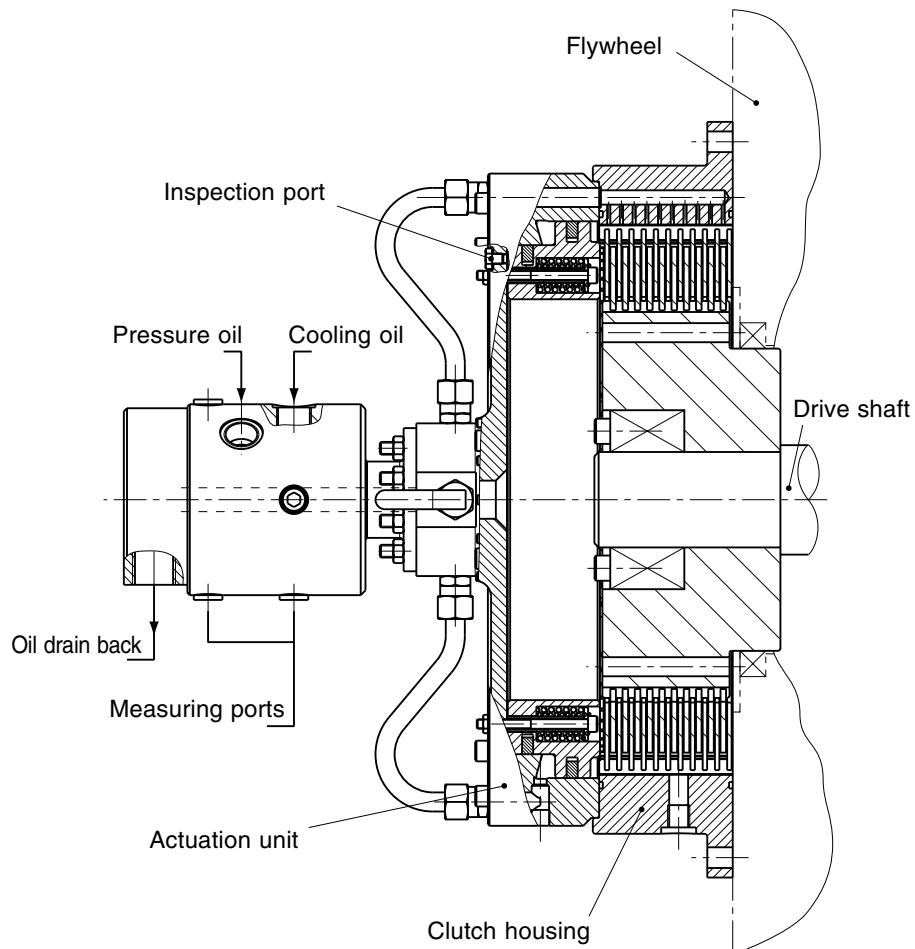
Clutches in the 0-127 range are available in three design variants

- a version with 12 friction faces
- a version with 16 friction faces
- a version with 20 friction faces

## Initial assembly and commissioning

It is not possible here to go into special built-in versions which depend on the construction of the machinery in question. Normally the clutch is fitted onto the flywheel.

## Installation



**Figure 2: Installation of the clutch**

- Unbolt the clutch housing from the actuation unit, bolt it to the flywheel and fit the split pins.
- Fix the hub onto the shaft. Ensure the correct axial position! When fixing with clamping set always comply with the manufactures' assembly instructions and remove any plastic plugs fitted.
- Insert the plates to suit the delivered state, alternating an outer with an inner plate. The first and last plate is always an outer plate.
- Bolt the actuation unit to the clutch housing. Use the correct torques for the housing bolts. Secure housing bolts with LOCTITE 262.

### Housing bolts

Size	80	86	90	94	Unit
Thread	M8	M10	M12	M14	-
Torque	37	75	130	205	Nm

### Trial run of the clutch

The clutch must run for at least 20 hours as a trial run. As a rule there will be no more plate wear after this. When initially commissioning of the system the basic contamination must be filtered out before actuating the clutch for the first time. When working with Ortlinghaus hydraulic components the relief tap of the accumulator group should be opened for this and the hydraulics run for around 2 hours depressurised.

## Maintenance

### Checks during operation of the machine



The clutch will be largely free of wear and will thus require no maintenance. Improper operation (oil pressure too low, operating temperature too high....) however can lead to wear on the plates. Plate wear will show up in altered operating characteristics of the clutch, e.g. the clutch will slip.

If you find that the clutch is slipping you must immediately stop the machine. Call for Customer Service.

### Checking the state

The opening travel of the piston can be measured without disassembling it.

- Remove the sealing plug from the inspection port (see illustration in figure 2: Installation of the clutch).
- Measure the depth dimension on the piston.
- Operate the clutch with the flywheel at rest.
- Measure the depth dimension on the piston again.

The difference between the depth measurements gives the opening travel of the piston. It is possible to assess this from the table below.

### Clearance dimensions

(RF = friction faces)

Size	80			86			90			94		
RF	12	16	20	12	16	20	12	16	20	12	16	20
New state min. [mm]	1,6	2,1	2,6	1,8	2,4	3,0	2,2	2,9	3,6	2,5	3,4	4,2
After running in process [mm]	2,2	2,9	3,6	2,4	3,2	4,0	2,8	3,7	4,6	3,1	4,2	5,2
Max. value [mm]	3,7	4,9	5,8	4,2	5,6	6,7	4,9	6,6	7,6	5,4	7,2	8,6

The maximum possible opening clearance dimensions (max. value) give the piston stroke, determined by the design. In the normal running in process of the friction faces an increase in the opening travel of 0.05 mm per friction face can occur (after the running in process).

If the value for the running in process are considerably exceeded it is recommended that an inspection be carried out.

## Fault finding

Fault	Reason	Remedy
Clutch slips	Oil pressure too low	Increase working pressure to 50 + 5 bar *
	Fault in the hydraulic system (contamination, leakage ...)	repair the hydraulic system
	Friction linings worn out (maximum permissible size of air gap reached)	Call in Customer Service to replace the plates
	Cannot be determined	Call in Customer Service
	<b>Machine fault</b>	



\* **Note:** Different (lower) working pressures are possible!  
Look at the design calculations!



If wear is found on the plates, the clutch must have been operated improperly (oil pressure too low, operating temperature too high....). In order to rule out further wear in the future you should ensure proper operation of the clutch.

- If the actuation unit malfunctions it should be sent back to the Ortlinghaus factory for checking.
- If required trained service engineers are available on site.

## Disassembly

Carry out the disassembly in reverse order to the assembly. When re-assembling care should be taken to ensure that the plates are fitted in their original location and position, otherwise the running in process will have to be repeated.

## Spare Parts

We will only give a warranty on our products if you use genuine spare parts from the Ortlinghaus company. Please only order your spares in writing.

On the outside of the clutch you will find the fabrication number under which the clutch was manufactured. Always quote this number. It consists of a two digit year number and a sequential number, e.g. 00/12345. Also quote the article number for the clutch wherever possible.

## Approved types of oil

We have cleared the following types of oil for operation of the clutch. They have been tested by us and give an optimal performance.

Oil type	Manufacturer	Trade name
HL/CL	Agip	Agip OTE 32...68
	ARAL	Kosmol TF 32...68
		Vitam UF 46, 68
	BP	BP Energol HL 46
	DEA	Astron HI 22...68
	FINA	CIRKAN 22...68
	MOBIL	Mobil Turbine Oil Light
		Mobil Turbine Oil Medium
SHELL	Morlina 22, 46, 68	
ATF	Aral	ATF 33
	BP	Autran G
	Esso	Glide
	FUCHS	ATF TF M2C 33-F
	MOBIL	ATF 210
	SHELL	ATF Donax TF
Synthetic oils	CASTROL	Alphasyn T 32-68
	MONSANTO	Santotrac 20-50