

# proxind

## ATF EXCHANGER

**Machine for the replacement of Automatic Transmission Fluid (ATF) in the cars**

### TECHNICAL DESCRIPTION

This machine (ATF Exchanger) is able to replace, in a fully automatic way, all the Automatic Transmission Fluid of cars, to wash the relative circuit with additives, as well as to add additives after replacing fluid.



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## **Features:**

### **Power supply 12 Vdc**

The machine, in order to operate, requires 12 Vdc, so it must be simply connected by a normal power cable from car battery.

It has an electronic protection device against the reversal of polarity during the connection to the battery poles.

### **Electronic control board with microcontroller**

The machine is equipped with a unique electronic control system, based on the weighting of the new and exhausted fluid with load cells, that allows to replace exactly the same amount of fluid, regardless of the difference of temperature (and therefore of volume) existing between the new fluid (colder) and exhausted (warmer).

This allows to not have to monitor the fluid level during the replacement process.

The electronic control board with microcontroller governs the process with all necessary safety controls; for example it does not allow the operation of replacing the fluid if the tank of the new fluid does not contain a sufficient amount of fluid, or if the tank of the exhausted fluid is not able to receive the fluid replaced, etc..

### **Electronic temperature sensor**

This temperature sensor, on the fluid return circuit, allows to automatically switch from the recirculation and washing phase, to that of fluid replacement, once the fluid has reached the required temperature.

### **Control panel**

The control panel is equipped with:

- a backlit monochrome display with high brightness, 4 lines x 16 characters
- no. 4 control keys (ESC, OK, ↑, ↓)

Through this display and these 4 keys can be selected all the operations that can be performed, and can be monitored all the parameters of the process, such as, for example:

- washing/recirculation loop
- fluid replacement
- additives adding
- temperature of the return fluid
- amount of fluid to be replaced
- auto setting for special lubricants
- etc.

### **Acoustic signals and warning lights**

Acoustic signals and warning lights are provided whenever necessary to notify the user of something, such as when there are failures.

### **Recirculation circuit**

When the machine is connected to the vehicle via the service hoses, the fluid through this circuit, returns to the vehicle. Once the temperature sensor detects that the fluid has reached the required temperature, and that the preset time for the washing is terminated, the microcontroller provides to switch from the washing/recirculation phase to the fluid replacement phase.

This circuit also serves to protect the Automatic Transmission from any possibility of malfunction. In this case, in fact, the machine automatically goes into recirculation phase.

### **Cans of exhaust fluid and new fluid**

The two cans, easily available on the market, are quickly removable for emptying and filling, and have a maximum capacity of 25 liters each.

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**Flow rectifier**

The machine has a flow rectifier, realized by means of solenoid valves, which automatically corrects the direction of the flow of the fluid. In this way, the service hoses can be placed in the most easily accessible point, without worrying about the direction of flow.

**Fluid pump**

The machine is equipped with a fluid gear pump, with an electronically controlled 12Vdc motor. This pump can provide the fluid replacement service in a short time. Its operation range is: pressure of 10 bar, flow rate of 5 liters/minute.

**Service hoses**

The supply and return service hoses are constituted by a pair of hoses about 250 cm long, with quick Nitto type couplings at their ends.

On these hoses are inserted the necessary adapters to connect to the most accessible point, along the fluid cooling circuit. Such adapters are different depending on the type of vehicle on which the fluid replacement is performed.

**Trolley**

The trolley is of painted iron, with two swivel wheels and two fixed wheels, and with hose reel.

**Filters**

On the supply and on the return flow there is a system of filtering with 10 micron filter, suitable to withstand the high pressures that some motor vehicles have on their ATF circuit.

**Printer**

A printer, placed on the control panel, allows to print the key parameters of the process, such as the amount of replaced fluid.

**Additives tank**

There is a 3 liters tank, with level sensor, for additives to be used for the washing of the circuit, or to be added in the new fluid after the replacement phase. Also these operations are controlled by the electronic board.

**Safety hydraulic devices**

Safety devices on hydraulic circuits ensure the supply and return pressures and flow rates suitable to ATF Exchanger, independently from those present on the ATF circuit of the vehicle.

**Fittings standard bag**

The machine is equipped with a bag of fittings for several cars.

**Optional fittings**

Many optional fittings are available: almost all the cars fleet in circulation is covered.

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