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## ACOPULS system

### Way of functioning

ACOVAL microlubrication systems of the type PULS are instantaneous lubrication systems. They deliver an amount of liquid each time they are used. They can be used:

- (1): to deliver an amount of liquid without using air to drive the liquid
- (2): most often with a nozzle which focuses or sprays the liquid with compressed air.

### Duty cycle

In the case (1) where an amount of liquid is delivered without using compressed air to drive the liquid, it is important to take into account the [superficial tension phenomenon](#).

The driving duration and the time interval between two drives must allow an accurate working of micropumps.

In the case (2) where a nozzle focuses or sprays the liquid, the driving duration must be:

- the same as the time required to spread the liquid (sample : a 3 seconds machining operation)
- enough to allow the air pressure to establish at the nozzles and to treat the amount of liquid delivered by micropumps.

The time interval between two drives must be enough to allow a correct system initialization.

### Applications

The systems ACOPULS are often used:

- to make short time spaced machining operations
- to lubricate forming operations when the load is manual
- to lubricate assembly operations.

### Applications at high pace

Typical samples concern cutting, stamping and the high pace machining operations.

The user often want a system of type PULS to work at the same rate as his equipment (his press or his machine tool). It is often a mistake because:

- The number of delivered liquid quantities is so large that the liquid flow may be too important even with a low capacity micropumps.
- The compressed air pressure may not be able to take a good place in the nozzle. The functioning may be disturbed.

So it is better to use a system of the type [ECOFLUX](#) or [ACOFLEX](#) with a lower speed. The gas spreads the liquid out all along the time.

## Models

These models in a cabinet include from one to six micropumps.

The liquid flow of each micropump is adjustable.

There is only one air flow setting or an air flow setting for each nozzle.

## Standard configurations





These systems are fitted with:

- a 300 ml tank
- for each micropump:
  - a 1.5m transparent flexible hose
  - a copper coaxial nozzle with its fastening

## Standard options

- 0,5 ; 1 ; 2 ; 3 ; 5 ; 9 ; 10 litre tank
- Low level switch
- Automatic filling device
- Micropump selection by groups
- Attachment magnet under the system
- Attachement magnets for the nozzles
- Half capacity micropumps
- Double capacity micropumps
- VITON seals
- Stainless steel sheathed coaxial hoses
- [Nozzles](#)

## Samples

<p><b>AP1EG-V</b></p>  A photograph of the AP1EG-V device. It consists of a white rectangular control box with a black knob on the front. On top of the box is a clear cylindrical tank with a metal mesh inside. A stainless steel sheathed coaxial hose is connected to the side of the box, and a 150 mm copper coaxial nozzle is lying on the surface in front of it.	<p>a micropump a solenoid valve an one litre tank with a low level switch a stainless steel sheathed coaxial hose a 150 mm copper coaxial nozzle.</p>
<p><b>AP8EG-2E-V</b></p>  A photograph of the AP8EG-2E-V device. It features a white control box with a black knob. On top is a clear cylindrical tank. Multiple stainless steel sheathed coaxial hoses are connected to the side of the box, and several short coaxial nozzles are visible on the surface in front of it.	<p>eight micropumps two solenoid valves a five litre tank with a low level switch eight stainless steel sheathed coaxial hoses eight short coaxial nozzles.</p>
<p><b>AP3EG-3E-V</b></p>  A photograph of the AP3EG-3E-V device. It has a white control box with a black knob. On top is a clear cylindrical tank. Three stainless steel sheathed coaxial hoses are connected to the side of the box, and three short coaxial nozzles are lying on the surface in front of it.	<p>three micropumps three solenoid valves a three litre tank with a low level switch three stainless steel sheathed coaxial hoses three nozzles each micropump are driven separately.</p>
<p><b>AP4EG-RAU-V</b></p>  A photograph of the AP4EG-RAU-V device. It consists of a white control box with a black knob. On top is a clear cylindrical tank. Four stainless steel sheathed coaxial hoses are connected to the side of the box, and four short coaxial nozzles are lying on the surface in front of it.	<p>four micropumps a solenoid valve an one litre tank with a low level switch four stainless steel sheathed coaxial hoses four short coaxial nozzles.</p>

**AP4EG-4I-05V**



four half capacity micropumps  
four selector switches  
manual switch  
automatic switch  
an one litre tank  
four stainless steel sheathed coaxial hoses  
four nozzles.