

# UAP001

## Training of automatics and industrial pneumatics

### DESCRIPTION

- The training of pneumatics unit is delivered complete and joined.
- This unit fits with the all elements of the Pneumatics range of DIDATEC (UAP).
- Design, manufacturing and material are industrial.
- This unit may be used with different levels and for different fields of study.



### DIDACTIC APPLICATIONS

(according to selected material)

- Study of the basic functions of the constituting elements of a pneumatic/electro-pneumatic action chain
  - Control
  - pre-actuator
  - actuator
  - sensor
- cabling and goffering
- study of various types of sensors (inductive / magnetic / capacitive / optoelectric...)
- study of automated cycles

## 1 standards of the UAP range :

the UAP range was developed in order to permit the users to have a standard evolutionary base. All the available units of our range are compatibles with each other.

Our material is representative of the components of Industry (dimension, sturdiness and functions) and the industrial approach of a problem

Its use can vary:

- **Identification** of the components according to schemes and nomenclatures
- **Conception** of electro-pneumatic solutions + realisation
- **Intercomparison** of variations that allow to realise a similar function from different components
- **Maintenance** :
  - **diagnostic** of faulty elements (control, sensors, distributors, jacks)
  - **reparation** as the same (replacement of the faulty material by similar one)
  - “equivalent” **reparation** (replacement of the faulty function by association of complementary functions)

**a majority of our range can be made faulty on request for your maintenance and diagnostic activities; contact us for any further information**

### 1.1 Mechanical Integration:

All the elements of this range are equipped with standard-size supports.

This support allows the use of these elements on the working station, on the one hand, and on the other hand the storage in the store without any tool.

The used materials guarantee an important resistance against the manipulations.

### 1.2 Electric connections

Each working station has a 30 mA differential for the security of the users. All the elements that need an electric supply are compatible the ones with the other. (24Vcc).

They has female sockets of  $\varnothing$  4 mm for an optimal security and they are linked through same type of wires, that are equipped with male sockets.

### 1.3 Pneumatic connections

All the elements of the range that need a pneumatic connection are equipped with quick female connections for 6mm-diameter pipes.

Only the pneumatic supply before the division valve (integrated into the UAP 120 modulus) is in 8mm-diameter pipe.

### 1.4 Security of the user

In order to guarantee an optimal security to the users, each UAP 010 working station is equipped with a key safety system that allow:



- The teacher to control the pneumatic starting of the working stations.
- The user to have a continuous security.

### 1.5 Presentation of the elements:



Our equipments are regularly improved that's why the pictures of this document don't have any contractual value.

## 2 Structure of the station


The station allows a simultaneous work of 2 students on independent applications.  
It can be equipped with a compressor for the autonomy of the system against compressed air supply networks.

Description	Reference	presentation
<p><b>Working station :</b></p> <ul style="list-style-type: none"> <li>- Aluminium and fractional structure for the passage of the doors</li> <li>- 2 aluminium for fixation of the elements on the working table</li> <li>- 4 directive wheels with brake</li> <li>- Support for compressor integration (UAP 020)</li> <li>- Storing rack for electric wires</li> <li>- Storage place for pipes</li> <li>- Key-enclosure for pneumatic starting of the station</li> <li>- Electric and pneumatic supplies are centralised on each table</li> <li>- Connection on 230V 50Hz plug</li> <li>- 30 mA differential</li> <li>- I*L*H (mm) : 1100 * 1300 * 1800</li> <li>- (only the structure / components on the picture are not included)</li> </ul>	<p><b>UAP 010</b></p>	
<p><b>Compressor :</b></p> <ul style="list-style-type: none"> <li>- supply by wire / 230V</li> <li>- Compressed air tank</li> <li>- Quiet silencious</li> <li>- Maximum pressure : 8bars</li> </ul>	<p><b>UAP 020</b></p>	
<p><b>store</b></p> <ul style="list-style-type: none"> <li>- Aluminium structure</li> <li>- I * L * H (mm) : 800*1600*2050</li> <li>- 8 storage lines - 1.5ML</li> <li>- 4 wheels with brake</li> </ul> <p>(only the structure / components on the picture are not included)</p>	<p><b>UAP 030</b></p>	

### 3 Supply / energies


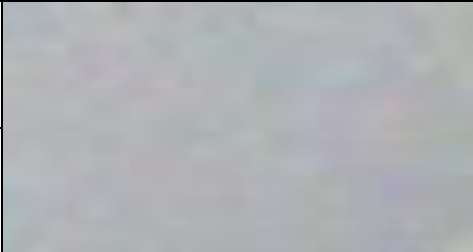
Description	Reference	presentation
<p><b>Alimentation 230Vac/24Vcc :</b></p> <ul style="list-style-type: none"> <li>- enclosure</li> <li>- wire 230V with special plug for connection of UAP 010 working station</li> <li>- ON/OFF switch</li> <li>- ON indicator</li> <li>- Fuse</li> </ul>	<p><b>UAP 110</b></p>	
<p><b>Set of isolating switch + filter regulator + 3/8" safety electrovalve</b></p> <ul style="list-style-type: none"> <li>- Pneumatic isolating switch</li> <li>- Regulator + filter module</li> <li>- Isolating valve and progressive pressure</li> <li>- Wire with special plug for piloting the electrovalve from UAP 010 working station</li> </ul>	<p><b>UAP 120</b></p>	

### 4 Distribution of energies:

Description	Reference	presentation
<p><b>Set of 50 electric cables equipped with banana sockets Ø 4mm</b></p> <ul style="list-style-type: none"> <li>- 25 red cables rouges lg 1000 mm</li> <li>- 25 black cables lg 1000mm</li> </ul>	<p><b>UAP 210</b></p>	
<p><b>Pipe bobine Ø 6 mm - length 20m</b></p>	<p><b>UAP 230</b></p>	
<p><b>Pneumatic Nourrice - 6 orifices</b></p> <ul style="list-style-type: none"> <li>- permits the interconnection de 6 pipes self-obtivating connections</li> </ul>	<p><b>UAP 240</b></p>	

## 5 Controls :

### 5.1 Electric / manual

<u>Description</u>	<u>Reference</u>	<u>presentation</u>
<b><u>Enclosure of 1 pushing button:</u></b> 1 NO contact 1 NC contact	<b>UAP 310</b>	
<b><u>Enclosure of 1 pushing button:</u></b> Idem UAP 310 but with 2 NO contact	<b>UAP 315</b>	
<b><u>Enclosure with 1 two-positions switch</u></b> 1 NO contact + 1 NC contact	<b>UAP 320</b>	
<b><u>Enclosure with 1 two-positions switch</u></b> Idem UAP 320 but with 2 NO contacts	<b>UAP 325</b>	


Enclosure with 1 3-positions switch  
3 NO contacts

UAP 330





<b>Emergency stopping</b> 2 NF contact	<b>UAP 340</b>	
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## 5.2 Electric / logic and automated

<b>Description</b>	<b>Reference</b>	<b>presentation</b>
<b>Automaton modulus:</b> <ul style="list-style-type: none"> <li>- 8 inlets</li> <li>- 6 outlets</li> <li>- software suitable with PC</li> <li>- cable for programming</li> <li>- EEPROM memory</li> <li>- Visualisation of the state E/S</li> </ul>	<b>UAP 410</b>	
<b>Relay modulus</b> <ul style="list-style-type: none"> <li>- 1 inlet</li> <li>- 4 contacts + 4 inverters</li> </ul>	<b>UAP 420</b>	
<b>Sequence Modulus</b> <ul style="list-style-type: none"> <li>- 2 sensors inlets or electric control buttons</li> <li>- relays with self maintaining for realisation of AC cycles</li> <li>- on one jack of combined cycles of several jacks</li> <li>- it is used in association with a monostable or bistable distributor</li> </ul>	<b>UAP 430</b>	


### 5.3 pneumatics / manual

<u>Description</u>	<u>Reference</u>	<u>presentation</u>
<u>monostable 3/2 control</u> - control by levelling pushbutton / recall by spring	<b>UAP 510</b>	
<u>bistable 3/2 control</u> - control by 2-positions switch	<b>UAP 520</b>	


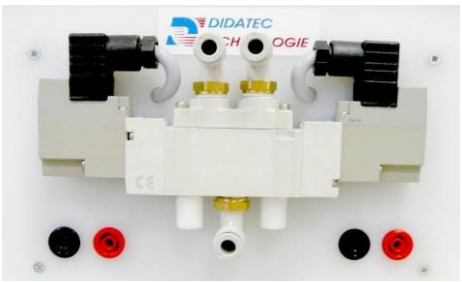
## 6 Distributors

All our distributors are equipped with silencer for a discreet exhaust :


### 6.1 Pneumatic control

<u>Description</u>	<u>reference</u>	<u>presentation</u>
<u>monostable 3/2 distributor</u>	UAP 710	
<u>monostable 5/2 distributor</u>	UAP 720	
<u>bistable 5/2 distributor</u>	UAP 730	

## 6.2 Electric control

<u>Description</u>	<u>reference</u>	<u>presentation</u>
<b><u>monostable 3/2 distributor</u></b>	<b>UAP 810</b>	
<b><u>monostable 5/2 distributor</u></b>	<b>UAP 820</b>	
<b><u>bistable 5/2 distributor</u></b>	<b>UAP 830</b>	
<b><u>Distributeur 5/3 CO</u></b>	<b>UAP 840</b>	
<b><u>Distributeur 5/3 CF</u></b> With a quick exhausting valve on outlet	<b>UAP 850</b>	






## 6.3 mechanic and manual control

<u>Description</u>	<u>Reference</u>	<u>presentation</u>
<b><u>monostable 3/2 distributor</u></b> - control through levelling pushbutton / recall by spring - useable in NF or NO (at your choice) - provided with a cap for the closing of the non-used orifice	<b>UAP 910</b>	
<b><u>bistable 3/2 distributor</u></b> - control through 2-positions switch - provided with a cap for the closing of the non-used orifice	<b>UAP 930</b>	
<b><u>monostable 5/2 distributor</u></b> - control through levelling pushbutton / recall by spring	<b>UAP 950</b>	
<b><u>bistable 5/2 distributor</u></b> - control through 2-positions switch	<b>UAP 970</b>	

## 7 Actuators :

All our actuators are equipped with flowrate limitors

Description	Reference	Presentation
<p><b><u>Double effect rotative actuator</u></b></p> <ul style="list-style-type: none"> <li>- Rotative actuator with rack wheel</li> <li>- size 20 course = 90°</li> <li>- PVC flag for detection.</li> </ul>	<p><b>UAP 1010</b></p>	
<p><b><u>Double effect rotative actuator</u></b></p> <ul style="list-style-type: none"> <li>- Rotative actuator with palette</li> <li>- Size 20 course 180°</li> <li>- PVC flag for detection</li> </ul>	<p><b>UAP 1015</b></p>	
<p><b><u>Double effect iso jack :</u></b></p> <ul style="list-style-type: none"> <li>- Ø25mm</li> <li>- course = 125mm</li> <li>- mounted on an articulated fork joint</li> </ul>	<p><b>UAP 1020</b></p>	
<p><b><u>Idem UAP 1020</u></b> except <b><u>simple effect</u></b></p>	<p><b>UAP 1022</b></p>	
<p><b><u>Micro jack double effect :</u></b></p> <ul style="list-style-type: none"> <li>- diameter 10mm</li> <li>- course 50mm</li> </ul>	<p><b>UAP 1025</b></p>	
<p><b><u>Idem UAP 1025</u></b> except <b><u>simple effect</u></b></p>	<p><b>UAP 1028</b></p>	
<p><b><u>Double effect compact jack</u></b></p> <ul style="list-style-type: none"> <li>- Ø25mm</li> <li>- course 50mm</li> </ul>	<p><b>UAP 1030</b></p>	
<p><b><u>Idem UAP 1030</u></b> except <b><u>simple effect</u></b></p>	<p><b>UAP 1040</b></p>	
<p><b><u>Jack with rod blocker</u></b></p> <ul style="list-style-type: none"> <li>- diameter</li> <li>- course</li> </ul>	<p><b>UAP 1050</b></p>	

Description	Reference	Presentation	
<p><b><u>Antirrotating double effect compact jack</u></b></p> <ul style="list-style-type: none"> <li>- Ø25mm</li> <li>- course 50mm</li> </ul>	<p><b>UAP 1060</b></p>		
<p><b><u>double effect guided compact jack</u></b></p> <ul style="list-style-type: none"> <li>- Ø25mm</li> <li>- course 50mm</li> </ul>	<p><b>UAP 1070</b></p>		
<p><b><u>double effect unrod jack</u></b></p> <ul style="list-style-type: none"> <li>- Ø25mm</li> <li>- course 250mm</li> </ul>	<p><b>UAP 1080</b></p>		
<p><b><u>Airhole Ø 25 + venturi</u></b></p>	<p><b>UAP 1090</b></p>		

## 8- Sensors and functions of control:

All our sensors (except magnetic ones) are compatible with all our actuators  
 Only the modulus UAP 1110 and 1170 allow a direct piloting of the distributors. All the others have to be connected exclusively to the automaton modulus UAP 410

<b>Description</b>	<b>Reference</b>	<b>Presentation</b>
<b><u>Mechanic with rollers</u></b> <ul style="list-style-type: none"> <li>- Recall by spring</li> <li>- 1 NO contact + 1 NC contact</li> <li>- compatible with direct supply of the electro-distributors of the range</li> </ul>	<b>UAP 1110</b>	
<b><u>Magnetic with mounting on a jack body</u></b> Special pattern/ precise the jack's references on the order  <b><u>PNP static Version</u></b>	<b>UAP 1120</b>	
<b><u>NPN static Version</u></b>	<b>UAP 1123</b>	
<b><u>Contact Version (2 wires)</u></b>	<b>UAP 1125</b>	
<b><u>PNP Inductive</u></b>	<b>UAP 1130</b>	
<b><u>NPN and PNP Capacitive</u></b> - PNP or NPN configuration according to the cabling	<b>UAP 1140</b>	
<b><u>PNP reflex Photoelectric</u></b> - Runs as a proximity detector with reflector	<b>UAP 1150</b>	
<b><u>Manometer 0-10 bars</u></b>	<b>UAP 1160</b>	
<b><u>Manometer-pressure reducer-depression sensor -1/+10 bars</u></b>	<b>UAP 1170</b>	
<b><u>Visualisation enclosure</u></b> <ul style="list-style-type: none"> <li>- permits the visualisation of the state of sensors of controls (buttons, switches, automatons)</li> <li>- 2 indicators (white, green or red at your choice)</li> </ul>	<b>UAP 1180</b>	

## 1. Auxiliary functions

<u>Description</u>	<u>Reference</u>	<u>Presentation</u>
<u>Pressure regulator</u>	UAP 1210	
<u>Flowrate regulator</u> <u>For linear mounting</u>	UAP 1220	
<u>Anti return valve</u>	UAP 1230	
<u>Flowrate regulator with integrated piloted valve</u>	UAP 1240	
<u>Pneumatic "AND" function</u>	UAP 1250	
<u>Pneumatic "OR" function</u>	UAP 1260	
<u>Set of 10 T-connections</u>	UAP 1270	
<u>Set of 10 Y-connections</u>	UAP 1280	
<u>Set of 10 caps</u>	UAP 1290	