

The constant quality, original design, wide range, and the right quality-price ratio comply with all possible needs of the user. Careful choice of materials reduce residual magnetism to a minimum and eliminate seal swelling. The availability of sub-bases ("SPEED" series) allows quick manifold connection of these solenoid valves, increasing their versatility and field of application.

### TECHNICAL CHARACTERISTICS

Direct intervention poppet valve system with cushioned seals. Assembly on sub-base or with threaded connections on the body.

Body in tecnopolymer, in zamak and brass.

Core in stainless steel (with minimum residual magnetism).

Sleeve in treated brass; upon request in stainless steel.

Springs in stainless steel.

Seals in nitrile rubber.

NC (normally closed) function.

NO (normally open) function with a mechanical part designed to maintain the air supply always from the body (useful in case of assembly of more NC-NO pilots in series in order to have a unique air supply).

NC/NO function (NO inputs from above)

Fluid: filtered air 50  $\mu\text{m}$ , with or without lubrication, neutral gases.

Upon request other fluids can be used.

Ambient temperature:  $-5^{\circ}\text{C} + 50^{\circ}\text{C}$

Fluid temperature:  $+95^{\circ}\text{C}$  max.

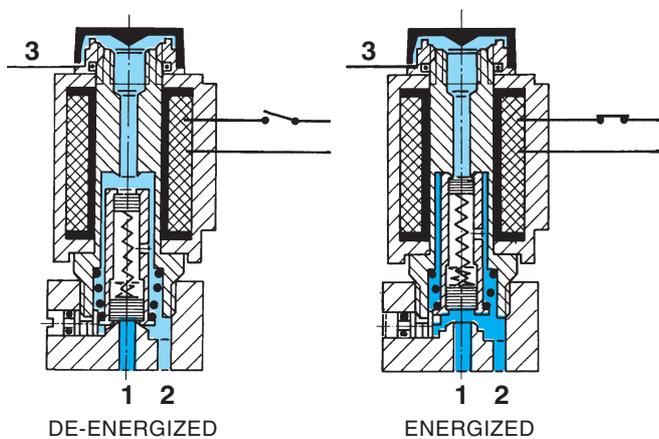
Coil U1, DA series (U3 DC series), U2 DB series

Section accessories page 13 - V

**NOTE:** an indicative estimate of the factor "CV" can be obtained by dividing the capacity values expressed in NI/min by "962"

### FUNCTIONING PRINCIPLE

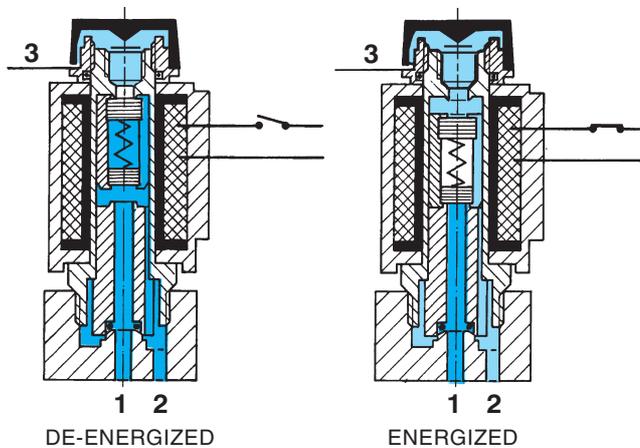
NC Function



DE-ENERGIZED

ENERGIZED

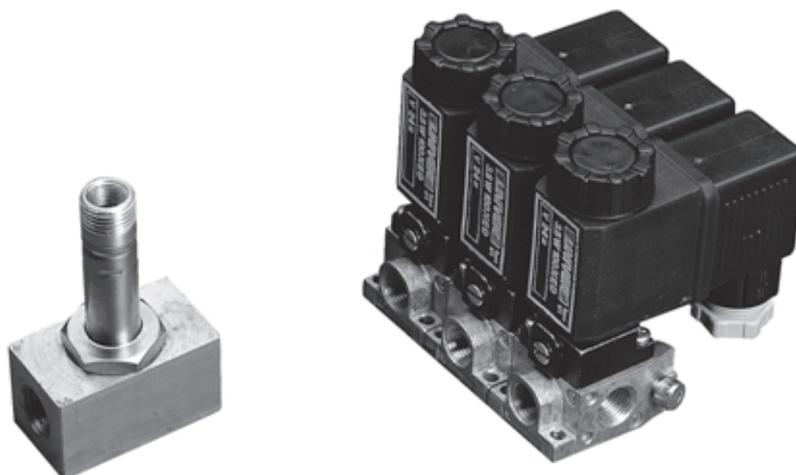
NO Function



DE-ENERGIZED

ENERGIZED

- 1 = Supply
- 2 = Consumption
- 3 = Exhausts



Type	Overall dimensions	Ways	Function	Ø mm	Pressure bar	Material	Mass kg	Part number
<b>U1 SLEEVES - With moving core</b>								
	3/2	NO	1,2	3 ÷ 10	sleeve treated brass	0,030	AA-0150	
	3/2	NC	1,5	0 ÷ 10	cores and springs stainless steel	0,030	AA-0157	
	2/2	NC	-	0 ÷ 10	cores and springs stainless steel	0,030	AA-0170	
	3/2	NC/NO*	-	-	seals nitrile rubber	0,030	AA-0180	

Type	Overall dimensions	Ways	Function	Ø mm	Pressure bar	Material	Mass kg	Part number
<b>U2 SLEEVES - With moving core</b>								
	3/2	NO	2	3 ÷ 10	sleeve treated brass	0,060	AB-0600	
	3/2	NC	2,4	0 ÷ 10	cores and springs stainless steel	0,060	AB-0613	
	2/2	NC	-	0 ÷ 10	cores and springs stainless steel	0,060	AA-0640	
	2/2	NC ◊	-	0 ÷ 10	seals nitrile rubber	0,070	AA-0643	
	3/2	NC/NO*	2	-	seals nitrile rubber	0,060	AA-0673	

Seals in viton and sleeves in stainless steel (only NC options) upon request  
 ◊ Suitable for sub-bases with diameter from 3 ÷ 6 mm

Type	Overall dimensions	Option	Suitable for sleeves	Coils	Part number
<b>Rings for loking coils on sleeves</b>					
	1	2. radial exhausts	NC 3/2	U1	AM-5211A
	2	3. open exhausts	NO 3/2	U1	AM-5213A
	3	4. radial exhausts	NC 2/2	U1	AM-5211B
	4	5. radial exhausts	NC 3/2	U2	AM-5212A
	5	5. open exhausts	NO 3/2	U2	AM-5214A
		5. open exhausts	NC 2/2	U2	AM-5212B

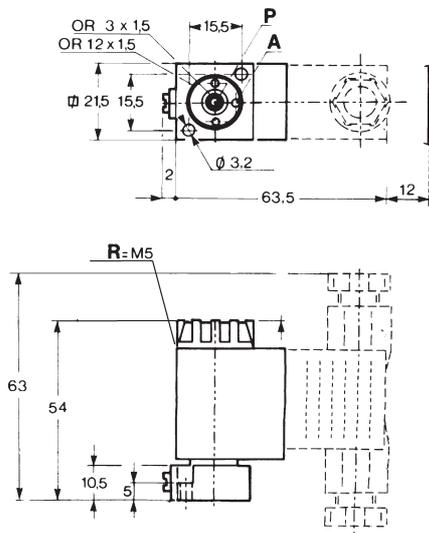
In order to convey exhausts while connecting, the open option must be used.

<b>Examples of available manual overrides integrated in the references of electropilots</b>		
Functioning	Suitable for sleeves	Symbol
	all NC U1-U2 electropilots that can use manual override	⊖
	only Cnomo NC U1-U2 electropilots	⊖
		→
Functioning	Suitable for sleeves	Part number
	electropilots U1 3/2 NO	AM-5201
	electropilots U2 3/2 NO	AM-5203

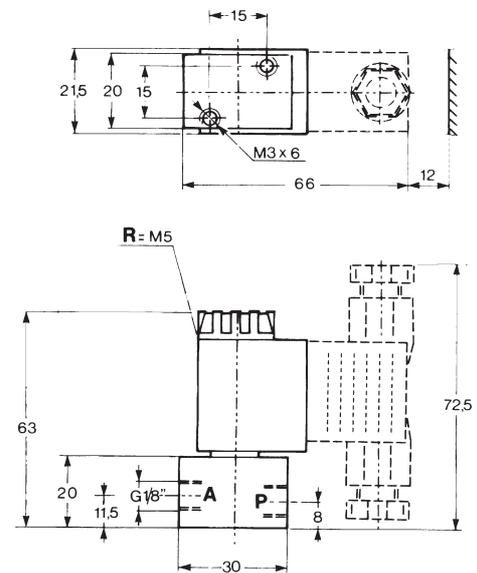


Type	Symbol	Ways	Ø mm	Capacity NI/min		Pressure bar	Times ms		Material	Manual override	Mass kg	Part number
				P.A-1-2	A.R-2-3		energ.	de-energ.				
<b>U1 electropilot - for assembling on sub-base - 2/2-3/2</b>												
		3/2 NC	1,5	60	80	0 ÷ 10	12	12	valve body tecnopolymer	⊖	0,036	AA-0184
		2/2 NC	1,3	50	-	0 ÷ 10	16	-	sleeve treated brass	⊖	0,036	AA-0186
		3/2 NO *	1,2	30	70	3 ÷ 10	11	10	core and spring stainless steel	G	0,036	AA-0188
To be used when several electropilots must be assembled and both length and depth are limited. It is fit for SPEED U1 base. It is supplied as a standard with 2 position slot. Available upon request: brass body valve (no manual override) stainless steel sleeve - other inner diameters - valve body in zamak.										⊖ = With 2 position screw		
<b>U1 electropilot - CNOMO for assembling on sub-base Speed U2 - 2/2 - 3/2</b>												
		3/2 NC	1,5	45	77	0 ÷ 10	12	12	valve body tecnopolymer	⊖ →	0,112	AA-0400 AA-0400U
		2/2 NC	1,3	42	-	0 ÷ 10	18	-	sleeve treated brass	⊖	0,112	AA-0402
		3/2 NO *	1,2	33	77	3 ÷ 10	12	11	core and spring stainless steel	G	0,117	AA-0404
To be used when several elements must be assembled in a manifold assembly. This electropilot complies with the CNOMO rules. Very useful for interchangeability in case of maintenance, it has a limited height and can be assembled with SPEED 2 sub-base. Available upon request: stainless steel sleeve - other inner diameters - valve body in zamak.										⊖ = With 2 position screw → = Push-button with tool		
<b>U1 electropilot - Threaded connections M5 - 2/2 - 3/2</b>												
		3/2 NC	1,5	60	80	0 ÷ 10	12	12	valve body brass	-	0,060	AA-0231
		2/2 NC	1,3	50	-	0 ÷ 10	16	-	sleeve treated brass	-	0,060	AA-0239
		3/2 NO *	1	30	70	3 ÷ 10	11	10	core and spring stainless steel	G	0,065	AA-0233
To be used when the electropilot is used alone and dimensions are extremely reduced. The brass body allows the use of non-aggressive liquids. No manual override. Available upon request: stainless steel sleeve - other inner diameters.												
<b>U1 electropilot - Threaded connections G 1/8 - 2/2 - 3/2 ways</b>												
		3/2 NC	1,5	60	85	0 ÷ 10	12	12	valve body brass	-	0,100	AA-0211
		2/2 NC	1,3	60	-	0 ÷ 10	16	-	sleeve treated brass	-	0,100	AA-0219
		3/2 NO *	1	28	75	3 ÷ 10	11	9	core and spring stainless steel	G	0,105	AA-0213
Basic features are the same as the previous item; however, this item is larger and it has G 1/8 threaded connections. Available upon request: stainless steel body and sleeve - other inner diameters.												
* The 2/2 way NO electropilot is achieved by applying a cap on the exhaust of the 3/2 way electropilot. NO electropilots with 0,7 ÷ 10 bar can be supplied upon request. The Ø indicated on the valves 3/2 refers to the exhaust.										✦ = Manual override on ring (page 14-AM-5201)		
The part numbers of valves do not include coils.												

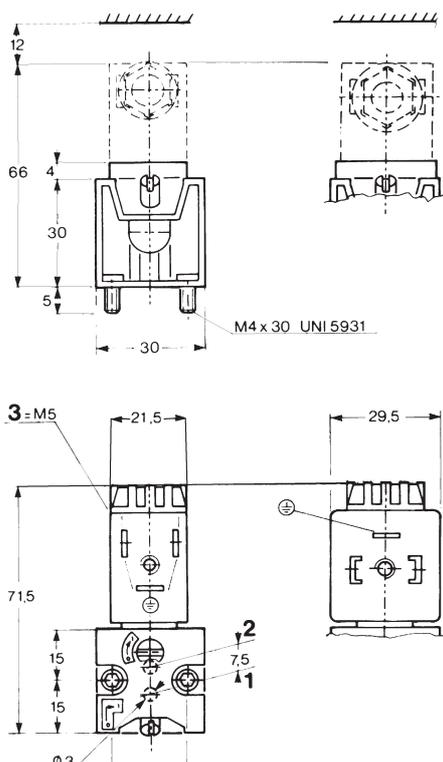
**U1 Electropilot for mounting on sub-base**



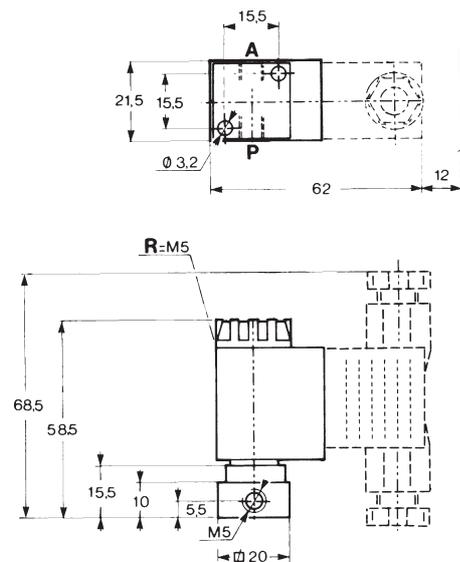
**U1 Electropilot - G 1/8 threaded connections**



**U1 Electropilot Cnomo for mounting on U2 base Speed**



**U1 Electropilot - M5 threaded connections**



**NOTE:** by assembling two 3/2 (1 NC + 1 NO) electropilots, 5/2 function is obtained, to operate small-sized cylinders (6 ÷ 32 mm) with pressure up to 10 bar.

Type	Symbols	Ways	Ø mm	Capacity		Pressure bar	Times ms		Material	Manual override	Mass kg	Part number
				NI/min			energ.	de-energ.				
<b>U2 Electropilot - for mounting on sub-bases 2/2 - 3/2</b>												
		3/2 NC	2,4	150	160	0 ÷ 10	13	10	valve body zamak	⊖	0,120	<b>AB-0681</b> <b>AB-0687</b>
		2/2 NC	2,1	130	-	0 ÷ 10	13	-	sleeve treated brass core and spring stainless steel	⊖	0,120	<b>AB-0722</b> <b>AB-0728</b>
		3/2 NO *	2	92	148	3 ÷ 10	14	10	seals nitrile rubber	⬠	0,125	<b>AB-0685</b>
To be employed when assembling multiple electropilots with reduced overall length and depth. Suitable for speed U2 base. Available upon request: stainless steel sleeve, other inner diametres.										⊖ = With 2 position screw ⬠ = Manual override on ring (page 14-AM-5203)		
<b>U2 CNOMO Electropilot - for mounting on sub-bases Speed U2 2/2 - 3/2</b>												
		3/2 NC	2,4	110	170	0 ÷ 10	13	12	valve body tecnopolymer	⊖	0,132	<b>AB-0885</b>
		2/2 NC	2,1	115	-	0 ÷ 10	12	-	sleeve treated brass core and spring stainless steel	⊖	0,132	<b>AB-0886</b>
		3/2 NO *	2,1	92	148	3 ÷ 10	13	10	seals nitrile rubber	⬠	0,137	<b>AB-0888</b>
Assembled with SPPED U2 sub-base to obtain electropilot assemblies, this electropilot allows for reduced overall height and meets the CNOMO standards (very usefull in case of maintenance replacement). Available upon request: stainless steel sleeve - other internal diametres - valve body in zamak.										⊖ = With 2 position screw ⬠ = Manual override on ring (page 14-AM-5203)		
<b>U2 Electropilot - G 1/4 threaded connections</b>												
		3/2 NC	2,1	200	210	0 ÷ 10	13	11	valve body brass	-	0,220	<b>AB-0822</b>
		3/2 NO *	2,1	95	160	3 ÷ 10	12	10	sleeve treated brass core and spring stainless steel	⬠	0,025	<b>AB-0819</b>
It is recommended if the G 1/4 threaded connection must be used and for non-aggressive liquids. Available upon request: body and sleeve in stainless steel.										⬠ = Manual override on ring (page 14-AM-5203)		
* The 2/2 way NO electropilot is achieved by applying a cap on the exhaust of the 3/2 way electropilot. NO electropilots with 0,7 ÷ 10 bar can be supplied upon request. 3/2 - 2/2 NC electropilots for direct vacuum with G 1/4 and G 1/2 AG-3... Series are available. They are fit for operation in 0 ÷ 759 mm Hg vacuum conditions. Please contact our commercial office.												
<b>The part numbers of valves do not include coils.</b>												

Type	Symbols	Ways	Ø mm	Capacity NI/min		Pressure bar	Times ms		Material	Manual override	Mass kg	Part number
				P-A/1-2	A-R/2-3		energ.	de-energ.				
<b>U2 Electropilot - G 1/8 threaded connections - 2/2 - 3/2</b>												
		3/2 NC	2,4	155	210	0 ÷ 10	13	10	valve body brass	- ⊖	0,140	<b>AB-0751</b> <b>AB-0757</b>
		2/2 NC	2,1	155	-	0 ÷ 10	12	-	sleeve treated brass	- ⊖	0,140	<b>AB-0765</b> <b>AB-0771</b>
		3/2 NO *	2,1	100	150	3 ÷ 10	14	11	core and spring stainless steel	G	0,145	<b>AB-0755</b>
To be employed when the electropilot is used on its own. Upon request: stainless steel sleeve - other internal diametres.										⊖ = With 2 position screw ✧ = Manual override on ring (page 14-AM-5203)		

Type	Symbols	Ways	Ø mm	Capacity NI/min		Pressure bar	Times ms		Material	Mass kg	Part number
				P-A/1-2	A-R/2-3		energ.	de-energ.			
<b>U2 Electropilot - G 1/4 threaded connections - 2/2</b>											
<p>• Coil U2 - 17 VA</p> <p>Tension      Part number            24/50-60Hz    DB-0607            110/50-60Hz    DB-0608            220/50-60Hz    DB-0610</p>		2/2 NC	1,6	108	0 ÷ 30	6	-	valve body brass	0,220	<b>AB-0824</b>	
		2/2 NC	2	165	0 ÷ 20	9	-		0,220	<b>AB-0825</b>	
		2/2 NC	2,4	210	0 ÷ 15	11	-		0,220	<b>AB-0826</b>	
		2/2 NC	3	280	0 ÷ 10	12	-	sleeve treated brass	0,220	<b>AB-0827</b>	
		2/2 NC	3,5	350	0 ÷ 9	-	10		0,220	<b>AB-0828</b>	
		2/2 NC	4	450	0 ÷ 8	-	13	core and spring stainless steel	0,220	<b>AB-0829</b>	
		2/2 NC	4,5	500	0 ÷ 7	-	13		0,220	<b>AB-0830</b>	
		2/2 NC	5	550	0 ÷ 6,5	-	16		0,220	<b>AB-0831</b>	
		2/2 NC	5,5	600	0 ÷ 6	-	21	seals nitrile rubber	0,220	<b>AB-0832</b>	
		2/2 NC	6	650	0 ÷ 5	-	29		0,220	<b>AB-0833</b>	

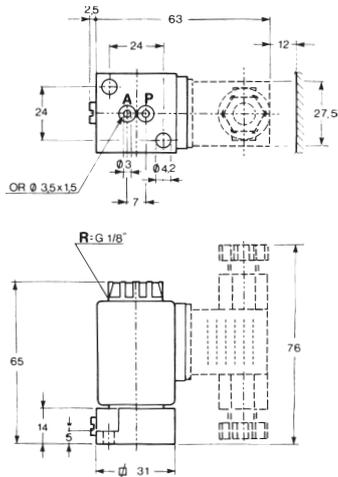
Particularly fit for non-aggressive liquids.  
 • To be used together with 2/2 - 3/2 G 1/4 and G 1/2 electropilot for air and direct vacuum.

\* The 2/2 way NO electropilot is achieved by applying a cap on the exhaust of the 3/2 way electropilot.  
 NO electropilots with 0,7 ÷ 10 bar can be supplied upon request.  
 3/2 - 2/2 NC electropilots for direct vacuum with G 1/4 and G 1/2 AG-3... Series are available. They are fit for operation in 0 ÷ 759 mm Hg vacuum conditions. Please contact our commercial office.

The part numbers of valves do not include coils.

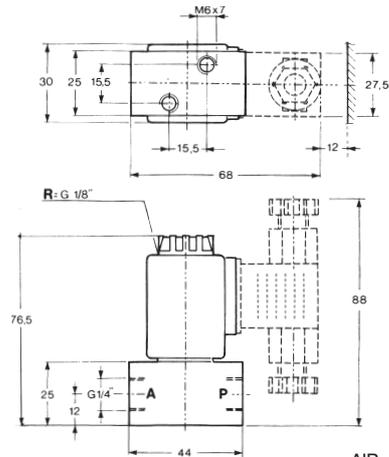


**U2 electropilot for mounting on base**



1-P = Supply  
2-A = Consumption  
3-R = Exhaust

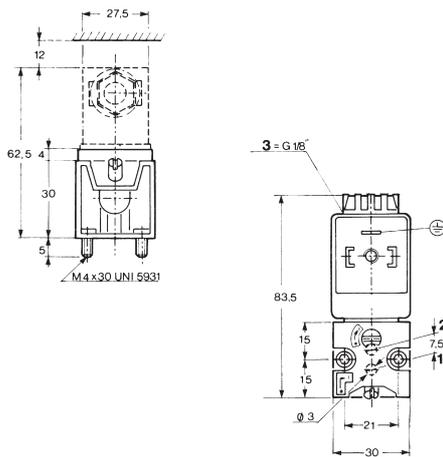
**U2 electropilot -  
G 1/4 threaded connections for air and vacuum**



VACUUM  
1-P = Pump  
2-A = Consumption  
3-R = Exhaust

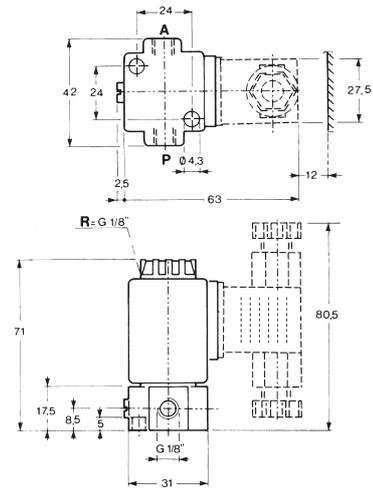
AIR  
1-P = Supply  
2-A = Consumption  
3-R = Exhaust

**U2 CNOMO electropilot  
for mounting on U2 Speed base**



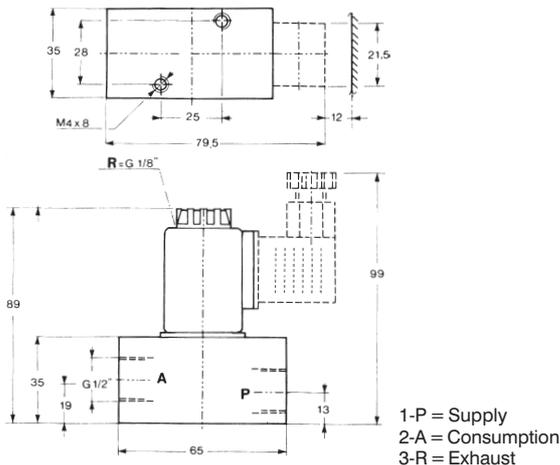
1-P = Supply  
2-A = Consumption  
3-R = Exhaust

**U2 electropilot -  
G 1/8 threaded connections**



1-P = Supply  
2-A = Consumption  
3-R = Exhaust

**U2 electropilot for vacuum -  
G 1/2 threaded connections**



1-P = Supply  
2-A = Consumption  
3-R = Exhaust

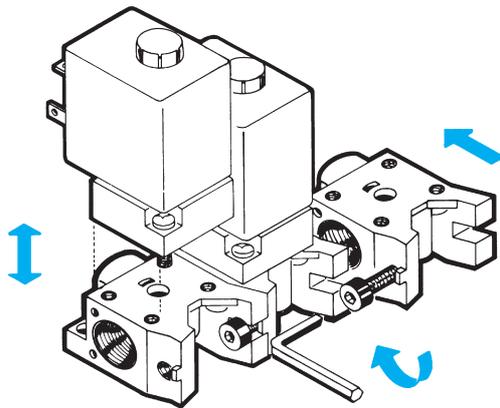
**NOTE:** by assembling two 3/2 (1 NC + 1 NO) electropilots, 5/2 function is obtained, to operate small-sized cylinders (6 ÷ 32 mm) with pressure up to 10 bar.



Type	Overall dimensions	Remarks	Connections	Material	Mass kg	Part number
------	--------------------	---------	-------------	----------	---------	-------------

**Sub-base "SPEED" U1 Series G 1/8 side connections**

	<p>1 = Supply 2 = Consumption</p>	<p>side entry and consumption</p>	<p>G 1/8</p>	<p>zamak</p>	<p>0,037</p>	<p><b>AA-0450</b></p>
--	---------------------------------------	-----------------------------------	--------------	--------------	--------------	-----------------------



**Advantages**

The "Speed" series was realized and patented keeping in mind some existing problems:

- possibility of defining the number of sub-bases at the moment of use
- possibility of freely increasing or reducing the number of elements
- Quick assembly with special screw (built-in) standard supplied.
- reduction of stock holding
- easy technical intervention.

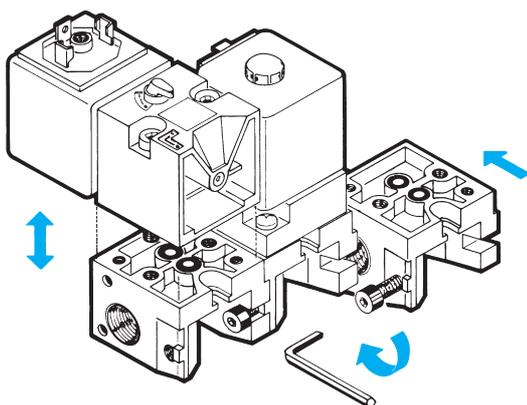
**U1 electropilot only**

Air supply is rotated by 90° in comparison with side consumption. Standard (built-in) screw and O-Ring. When ordering specify: with or without mounted electropilot.

Type	Overall dimensions	Remarks	Connections	Material	Mass kg	Part number
------	--------------------	---------	-------------	----------	---------	-------------

**Sub-base "SPEED" U2 Series G 1/8 side connections**

	<p>1 = Supply 2 = Consumption</p>	<p>side entry and consumption</p>	<p>G 1/8</p>	<p>zamak</p>	<p>0,075</p>	<p><b>AB-0900</b></p>
--	---------------------------------------	-----------------------------------	--------------	--------------	--------------	-----------------------



**Advantages**

The "Speed" series was realized and patented keeping in mind some existing problems:

- possibility of defining the number of sub-bases at the moment of use
- possibility of freely increasing or reducing the number of elements
- Quick assembly with special screw (built-in) standard supplied.
- reduction of stock holding
- easy technical intervention.

**UNIVER U1 - U2 and CNOMO electropilots only**

Air supply is rotated by 90° in comparison with side consumption. Standard (built-in) screw and O-Ring. When ordering specify: with or without mounted electropilot.

When assembling the manifold, put the bases on a flat surface and tighten the screw until the battery is perfectly aligned.