

## Stepper module

Type TAA-2 N-PK-3-01-B  
TAB-2 N-PK-3-01-B  
TAC-2 N-PK-3-01

Complete with:

1 stepper module, 4 bushes Type TAD-S  
and 2 mounting levers.

Accessories for mounting rack attachment:

Bracket

Order Code 5658 NRW-9/1.5

Phillips screw M 4 x 16 DIN 7985

Order Code 216 474 (2 reqd.)

Systematic circuit construction with sequencers ensures the correct execution of programs.

A sequencer consists of a number of these (air piloted) stepper modules.

They are interconnected in such a way that the switching step can be initiated only at the correct time, which is to say, when the preceding step has been successfully carried out and a check-back signal to this effect has been received.

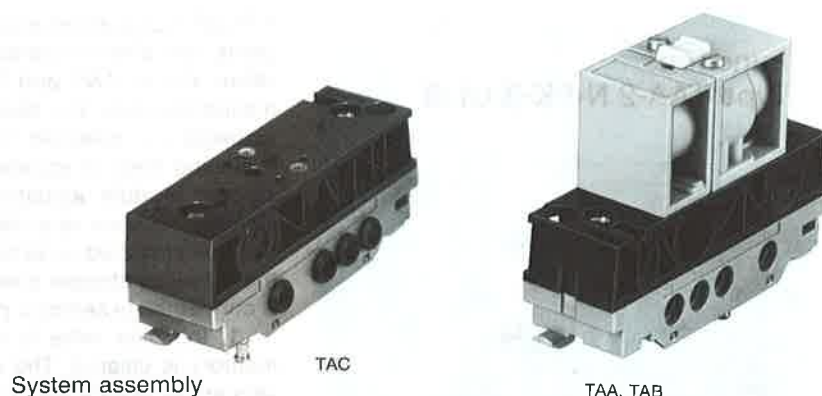
A stepper module is assigned to each switching step or individual cycle. Control circuits constructed in accordance with the sequencer principle have a clear layout and are easy to service, thanks to their built-in pressure indicators and manual overrides.

End plates and branching plates, see sheet 5.421.

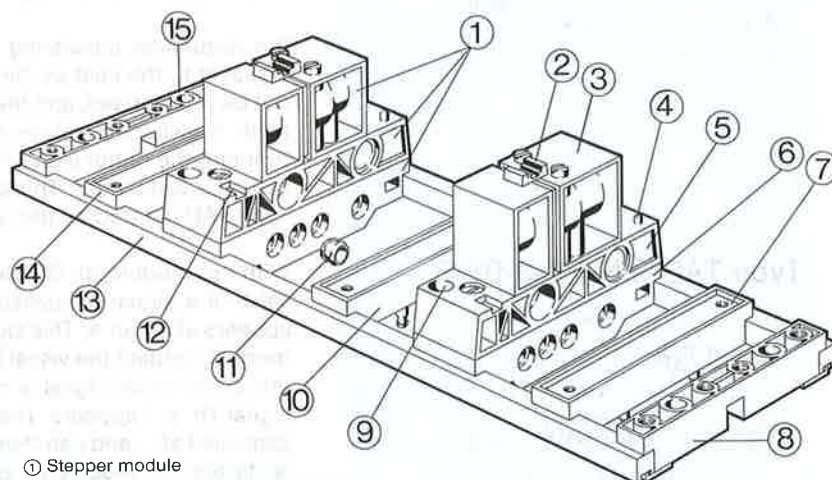
Mounting frame for manifold mounting and control cabinet fitting, see sheet 6.430.

Name plate Type BZ, see sheet 6.310.

Functional description of the stepper modules, see next page.

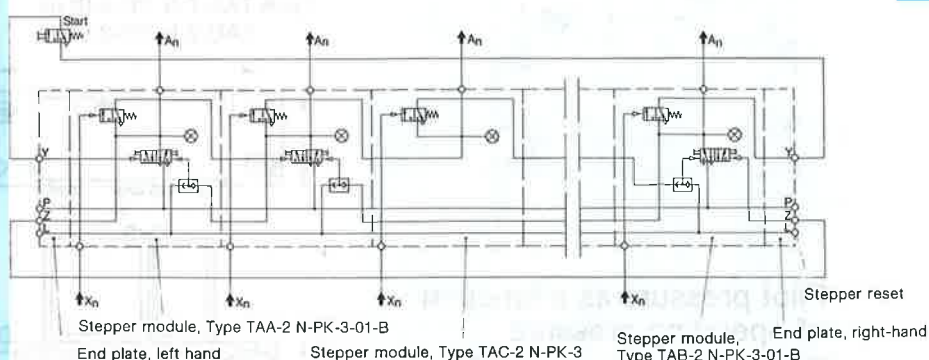


System assembly



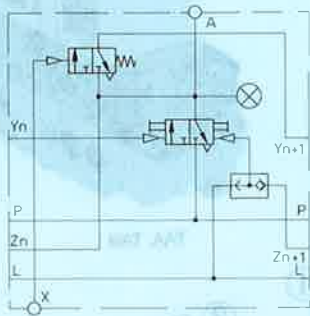
- ① Stepper module
- ② Manual override, position indicator
- ③ Double pilot valve with manual override Type J-5-3.3
- ④ Pressure indicator
- ⑤ Logic block
- ⑥ Sub-base for stepper module
- ⑦ End plate, right-hand (kit type TAP-E-2N)
- ⑧ Clamp
- ⑨ Identification code for the stepper
- ⑩ Manifold Types TAP-Z 2-2 N  
TAP-Z 4-2 N
- ⑪ Seal bushing Type TAD-S
- ⑫ Slot for inscription label Type BZ
- ⑬ Mounting frame
- ⑭ End plate, left-hand (kit type TAP-E-2N)
- ⑮ Clamping lever

Circuit construction (seen from tubing side)

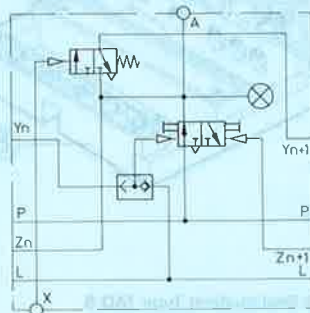


Order code	Part No./Type	10 535 TAA-2 N-PK-3-01-B	10 536 TAB-2 N-PK-3-01-B	9414 TAC-2 N-PK-3-01
Medium		Compressed air, filtered (lubricated or unlubricated)		
Design		Poppet valve with integrated AND and OR element		
Mounting		On mounting frame		
Connection		Barbed fittings for 3 mm plastic tubing		
Nominal size		2.5 mm		
Standard nominal flow rate (P → A)		60 l/min		
Pressure range		2 to 8 bar		
Temperature range		- 10 to + 60 °C		
Materials		Housing: plastic, aluminium; seals: perbunan		
Weight		0.105 kg		
				0.070 kg

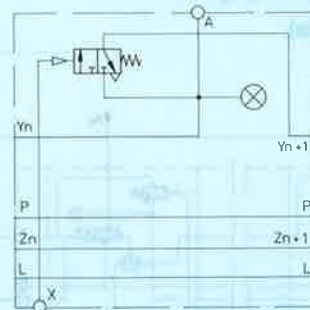
## Function: Type TAA-2 N-PK-3-01-B



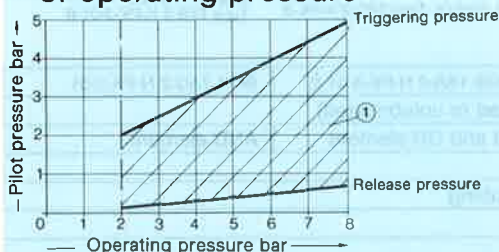
## Type TAB-2 N-PK-3-01-B



## Type TAC-2 N-PK-3-01



## Pilot pressure as a function of operating pressure



① impermissible area

1 (A) = Outlet signal of stepper module  
X = Check-back signal

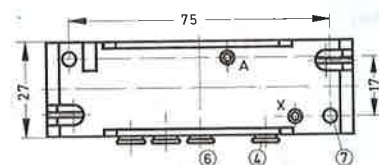
A FESTO sequencer is produced by connecting these basic modules together one after the other. This module consists of a memory (5/2-way pilot valve) and an AND or OR element, and contains a visual indicator and manual override. The pilot valve, at whose P port air pressure is present, is actuated, i.e. reversed, via inlet Y. This causes a signal for the intended switching step to appear at outlet A. This signal also resets a previous stepper module, actuates the visual indicator and is applied to the AND element. As soon as a check-back signal for the switching sequence which has been initiated is received at X, flow is opened at the AND element, and the following stepper module is actuated by signal  $Y_n + 1$ . An OR element is connected in series to port Z on the pilot valve. By means of the signal  $Z_n + 1$ , the pilot valve is reset by the following stepper module, i.e. the memory is cleared. The second inlet L can be used to return the entire sequencer to its starting position (e.g. for reset after an emergency stop).

If a sequencer consisting only of modules Type TAA were cancelled by a signal at L, the inlet of the AND element of the last stepper module would not be pressurised, and there would therefore be no signal  $Y_n + 1$  available (with X switched on). In order to avoid a restart while the sequence is running, the outlet signal  $Y_n + 1$  of the last stepper module is required to start the sequencer. This outlet signal can be obtained only if a module of Type TAB is fitted as the last stepper module of the sequencer.

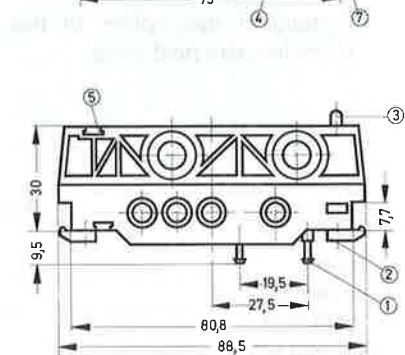
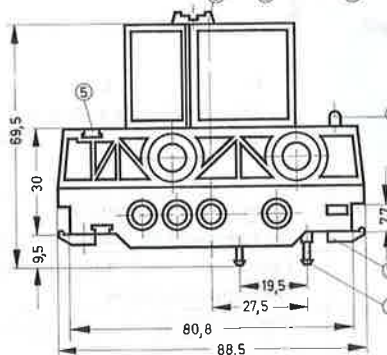
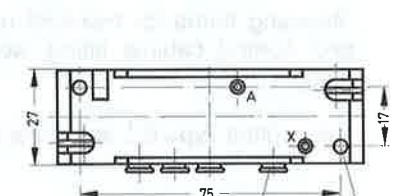
With this module, an OR element is fitted upstream of the Y inlet of the pilot valve. If a signal is applied to  $Y_n$  or L, the valve is reversed and a signal appears at outlet A. This signal is also used to cancel the preceding stepper module, actuate the visual indicator and pressurise the AND element. When the check-back signal is received at X, the AND flow is opened and the signal  $Y_n + 1$  appears. This signal is also retained if the entire sequencer is cancelled at L, and can therefore be used for a restart. When the sequencer is started, the module is reset externally at port Z by the cancellation signal  $Z_n + 1$  of the first module of the sequencer (see circuit diagram).

This module (without memory) can be employed in a sequencer in all cases where it is not necessary to cancel the preceding stepper module. The inlet signal at  $Y_n$  actuates the visual indicator and is applied to the AND element. When the check-back signal is received at X, flow is released at the AND element, and the following stepper module is actuated by signal  $Y_n + 1$ . If the signal  $Y_n + 1$  is applied to a subsequent module of Type TAA or TAB, the stepper module preceding the first module of Type TAC is cancelled.

Type TAA-2 N-PK-3-01-B  
TAB-2 N-PK-3-01-B



TAC-2 N-PK-3-01



- ① Barbed fittings for 3 mm plastic tubing
- ② Clamping lever for mounting frame
- ③ Pressure indicator
- ④ Seal bushing, sintered
- ⑤ Slot for inscription label
- ⑥ Manual override for memory
- ⑦ for thread M 4