

Tools and accessories for crimp contacts

for contacts of inserts series:

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\* the underlined polarities indicate those contacts that require the tools shown in this page

stripping and crimping machine



insertion tool - removal tools replacement tip



description	part No.	part No.
automatic stripping, crimping machine Zoller+Fröhlich AM-03 Universal model	ZFU-CD	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0,75 mm <sup>2</sup>		CCINA
removal tools for the extraction of contacts from the inserts for 10A contacts (CD) <sup>1)</sup> for 16A contacts (CX) <sup>2)</sup>		CCES CQES
replacement tip for CCES removal tool		CCPR RN

<sup>1)</sup> for CQ, CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)  
<sup>2)</sup> for CQ, CQE, CQEE, CCE, CMCE inserts (excluded 16+2), MIXO module (16A). For CX 6/6 (16A) and CDC. CMCE (16+2), CX inserts (16A contacts CX 8/24 insert) a 3 mm flat screwdriver should be used

Technical specifications

Drive	electro-pneumatic
Electric feeder	230V/50Hz
Absorbed power	120VA
Fuse (on the system filter module)	2 x 2 A mT
Air operating pressure	5.5 bar
Air consumption	2 nl/cycle
Flexible conductors in conformity with	IEC 60228 class 5
Rated section	0,34-2,5 mm <sup>2</sup> (22 AWG-14 AWG)
Feeding length	52 mm
Contacts	loose, turned
Contact breaker	see list of tools
Feeding	vibrating conveyor
Crimping form	4/8 ratchets
Cycle time	2,5 s - 3 s
Continuous sound level	< 70 dB (A)
Dimensions (l x d x h)	(530 x 500 x 480) mm
Colour	blue, RAL 5012
Weight	40 Kg

Tools list

contacts	CD... (10A max)						CC... (16A max)					
conductor section (mm <sup>2</sup> )	0,34	0,5	0,75	1,0	1,5	2,5	0,5	0,75	1,0	1,5	2,5	
AWG (approximate)	22	20	18	18	16	14	20	18	18	16	14	
feeding bowl/male	A						B (M)					
feeding bowl/female							B (F)					
feeding tube	A						B					
wire holder	0,34	0,5-1,5				2,5	0,5-1,5					2,5
starting unit	AB						AB					
stripping blades	V-shaped blades						V-shaped blades					
rear blade spacers	0,5 mm / 1,0 mm						0,5 mm / 1,0 mm					
left/right												
contact holder / pins	A (M)						B					
contact holder / bushes	A (F)											
contact stop	A						B					

Preset stripping and contact crimping programs

contacts	CD... (10A max)						CC... (16A max)				
conductor section (mm <sup>2</sup> )	0,34	0,5	0,75	1,0	1,5	2,5	0,5	0,75	1,0	1,5	2,5
AWG (approximate)	22	20	18	18	16	14	20	18	18	16	14
Program number	1A	2A	3A	4A	5A	6A	7B	8B	9B	10B	11B
stripping position (mm)	0,75	1,00	1,20	1,30	1,40	1,70	1,00	1,20	1,30	1,40	1,70
crimping position	1,30	1,35	1,40	1,50	1,55	1,60	1,40	1,40	1,50	1,55	1,70

Supplied with the following accessories:

- 1 vibrating conveyor feeder bowl for CD contact series
- 1 vibrating conveyor feeder bowl for male CC contact series
- 1 vibrating conveyor feeder bowl for female CC contact series
- 1 feeder tube (contact passage from vibrating conveyor to machine) for CD contact series
- 1 feeder tube (contact passage from vibrating conveyor to machine) for CC contact series
- 1 contact holder (in crimping position) for male CD contact series
- 1 contact holder (in crimping position) for female CD contact series
- 1 contact holder (in crimping position) for CC contact series
- 1 contact stop for CD contact series
- 1 contact stop for CC contact series
- 1 wire holder for 0,34 mm<sup>2</sup> cables
- 1 wire holder for 0,5 to 1,5 mm<sup>2</sup> cables
- 1 wire holder for 2,5 mm<sup>2</sup> cables
- 1 "GO / NO GO" control gauge
- 1 Allen wrench for setup operations
- 1 set of spacers to regulate the stripping length
- 1 removal tool to extract contacts from the crimping chamber

## Use and maintenance instructions

### General specifications

The **Zoller+Fröhlich AM-03** Universal stripping-crimping machine is a semi-automatic, electro-pneumatically operated bench machine used to quickly and reliably strip flexible copper wires and to crimp loose, turned crimp male and female, **CD** series (10A max) and **CC** series (16A max) contacts in a single run. The contacts are automatically fed by means of a vibro-conveyor unit fitted on the top section of the machine.

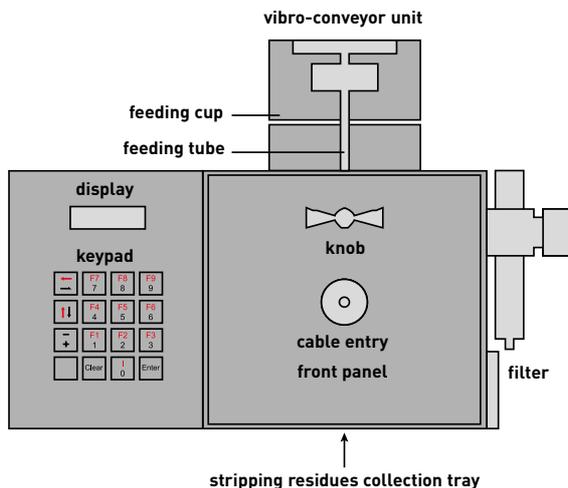
The machine carries out the crimping operation with four, eight pressure point indenters, in compliance with the requirements set out in the MIL-C-22520/1 standard.

The stripping depth and crimping depth adjustment is controlled by a software controlled motor. Up to 50 different combinations may be stored and retrieved from the program; these combinations are useful, for example, to meet different requirements related to the wire insulator type and thickness.

The adjustment and programming operations are carried out by using the keypad located on the front panel. The LCD display shows all the functions, the main information and any errors.

The machine is fitted with devices used to check that the crimping cycle has been completed.

The general safety instructions described in the machine user and maintenance manual must be followed and the use of the machine should only be restricted to qualified and trained personnel.



### Crimping range

Wire section: from 0,34 mm<sup>2</sup> (AWG 26) to 2,5 mm<sup>2</sup> (AWG 14).

### Description of the machine

To ensure a correct operation, the machine must be positioned on a hard bench, which does not amplify the effects of the internal movements occurring inside the machine. The machine consists of a vibrator which loads the contacts, of a tube which feeds the contacts and of a motorised wire stripping and contact crimping unit.

For each type and size of contact, the machine is provided with a factory stored preset program (see the machine user manual), which may be customised at any time.

The program allows the user to: load, edit and save a program, as well as check/edit the stripping length and depth and the crimping depth.

**Warning:** when the machine is switched on, the working program is always the last program used.

The machine electronics adjustment is carried out by means of the keypad.

Select one of the 12 programs (see table on page 728) according to the contact used\*.

Each program stores the stripping and crimping depth.

The stripping depth is the measurement in mm of how much the stripping blades must penetrate the insulator to strip it off, and depends on the type of cable used. The crimping depth is the measurement in mm of how much the four indenters must penetrate the contact at the end of the crimping operation.

This depth depends on the size and shape of the contact (crimp shaft thickness) and determines the quality of the crimping operation in terms of gas tightness and resistance to tensile stress.

\* **Note:** The machine also has a 12C program suitable for 10A, 2,5 mm<sup>2</sup> crimp contacts with 6 mm stripping length.

This program is therefore unsuitable for ILME CD series contacts (stripping length 8 mm).

### Operational setups

The tool carrier carriage may be accessed by opening the front door, by anticlockwise rotation of the knob, which releases the pressure from all the valves.

For tool selection, see table on page 728.

- For CD series male and female crimp contacts (10A max), the feeding cup A must be fitted onto the machine, whilst for CC series crimp contacts (16A max) feeding cup B (M) for male contacts and B (F) for female contacts must be used.

- The feeding tubes to be fitted are A for CD series contacts and B for CC series contacts respectively.

- The wire holders which support the wire during the stripping stage feature three different sizes for CD contacts and two sizes for CC contacts.

- The contact holders are two (A (M) for male contacts and A (F) for female contacts) for CD series contacts, according to the different rear diameter between male and female contacts in this series, whilst there is only one holder (B) for CC series contacts.

- The contact holder is A for CD series contacts and B for CC series contacts.

### Feeding the wire

The wire must be cut straight and the single braids must not be bent or pulled apart; in particular, the first 4cm must be perfectly straight.

### Checking the stripping depth:

The machine can be operated simply as a stripping machine by disabling the crimping operation.

Please refer to the machine user manual.

### Maintenance and repairs

Stripping residues collection tray: empty the tray approximately every 2000 cycles (the frequency depends on the sizes of the stripped wire and on the stripping length).

Pneumatically controlled maintenance unit: regularly drain any water that may have collected.

The trap may be cleaned with water.

To remove the trap, simply disconnect the air supply.

The filter unit may be unscrewed for cleaning purposes, then immersed in a cleaning agent (such as petrol or oil), thoroughly washed and dried.

### Checking the calibration values

The correct calibration of the machine must be periodically checked by using the "GO / NO GO" caliper supplied as standard with the machine, by following the procedure described in the machine user and maintenance manual.