Tools and accessories for crimp contacts

for contacts of inserts series:		page:
CD	(10A)	**66 - 74**
CDD	(10A)	**76 - 83**
CDC	(16A)	**104 - 106**
CCE	(16A)	**130 - 135**
CMCE	(16A)	**137 - 145**
CQE	(16A)	**168 - 173**
CQEE	(16A)	**176 - 177**
CQ	(10A/16A)	**186 - 193**
CX 8/24	(16A/10A)	**194**
CX 6/**36** *	(10A)	**198**
CX 12/**2** *	(10A)	**199**
CX 6/**6** *	(16A)	**206**
MIXO	(10A/16A)	**271 - 306**

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

pneumatic crimping tool
positioner - gauge

CCSPZP **CCVPP**

insertion tool - removal tools
replacement tip

CCPR RN

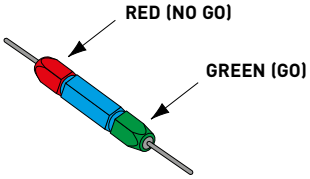
description	part No.	part No.
pneumatic crimping tool for **10A** and **16A** contacts model DANIELS WA27F (turret excluded)	**CCPZP**	
positioner (see note) for **10A** contacts (CDF and CDM series) for **16A** contacts (CCF and CCM series)	 **CCTP 10** **CCTP 16**	
bench support for CCPZP pneumatic crimping tool (DANIELS BM-2A)	**CCSPZP**	
pneumatic foot valve (DANIELS WA10A)	**CCVPP**	
"go / no go" control gauge to verify indenter closure (see note)	 **CCPNP**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0,75 mm²		 **CCINA**
removal tools for the extraction of contacts from the inserts for **10A** (CD) contacts [1] for **16A** (CC) contacts [2]		 **CCES** **CQES**
replacement tip for CCES removal tool		 **CCPR RN**

[1] for CQ, CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CQEE, CCE, CMCE inserts (excluded 16+2), MIXO module (16A), CX6/6 (16A) and CDC. For CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver.

Notes:
Positioner
conforms to international standard MIL-C-22520/1
- An interchangeable and indispensable accessory of the CCPZP crimping tool, it precisely positions the contact where crimping is performed. Each series of contacts requires its own turret.

"go / no go" control gauge
conforms with international standard MIL-C-22520/3
- A tool used to periodically check that the crimping tool meets standard requirements.

CCPNP



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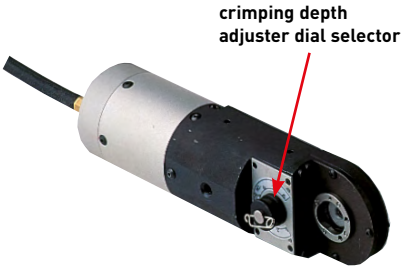
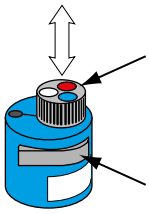
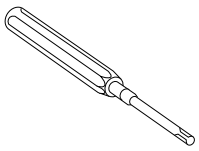
CCPZP



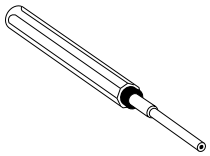
CCTP



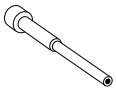
CCINA



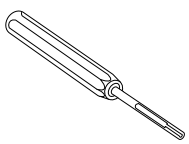
CCES



CCPR RN



CQES



CRIMPING TOOLS

Use and maintenance instructions

1. General specifications

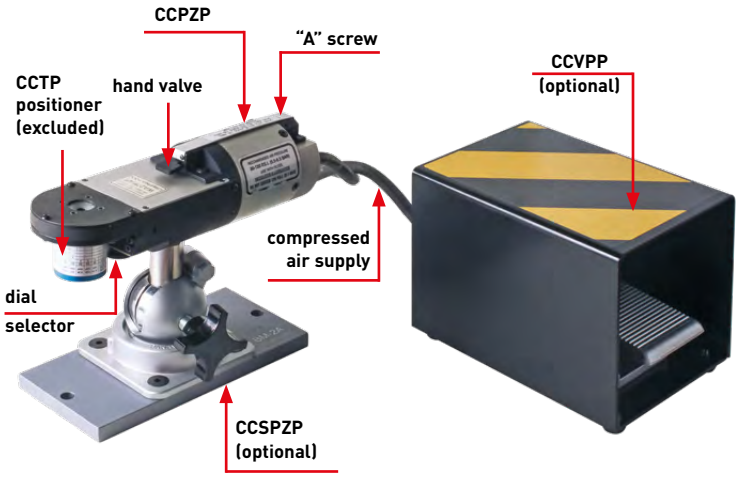
This is the pneumatic version of the **DANIELS AF8 crimping tool** (CCPZ MIL). Crimping is performed with 8 pressure points.
The tool is equipped with a geared mechanism to control the complete crimping cycle.
The tool must be equipped with an interchangeable turret (CCTP) according to the series of contacts to be crimped.
It is possible to use a hand valve (located on the crimping tool) or a foot valve (optional). The tool operating pressure is 5,5 - 8,3 bar. It is recommended to utilise an adjustment and air filtering unit.

1.1 Crimping range

Conductor cross-sectional area range: from 0,14 mm² (26 AWG) to 4 mm² (12 AWG).

1.2 Operation with pneumatic foot valve (optional)

Connect the foot valve between the compressed air source and the tool air inlet. Lower the hand valve on the tool and stop it in the lowered position with the stop screw (A) using a 1,5 mm Allen wrench.



2. Checking the crimping complete cycle control mechanism

Correct operation can be checked based on the following procedure:
1 Install a CCTP turret (see 3).
2 Reduce the pressure to 1 bar.
3 Using a contact that corresponds to the installed turret, with size 0,5, and a wire with section 0,5 mm², use the crimping tool, referring to the crimping instructions.
The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
4 To release the partially crimped contact, increase the air pressure of the line to 5,5 - 8,3 bar and again use the crimping tool. It will then complete the crimping, allowing the indenters to return to the fully open position.

3. CCTP positioner installation (Fig. A)

1 Position the previously selected CCTP positioner on the support ring located on the crimping tool (matching the special pin on the base of the turret with the corresponding hole on the support ring), aligning the tapped holes with the socket head screws.
2 With the CCTP positioner positioned against the support ring, tighten the socket head screws with the 3,5 mm Allen wrench (supplied with the kit).
3 Refer to the data plate on the CCTP positioner. From the colour code column, select the colour of the positioner that corresponds to the appropriate code and dimension of the contact to be crimped.
4 With the CCTP positioner in the adjustment position, turn the turret selector until the colour-coded positioner is aligned with the indicator line.
Press the turret until it clicks into the connected position.
5 Refer to the data plate on the CCTP positioner. From the column indicating the proper conductor section, determine the number that corresponds to the contact being used.
6 Remove the retaining hook from the crimping tool dial selector. Lift the dial selector and turn it until the selector number is aligned with the indicator (SEL.NO.). Replace the retaining hook (if necessary).

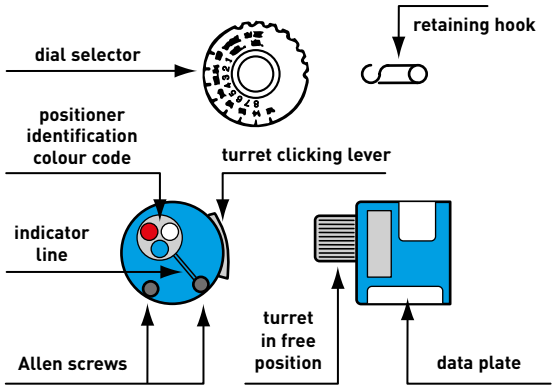


Fig. A

4. Crimping instructions

1 Insert the contact and the prepared conductor through the opening of the indenter in the turret positioner.
2 Activate the hand valve or the foot valve.
Once crimping has been completed, the tool will return to the open position.
3 Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot.
The head of the contact should not be squared and the inspection hole should be intact.

5. Releasing a partially crimped contact

To release a partially crimped contact, do the following:
1 Increase the air pressure to 8,3 bar and use the crimping tool. If the increase in air pressure does not release the contact, do the following.
2 Turn the dial selector clockwise to the highest lockable setting (the dial selector must be in the blocked position before continuing). Use the crimping tool.
3 If it does not release after several attempts, contact the ILME offices.

6. Removing the CCTP positioner

With the crimping tool in the open position, to disassemble the turret, loosen the socket head screws using the 3,5 mm Allen wrench (supplied with the kit).
After the threads are released from the support ring, pull off the turret with a straight movement.

7. Instructions to check calibration

The operations to check the crimping tool must be carried out with the dial selector in position 4 and the CCPNP gauge.
ATTENTION! Do not crimp the gauge.

7.1 Calibration check

Put the crimping tool in the completely closed position.
"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.
"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

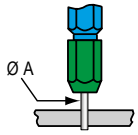


Fig. 1

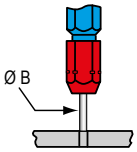


Fig. 2

Gauge	tool selector pos. No.	Ø A ± 0,00254 mm (GO) green	Ø B ± 0,00254 mm (NO GO) red
CCPNP	**4**	0,991 (mm)	1,118 (mm)
		0,0390 (in)	0,0440 (in)

8. Crimping tool maintenance

No maintenance is required.
However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended:
1 DO NOT immerse the tools in a solution to clean them.
2 DO NOT brush oil in the tools to lubricate them.
3 DO NOT try to disassemble the tool or repair it.
This is a high-precision manual crimping tool and must be used as such.

Tools and accessories for crimp contacts

for contacts of inserts series:		page:
CD	(10A)	**66 - 74**
CDD	(10A)	**76 - 83**
CDC	(16A)	**104 - 106**
CCE	(16A)	**130 - 135**
CMCE	(16A)	**137 - 145**
CQE	(16A)	**168 - 173**
CQEE	(16A)	**176 - 177**
CQ	(10A/16A)	**186 - 193**
CX 8/24	(16A/10A)	**194**
CX 6/**36** *	(10A)	**198**
CX 12/**2** *	(10A)	**199**
CX 6/**6** *	(16A)	**206**
MIXO	(10A/16A)	**271 - 306**

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

pneumatic crimping tool with automatic positioner inserts - gauge

insertion tool - removal tools replacement tip

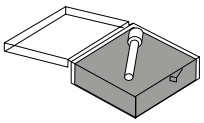
CCPR RN

description	part No.	part No.
crimping tool with automatic positioner model DANIELS WA27FAP (inserts excluded)	**CCPZPA**	
positioner inserts (see note) male contacts **10A** (CDM series) female contacts **10A** (CDF series) male contacts **16A** (CCM series) female contacts **16A** (CCF series)	 **CCTPADM** **CCTPADF** **CCTPACM** **CCTPACF**	
"go / no go" control gauge to verify indenter closure (see note)	**CCPNP**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0,75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts for **10A** (CD) contacts [1] for **16A** (CX) contacts [2]		 **CCES** **CQES**
replacement tip for CCES removal tool		**CCPR RN**

[1] for CQ, CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CQEE, CCE, CMCE inserts (excluded 16+2), MIXO module (16A), CX6/6 (16A) and CDC. For CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver.

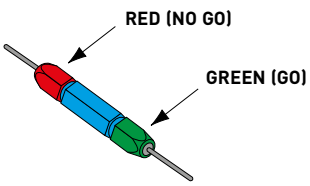
Notes:
Positioner inserts
- Interchangeable and indispensable accessories of the CCPZPA crimping tool precisely position the contact where crimping is performed.
  Each contact requires its own positioner insert selected according to the type of contact (10A or 16A) and the kind (male or female).

CCTPADM and CCTPADF
CCTPACM and CCTPACF



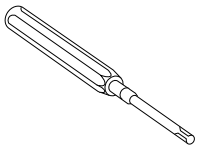
"go / no go" control gauge
conforms with international standard MIL-C-22520/3
- A tool used to periodically check that the crimping tool meets standard requirements.

CCPNP

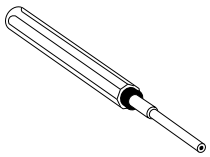


CCPZPA

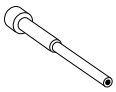
CCINA



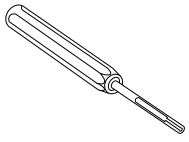
CCES



CCPR RN



CQES



Use and maintenance instructions

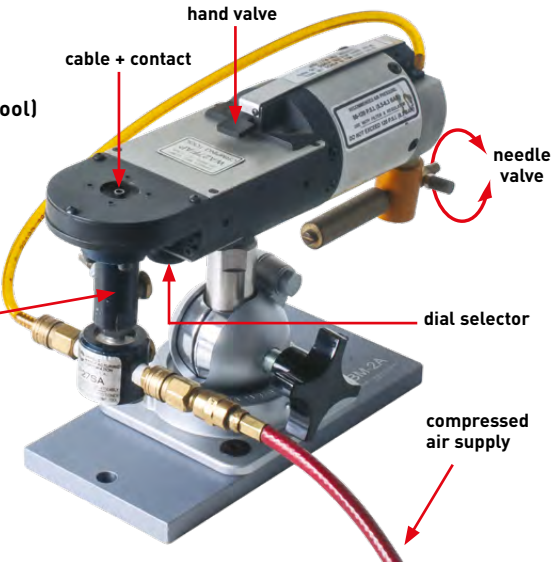
1. General specifications

This is the pneumatic version of the manual crimping tool. Crimping is performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle. Thanks to the automatic positioner it is possible to crimp simply by inserting the uncrimped contact + wire into the tool crimping cavity.
It is also necessary to order the interchangeable positioner inserts relative to the series of contacts to be crimped.
The tool operating pressure is 5,5 - 8,3 bar. It is recommended to utilise an adjustment and air filtering unit.

1.1 Crimping range

Conductor cross-sectional area range: from 0,12 mm² (26 AWG) to 4 mm² (12 AWG).

Fig. A (complete crimping tool)



2. Installation or replacement of a positioner insert

1 Disconnect the workshop compressed air source.
2 Disconnect the air hoses from the automatic positioner (rapid connectors).
3 Remove the connection screws, using the 3,5 mm Allen wrench (supplied with the kit), to separate the automatic positioner from the crimping tool.
The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
4 Unscrew the positioner closing housing.
5 Install or replace the proper positioner insert in the positioner housing, replacing the underlying spring.
6 Reverse the operations, as described from point 4 to point 1.

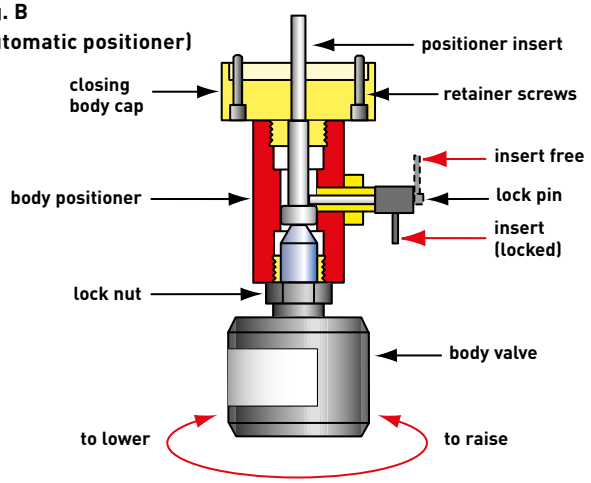
3. Crimping position adjustment (Fig. B)

1 Release the automatic positioner from the crimping tool body (see points 1 and 2 “Installation replacement of a positioner insert”).
2 While holding the body positioner in position using a 19 mm wrench, loosen the lock nut with a 14 mm wrench.
3 Push the positioner insert toward the bottom and lock it using the lock pin.
The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
4 If the pin doesn’t lock, unscrew the body valve toward the bottom.
5 With the pin locked, tighten the body valve toward the top until it strikes against the positioner insert.
6 While maintaining that position, tighten the lock nut.
7 Replace and connect the positioner on the crimping tool.
8 Release the lock pin in the “free” position.

4. Checking the crimping complete cycle control mechanism

Correct operation can be checked based on the following procedure:
1 Reduce the pressure to 1 bar.
2 Using a contact that corresponds to the installed positioner, with size 0,5 and a wire with section 0,5 mm², use the crimping tool, referring to the crimping instructions. The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
3 To release the partially crimped contact, increase the air pressure of the line to 5,5 - 8,3 bar and again use the crimping tool. It will then complete the crimping, allowing the indenters to return to the fully open position.
The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.

Fig. B (automatic positioner)



5. Crimping instructions

1 To obtain the suitable selector number, refer to the data plate located on the cover of the positioner insert case, and adjust the dial selector as specified.
2 Insert the contact and the prepared conductor through the opening of the indenter in the crimping tool casing **(Fig. A)**.
3 Exert slight pressure until the crimping tool automatically crimps the contact.
CAUTION: Wire sections less than 0,34 mm² (24 AWG) up to 0,08 mm² (28 AWG) or equivalent are not sufficiently rigid, so that it may be rather difficult to push the contact + wire.
4 Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot. The head of the contact should not be squared and the inspection hole should be intact.

6. Instructions to check calibration

The operations to check the crimping tool must be carried out with the dial selector in position 4 and the CCPNP gauge.
ATTENTION! Do not crimp the gauge.

6.1 Calibration check

1 Disconnect the compressed air.
2 Push the positioner insert toward the bottom and lock it using the lock pin.
3 Reconnect the compressed air.
4 Turn the needle valve counterclockwise to open the air supply **(Fig. A)**.
5 The indenters will extend and remain in the extracted position until the valve is closed.
6 Check using the gauge, referring to the “go / no go” instructions reported below.
7 When the calibration check has been completed, close the needle valve turning it clockwise **(Fig. A)**.
8 Put the lock pin in the “free” position.
“GO” - Insert the end (green) of the gauge as shown **(Fig. 1)**.
The gauge must pass freely between the indenter tips.
“NO GO” - Insert the end (red) of the gauge as shown **(Fig. 2)**.
The gauge should not pass through the opening.

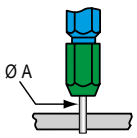


Fig. 1

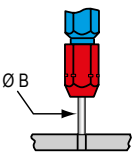


Fig. 2

Gauge	tool selector pos. No.	Ø A ± 0,00254 mm (GO) green	Ø B ± 0,00254 mm (NO GO) red
CCPNP	**4**	0,991 (mm)	1,118 (mm)
		0,0390 (in)	0,0440 (in)

7. Crimping tool maintenance

No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose. The following is strongly recommended:
1. DO NOT immerse the tools in a solution to clean them.
2. DO NOT brush oil in the tools to lubricate them.
3. DO NOT try to disassemble the tool or repair it.
This is a high-precision crimping tool and must be used as such.

Tools and accessories for crimp contacts

for contacts of inserts series:		page:
CX 6/12 *	(40A)	**197**
CX 6/36 *	(40A)	**198**
CX 12/2 *	(40A)	**199**
MIXO	(40A)	**267 - 272**

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

pneumatic crimping tool positioner – gauge

CCSPZP **CCVPP**

removal tool

description	part No.	part No.
pneumatic crimping tool for **40A** contacts model DANIELS WA27-309-EP (bench support, positioner and control gauge are optional, pneumatic foot valve with 2,7 m air hose is supplied with tool)	**CXPZP D**	
positioner (see note) for **40A** contacts (**CX** and **RX HNM** series)	**CXTP 40**	
bench support for CXPZP D pneumatic crimping tool (DANIELS BM-2A)	**CCSPZP**	
"go / no go" control gauge (DANIELS G1005) to verify indenter closure or wear (see note)	**CXPNPP**	
removal tool for the extraction of contacts from the inserts for **40A** (CX) contacts [1] and cables Ø < 5 mm for **40A** (CX) contacts [2] and cables Ø < 7,5 mm		**CXES** **CXES-10**

[1] for CX inserts (40A contacts) and MIXO module (40A)
[2] for MIXO module CX 03 4B and contacts 10 mm².

Notes:

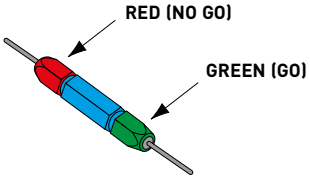
Positioner

- An interchangeable and indispensable accessory of the CXPZP D pneumatic crimping tool, it precisely positions the contact where crimping is performed.

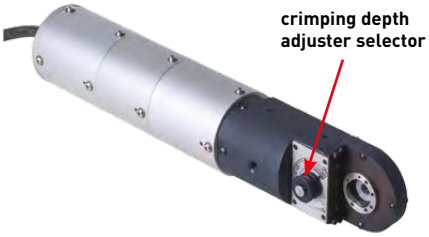
"go / no go" control gauge

- A tool used to periodically check that the crimping tool meets standard requirements.

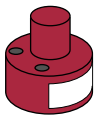
CXPNPP



CXPZP D



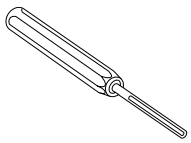
CXTP 40



CXTP 40

CONTACT	CXMA/CXFA	1.5	2.5	4.0	6.0	10
WIRE SIZE	mm²	1,5	2,5	4	6	10
	AWG	16	14	12	10	8
SEL. NO.		5	5	5	7	8
USE WITH		M309				
		WA-27-309-EP				

CXES - CXES-10



Use and maintenance instructions

1. General specifications

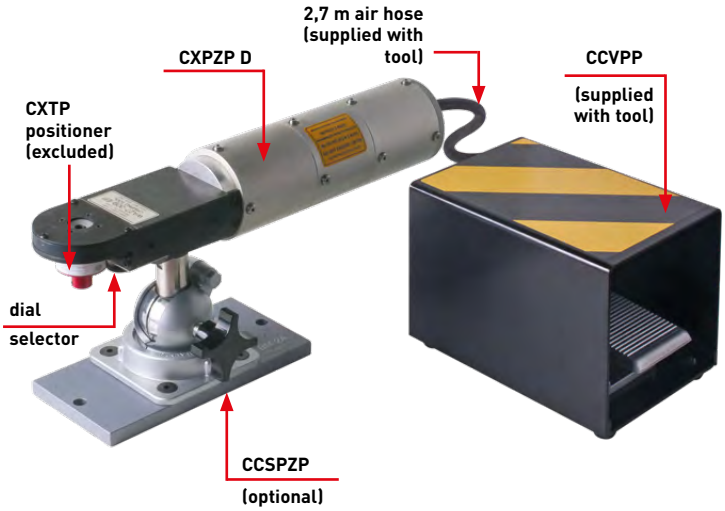
This is the pneumatic version of the CXPZ D hand crimping tool (DANIELS M309). Crimping is performed with 8 pressure points. The tool is equipped with a geared mechanism to control the complete crimping cycle.
The tool must be equipped with the interchangeable positioner CXTP 40 suitable for series CX (or RX HNM version) crimp contacts.
The tool comes already equipped with a pneumatic foot pedal valve (WA10A) attached to the tool through 2,7 m (9 ft.) air hose.
The tool operating pressure is 5,5 – 8,3 bar. It is recommended to utilise a lubrication, adjustment and air filtering unit.

1.1 Crimping range

Conductor cross-sectional area range: from 1,5 mm² (16 AWG) to 10 mm² (8 AWG).

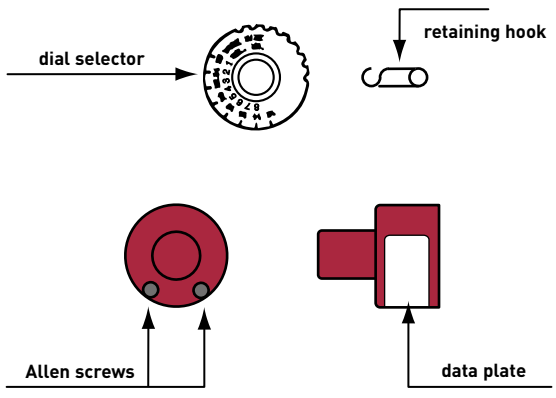
1.2 Operation with pneumatic foot valve (supplied with tool)

Connect the foot valve between the compressed air source and the tool air inlet.



2. CXTP 40 positioner installation

1 Place the CXTP 40 positioner on the support ring located on the crimping tool (matching the special pin on the base of the turret with the corresponding hole on the support ring), aligning the tapped holes with the socket head screws.
2 With the CXTP 40 positioner places against the support ring, tighten the socket head screws with the 3,5 mm Allen wrench (supplied with the kit).
3 Refer to the dataplate on the CXTP 40 positioner. From the column indicating the proper conductor cross-sectional area, determine the number that corresponds to the contact being used.
4 Remove the retaining hook from the crimping tool dial selector.
Lift the dial selector and turn it until the selector number is aligned with the indicator (SEL.NO.). Replace the retaining hook (if necessary).



3. Checking the crimping complete cycle ratcheting control mechanism

Correct operation can be checked based on the following procedure:
1 Install the CXTP 40 positioner (see 2).
2 Reduce the pressure to 1 bar.
3 Using a series CX contact that corresponds to the installed turret, e.g. size 1.5, and a wire with cross-sectional area 1.5 mm2 (16 AWG) use the crimping tool, referring to the crimping instructions.
The indenters will not reach the fully closed position and the contact will be internally blocked if the geared mechanism is operating correctly.
4 To release the partially crimped contact, increase the air pressure of the line to 5,5 – 8,3 bar and again use the crimping tool. It will then complete the crimping, allowing the indenters to return to the fully open position.

4. Removing the CXPT 40 positioner

With the crimping tool in the open position, to disassemble the positioner, loosen the socket head screws using the 3,5 mm Allen wrench (supplied with the kit). After the threads are released from the support ring, pull off the positioner with a straight movement.

5. Releasing a partially crimped contact

To release a partially crimped contact, do the following:
1 Increase the air pressure to 8.5 bar and use the crimping tool. If the increase in air pressure does not release the contact, do the following.
2 Turn the dial selector clockwise to the highest lockable setting (the dial selector must be in the blocked position before continuing). Use the crimping tool.
3 If it does not release after several attempts, contact the ILME offices.

6. Crimping instructions

1 Insert the contact and the prepared conductor through the opening of the indenter in the turret positioner.
2 Activate the hand valve or the foot valve.
Once crimping has been completed, the tool will return to the open position.

3 Check the position of the crimping on the contact crimping foot. Ideally, the crimping should be between the inspection hole and the top edge of the crimping foot.
The head of the contact should not be squared and the inspection hole should be intact.

7. Instructions to check calibration

The operations to check the crimping tool must be carried out with the dial selector in **position #5** and the **CXPNPP** gauge (DANIELS G1005 – formerly G425, which is equivalent).
CAUTION! Do not crimp the gauge.

7.1 Calibration check

Put the crimping tool in the completely closed position.
"GO" - Insert the end (green) of the gauge as shown **(Fig. 1).**
The gauge must pass freely between the indenter tips.
"NO GO" - Insert the end (red) of the gauge as shown **(Fig. 2).**
The gauge should not pass through the opening.

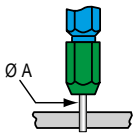


Fig. 1

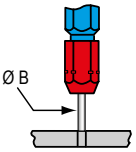


Fig. 2

Gauge	tool selector pos. No.	Ø A ± 0,00254 mm (GO) green	Ø B ± 0,00254 mm (NO GO) red
CXPNPP	**5**	1,7526 (mm)	1,8796 (mm)
		0,069 (in)	0,074 (in)

8. Crimping tool maintenance

No maintenance is required. However, it is good practice to keep the indenter tips free from residual deposits of the coloured band (some types of crimp contacts as per MIL standards are identified by coloured bands in the crimping area) and any other debris. A metal brush may be used for this purpose.
The following is strongly recommended

1 DO NOT immerse the tools in a solution to clean them.
2 DO NOT brush oil in the tools to lubricate them.
3 DO NOT try to disassemble the tool or repair it.

This is a high-precision crimping tool and must be used as such.

Tools and accessories for crimp contacts

for contacts of inserts series:		page:
CD	(10A)	**66 - 74**
CDD	(10A)	**76 - 83**
CDC	(16A)	**104 - 106**
CCE	(16A)	**130 - 135**
CMCE	(16A)	**137 - 145**
CQE	(16A)	**168 - 173**
CQEE	(16A)	**176 - 177**
CQ	(10A/16A)	**186 - 193**
CX 8/24	(16A/10A)	**194**
CX 6/**36** *	(10A)	**198**
CX 12/**2** *	(10A)	**199**
CX 6/**6** *	(16A)	**206**
MIXO	(10A/16A)	**271 - 306**

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

stripping and crimping machine

insertion tool - removal tools replacement tip

CCPR RN

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 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts for **10A** contacts (CD) [1]		**CCES**
for **16A** contacts (CX) [2]		**CQES**
replacement tip for CCES removal tool		**CCPR RN**

[1] for CQ, CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] 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 mm² (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 (mm²)	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 left/right	0,5 mm / 1,0 mm						0,5 mm / 1,0 mm				
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 (mm²)	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

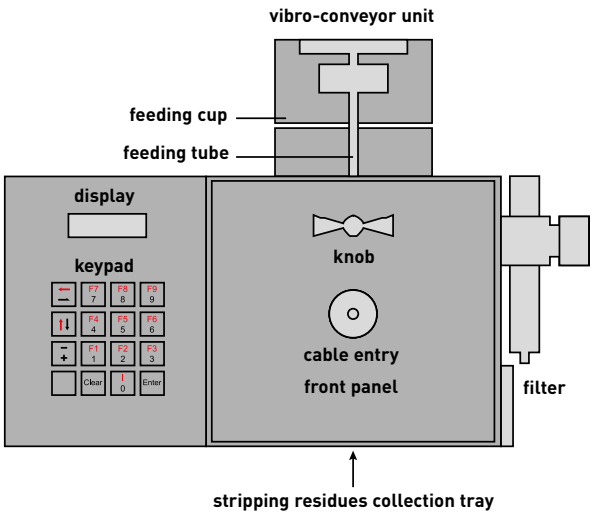
Supplied with the following accessories:

- 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 mm² cables
- 1 wire holder for 0,5 to 1,5 mm² cables
- 1 wire holder for 2,5 mm² 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 mm² (AWG 26) to 2,5 mm² (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 mm² 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 immerged 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.

Tools and accessories for crimp contacts

for 10 A, 16 A and 40 A SI stamped contacts of inserts series **page:**

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

pneumatic crimping tool

insertion tool - removal tools replacement tip

CCPR RN

description	part No.	part No.
pneumatic crimping tool for **10 A, 16 A and 40 A** contacts RENNSTEIG CM 25-3 model. Locator and pedal footswitch included.	**CCPZP RN**	
insertion tool for insertion of the contacts into the inserts for crimped contacts up to 0,75 mm²		**CCINA**
removal tools for the extraction of contacts from the inserts for **10A** (CD) contacts [1] for **16A** (CC) contacts [2] for **40A** (CX) contacts [3] and cables Ø < 5 mm for **40A** (CX) contacts [4] and cables Ø < 7,5 mm		**CCES** **CQES** **CXES** **CXES-10**
replacement tip for CCES removal tool		**CCPR RN**

[1] for CQ, CD, CDD, CX inserts (10A auxiliary contacts) and MIXO module (10A)
[2] for CQ, CQE, CQEE, CCE, CMCE inserts (excluded 16+2), MIXO module (16A), CX6/6 (16A) and CDC. For CMCE (16+2), CX inserts (contacts 16A insert CX 8/24) using a flat 3 mm screwdriver.
[3] for CX inserts (40A contacts) and MIXO module (40A)
[4] for MIXO module CX 03 4B and contacts 10 mm².

Tool technical information
- Crimping force 25 kN
- Operating pressure 6 bar
- Air requirement 0.75 l per working stroke
- Size (l x h x w): 325 x 500 x 280
- Weight: 30,5 kg

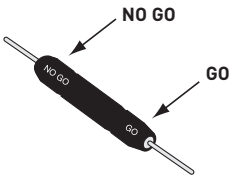
Indenter technical information
- For crimping turned male and female contacts according to MIL/SAE AS22520
- Indent settings in 0.01 mm increments, with digital setting and readout
- Electronic wear monitoring with warning function
- Setting functions in mm and inch

Digital indenter with incorporated positioner

"go / no go" control gauge

- A tool used to periodically check that the crimping tool meets standard requirements.

CCPNP RN



Gauge	tool selector pos. No.	Ø A GO	Ø B NO GO
CCPNP RN	**2,00 (mm)**	1,94 (mm)	2,06 (mm)

Tool adjustment
The reference matrix on the crimping tool indicates the correct seat of the positioner (POS M1, F2, M3, F4, M5, F6) to select, and the crimping depth (SET) to adjust for the contact to be crimped.

Positioner seat = M1 (male) - F2 (female)

CDMA/D (male) CDFA/D (female)	Section (mm²)	Crimp depth (mm)
0,3	0,14 0,25 0,37	1,3
0,5	0,5	1,55
0,7	0,75	1,55
1,0	1,0	1,55
1,5	1,5	1,55
2,5	2,5	1,55

Positioner seat = M3 (male) - F4 (female)

CCMA/D (male) CCFA/D (female)	Section (mm²)	Crimp depth (mm)
0,3	0,14	1,2
0,3	0,25-0,37	1,3
0,5	0,5	1,55
0,7	0,75	1,55
1,0	1,0	1,55
1,5	1,5	1,8
2,5	2,5	1,8
3,0	3,0	1,9
4,0	4,0	2,0

Positioner seat = M5 (male) - F6 (female)

CXMA/D (male) CXFA/D (female)	Section (mm²)	Crimp depth (mm)
1,5	1,5	1,55
2,5	2,5	1,8
4,0	4,0	2,0
6,0	6,0	2,5
10,0	10,0	2,3