

Operating instructions Order no. SF-Z0043 • Pneumatic tabletop crimping tool for machined contacts

General

The pneumatic crimping tool SF-Z0043 is used for crimping the machined Coninvers crimp contacts in the list below. The machine may only be operated with the 4-armor crimping units qualified by Coninvers. The crimp settings have been calculated on the basis of the withdrawal forces stated in DIN EN 60352-2 and by using a reference conductor. **Depending on the conductor used, the required crimp settings can differ from the values stated.**

Compressed-air supply and commissioning

- Before commissioning and connecting the crimping device to the compressed air supply, it must be set up on an even surface. The machine can be set to the desired working position, both parallel as well as at an angle to the support, by means of the height-adjustable feet.
- The crimping tool can be connected to the compressed air supply via a quick coupling. The built-in compressed air limiter is set in the factory and limits the pressure to a maximum of 6 bar. An operating pressure under 6 bar leads to control problems, loss of machine performance, and can negatively influence the crimping result. **The optimum operating pressure is 6 bar (dry compressed air, lubricated and filtered).**
- **Caution: Before connecting to the compressed air supply, remove the wrench from the square nut of the support. Never work on components which are under pressure.**

Changing the 4-armor crimping unit

On delivery, the crimping tool is already equipped with a four-armor crimping unit, adapted to suit the crimp contacts and optimized with regard to the cross section of the Coninvers crimp contacts. If it should be necessary to change the four-armor crimping unit, please proceed as follows:

- The machine is in its original condition, the crimp opening of the four-armor crimping unit is facing the user.
- Disconnect the air supply with the cutoff valve (Fig. 1) via the quick coupling of the machine. (When the cutoff valve is open, the cutoff valve handle is horizontal).
- Vent the machine via the reset button (Fig. 2).
- Unscrew the clamping screw of the transmission bolt (Fig. 3) from the piston and remove.
- Loosen the adapter (3A) with a size 2.5 hexagon socket wrench and turn the four-armor unit 90° to the front (set screw points toward the user).
- Loosen the piston protection on both sides with a size 2.5 (3B) hexagon socket wrench. It must be possible to move it.
- Pull the four-armor crimping unit out of the adapter in the direction of the arrow by loosening the clamping screws (3C) with the size 2.5 hexagon socket wrench (3D).
- The four-armor crimping unit is installed following these steps in the opposite order.

After changing the four-armor crimping unit, it might be necessary to readjust the strike of the machine; the four-armor crimping unit must be installed in the machine for the purpose.

- Move the piston to the lower dead center by means of the square nut of the support with the size 12 wrench and fix it in place by hand (hand remains holding the wrench on the square nut).
- Loosen the size 2.5 pressure screw on the adjusting ring (Fig. 5); the adjusting ring can be set. Turn the adjusting ring by hand to the right (piston moves downward) until you feel noticeable resistance.
- Take the pressure off the support; slightly raise the size 12 wrench on the square nut of the support; the adjusting

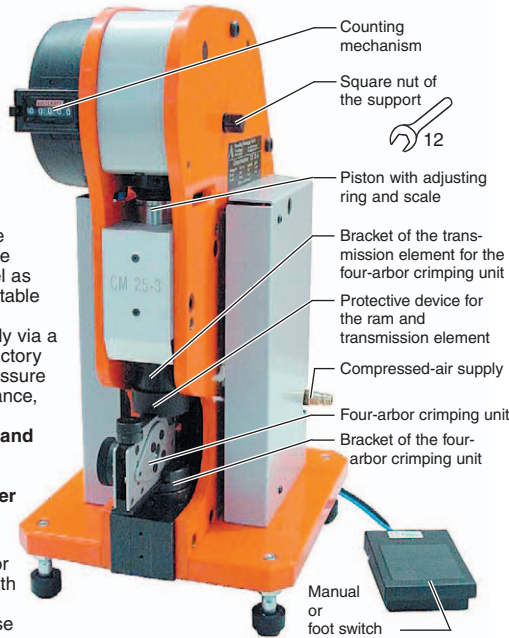


Fig. 1: Compressed air connection with cutoff valve and pressure reducing valve



Fig. 2: Reset button

- ring must remain visible.
- Tighten the adjusting ring using a suitable tool (e.g., hexagon socket screwdriver) by ½ turn; use the special holes in the adjusting ring to do this (Fig. 5).
- Fix the adjusting ring by tightening the pressure screw (Fig. 5).
- Close the cutoff valve (Fig. 1), connect compressed air line to the quick coupling (Fig. 1).
- Open the cutoff valve.
- The machine automatically moves to the upper dead center and is ready for operation.
- **Caution: Before connecting to the compressed air supply, the wrench must be removed from the square nut of the support. Never work on components which are under pressure.**

Setting the crimping parameters

Check the gauge precision

- Open the cutoff valve (Fig. 1). The four-armor crimping unit moves to its original position; the machine is ready for operation.
- Set the gauge dimension (1 or 2 mm) with the adjusting screw (Fig. 3) as per four-armor crimping unit. Please note that a larger crimping dimension must always be selected than that to be set, e.g. select 2.2 mm and adjust down to crimping dimension 2.0 mm.
- Trigger the machine by actuating the manual/foot switch and keep this switch pressed.
- Insert the gauge between the crimp arbors; the following applies here: The gauge must be able to be moved without play between the crimp arbors (Fig. 4).
- If the crimping dimension check shows that the four-armor crimping unit is outside the accepted tolerance of the crimp contacts, please contact the manufacturer to have it checked.
- **Caution: Do not crimp the gauge. This could cause damage to the four-armor crimping unit.**

Crimp gauge setting and locator position

- The required crimping parameters can be found in the setting matrix below.
- Put the locator in the desired position by lifting from the side and turning (Fig. 4).
- The crimp arbor depth (clockwise: crimping dimension reduced, counterclockwise: crimping dimension increased) is adjusted by turning the adjusting screw (Fig. 3). Here, the following applies: Every graduation mark on the adjusting screw is 0.01 mm, so that when the adjusting screw is turned one full turn, a feed of 20/100 mm (2/10 mm) is realized. The values can be read off of a scale on the four-armor crimping unit (Fig. 3).

Crimping operation

Precondition: That all previously described points were observed and, if necessary, completed in accordance with these operating instructions.

- Align the four-armor crimping unit to suit the working conditions; to do so, loosen the adapter (3A) with a size 3 hexagon socket wrench and fix in place again.
- Open the cutoff valve (Fig. 1). The four-armor crimping unit moves to its original position; the machine is ready for operation.
- Insert and position the machined crimp contact into the crimping recess.
- Insert the prepared cable as far as it will go in the crimp contact.
- Actuate the manual/foot switch to trigger the working stroke. After the crimping operation, release the manual/foot switch so that the machine can return to its original position.
- Remove the crimped contact.
- Visual inspection and test of crimp connection: The 4-armor (8-point) crimp form must be clearly shaped. Deviations (e.g. missing crimping points) are indications of faulty crimping. In such a case, the four-armor crimping unit must be examined immediately to find the cause of error. **Caution: Noticeably faulty crimpings are to be discarded.**

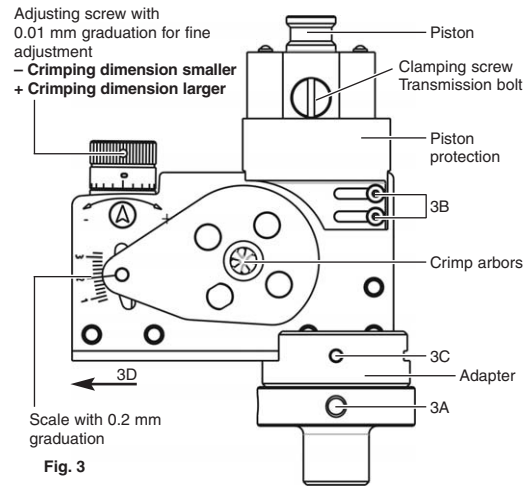


Fig. 3

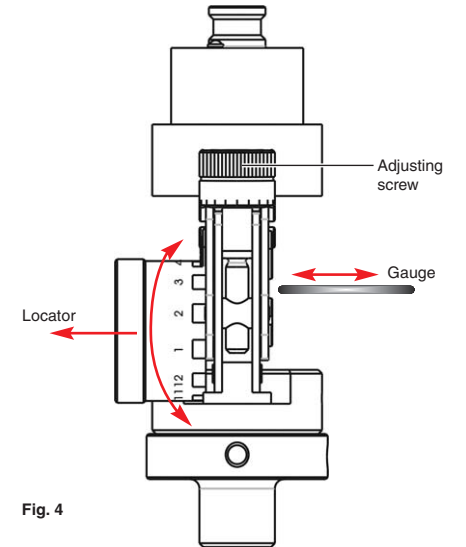


Fig. 4

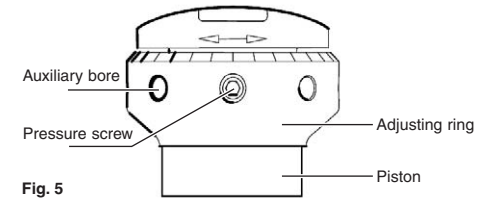


Fig. 5

Maintenance and repair

The pneumatic crimping tool works maintenance-free. The machine must be clean and in good order before starting work. Any residue from the crimping process must be removed from the crimping arbors and locator. **Repair work on the crimping pliers may only be carried out by the manufacturer.**

Technical Data

| | | | | | |
|---------------------------------|---------|---|--------------------|-------|--|
| W x H x D | [mm] | 325 x 500 x 280 | Weight | [kg] | approx. 30 |
| Crimping force | [kN] | 25 (at 6 bars of op. pressure) | Crimping time | [s] | < 1 |
| Continuous sound pressure level | [dB(A)] | < 70 | Operating pressure | [bar] | 6 |
| Compressed air requirement | | 0,75 l/working stroke (at 6 bars of op. pressure) | | | (compressed air dry, oiled and filtered) |

Causes of malfunctions and their remedies

| Malfunction | Possible cause | Malfunction remedy |
|--|---|--|
| Crimp is not completed | Pressure in the pneumatic system is incorrect | Close cutoff valve (Fig. 1), press RESET (Fig. 2), open pressure reducing valve max. (Fig. 1), check pressure in system (designed for 6 bar) |
| | Foreign object in the four-arbor crimping unit | Close cutoff valve (Fig. 1), press RESET (Fig. 2), and, if necessary, remove the four-arbor crimping unit as described and clean |
| | Use of a crimp contact not approved for the used four-arbor crimping unit | Close cutoff valve (Fig. 1), press RESET (Fig. 2), select approved crimp contact. |
| Crimping dimension is not achieved when testing with the gauge | Wear or faulty four-arbor crimping unit | Send the four-arbor crimping unit to the manufacturer for examination |
| | Stop incorrectly set | Set the stop as described |

| Order No. Contact | Plug-in Ø [mm] | | Cross section [mm ²] | Total length [mm] | Conductor insert Ø [mm] | Stripping length [mm] | Setting parameters | |
|----------------------|----------------|--------|----------------------------------|-------------------|-------------------------|-----------------------|--------------------|-----------------------------|
| | Pin | Socket | | | | | Locator | Crimping arbor setting [mm] |
| SF-6AP2000 | 1 | | 0.14 | 20.8 | 2.0 | 4.5 | 8 | 0.73 |
| SF-6AP2000 | 1 | | 0.25 | 20.8 | 2.0 | 4.5 | 8 | 0.77 |
| SF-6AP2000 | 1 | | 0.35 | 20.8 | 2.0 | 4.5 | 8 | 0.85 |
| SF-6AP2000 | 1 | | 0.50 | 20.8 | 2.0 | 4.5 | 8 | 0.88 |
| SF-6AP2000 | 1 | | 0.75 | 20.8 | 2.0 | 4.5 | 8 | 0.97 |
| SF-6AP2000 | 1 | | 1.00 | 20.8 | 2.0 | 4.5 | 8 | 1.06 |
| SF-6AS2000 | | 1 | 0.25 | 14.2 | 2.0 | 4.5 | 9 | 0.77 |
| SF-6AS2000 | | 1 | 0.35 | 14.2 | 2.0 | 4.5 | 9 | 0.85 |
| SF-6AS2000 | | 1 | 0.50 | 14.2 | 2.0 | 4.5 | 9 | 0.92 |
| SF-6AS2000 | | 1 | 0.75 | 14.2 | 2.0 | 4.5 | 9 | 1.01 |
| SF-6AS2000 | | 1 | 1.00 | 14.2 | 2.0 | 4.5 | 9 | 1.11 |
| SF-6CP2000 | 1 | | 0.08 | 20.8 | 1.6 | 4.5 | 8 | 0.69 |
| SF-6CP2000 | 1 | | 0.14 | 20.8 | 1.6 | 4.5 | 8 | 0.76 |
| SF-6CP2000 | 1 | | 0.25 | 20.8 | 1.6 | 4.5 | 8 | 0.79 |
| SF-6CS2000 | | 1 | 0.08 | 14.2 | 1.6 | 4.5 | 9 | 0.69 |
| SF-6CS2000 | | 1 | 0.14 | 14.2 | 1.6 | 4.5 | 9 | 0.76 |
| SF-6CS2000 | | 1 | 0.25 | 14.2 | 1.6 | 4.5 | 9 | 0.79 |
| SF-10KP004 | 1 | | 0.14 | 20.8 | 1.8 | 4.5 | 8 | 0.90 |
| SF-10KP004 | 1 | | 0.25 | 20.8 | 1.8 | 4.5 | 8 | 0.93 |
| SF-10KP004 | 1 | | 0.35 | 20.8 | 1.8 | 4.5 | 8 | 0.95 |
| SF-10KP004 | 1 | | 0.50 | 20.8 | 1.8 | 4.5 | 8 | 0.98 |
| SF-10KS004 | | 1 | 0.14 | 14.25 | 1.8 | 4.5 | 9 | 0.73 |
| SF-10KS004 | | 1 | 0.25 | 14.25 | 1.8 | 4.5 | 9 | 0.76 |
| SF-10KS004 | | 1 | 0.35 | 14.25 | 1.8 | 4.5 | 9 | 0.80 |
| SF-10KS004 | | 1 | 0.50 | 14.25 | 1.8 | 4.5 | 9 | 0.84 |
| SF-10KS010 | | 1 | 0.14 | 14.25 | 2.0 | 4.5 | 9 | 0.73 |
| SF-10KS010 | | 1 | 0.25 | 14.25 | 2.0 | 4.5 | 9 | 0.76 |
| SF-10KS010 | | 1 | 0.35 | 14.25 | 2.0 | 4.5 | 9 | 0.80 |
| SF-10KS010 | | 1 | 0.50 | 14.25 | 2.0 | 4.5 | 9 | 0.83 |
| SF-10KS010 | | 1 | 0.75 | 14.25 | 2.0 | 4.5 | 9 | 0.90 |
| SF-10KS010 | | 1 | 1.00 | 14.25 | 2.0 | 4.5 | 9 | 0.98 |
| SF-7MP2000 | 2 | | 4.0 | 25.2 | 2.85 | 8 | 7 | 1.67 |
| SF-7MS2000 | | 2 | 4.0 | 25.5 | 4.5 | 8 | 4 | 1.66 |
| SF-7NS2000 | | 2 | 0.75 | 25.5 | 3.8 | 8 | 4 | 1.39 |
| SF-7NS2000 | | 2 | 1.00 | 25.5 | 3.8 | 8 | 4 | 1.42 |
| SF-7NS2000 | | 2 | 1.50 | 25.5 | 3.8 | 8 | 4 | 1.48 |
| SF-7PP2000 | 2 | | 0.14 | 25.2 | 1.5 | 8 | 7 | 0.75 |

Depending on the conductor used, the required crimp settings can differ from the values stated.

| Order No. Contact | Plug-in Ø [mm] | | Cross section [mm ²] | Total length [mm] | Conductor insert Ø [mm] | Stripping length [mm] | Setting parameters | |
|----------------------|----------------|--------|----------------------------------|-------------------|-------------------------|-----------------------|--------------------|-----------------------------|
| | Pin | Socket | | | | | Locator | Crimping arbor setting [mm] |
| SF-7PP2000 | 2 | | 0.25 | 25.2 | 1.5 | 8 | 7 | 0.80 |
| SF-7PP2000 | 2 | | 0.35 | 25.2 | 1.5 | 8 | 7 | 0.97 |
| SF-7PP2000 | 2 | | 0.50 | 25.2 | 1.5 | 8 | 7 | 1.00 |
| SF-7PP2000 | 2 | | 0.75 | 25.2 | 1.5 | 8 | 7 | 1.10 |
| SF-7PP2000 | 2 | | 1.00 | 25.2 | 1.5 | 8 | 7 | 1.15 |
| SF-7PS2000 | | 2 | 0.25 | 25.5 | 3.3 | 8 | 4 | 0.92 |
| SF-7PS2000 | | 2 | 0.35 | 25.5 | 3.3 | 8 | 4 | 0.94 |
| SF-7PS2000 | | 2 | 0.50 | 25.5 | 3.3 | 8 | 4 | 0.96 |
| SF-7PS2000 | | 2 | 0.75 | 25.5 | 3.3 | 8 | 4 | 0.99 |
| SF-7PS2000 | | 2 | 1.00 | 25.5 | 3.3 | 8 | 4 | 1.21 |
| SF-7QP2000 | 2 | | 1.00 | 25.2 | 2.3 | 8 | 7 | 1.59 |
| SF-7QP2000 | 2 | | 1.50 | 25.2 | 2.3 | 8 | 7 | 1.64 |
| SF-7QP2000 | 2 | | 2.50 | 25.2 | 2.3 | 8 | 7 | 1.73 |
| SF-7QS2000 | | 2 | 1.00 | 25.5 | 4.3 | 8 | 4 | 1.59 |
| SF-7QS2000 | | 2 | 1.50 | 25.5 | 4.3 | 8 | 4 | 1.64 |
| SF-7QS2000 | | 2 | 2.50 | 25.5 | 4.3 | 8 | 4 | 1.73 |
| SF-7RP2000 | 2 | | 0.14 | 25.2 | 0.8 | 8 | 7 | 0.83 |
| SF-7RP2000 | 2 | | 0.25 | 25.2 | 0.8 | 8 | 7 | 0.87 |
| SF-20KP004 | 2 | | 0.75 | 25.2 | 2.0 | 8 | 7 | 1.39 |
| SF-20KP004 | 2 | | 1.00 | 25.2 | 2.0 | 8 | 7 | 1.42 |
| SF-20KP004 | 2 | | 1.50 | 25.2 | 2.0 | 8 | 7 | 1.48 |
| SF-20KS010 | | 2 | 0.75 | 25.5 | 4.3 | 8 | 4 | 1.20 |
| SF-20KS010 | | 2 | 1.00 | 25.5 | 4.3 | 8 | 4 | 1.30 |
| SF-20KS010 | | 2 | 1.50 | 25.5 | 4.3 | 8 | 4 | 1.45 |
| SF-20KS010 | | 2 | 2.50 | 25.5 | 4.3 | 8 | 4 | 1.65 |
| SM-20KP005 | 2 | | 0.75 | 37.4 | 3.8 | 8 | 6 | 1.34 |
| SM-20KP005 | 2 | | 1.00 | 37.4 | 3.8 | 8 | 6 | 1.42 |
| SM-20KP005 | 2 | | 1.50 | 37.4 | 3.8 | 8 | 6 | 1.48 |
| SM-20KP006 | 2 | | 0.25 | 37.4 | 3.3 | 8 | 6 | 0.87 |
| SM-20KP006 | 2 | | 0.35 | 37.4 | 3.3 | 8 | 6 | 1.09 |
| SM-20KP006 | 2 | | 0.50 | 37.4 | 3.3 | 8 | 6 | 1.12 |
| SM-20KP006 | 2 | | 0.75 | 37.4 | 3.3 | 8 | 6 | 1.16 |
| SM-20KP006 | 2 | | 1.00 | 37.4 | 3.3 | 8 | 6 | 1.21 |
| SM-20KP007 | 2 | | 1.00 | 37.4 | 4.3 | 8 | 6 | 1.59 |
| SM-20KP007 | 2 | | 1.50 | 37.4 | 4.3 | 8 | 6 | 1.64 |
| SM-20KP007 | 2 | | 2.50 | 37.4 | 4.3 | 8 | 6 | 1.73 |
| SM-20KP008 | 2 | | 2.50 | 37.4 | 4.5 | 8 | 6 | 1.52 |
| SM-20KP008 | 2 | | 4.00 | 37.4 | 4.5 | 8 | 6 | 1.66 |
| SM-36KP001 | 3.6 | | 0.75 | 35.8 | 1.8 | 12 | 5 | 1.26 |
| SM-36KP001 | 3.6 | | 1.00 | 35.8 | 1.8 | 7 | 5 | 1.29 |
| SM-36KP002 | 3.6 | | 1.00 | 35.8 | 2.85 | 12 | 5 | 1.40 |
| SM-36KP002 | 3.6 | | 1.50 | 35.8 | 2.85 | 7 | 5 | 1.50 |
| SM-36KP002 | 3.6 | | 2.50 | 35.8 | 2.85 | 7 | 5 | 1.62 |
| SM-36KP003 | 3.6 | | 4.00 | 35.8 | 3.6 | 12 | 1 | 2.13 |
| SM-36KP003 | 3.6 | | 6.00 | 35.8 | 3.6 | 12 | 1 | 2.23 |
| SM-36KP005 | 3.6 | | 1.00 | 49.7 | 4.3 | 10 | 1 | 1.59 |
| SM-36KP005 | 3.6 | | 1.50 | 49.7 | 4.3 | 10 | 1 | 1.64 |
| SM-36KP005 | 3.6 | | 2.50 | 49.7 | 4.3 | 10 | 1 | 1.73 |
| SM-36KP006 | 3.6 | | 2.50 | 49.7 | 4.5 | 10 | 1 | 1.93 |
| SM-36KP006 | 3.6 | | 4.00 | 49.7 | 4.5 | 10 | 1 | 2.02 |
| SM-36KP008 | 3.6 | | 4.00 | 49.7 | 5.4 | 10 | 1 | 2.10 |
| SM-36KP008 | 3.6 | | 6.00 | 49.7 | 5.4 | 10 | 1 | 2.41 |
| SM-36KP009 | 3.6 | | 1.00 | 35.8 | 2.3 | 12 | 1 | 1.59 |
| SM-36KP009 | 3.6 | | 1.50 | 35.8 | 2.3 | 12 | 1 | 1.64 |
| SM-36KP009 | 3.6 | | 2.50 | 35.8 | 2.3 | 12 | 1 | 1.73 |
| SM-36KS001 | | 3.6 | 1.00 | 36.95 | 4.3 | 10 | 3 | 1.45 |
| SM-36KS001 | | 3.6 | 1.50 | 36.95 | 4.3 | 10 | 3 | 1.49 |
| SM-36KS001 | | 3.6 | 2.50 | 36.95 | 4.3 | 10 | 3 | 1.73 |
| SM-36KS002 | | 3.6 | 2.50 | 36.95 | 4.5 | 10 | 3 | 1.93 |
| SM-36KS002 | | 3.6 | 4.00 | 36.95 | 4.5 | 10 | 3 | 2.02 |
| SM-36KS003 | | 3.6 | 4.00 | 36.95 | 5.4 | 10 | 3 | 2.10 |
| SM-36KS003 | | 3.6 | 6.00 | 36.95 | 5.4 | 10 | 3 | 2.41 |

Depending on the conductor used, the required crimp settings can differ from the values stated.