

CONNECTING JOINTS FOR PROFILED CONTACT WIRES

The joint allows connection between new or new and worn contact wires without any tapering operation, assuring a uniform and continuous sliding area of the pantograph; the use of these joints also reduces intervention times to a minimum.

In addition to the laboratory tests, on line tests have shown that the joint operates satisfactorily on 180km/h lines and on lower speed lines but with strong current absorption (gradients).



CONNECTING JOINT TYPE	TORQUE RATIO Nm	GROOVED CONTACT WIRE		
		Section (mm ²)	Ø (mm)	REFERENCE STANDARD
FTGW 100	65	100	12,0	EN 50149 (Type AC-120 or Cu and CuAg 0,1)
FTGW 120		120	12,9	
FTGW 150			13,2	
		150	14,5	

The jointing process can be improved and made quicker by the perpendicular cutting of the contact wire ends to be joined using the appropriate tool:

HYDRAULIC CUTTING HEAD RH-TFC

Hydraulic RH-TFC head with interchangeable dies to perform a perfectly perpendicular cut without deformation of the wire shape (see page 35 for the selection of the available tools).



Contact wire cut with a traditional cutter

Contact wire cut with the RH-TFC hydraulic head

Hydraulic cutting head for cutting profiled contact wires and copper and aluminium ropes. Interchangeable dies cut perpendicularly and without deformation to optimise joint installation.

The use of this head simplifies the cutting operation and reduces the time needed to prepare the joint.

For use with any of the following 700 bar hydraulic pumps:

HTP, manually operated

PO 7000, foot operated

B70M-P24 portable electro-hydraulic 24V DC motor driven, powered by internal battery or external supply.

DIE SETS

A wide range of dies is available to cut most profiled contact wires or stranded conductors.

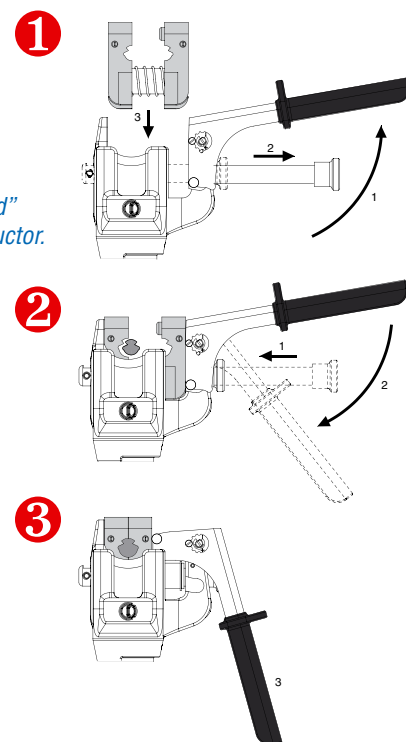


For further information contact the local Cembre office.

HYDRAULIC CUTTING TOOLS TYPE RH-TFC, HT-TFC, B-TFC2 FOR PROFILED CONTACT WIRE

Simple 3 stage operation

- ① Insert the die set into the head.
- ② Position the conductor inside the die set so that the blade lines up with the desired cutting point; close the die set by moving the locking handle towards the tool body, until automatically "locked" in position and securely clamping the wire/conductor.
- ③ Operate the pump to advance the blade to the conductor; the blade progressively advances until the conductor is completely cut in a clean and precise manner without deforming the conductor itself.



RH-TFC

- **Application:** Suitable for cutting profiled contact wires, on electrified traction systems.
- **Max operating pressure:** 700 bar (10,000 psi)
- **Dimensions:**
 - length 196 mm
 - width (locking handle closed) 159 mm
 - width (locking handle open) 257 mm
- **Weight:** 3,1 kg
- **Storage:**
Supplied in a robust plastic case **VAL P15** suitable for storage of the head and 4 sets of dies.
- Dimensions 315 x 300 x 95 mm - weight 0,93 kg



HT-TFC

Hydraulic hand operated tool.

- **Application:** see RH-TFC
- **Max operating pressure:** 600 bar
- **Dimensions:**
 - length 373 mm
 - width (locking handle closed) 159 mm
 - width (locking handle open) 257 mm
- **Weight:** 3,6 kg
- **Storage:**
Supplied in a robust plastic case **VAL P17** suitable for storage of the tool and 4 sets of dies. - Dimensions 470 x 384 x 110 mm - weight 2 kg



B-TFC2

Hydraulic battery operated tool.

- **Application:** see RH-TFC
- **Max operating pressure:** 600 bar
- **Dimensions:**
 - length 293 mm
 - width (locking handle included) 99 mm
 - height (locking handle included) 352 mm
- **Weight (including battery):** 5,3 kg
- **Storage:**
Supplied in a robust plastic case **VAL P12** suitable for storage of the tool and 3 sets of dies.
- Dimensions 496 x 370 x 137 mm - weight 2,7 kg



Available upon request:
BPS 230.14,
network power supply
(230V~50-60Hz).

BPS 230.14



CFC 12-24IC,
12V car battery charger

CFC 12-24IC



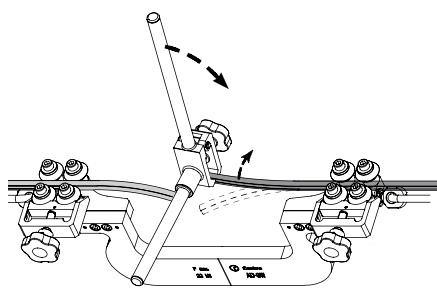
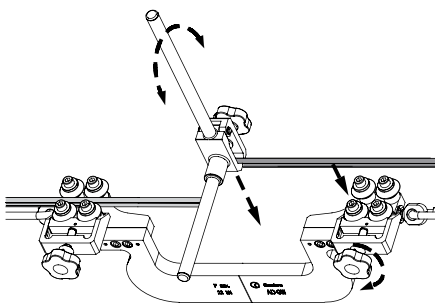
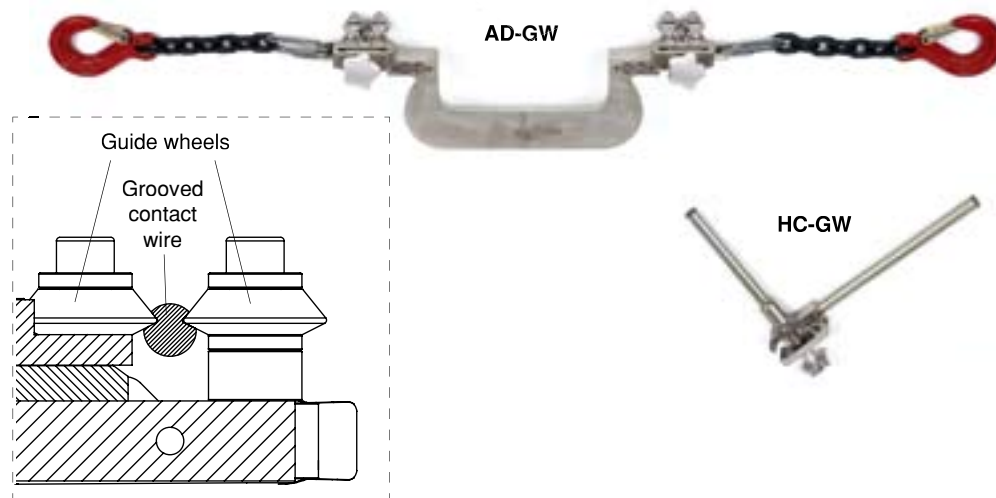
GROOVED CONTACT WIRE ALIGNMENT DEVICE DURING THE INSTALLATION OF CONNECTING JOINTS

AD-GW

This device is designed to facilitate accurate, repeatable and secure operations when aligning two grooved contact wires during the installation of connecting joints.

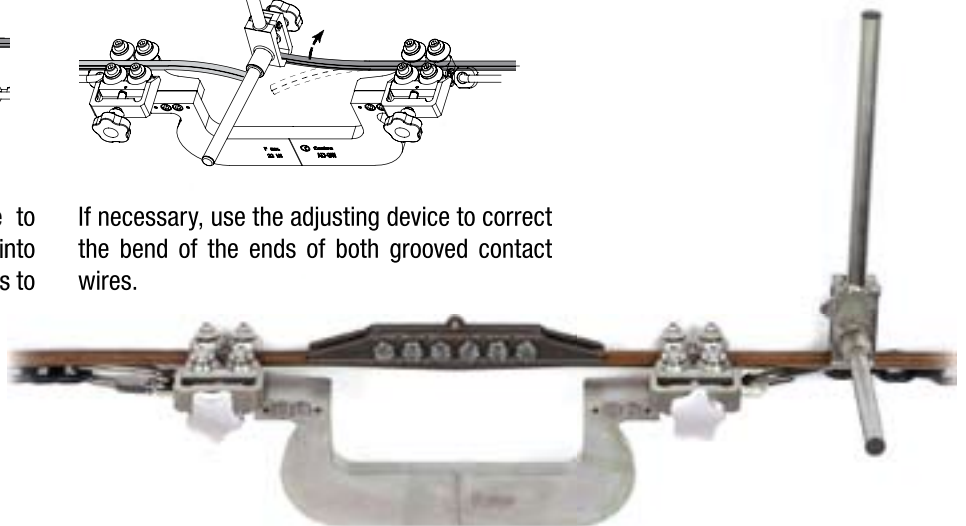
Included with **AD-GW** is the **HC-GW** device designed to simplify radial and lateral adjustment of the contact wire to ensure rapid processing.

AD-GW is equipped with hooks for easy attachment to self-gripping clamps and a Tirfor type mechanical ratchet block commonly used for tensioning contact wire in jointing operations.



By the HC-GW adjusting device you have to align the grooves of the new contact wire into the profile of the guide wheels and afterwards to tighten the AD-GW knob (on the tirfor side).

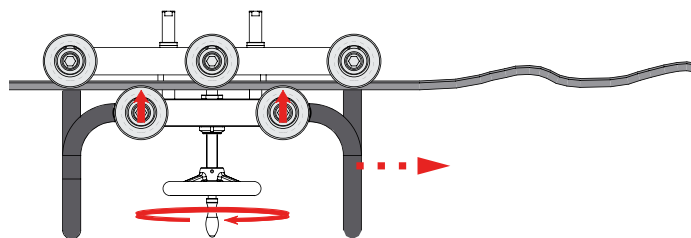
If necessary, use the adjusting device to correct the bend of the ends of both grooved contact wires.



MECHANICAL STRAIGHTENING DEVICE FOR GROOVED CONTACT WIRES

MSGW

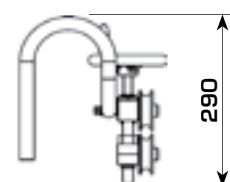
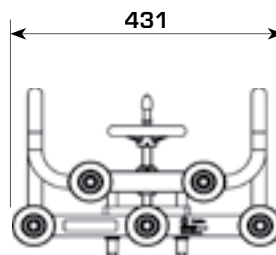
The mechanical straightening device for profiled contact wires allows the easy and continuous straightening of the most common sizes of wires for example: 100 - 120 - 150 mm².



GENERAL FEATURES:

- Dimensions mm:

- Weight: 6,8 kg



STRAIGHTENING DIE SETS FOR GROOVED CONTACT WIRES



Straightening die sets to be used with ECW-H3D hydraulic head.

By a combination of the calibrated profile of these dies and the high compression force of the press head, good results in correcting localised mis-shaping of the wire may be obtained, with only one operation.

The head can be connected to a hydraulic pump with a working pressure of 700 bar max (see page 48).

STRAIGHTNING DIE SET AVAILABLE		
CONDUCTOR SIZE	CONDUCTOR TYPE	DIE TYPE
100 mm ²	AC100 - EN50419	MSGW 100-3D
110 - 4/0 AWG	110CN - 4/0 ASTM B9-90	MSGW 110CN-4/0-3D
120 mm ²	AC120 - EN50419	MSGW 120-3D
120 mm ²	120CN	MSGW 120CN-3D
150 mm ²	BC150 - EN50419	MSGW BC150-3D
150 mm ²	BF150 - EN50419	MSGW BF150-3D
2/0 AWG	2/0 ASTM B47-95A	MSGW 2/0AWG-3D
335MCM	335MCM ASTM B9-90	MSGW 335MCM-3D
350MCM	350MCM ASTM B9-90	MSGW 350MCM-3D

