

## Ultimate COMBI

CUTTER

Ultimate CHANGER

TIP DRESSER

- Electric
- Pneumatic
- Manual

SWING ARM

Mechanical COMBI

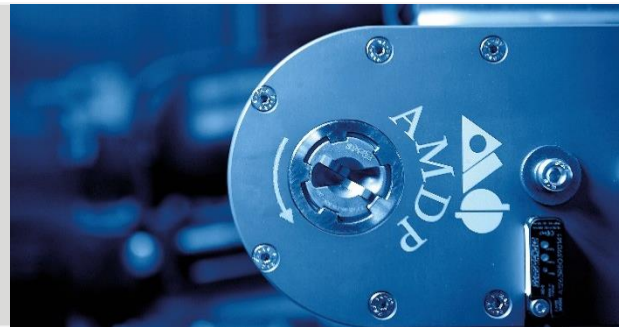
Mechanical CHANGER

DRESSING BENCH



# ULTIMATE COMBI

Tip changer and tip dresser for robot welding guns



## ULTIMATE PRODUCTIVITY



# ULTIMATE COMBI

A large industrial machine, the 'Ultimate Combi', is shown in the background. It is a tall, white, vertical machine with a red top panel. The machine has various components, including a motor, a control panel, and a base. The AMDP logo is visible on the side of the machine.

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# PRESENTATION

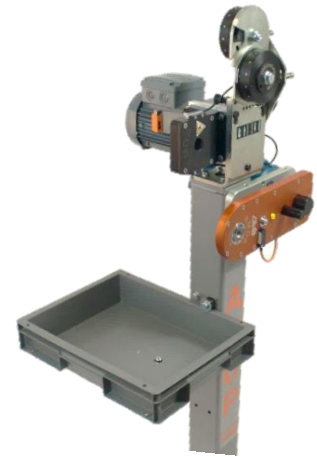
## AMDP IN THE AUTOMOTIVE INDUSTRY

AMDP is committed in offering to the automotive industry the most complete range of products dedicated to tip dressing and changing. AMDP constantly improves the performance and the value of its products to meet the needs of the automotive industry. With 30 years of experience, AMDP brings now to the market the ULTIMATE Combi, the reference in productivity for tip dressing and tip changing.

## OVERVIEW

The Combi ULTIMATE is the combination of a tip dresser and a changer. This machine is to be integrated in BIW cells in order to substantially improve productivity and reliability. It can be supplied in horizontal or vertical position.

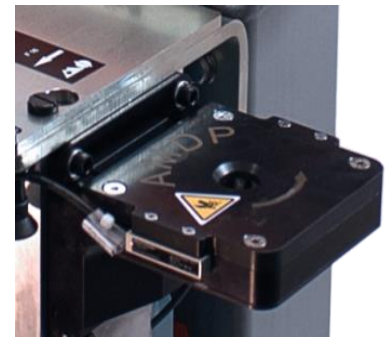
These guns may be of any size and strength.



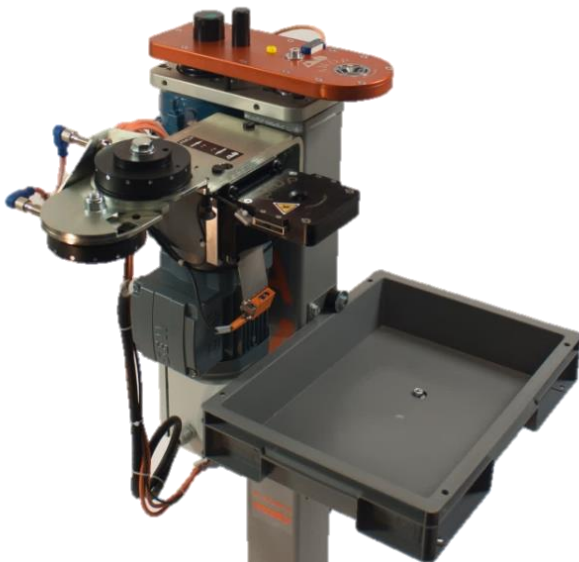
COMBI vertical version

## FEATURES

The robot approaches the electrode in the AMDP patented extractor, in less than 80° rotation the cap is « cracked » and taken off. The changer is equipped with a recharging unit for upper and lower electrodes. The AMDP extractor allows a simple robot path and enables to renew a cap set in less than 15 seconds.



Extractor AMDP patent



Charging unit for electrodes 13, 16 ou 20 mm  
Number of electrodes in the charging unit:  
Ø13: 15 caps / Ø16: 13 caps / Ø20: 10 caps





# ADVANTAGES

## PRODUCTIVITY AND CONTROL

Increase the vehicle production / hour, renewing of electrodes in less than **15 seconds** :

Control:

- Electrode sensor presence on shank
- Controlling presence of electrodes in the charging unit



## OPTIMIZATION & SECURITY

Compact dimensions of the COMBI.

Avoids operators to enter in the cell for a manual change.

## PROGRAMMING

Simple extraction path: similar to a welding point (the robot remains static).

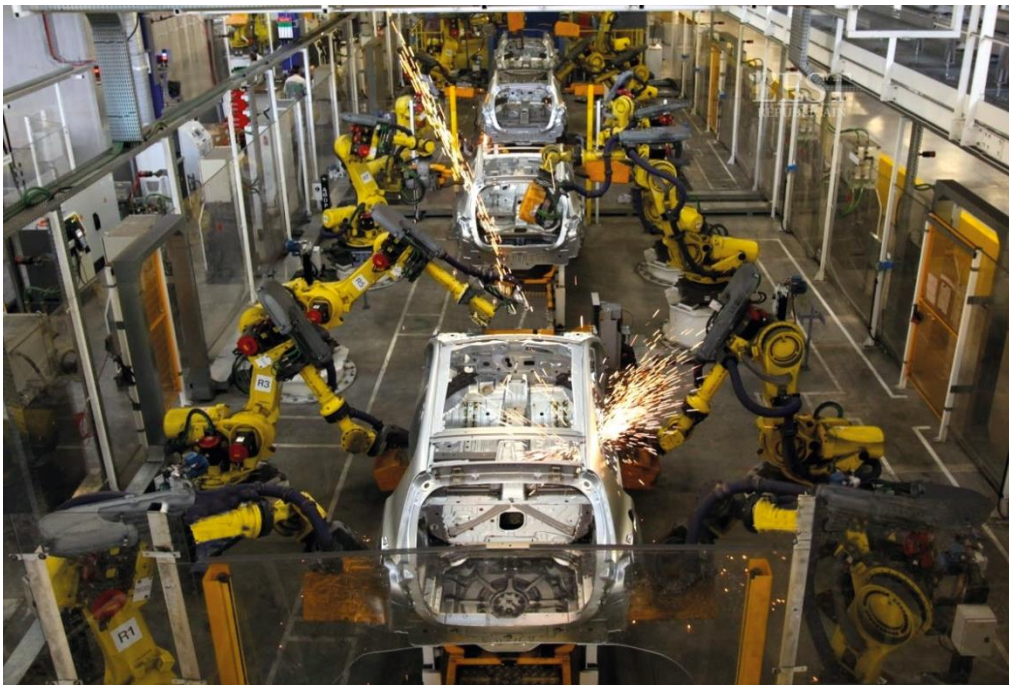
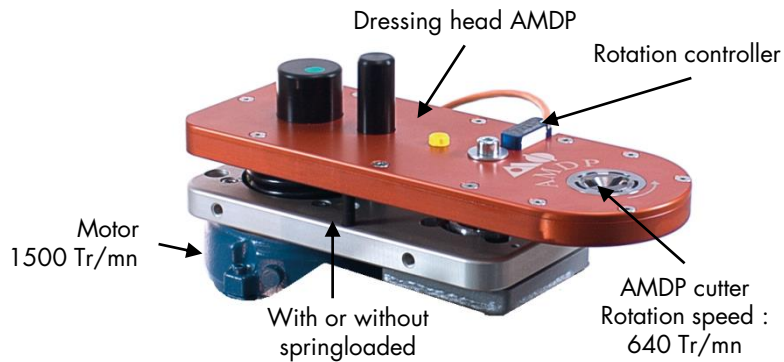
## DRESSING HEAD PERFORMANCE

With or without compliance.

Rotation speed 640tr/min

Channel chips collector included

Air-less





# MODEL NUMBER INDEX

COMBI	CHANGER	MOBILE CHANGER
COMBI47U* _ _ _ Tip changer & tip dresser	CHGF47U* _ _ _ Tip changer	CHGM47U* _ _ _ Mobil tip changer
Include : <ul style="list-style-type: none"> <li>• Tip dresser head</li> <li>• Changer</li> <li>• Extractor</li> <li>• Sensors</li> <li>• Charging unit</li> <li>• E. Box</li> <li>• Electrical motors</li> <li>• Chips collector</li> <li>• Stand</li> </ul>	Include : <ul style="list-style-type: none"> <li>• Changer</li> <li>• Extractor</li> <li>• Sensors</li> <li>• Charging unit</li> <li>• Electrical motor</li> <li>• Chips collector</li> <li>• Stand</li> </ul>	Include : <ul style="list-style-type: none"> <li>• Changer</li> <li>• Extractor</li> <li>• Sensors</li> <li>• Charging unit</li> <li>• Pneumatic motor</li> </ul>
<b>EXTRACTOR :</b> KIT-EXT-U-D13 (for caps diam. 13 mm) or KIT-EXT-U-D16 (for caps diam. 16 mm) or KIT-EXT-U-D20 (for caps diam. 20 mm)		
<b>CHARGING UNIT</b> PLAT-U-XXXXYY (XXX: upper caps – YYY: lower caps)		
		
COMBI47UST3	CHGF47UST3	CHGM47U

\* Model number defined at the order



# FEATURES

## DRESSING PARAMETERS

	Recommendation
Force (daN)	80 to 120
Time (ms)	300 to 900

## POWER CONNECTION & CONTROL ELECTRIC BOX

Voltage	200 to 580 V AC
Command	+ 24V DC
Frequence	50 Hz to 60 Hz

## EXTRACTION PARAMETERS

	Extraction torque (Nm)
Ø 13 mm	20 Nm
Ø 16 mm	25 Nm
Ø 20 mm	35 Nm to 100 Nm

## CHARGING UNIT

	Numbers of electrodes in each barrel
Ø 13 mm	15
Ø 16 mm	13
Ø 20 mm	10

## Definition of cutters, charging units and extractors



**Important :** It's essential to share with us gun drawings, the reference and / or electrode drawings to define cutters, charging units and extractors. AMDP can realize any cutter according to an electrode set. Charging unit will be produced according to the caps type. Concerning the extractor, it will be defined by the caps diameter.



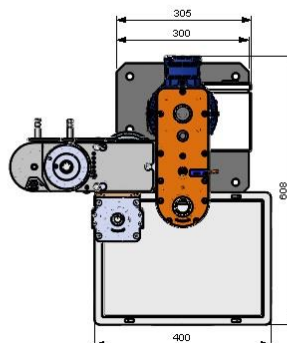
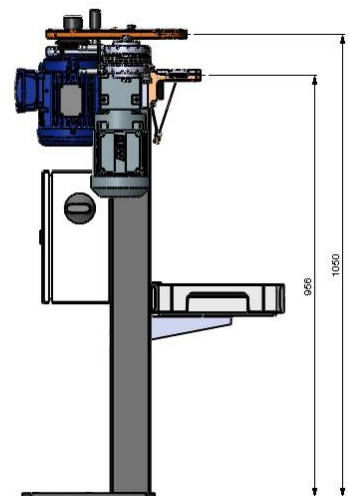
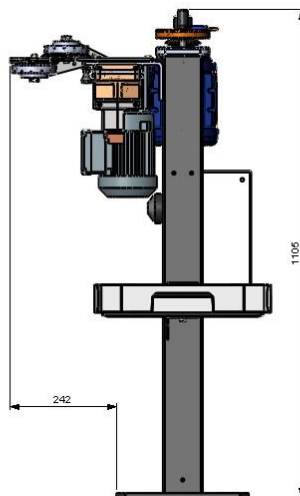
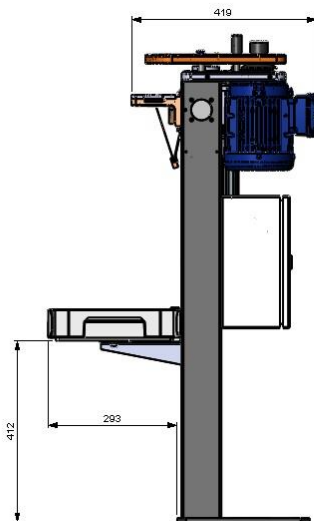
# DIMENSIONS

## HORIZONTAL POSITION

## VERTICAL POSITION



650 mm	Length	520 mm
610 mm	Width	610 mm
1100 mm	Height	1360 mm
57 Kg	Weight	57 Kg

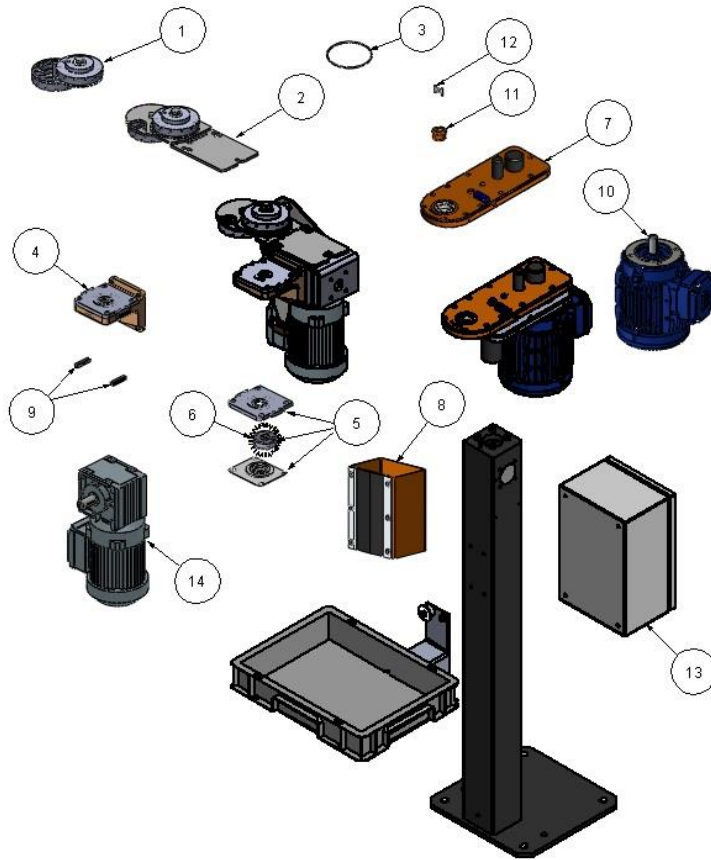


Horizontal position

*\*dimensions with a standard box*



# COMBI SPARE PARTS



1	KMAG-3X-3Y	Barrel to be defined according to the electrodes
2	PLAT-U-3X3Y	Charging unit to be defined according to the electrodes
3	JOINT-TOR 90X3 NBR	O-ring
4	TET-EXT-U-Dxx	Extractor head to be defined according to the electrodes
5	KIT-EXT-U-Dxx	Extractor kit to be defined according to the electrodes
6	EXT-U-Dxx	Extractor to be defined according to the electrodes
7	TET-2047-A1-N	Dressing head 2047
8	KIT-CAN-COP2047	Chips collector kit
9	A1263A1Q080111	Sensor extractor
10	AM4-0.752B14.G713	Dressing motor
11	FPC-ADEF	Carbide blade cutters to be defined
12	LPC-ADEF	Carbide blade set to be defined
13	COMBI-ULT2-XXX-COF	Ultimate electric box
14	MOTORED-ULT1	Extractor drive





# INSTRUCTION MANUAL

## N° AMDP COMBI

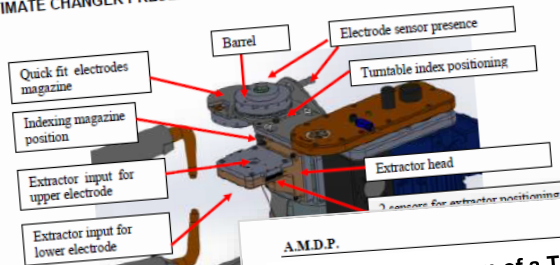
Contact us or our local partner to receive the instruction manual.



### Operating instruction

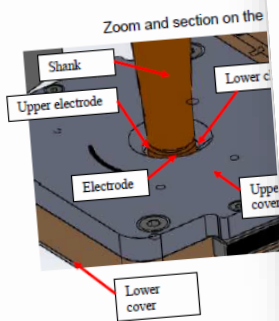
A.M.D.P.

#### ULTIMATE CHANGER PRESENTATION



#### DETAIL OF THE EXTRACTION STEP

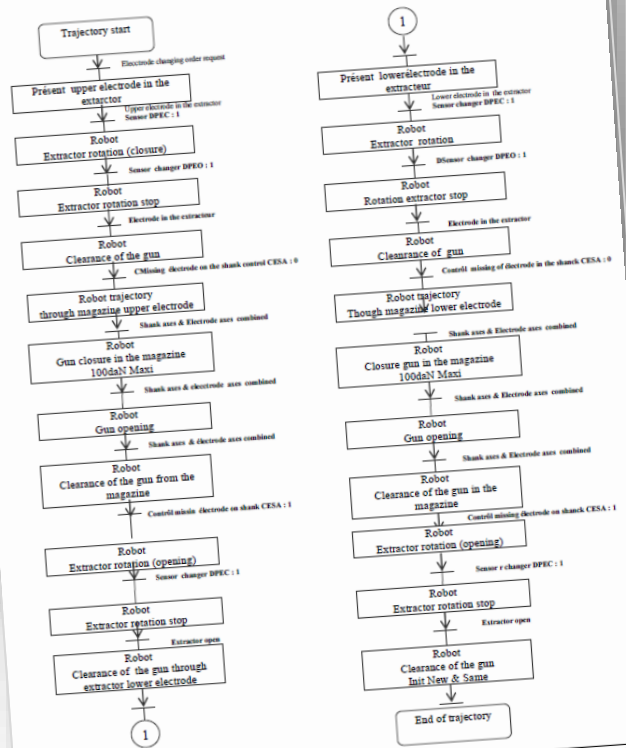
When performing the trajectory, you follow the steps below. For the lower electrode, its position is different.



When performing the trajectory, follow the steps below. For the lower electrode, its position is different. Disconnect the electrode in the extractor soon by the mobile jaw (the mobile jaw) Operating instruction

A.M.D.P.

#### Functional diagram of a Tip changing sequence





# OTHER PRODUCTS AMDP

## CUTTER



The best in class cutters: no jamming, no blowing needed even if MASTIC.  
The best cut in dimensions with no center pin. Any profile available for any tip dresser on the market.  
Dressing optimization for an optimal electrode lifetime.  
Can be with HSS or CARBURE.

## FIXED TIP DRESSER (for robot guns)

Easy integration, high speed rotation (640rpm), integrated compliance, no air needed due to our cutters. Dressing time well under a second.  
Maintenance free.  
Built on a very robust stand.  
Contact us to define your E-box.



## SWING ARM



Most reliable, easy and fast swing movement due to the unique position of the motor of the dresser. Conceived in a robust way that eliminates vibration and dresser position losses.  
Many simple adjustment possibilities. Contact us to define your E-box.  
When swing arms think embarked changer!

## ULTIMATE CHANGER

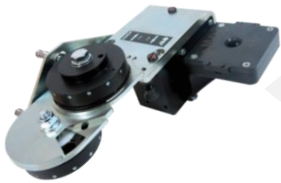
With or without its robust stand. Compact and easy to build in your lines. Can be post-assembled on your AMDP tip-dresser. Increase your productivity with a complete change cycle down to 15 seconds. Easy installation and monitoring. Contact us for your E-box. Upgrade your BIW cells!



Without stand

With stand

## ULTIMATE MOBIL CHANGER



Simple to integrate in the middle of your gripper, with its air motorization weight is under 10Kg. Same patented technology as the Ultimate Combi changer. Boost the productivity of your fix-gun BIW cells with a complete change cycle down to 15 seconds. Easy installation and monitoring, no E-box. Upgrade your BIW cells!

## CHARGING UNIT

Have extra Charging Units to prepare them off line to ensure even more productivity.



## MECHANICAL COMBI



Built on an AMDP tip-dresser, proven technology with more than 10.000 units installed world-wide. Easy to integrate, the complete change cycle is operated by the robot itself through its path with a change cycle time of 30 seconds. Upgrade your AMDP Tip dresser!

## MECHANICAL MOBIL CHANGER

To be integrated in your gripper, no energy to be provided, 3 sensors to monitor. Robust and proven technology as for the Combi with a change cycle time of 30 seconds. Upgrade your BIW cells!





# OTHER PRODUCTS AMDP



## DRESSING BENCH

Dress off-line up to 8.000 electrodes a day. Different cycles, manual or automatic. A must have beside your hand held welding guns.

## WATER PULL-UP CYLINDER

Destress your water cooling circuit before changing electrodes. Improve cell security and reduce risks and corrosion issues. Ask for our air cylinder or our patented energy free solution.

Compact and easy set to integrate.



## AIR POWER HANDHELD DEVICE (dressing gun closed)

The most powerful device on the market, dressing both electrodes while closing the gun on the cutter. Compact, robust with its full aluminium body, it uses the same cutters as all the rest of the range. Check the ability of your handheld welding gun to close without starting a welding sequence.

## AIR POWER HANDHELD DEVICE (dressing gun open)

Designed to dress electrodes one after another, low weight and delivered with a unique AMDP guiding unit to ensure parallel welding lenses on both electrodes.



## W-GUN ALIGNMENT KIT

Control the good alignment of the gun before/after electrode changing or dressing. Boost your BIW cell controls with simple solutions.

## BLOWING KIT

In some extreme cases cutter blowing is desired. Though remember AMDP cutters, thanks to its conception, does not require any blowing (chips are automatically ejected by the rotation during dressing).



For more information, please contact us or our local partner



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# AMDP GLOBAL NETWORK

## AMDP IN THE AUTOMOTIVE INDUSTRY

AMDP is committed in offering to the automotive industry the most complete range of products dedicated to tip dressing and changing.

With 30 years of experience, AMDP brings now to the market the **ULTIMATE Combi**, which is the reference in productivity for tip dressing and tip changing.



## OUR VALUES

### RELIABILITY

Best in class product  
Durability  
Performance

### PRODUCTIVITY

Increase productivity  
Production cost reduction  
Online availability

### SERVICE

Customized solutions  
Global service network  
Training center

//Authorized  
Distributor

