

Catalogue

English



RAVITEX®

powered by

SINTERLEGHE

Satisfy your needs. Inspire our quality.

Catalogue

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Who is Sinterleghe

Leader in design, production and sales of dressers, electrodes changers and hard metal cutters to dress resistance welding electrodes.

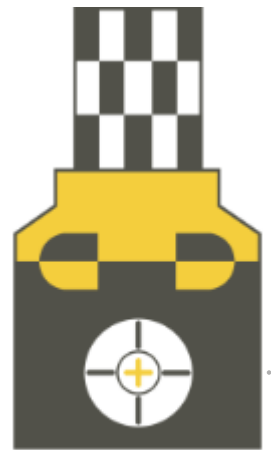
Founded by **Eugenio Tedeschi** in 1989, Sinterleghe has grown thanks to its own development of a Know-How that has allowed to diversify its offer getting to **high quality standards**.

Thanks to its persistence Sinterleghe has conceived new **design solutions** up to become **patents**. This is an added value for the company that has made innovation and technological evolution its strengths.

Today Sinterleghe is a reference partner for big international groups in the automotive production.

The whole know-how and value stream, design, production, sale, accounting is centralized at the headquarter in Anzola d'Ossola (VB), Italy.

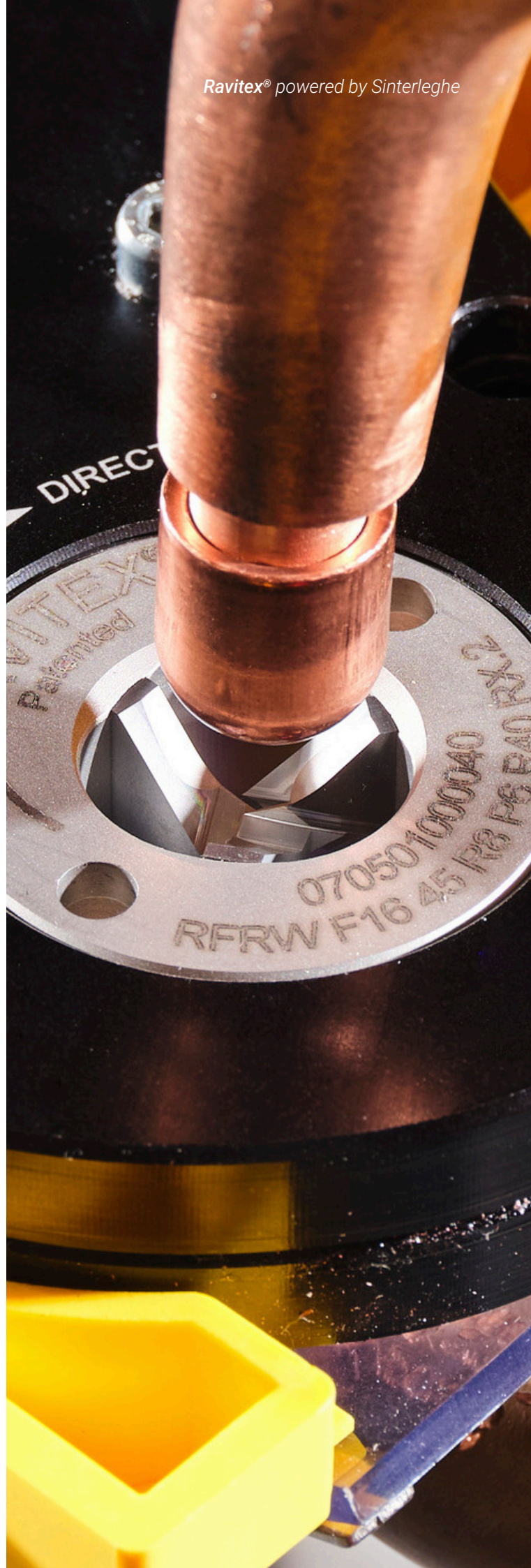
Our products, identified by the registered trademark **Ravitex®**, are sold on 4 continents through our **Ravitex® Global Network Partner**, which guarantees pre- and post-sales support.



RAVITEX®

Our products are known and used everywhere worldwide with our trademark Ravitex®

Ravitex® powered by Sinterleghe



Ravitex® powered by Sinterleghe

Lean Enterprise

Sinterleghe is a Lean Enterprise supported by enabling technologies of 4.0 industry that designs, produces and sells dressers, electrodes changers and dressing tools.

Our products, worldwide patented, are approved and purchased from the most important automotive plants and are used for the automatic change and dressing of electrodes for spot welding guns.

We have the ambition to provide, in a fast time, our partners and customers with innovative technological solutions, through high quality products.

RX.2 hard metal three blades cutter patented

Dress and polish simultaneously
Executable dressing cycles: $\geq 30\,000$



Sigma tip dresser & changer patented

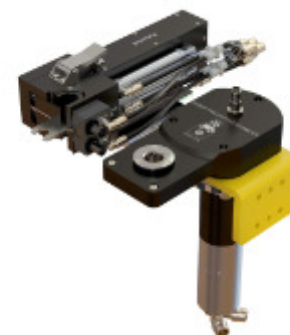
Patented gear for electrode release
Steel application: torque max 60Nm



Sigma pneumatic changer patented

Magazine capacity:

- Ø13 mm: 17+17 electrodes
- Ø16 mm: 14+14 electrodes
- Ø20 mm: 11+11 electrodes



Sigma Plus Dresser & Changer patented

The same model can be used to change the electrodes used on steel or aluminum sheets, even in the presence of glue and/or contaminated water



Why choose us as a partner

Sinterleghe puts its experience, knowledge and professionalism at customer service.

The goal is to meet the most advanced needs in the dress and change of electrodes' sector by the development of a business process re-engineering and redesign that passes through technological innovation and constant development of product and process.



Technological innovation

Our innovations have become patents, they testify to our attitude towards research and development aimed at anticipating and meeting the needs of our customers



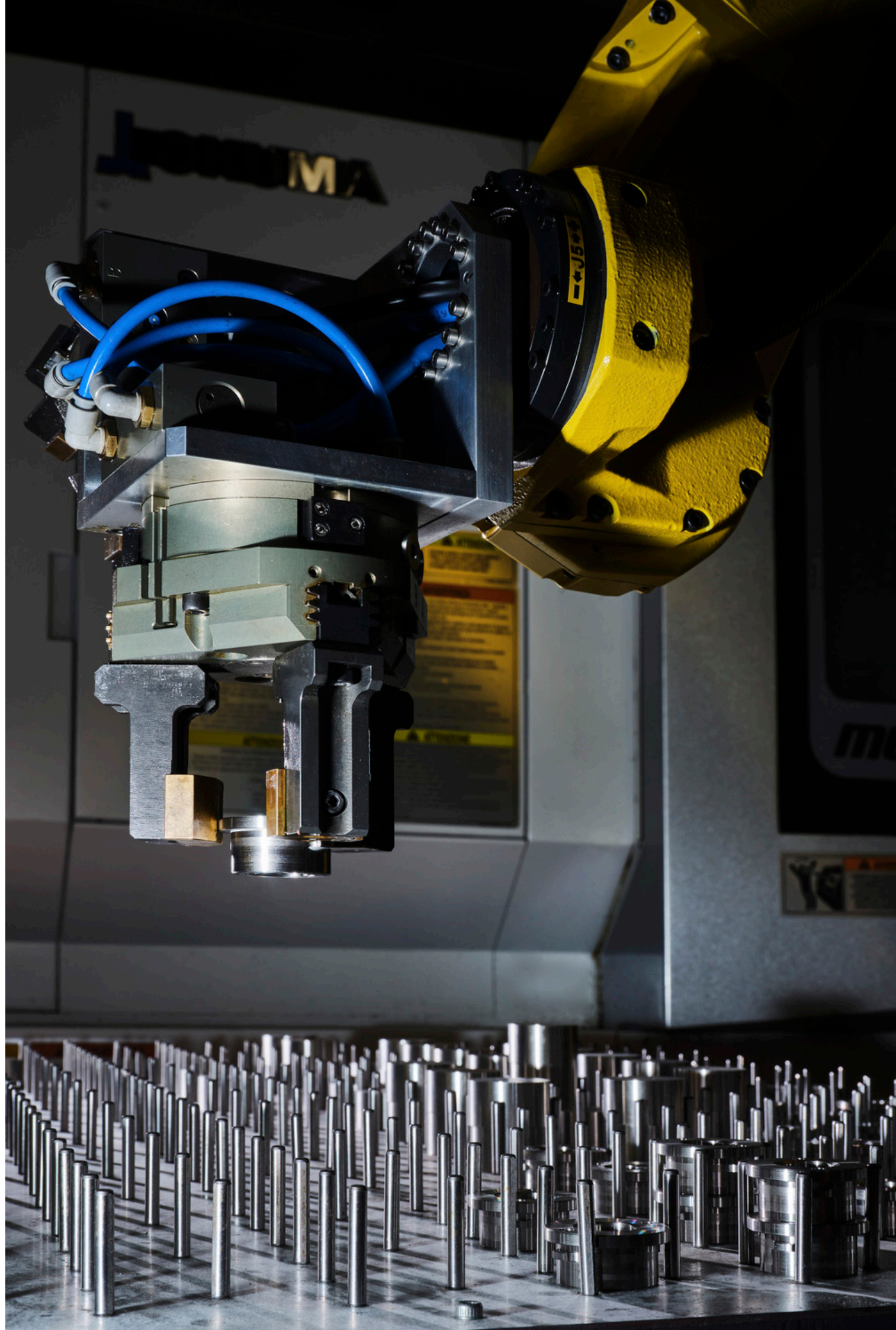
Experience and know-how

For over 30 years we have been listening to the major global automotive players' needs and we have acquired the know-how to evolve application in the dressing field and automatic electrodes change



High quality

Ravitex® products satisfy the most advanced quality requirements of dressing and electrode change



Ravitex® powered by Sinterleghe

Services focused on needs

An excellent customer care is Sinterleghe focus, by offering assistance, support, training and professional advice. Our aim is to satisfy our customers and achieve the highest quality level.



Technical service

Ravitex® Global Network Partner technicians provide on-site assistance



Spare parts support

Sinterleghe offers an efficient spare parts replacement service. We respond to each customer needs efficiently and quickly, maintaining our high-quality standards. We also have stock of our components located at our branches and partners



Technical training

We organize at our headquarter courses for installation, maintenance and programming of our devices. For this purpose, at the Anzola d'Ossola headquarters, an equipped area has been set up with robots, welding guns and all Ravitex® products

Sinterleghe in numbers

**1**

Registered trademark

**2**

Branches

**9**

Worldwide patents

**10**

Authorized partners

**120**

Automotive plant supplied

**2k**

Annual production capacity of tip dressers & changers

**18k**

Hard metal cutters production capacity

**100%**

Internal machining cycles for the production of the patented RX cutters

**80%**

Internal mechanical processing for the production of dressers and electrode change

Ravitex® products

Ravitex® technology has allowed the development of innovative products that can improve the quality of the reanimated electrodes by improving the efficiency and productivity of welding lines.

The increase in production capacity of our products' quality, safety and environmental friendliness has been pursued and achieved through the implementation of lean processes supported by enabling technologies of Industry 4.0.

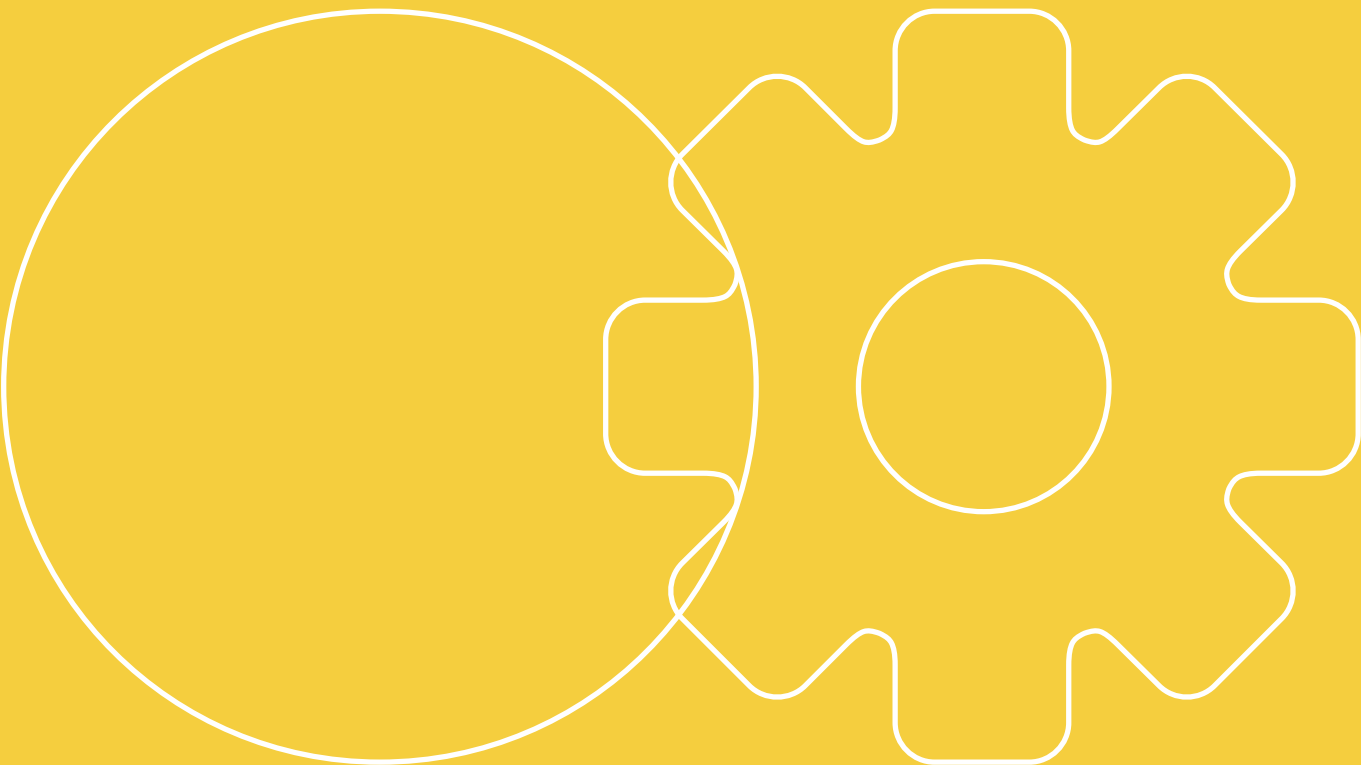
The use of CNC machines enabled for industry 4.0 supported by predictive maintenance, make it possible to maintain the quality of the products constant for small and large series.

The use of robots guarantee a high flexibility of the production capacity.

Vision



Your needs.
Our machines.



Sigma series technical specifications

Specifications	CEE - South America - Africa - Asia	China	USA
Power	0.8 kW	0.8 kW	0.8 kW
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Power supply	Y 400-415V 2A Y 400-480V 2A	Y 400 VAC 2A	Y 400-415V 2A Y 400-480V 2A
Optional power supply	/	/	Δ 230-300V 60Hz 3.46A Δ 230-225V 50Hz 3.46A
Duty cycle	S3-7%	S3-7%	S3-7%
Compressed air consumption	450 l/min at 6 bar	450 l/min at 6 bar	450 l/min at 6 bar
IP protection level	55	55	55
Pipes, fittings and solenoid valves	ISO	ISO	ISO

Sigma tip dresser



Features

- Dresser with electric engine for robotic welding guns
- Design solid and strong
- Chip suction device integrated
- Compensation system ± 30 mm
- Electric box according to the desired standard
- Horizontal/vertical configuration change without need optional parts

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise

(*) CEE standard power supply

Sigma dual tip dresser



Features

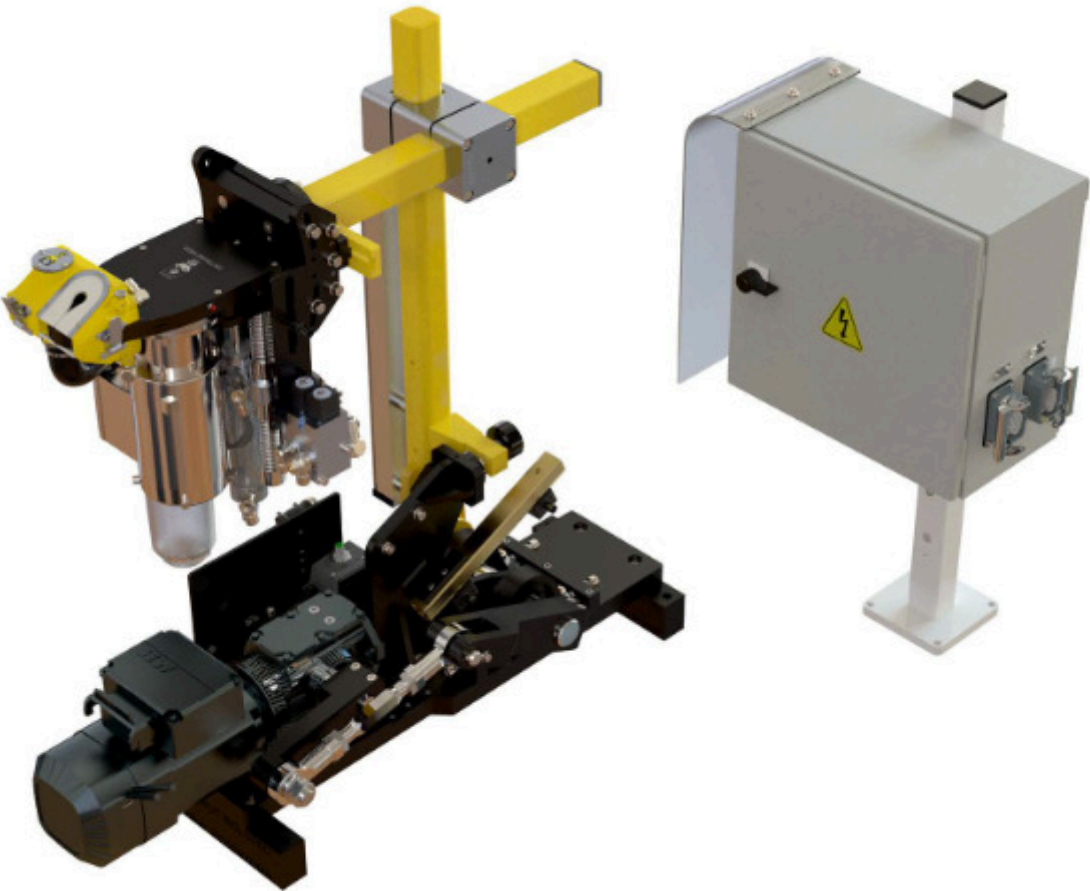
- Dresser with dual cutter gear with electric engine for robotic welding guns
- Design solid and strong
- Compensation system ± 30 mm
- Electric box according to the desired standard
- Horizontal/vertical configuration change without need optional parts

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise

(*) CEE standard power supply

Sigma swivelling tip dresser



Features

Swivelling tip dresser for stationary welding guns
Chip suction device integrated
Pneumatic compensation system ± 30 mm
Mechanical adjustment of dressing head
Electric box according to the desired standard
Versions with additional arm available for offset increase

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise

(*) CEE standard power supply

Sigma manual pneumatic tip dresser



Features

Manual tip dresser with pneumatic engine
Ergonomic
Installation of cutters with bayonet system
Simultaneous dressing of upper and lower electrode

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotation direction	Clockwise
Pneumatic power supply	6 bar

Sigma electric tip changer

Patented system



Features

Electric changer with electric engine for robotic welding guns
Design solid and strong
Compensation system \pm 30 mm
Pneumatic electrodes magazine
Container for collection of replaced electrodes
Electric box according to the desired standard
Horizontal/vertical configuration change without need optional parts

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Electrode removal system	Bidirectional
Steel application: torque release gear	Max 60 Nm

Images are representative and may be subject to change for improvements without notice

Sigma tip dresser & changer

Patented system



Features

Dresser + electrodes changer with electric engine for robotic welding
Design solid and strong
Compensation system \pm 30 mm
Chip suction device integrated
Pneumatic electrodes magazine
Container for collection of replaced electrodes
Electric box according to the desired standard
Horizontal/vertical configuration change without need optional parts

Technical data

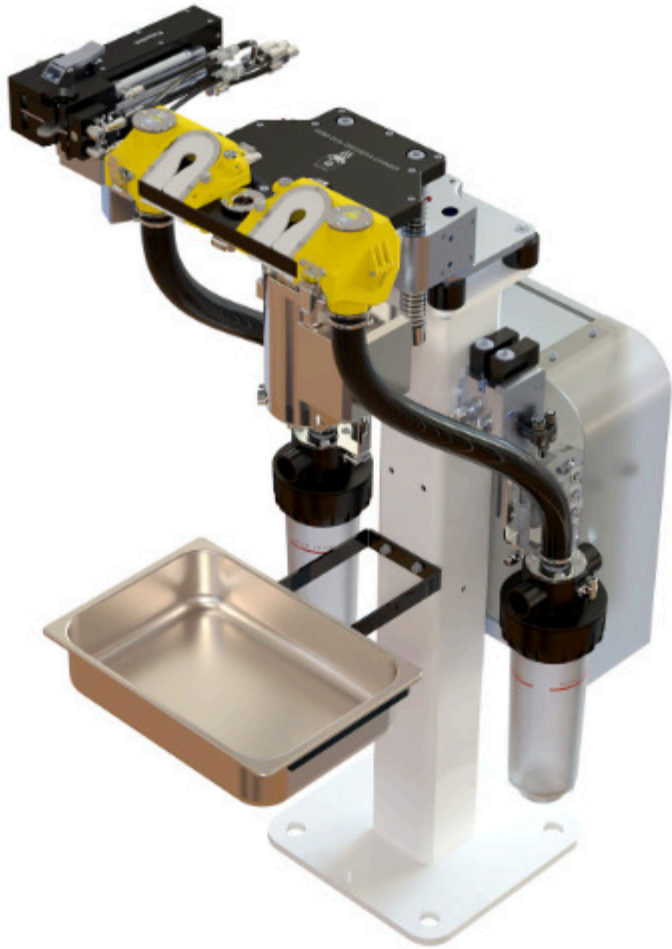
Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise
Electrode removal system	Bidirectional
Releasing gear torque	Max 60 Nm

(*) CEE standard power supply

Images are representative and may be subject to change for improvements without notice

Sigma dual tip dresser & changer

Patented system



Features

Dual dresser + electrodes changer with electric engine for robotic welding
Compensation system ± 30 mm
Chip suction device integrated
Pneumatic electrodes magazine
Container for collection of replaced electrodes
Electric box according to the desired standard
Horizontal/vertical configuration change without need optional parts

Technical data

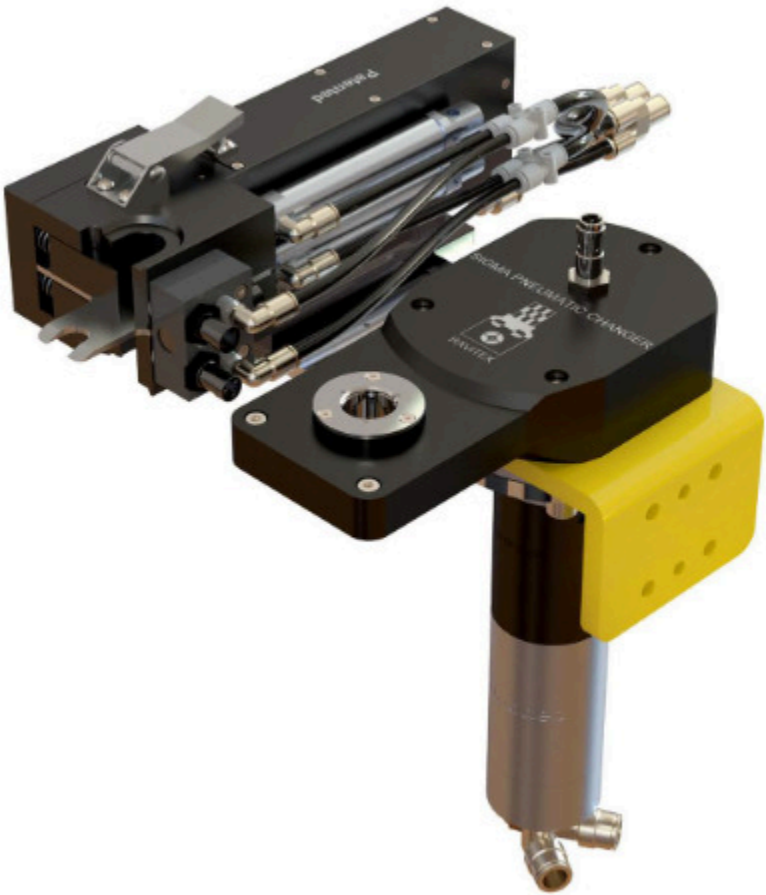
Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise
Electrode removal system	Bidirectional
Steel application: releasing gear torque	Max 60 Nm

(*) CEE standard power supply

Images are representative and may be subject to change for improvements without notice

Sigma pneumatic tip changer

Patented system



Features

Electrodes changer with pneumatic engine for stationary welding guns
Easy installation on gripper robot
Light and compact
Pneumatic electrodes magazine
High electrode release torque for any conditions of use

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Electrode removal system	Bidirectional
Releasing gear torque	Max 75 Nm

Images are representative and may be subject to change for improvements without notice

Sigma Plus Dresser & Changer

Patented system



Features

Dresser + electrodes changer with electric engine for robotic welding
Compensation system ± 30 mm
Chip suction device integrated
Pneumatic electrodes magazine
Container for collection of replaced electrodes
Electric box according to the desired standard
Horizontal/vertical configuration change without need optional parts

Technical data

Distance from the center of the gear to the end of the carter	40 mm
Carter thickness	20 mm
Cutter rotational speed	265 rpm*
Cutter rotation direction	Clockwise
Electrode removal system	Monodirectional

(*) CEE standard power supply

The same model can be used to change the electrodes used on steel or aluminum sheets, even in the presence of glue and/or contaminated water

Images are representative and may be subject to change for improvements without notice

Focus on

Patented electrodes magazine

Pneumatic activation of the electrodes with possibility of a simultaneous loading

Magazine capacity:

- Ø13 mm: 17+17 electrodes
 - Ø16 mm: 14+14 electrodes
 - Ø20 mm: 11+11 electrodes
- stored and protected until upload

Can be used with different electrode shapes at the upper and lower side

Integrated electrode/gun mounting plate

Separate loader to be charged outside the line

Self-cleaning and anti-corrosion air jet system

2 sensors to check the reserve status of the electrodes in the charger



1 sensor to detect the presence of electrodes on the welding gun

2 sensors to detect the presence of the electrodes in the loading bay

Suction system

High efficiency Venturi system with air blows integrated in the suction box

Versatility of installation in horizontal/vertical and right/left and top/bottom position

Transparent chip collector for easy visual inspection and with indicator of maximum filling level

Resistant to possible impacts

Easy ordinary maintenance



Customization

Every detail matters.
That's why Sinterleghe is recognized as an Automotive Industry Partner in the field of spot welding.

Our product portfolio can be adapted to different types of electrodes used in welding lines, to the different pneumatic and electrical specification standards and to the different regulations of each country.

The manufacturing flexibility allows a greater empathy with the customers, fulfilling the highest standards, without losing the typical efficiency of mass production processes.

That's why: Satisfy your needs. Inspire our quality.



Your needs. Our cutters.



From cutter providers to dressing masters

From 1989 we design and manufacture hard metal cutters to dress welding electrodes.

In 1994 we are the first in the world to realize a cutter able to dress a welding electrode both lateral and frontal.

In 2001 we create the **three blades** hard metal cutters.

In 2009 to complete our product range, we design and produce the standard single blade cutters in HSS coated TiN.

In 2010 we were able to create **such innovative removal peculiarities** to be able to patent them, thanks to the new 3 blades design and updates on the cutter profile.

The soft skills gained in the design and manufacture of hard metal cutters and single blade, allowed us to develop their comparative Life Cycle Cost Analysis.

From 2010 to 2022 Sinterleghe has produced and sold over 80 000 hard metal three blades cutters worldwide.

From 2009 to 2022 Sinterleghe has produced and sold over 10 000 HSS TiN coated single blade cutters and over 18 000 blades worldwide.

From January 2021 to February 2022 Sinterleghe's team has improved the performance of RX cutters through a redesign of the design process and production.

In February 2022 we bought new CNC machines enabled for Industry 4.0 to increase the production capacity of RX hard metal cutters.

We check all the functional dimensions of the hard metal RX cutters to ensure stability and repeatability in small and large series production.

The quality achieved in the production of cutters has transformed us "from cutter providers to dressing masters".

List of brands where Ravitex® RX patent EP 2193003 cutter can be installed

Europe: Sinterleghe, Aeg, Brauer, Lutz, ABB, Gem, Amdp, Exrod, Rotec-Tooling

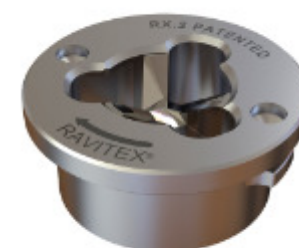
USA: Semtorq, Stillwater, Retek

Japan: Kyokutoh, Obara

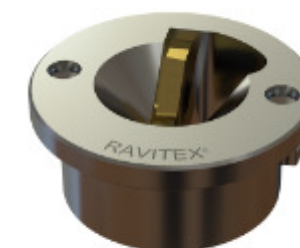
Brazil: Kappen

Korea: KDC

The hard metal three blades can be adapted to every type of bush



RX.2 hard metal three blades cutter



Single blade cutter in HSS



We use a green chain for the use of hard metal in our cutters

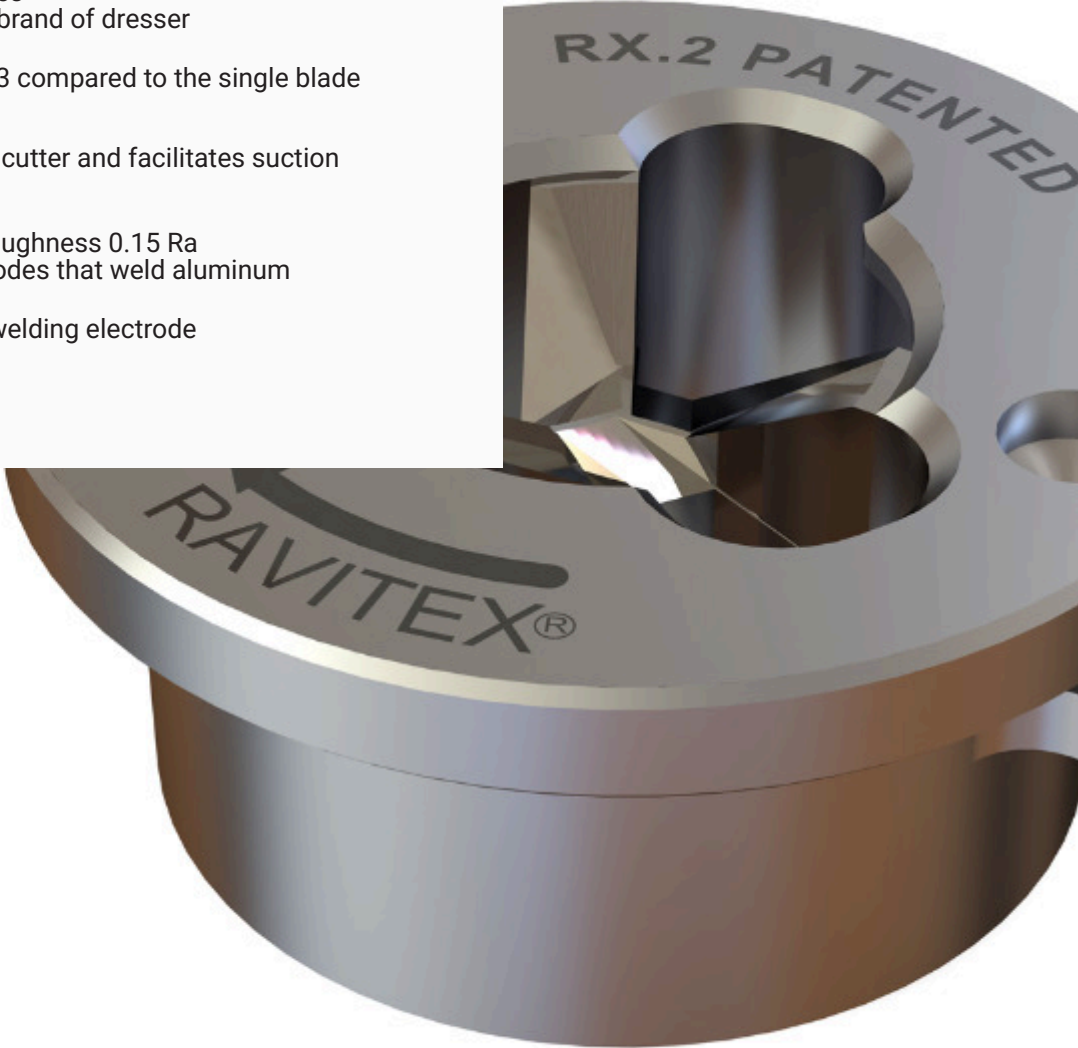
RX.2 three blades hard metal cutter patented

Excellence does not come at random. Since the 40s, Anzola d’Ossola is the Italian district known for sintering hard metal. It is here that, in 2007, collecting the legacy of a long family tradition, Sinterleghe patents the innovative hard metal three blades insert installed on the RX cutters.

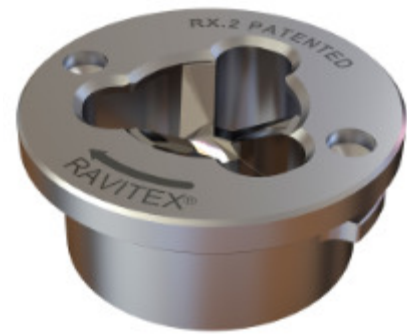
Production with CNC 4.0 machines, supported from predictive maintenance, guarantees its quality for both small and large series.

Key performance of excellence are transformed in unique Key benefits for our customers.

- Material three blades insert
 - cutter life ≥ 30 000 dressing cycles
- Hard metal three blades
 - usable with every brand of dresser
- Copper chip size is 1/3 compared to the single blade cutters
 - prevents clogging cutter and facilitates suction chip
- Dressed electrode’s roughness 0.15 Ra
 - suitable for electrodes that weld aluminum
- Dress and polish the welding electrode simultaneously



Product data sheet 070501000110



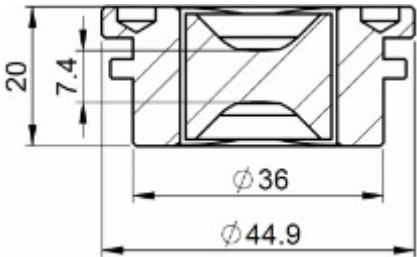
Cutter RFRW F16 45 R8 P6 R40 RX.2 Patented

Suitable to dress	Sinterleghe, Bräuer
Recommended welding gun closing force	1.3 ± 0.2 kN
Max welding gun closing force	2.5 kN
Weight	0.16 kg

3 blades in hard metal

Code to purchase:
070501000110

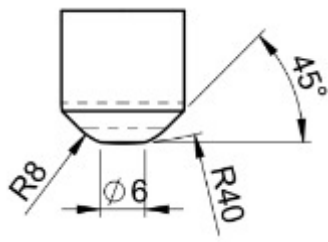
Measures:



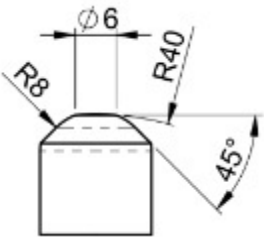
Units: mm

Shape of dressed electrode

Upper:

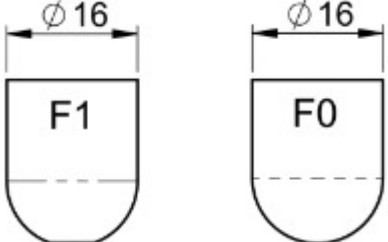


Lower:

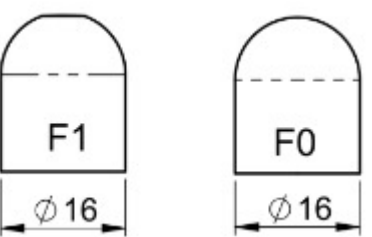


Dressable electrode shapes

Upper:



Lower:



ISO Standard 5821
39D 1978

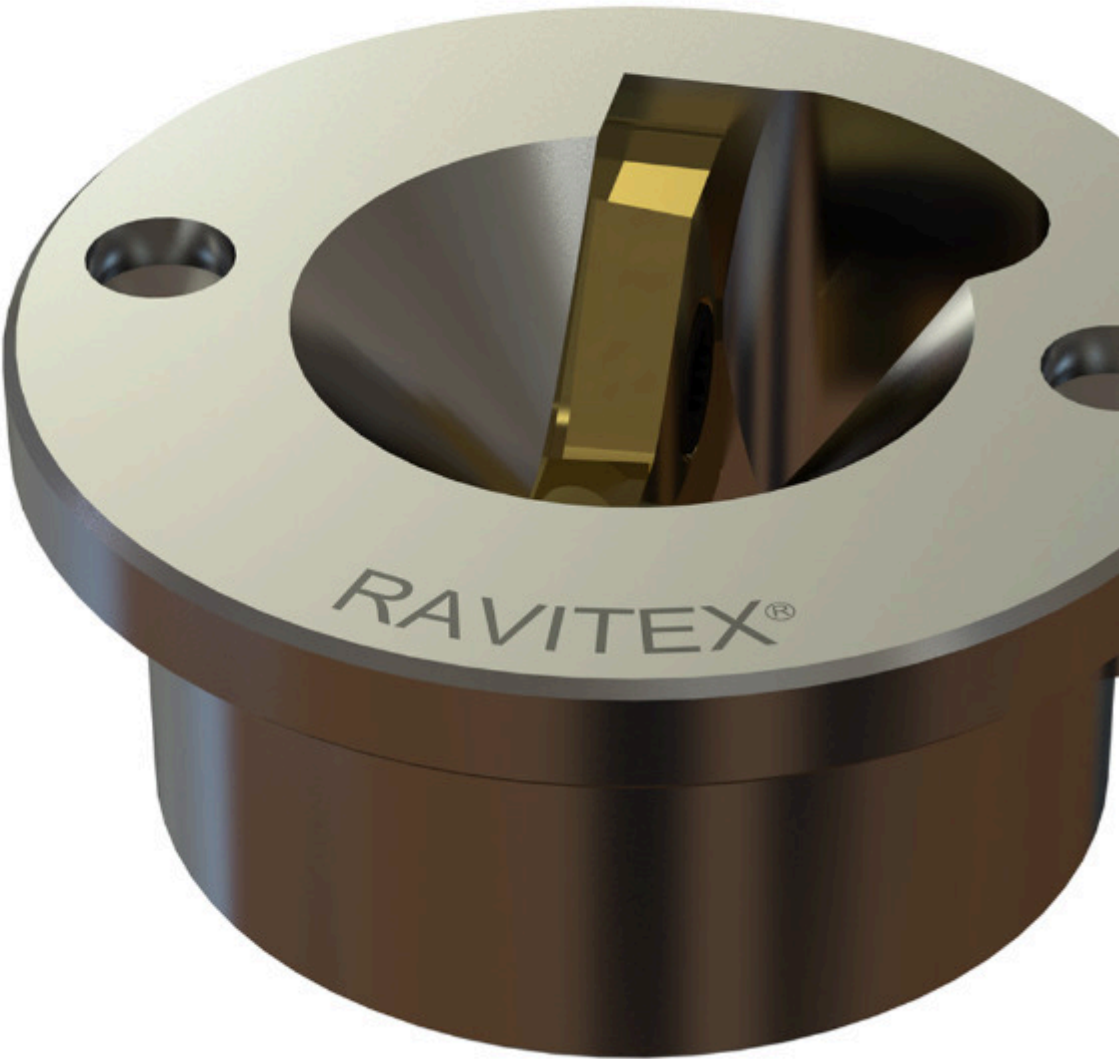
Single blade cutter in HSS

Our TiN coated in HSS single blade cutters remove the oxides on the dressed electrodes' surface.

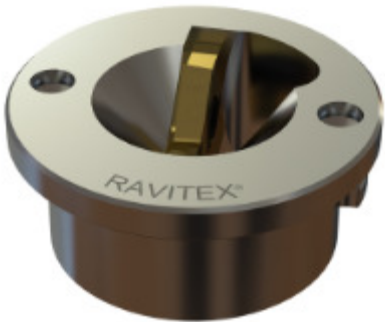
- The goal is to supply a suitable tool to dress electrodes with the below features:
- dressed surfaces' roughness of 0.5 Ra
 - welding lens diameter on customer request
 - copper chips thickness dimensions: about 0.8 mm

Thanks to the above points, we guarantee quality of dressed electrodes with the below points:

- compatible with any brand of re-wrapper that have the gear for RFRW compasses
- blades suitable for lasting 10 000 dressing cycles
- Life Cycle Cost Analysis RX.2 VS single blades cutters available on request



Product data sheet 070201000001



Cutter RFRW F16 45 R8 P6 R50 SB

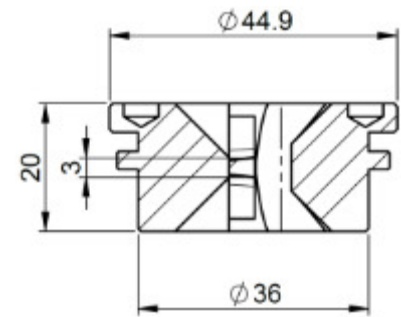
Suitable to dress	Sinterleghe, Bräuer
Weight	0.13 kg

Recommended operating parameters

Dressing closing force	1.15 ± 0.15 kN
------------------------	----------------

Code to purchase:
070201000001

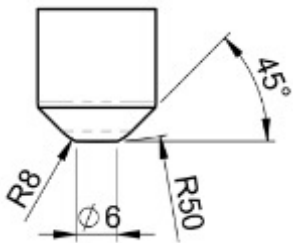
Measures:



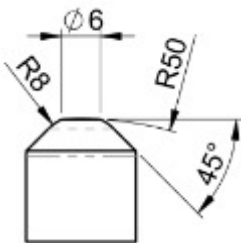
Units: mm

Shape of dressed electrode

Upper:

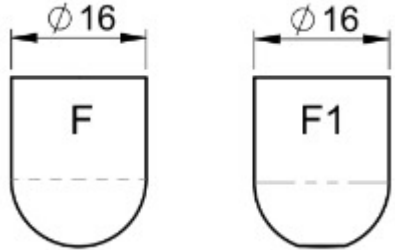


Lower:

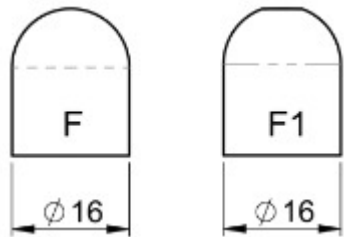


Dressable electrode shapes

Upper:



Lower:




ISO Standard 5821
39D 1978

Sample data sheet: each cutter is designed according to the shape of the electrode to be obtained after dressing

How to read the cutter description

Example:
070501000015 RFRW F16 45 R8 P6 R30 RX.2 Patented

Product code	Shape of bush usable		Electrode' shape after dressing					Cutter cutting technology
070501000015	RFRW	F16	45	R8	P6	R30	RX.2	SB
	Shape code of the bush used	Shape and Ø of the electrodes to use	Angle of the electrode's geometry	Connection ray	Electrode's welding point Ø	Welding lens ray	Hard metal three blades cutter	HSS TiN single blade cutter (available only with RFRW bush)

The different types of RX.2 cutters



Dressed electrodes



Roughness detection



Chips removed with RX.2 three blades cutter



Chips removed with single blade cutter



Tools

Machine tools



Electrode extractor wrench in chromed steel with hammer

Code to purchase:
19PA-01372



Rrm manual tip dresser

Code to purchase:
163R-03633

Cutter tools



Calibration tool for welding gun/cutter

- Code to purchase:
- 070101000040 for upper electrode Ø 16 mm
 - 070101000041 for lower electrode Ø 16 mm
 - 070101000154 for upper electrode Ø 20 mm
 - 070101000155 for lower electrode Ø 20 mm
 - 070101000316 for upper electrode Ø 19.05 mm
 - 070101000317 for lower electrode Ø 19.05 mm



Tool to remove our cutter easily and quickly from the dresser

Code to purchase:
020199000006

Ravitex® Global Network Partner

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Global Network Partners

"Best in class" supplier of 4.0 solution
in the field of electrodes dressing,
electrodes changing
and welding spot effectiveness

Check your Country's partner on: www.sinterleghe.it

To become part of our sales organization, send e-mail to: ravitex.sales@sinterleghe.it

They trust us



Where we are and how to reach us



Our Headquarter is 70 km from Malpensa airport, motorway A4/A26 exit "Anzola d'Ossola"

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