



PLASMATECH
CEA PLASMA CUTTING DIVISION

PLASMA CUTTING



2020



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CEA PLASMA CUTTING DIVISION



A STORY WHICH STARTED IN 1950

Even before its inception in 1950 CEA machines had garnered a reputation for quality craftsmanship prior to World War II and today CEA is renowned in the welding and plasma cutting sectors as a steadfast partner to its worldwide distributor network.

HERITAGE AND PRIDE

CEA being a well-structured company is ideally positioned to face the current global market challenges but also takes great pride in its roots and connection to the territory which has allowed for consistent growth in the years.



KNOW-HOW AND VERTICALIZATION OF THE MANUFACTURING PROCESS

CEA takes great pride in the ability to control machine production, from research and design stages, to development and in-house manufacture of all parts up to final assembly of the finished product.

SPECIAL APPLICATION EXPERIENCE

Besides a wide range of standard products, CEA has always worked with its customers in the solutions and development of special applications. Now in partnership with TECNOROBOT we enter a new phase which allows us to offer advanced welding and cutting solutions to complex automation and robotized procedures.





ISO 9001

Always concerned about quality, CEA has its quality management system ISO 9001 certified since 1994. This is a guarantee of an ongoing commitment of the entire company for a continuous improvement in its products and business processes, leading to the full satisfaction of its customers.

CE MARKING

All CEA products are CE marked, therefore compliant with all EU Directives and Standards imposing such utilization from design, manufacture and installation of the equipment up to its final disposal. In particular CE marking implies the conformity to the following main Directives:

2014/35/EU (LVD)

The Low Voltage Directive (LVD) defines the compliance with numerous regulations to safeguard health and safety for the operator and also regarding the electrical dimensioning of the equipment.

2014/30/EU (EMC)

The Directive on Electromagnetic compatibility (EMC) defines the effects of electromagnetic emissions and the immunity degree. This means that the equipment shall not emit any electromagnetic disturbances and, in turn, must be immune to any interference from other equipment or from the mains supply.

CEA power sources are designed for use in industrial environments: EMC (CISPR 11) A Class.

2011/65/EU (RoHS)

The Directive defines the restriction of certain hazardous substances in electrical and electronic equipment.

CEA products have been designed and built according to the following harmonised standards:

- IEC 60974-1 EN 60974-1 – Welding and Cutting power sources
- IEC 60974-7 EN 60974-7 – Torches
- IEC 60974-10 EN 60974-10 – Electromagnetic compatibility (EMC)

CEA: A LOW-ENERGY IMPACT FIRM

Care for the environment has always been a fundamental value in the CEA corporate philosophy. This is proven by a keen attention towards an eco-sustainable production process, care in the selection of components, use of paints with low environmental impact and so on. The evolution of CEA's manufacturing trend, focusing towards inverter technology, has allowed to greatly improve the energy efficiency of the products. CEA GOES GREEN is the hallmark of this approach and is reflected into latest generation inverter power sources which, versus traditional equipment, ensure a considerable energy saving:



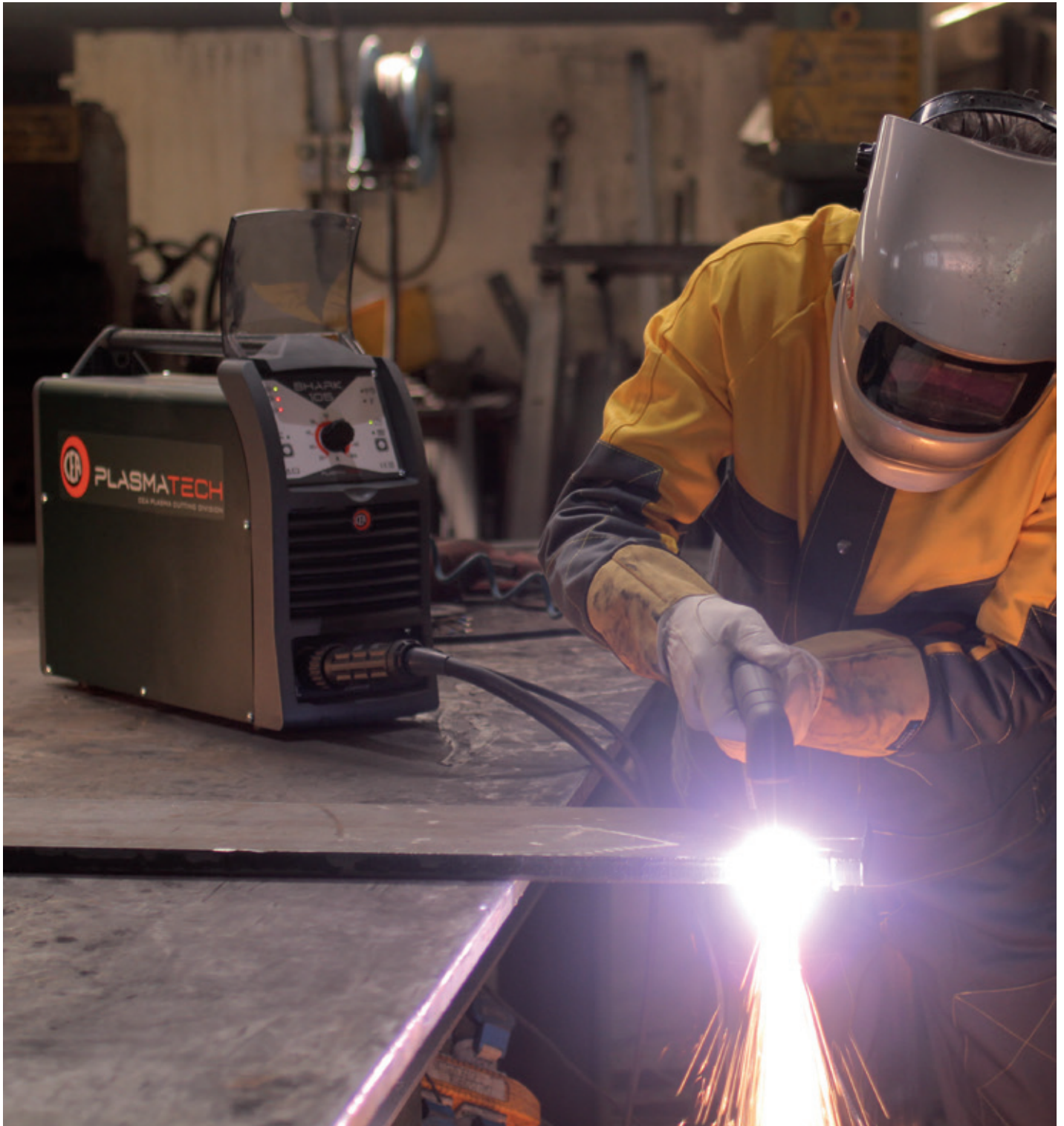
- ✓ Less energy consumption
- ✓ High efficiency
- ✓ High Power Factor
- ✓ Energy saving function

- Low energy consumption
- Compliance with “green” environment-friendly norms (i.e. RoHS)
- Reduced weight and dimensions for lower shipping costs, disposal and recycling (WEEE)

An additional investment in the pursuit of “eco-sustainability” is represented by an important 200 kWp photovoltaic plant which has made the company virtually self-sufficient from an energetic perspective.

PLASMATECH is the new CEA division dedicated to Plasma cutting technology. Thanks to over 30 years' experience in the cutting sector, **CEA PLASMATECH** will become your strategic partner, focused on the plasma cutting field, fully meeting all market needs in a most efficient way.

In this catalogue you will find accurate, genuine technical details who will allow you to easily choose the product best suited to your job.



SHARK



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(*) This value is obtained by multiplying the maximum current by the cutting voltage, thus allowing to evaluate the effective cutting power of the equipment.

SHARK TECHNICAL DATA		SHARK 25 compressor	SHARK 35 compressor	SHARK 45	SHARK 45 SV		SHARK 75	SHARK 105	SHARK 125	SHARK 155
Input Voltage 50/60 Hz	V	230-1ph	230-1ph	230-1ph	115-1ph	230-1ph	400-3ph	400-3ph	400-3ph	400-3ph
Current range	A	10 ÷ 25	10 ÷ 30	20 ÷ 40	20 ÷ 30	20 ÷ 40	20 ÷ 70	20 ÷ 100	25 ÷ 120	25 ÷ 150
Duty Cycle at (40°C)	100%	A	-	20	-	20	55	70	100	100
	60%	A	20	25	30	20	30	65	90	120
	x%	A	25 (30%)	30 (40%)	40 (35%)	30 (25%)	40 (35%)	70 (40%)	100 (40%)	-
Cutting Capacity	Recommended	mm	6	8	10	8	10	20	30	40
	Maximum	mm	8	10	15	12	15	25	35	45
	Severance	mm	10	15	18	15	18	30	40	50
	Piercing	mm	-	-	8	-	8	15	20	25
Cutting power (*)	KW	2,7	3,3	4,7	3,5	4,7	9,8	17	21	26,3
Weight	Kg	19	20,5	16	16		23	24	48	48

SHARK-M TECHNICAL DATA (MACHINE CUT)			SHARK 75-M	SHARK 105-M	SHARK 125-M	SHARK 125-MR	SHARK 155-M	SHARK 155-MR
Input Voltage 50/60 Hz	V		400-3ph	400-3ph	400-3ph	400-3ph	400-3ph	400-3ph
Current range	A		20 ÷ 70	20 ÷ 100	25 ÷ 120	25 ÷ 120	25 ÷ 150	25 ÷ 150
Duty Cycle at (40°C)	100%	A	55	70	100	100	100	100
	60%	A	65	90	120	120	120	120
	x%	A	70 (40%)	100 (40%)	-	-	150 (30%)	150 (30%)
Cutting Capacity @ I ₂ Max	Quality	mm	15	25	30	30	32	32
	Production	mm	20	30	35	35	40	40
	Maximum	mm	25	35	45	45	50	50
	Piercing	mm	15	20	25	25	25	25
Cutting power (*)	KW		9,8	17	21	21	26,3	26,3
Weight	Kg		23	24	48	48	48	48

Technical features might change without notice

The **SHARK** range of plasma cutting equipment is the result of very considerable investments of capital and resources dedicated to research. **SHARK** equipment is fitted with new technology torches, which have greatly contributed to a remarkable increase of both quality and speed throughout the entire cutting process. Quality is clearly reflected in neat cuts, lack of dross, minimal heat-affected zone and sufficiently squared edges.

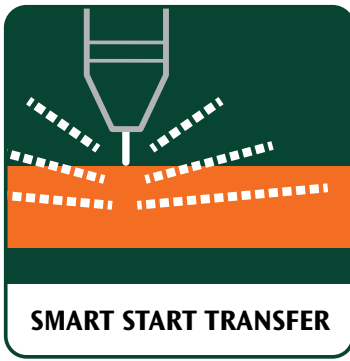
SHARK power sources represent an efficient solution for the cutting of any metal and perforated lamination sheets. Electronic control, coupled with inverter precision and flexibility, always provides the most correct parameters in order to obtain the highest quality cut depending on the thickness and type of material being cut.

SHARK range new **SK** torches for manual cutting and **SKM** for CNC automation allow cuts without high frequency for arc striking, thus reducing external disturbances to the environment.

SHARK power sources, powerful and fitted with professional high flow air circuit, ensure perfect cuts.

- Electronic control for excellent cutting quality
- Professional high flow air circulation
- Pilot arc torch
- Possibility of cutting grates and perforated lamination sheets
- Possibility of contact cutting with currents lower than 50 A, without any guiding device or other spacers.
- Regulator group with built-in filter and air impurity automatic expulsion
- Easy to read and adjust sloping front control panel, highly visible from any direction
- Metallic main structure with shockproof fibre compound front frames and control panel protected against accidental impact
- Electrical protection device on the torch to ensure operator's maximum safety





Innovative electronic circuit that allows an optimal and gradual transfer of the pilot-arc in the main arc, during the start of the cutting arc.

Compared to a traditional system of arc transfer, it has the following advantages:

- Guarantees immediate stability of the plasma flow
- Increases the cut start performance and also improves cutting quality
- Increases the life of the torch consumables



Innovative function that allows, at the end of the cut, a gradual and synergic decline of the current up to an optimal value.

Compared to traditional end-of-cut methods, it has the following advantages:

- Improved end-of-cut quality with permanent separation of parts
- Cutting end noise reduction
- Prevents the operator from manually separating pieces by ruining the final part of the cutting surface



Process able to produce a very thin cutting width to improve the cutting quality of thin metals with detailed details or complex shapes. With this process it is possible to replace expensive technologies like laser and waterjet.

It is possible to obtain detailed cuts with air plasma using the Clean-Cut consumables available for the SK125 torches for manual cutting and for those SKM125 mounted on automated systems. Clean-Cut consumables produce a narrower cutting width with a more concentrated arc ideal for cutting thinner materials (up to 2mm) with maximum cutting currents of 45A. The main uses and advantages are as follows:

- Cutting thin sheets with better cutting quality and sharp edges without burrs
- Cutting of sheets for which minimum tolerances are required
- Cutting of complex shapes.
- Cutting of sheets with many details



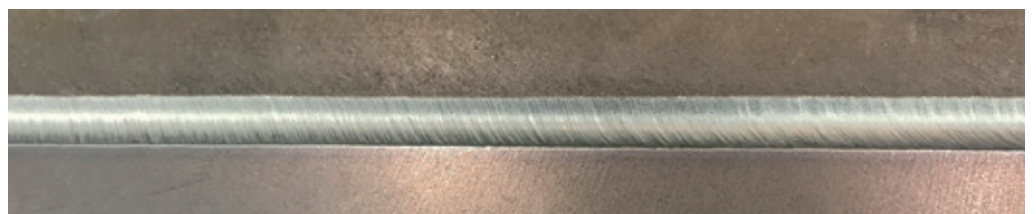
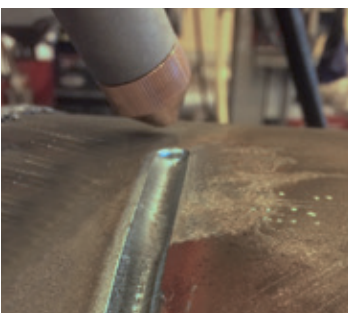
Plasma gouging is the fastest and cheaper metal-removing system ever.

Plasma gouging is suitable for every kind of conductive-metal, for example: carbon-steel, inox, aluminium and copper. Compare to traditional gouging by carbon-electrode, it has the following plus-points:

- It's easy to do and fast
- It's a low cost operation
- Does not require any trained and skilled operators
- Enables to clearly see the gouging area
- Reduces smoke emissions and noise at the workplace

Typical applications for plasma arc gouging are:

- Removals of cracks
- Repairing of mild steel, aluminium and stainless tanks
- Maintenance and repairing of vehicles
- Pipe and fixture edge preparation
- Removal of defective welds and overwelds





SHARK 75-M, SHARK 105-M, SHARK 125-M and SHARK 155-M equipment, when fitted with SMK machine torch, are suitable to be used for automated cutting.

These power sources can be easily connected to cutting pantographs, having the ability to manage the following signals:

- Power source ON/OFF
- Cutting arc control
- Torch height



SHARK-M TECHNICAL DATA (MACHINE CUT)			SHARK 75-M	SHARK 105-M	SHARK 125-M	SHARK 155-M
Input Voltage	50/60 Hz	V	400-3ph	400-3ph	400-3ph	400-3ph
Current range		A	20 ÷ 70	20 ÷ 100	25 ÷ 120	25 ÷ 150
Duty Cycle at (40°C)	100%	A	55	70	100	100
	60%	A	65	90	120	120
	x%	A	70 (40%)	100 (40%)	-	150 (30%)
Cutting Capacity @ I ₂ Max	Quality	mm	15	25	30	32
	Production	mm	20	30	35	40
	Maximum	mm	25	35	45	50
	Piercing	mm	15	20	25	25
Cutting power		KW	9,8	17	21	26,3
Weight		Kg	23	24	48	48

SHARK 125-MR and **SHARK 155-MR** represent the best solution for setting all the functions and cutting current directly from CNC system without going back to the machine.

These machines make easier and more flexible the overall functionality; in fact, they allow you to set, for example, programs with different cutting currents, or even a programs that during the cutting process changes the current according to your needs. SHARK 125-MR and SHARK 155-MR allow you to change the cutting mode (solid, mesh or gouging) from CNC system too.



SHARK-MR TECHNICAL DATA (MACHINE CUT)			SHARK 125-MR	SHARK 155-MR
Input Voltage	50/60 Hz	V	400-3ph	400-3ph
Current range		A	25 ÷ 120	25 ÷ 150
Duty Cycle at (40°C)	100%	A	100	100
	60%	A	120	120
	x%	A	-	150 (30%)
Cutting Capacity @ I ₂ Max	Quality	mm	30	32
	Production	mm	35	40
	Maximum	mm	45	50
	Piercing	mm	25	25
Cutting power		KW	21	26,3
Weight		Kg	48	48





SHARK 25 is a lightweight and handy compressor plasma cutting equipment. It is the ideal solution for all maintenance jobs thanks to its built-in compressor, single-phase input, portability and flexibility in use.

SHARK 35 is a new compressor plasma solution by CEA that evolves the lightweight and handy characteristics of SHARK 25 chassis with a more powerful inverter and compressor. Shark 35 is the best solution for everyone who needs the maximum portability and power possible.

SHARK Compressor is the best choice also for light fabrication work, agriculture and car body repairs.

- ✓ **SK25 Back Striking technology torch with coaxial cable**
- ✓ **30A @ 40% for SHARK 35**
- ✓ **Built-in compressor**
- ✓ **Portability and flexibility in the use**
- ✓ **Electronic control for an excellent cutting quality**



- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ Torch with pilot arc
- ▶ Cutting parameter stability within $\pm 15\%$ mains voltage fluctuations
- ▶ Air filter incorporated into the compressor
- ▶ Metallic main structure with shockproof fibre compound front frame
- ▶ Sloping front control panel, easy to read and adjust and highly visible from any direction
- ▶ Electric protection on the torch for the maximum safety of the operator





234926



418485



410681

TECHNICAL DATA

ORDER INFORMATION

		SHARK 25 compressor	SHARK 35 compressor
Input Voltage 50/60 Hz	V	230-1ph	230-1ph
Input Power @ I ₂ Max	kVA	5	6,05
Delayed Fuse (I eff)	A	16	16
Power factor / cos φ		0,68 / 0,99	0,65 / 0,99
Efficiency Degree	%	80	71
Current range	A	10 ÷ 25	10 ÷ 30
Duty Cycle at (40°C)	100%	A	-
	60%	A	20
	x%	A	25 (30%)
Motorgenerator requirement for full capacity	kVA	6	8
Cutting Capacity	Recommended	mm	6
	Maximum	mm	8
	Severance	mm	10
	Piercing	mm	-
Gas supply		Air	Air
Gas Pressure	bar	3,5 - 4,0	3,5 - 4,0
Gas Flow	l/min	70 ÷ 80	70 ÷ 80
Protection Class	IP	23 S	23 S
Dimensions	mm	425x220x540	425x220x540
Weight	Kg	19	20,5

CODE	MANUAL CUTTING
004390	SHARK 25 Compressor 230V-1 Ph. with SK25 torch, 4mm ² / 3,2m ground cable & Consumable starting kit (343961)
004412	SHARK 35 Compressor 230V-1 Ph. with SK25 torch, 6mm ² / 4m ground cable & Consumable starting kit (343961)
PLASMA TORCH	
022031	Torch SK25 4 m 30 A direct connection
343961	Consumable Starting Kit for SK25: 2 Electrodes, 1 Nozzle ø 0,65 (10-20 A), 2 Nozzles ø 0,80 (20-30 A)
ACCESSORIES	
418485	Compass for SK25 torch
410681	Wheeled torch holder
234926	Transport Trolley CTP 10

SK25



Other voltages available on request



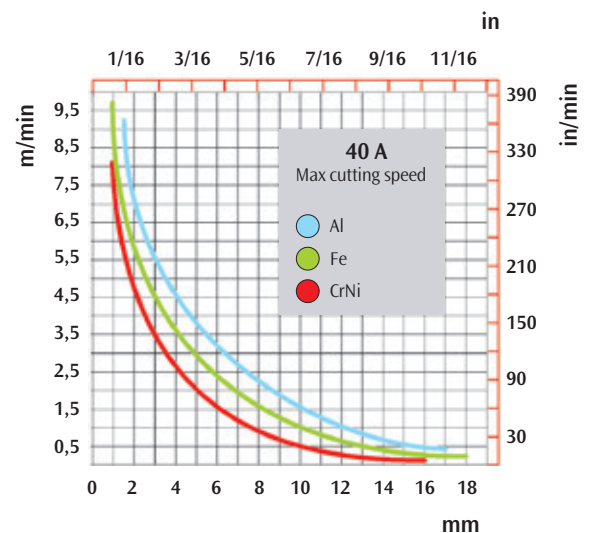
Powerful and light SHARK 45 single phase plasma cutting equipment with PFC is the ideal choice for car body repairs, agriculture and maintenance. PFC device ensures big cutting power coupled with a contained consumption.

- ✓ SK65 Back Striking technology torch with coaxial cable
- ✓ PFC Power Factor Correction - 16 A fuse
- ✓ High power professional air flow circulation
- ✓ Electronic control for an excellent cutting quality



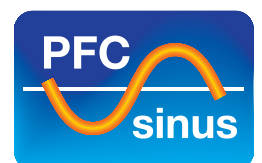
- ▶ Long life of consumable parts
- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ Shockproof and dustproof control rack protection cover
- ▶ Torch with pilot arc
- ▶ Central connector for the torch
- ▶ Cutting parameter stability within $\pm 15\%$ mains voltage fluctuations
- ▶ Regulator group with built-in filter and air impurity automatic expulsion
- ▶ Metallic main structure with shockproof fibre compound front frame
- ▶ Sloping front control panel, easy to read and adjust and highly visible from any direction
- ▶ Electric protection on the torch for the maximum safety of the operator

CUTTING SPEED CHART



PFC: POWER FACTOR CORRECTION

The wave shape of the current drawn from the mains is made sinusoidal by the PFC device with a consequent total lack of harmonic disturbances in the mains and consumption optimization, which enables to utilize the power source at full range on a 16 A fuse. The PFC circuit gives the machine a wider protection against mains voltage fluctuations, by also making it safer whenever being operated by power generator sets.





SK65



TECHNICAL DATA

			SHARK 45	SHARK 45 SV	
Input Voltage 50/60 Hz		V	230-1ph	115-1ph	230-1ph
Input Power @ I ₂ Max		kVA	5,5	4,8	5,5
Delayed Fuse (I eff)		A	16	25	16
Power factor / cos φ			0,97 / 0,99		
Efficiency Degree		%	80	75	80
Current range		A	20 ÷ 40	20 ÷ 30	20 ÷ 40
Duty Cycle at (40°C)	100%	A	20	-	20
	60%	A	30	20	30
	x%	A	40 (35%)	30 (25%)	40 (35%)
Motorgenerator requirement for full capacity		kVA	6	6	6
Cutting Capacity	Recommended	mm	10	8	10
	Maximum	mm	15	12	15
	Severance	mm	18	15	18
	Piercing	mm	8	-	8
Gas supply			Air / N ₂	Air / N ₂	
Gas Pressure		bar	5,0 - 5,5	5,0 - 5,5	
Gas Flow		l/min	130 ÷ 150	130 ÷ 150	
Protection Class		IP	23 S	23 S	
Dimensions		mm	390x185x595	390x185x595	
Weight		Kg	16	16	

ORDER INFORMATION

CODE	MANUAL CUTTING
004420	SHARK 45 230V-1 Ph. with SK65 torch, 6mm ² / 4m ground cable & kit of spares (343960)
004421	SHARK 45-SV 115-230V-1 Ph. with SK65 torch, 6mm ² / 4m ground cable & kit of spares (343960)
PLASMA TORCH	
022067	Torch SK65 4 m 60 A
343960	Consumable Starting Kit for SK65: 2 Electrodes, 1 Nozzle contact cutting ø 0,90 (30-40 A), 2 Flat Nozzles ø 1,00 (40-50 A)
ACCESSORIES	
418485	Compass for SK65 torch
410681	Wheeled torch holder
234926	Transport Trolley CTP 10
427529	Compressed air filter
427530	Filter cartridge Package of 4 pcs

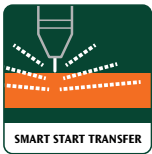
Other voltages available on request



Powerful and compact, SHARK 75 is the most efficient solution to fully meet the cutting needs of medium and light fabrication work. Its always precise cutting performance enables the achievement of the highest standards in all circumstances. Top quality cutting is achieved at high speed thanks to SK75 HPC High-Performance-Cutting technology torch, which offers a powerful and concentrated cutting beam.

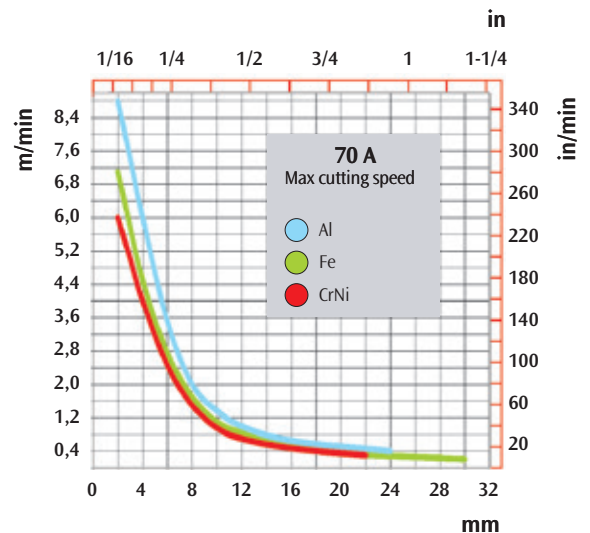
Smart Start Transfer and Smart End Cutting functions permit both initial and final cutting phases in an optimal way.

- ✓ **SK75 torch with HPC High Performance Cutting technology and coaxial cable**
- ✓ **Powerful, compact and light, only 23 Kg**
- ✓ **More productivity thanks to high quality and cutting speed**
- ✓ **Reduced operating costs granted by longer life of the consumable parts**



- ▶ Electronic control for an excellent cutting quality
- ▶ Professional high flow air circulation
- ▶ Pilot arc torch
- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ “Energy Saving” function to operate the power source cooling fan only when necessary
- ▶ Cutting parameter stability within $\pm 20\%$ mains voltage fluctuations
- ▶ Shockproof and dustproof control rack protection cover
- ▶ Electric protection on the torch for the maximum safety of the operator

CUTTING SPEED CHART



SK75



SKM75



Possibility of CNC automated cutting for SHARK 75-M power source when fitted with SKM75 machine torch



234926



418508



343956



410684



427529



427530



418487

TECHNICAL DATA

			SHARK 75
Input Voltage	50/60 Hz	V	400-3ph
Input Power @ I ₂ Max		kVA	11
Delayed Fuse (I eff)		A	16
Power factor / cos φ			0,87 / 0,99
Efficiency Degree		%	85
Current range		A	20 ÷ 70
Duty Cycle at (40°C)	100%	A	55
	60%	A	65
	x%	A	70 (40%)
Motorgenerator requirement for full capacity		kVA	20
Cutting Capacity	Recommended	mm	20
	Maximum	mm	25
	Severance	mm	30
	Piercing	mm	15
Gas supply			Air / N ₂
Gas Pressure		bar	5,0 - 5,5
Gas Flow		l/min	180 ÷ 210
Protection Class		IP	23 S
Dimensions		mm	390x185x595
Weight		Kg	23

Other voltages available on request

ORDER INFORMATION

CODE	MANUAL CUTTING
004425	SHARK 75 400V-3 Ph. with SK75 torch - 6 m, 10mm ² / 4m ground cable & kit of spares (343962)
004429	SHARK 75 400V-3 Ph. with SK75 torch - 12 m, 10mm ² / 4m ground cable & kit of spares (343962)
PLASMA TORCH	
022029	Manual Torch SK75 6 m 70 A
022033	Manual torch SK75 12m 70A
343956	Consumable Basic Kit Box for SK75 (Page 25)
343962	Consumable Starting Kit for SK75: 1 Electrode, 2 Nozzles 70 A, 1 Shield cap
ACCESSORIES	
418487	Compass for SK75 torch
410684	Wheeled torch holder
418508	Bevel Tool Kit: guide carriage and circle attachment for straight and bevel cutting
234926	Transport Trolley CTP 10
427529	Compressed air filter
427530	Filter cartridge. Package of 4 pcs
CODE	MECHANIZED CUTTING
004426	SHARK 75-M 400V-3 Ph. with SKM75 torch 6 m - 10 mm ² / 4 m ground cable
004427	SHARK 75-M 400V-3 Ph. with SKM75 torch 12 m - 10 mm ² / 4 m ground cable
PLASMA TORCHES	
022073	Machine Straight Torch SKM75 6 m - 70 A with gear rack
022080	Machine Straight Torch SKM75 12 m - 70 A with gear rack

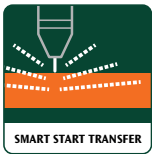


Powerful, robust and compact, SHARK 105 absolutely grants high productivity in the toughest cutting operations without any compromise: cuts are always precise and ensure the highest cutting results in all applications.

Top cutting quality at high speed by means of SK125 HPC High-Performance-Cutting technology torch, granting a powerful and concentrated cutting beam.

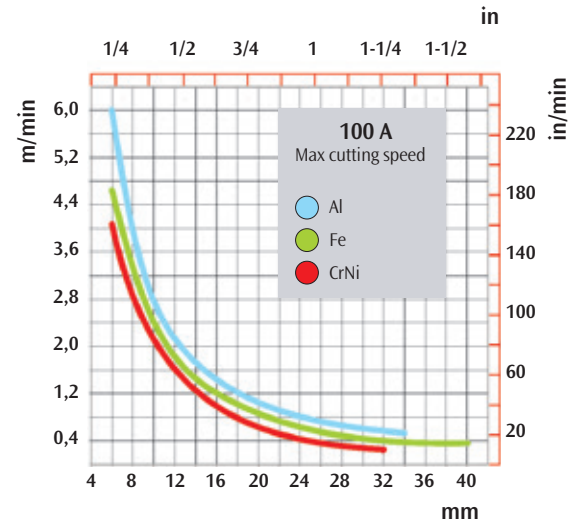
Smart Start Transfer and Smart End Cutting functions permit both initial and final cutting phases in the best way.

- ✓ **SK125 torch with HPC High Performance Cutting technology and coaxial cable**
- ✓ **Powerful, compact and light, only 24 Kg**
- ✓ **More productivity thanks to high quality and cutting speed**
- ✓ **Reduced operating costs granted by longer life of the consumable parts**



- ▶ Electronic control for an excellent cutting quality
- ▶ Professional high flow air circulation
- ▶ Pilot arc torch
- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ Ability to gouging jobs
- ▶ “Energy Saving” function to operate the power source cooling fan only when necessary
- ▶ Cutting parameter stability within $\pm 20\%$ mains voltage fluctuations
- ▶ Shockproof and dustproof control rack protection cover
- ▶ Electric protection on the torch for the maximum safety of the operator

CUTTING SPEED CHART



SK125



SKM125



Possibility of CNC automated cutting for SHARK 105-M and SHARK 125-M power source when fitted with SKM125 machine torch.



234926



418508



343957



410684



427529



427530



418487

TECHNICAL DATA

		SHARK 105	
Input Voltage 50/60 Hz	V	400-3ph	
Input Power @ I ₂ Max	kVA	15	
Delayed Fuse (I eff)	A	16	
Power factor / cos φ		0,90 / 0,99	
Efficiency Degree	%	85	
Current range	A	20 ÷ 100	
Duty Cycle at (40°C)	100%	A	70
	60%	A	90
	x%	A	100 (40%)
Motorgenerator requirement for full capacity	kVA	30	
Cutting Capacity	Recommended	mm	30
	Maximum	mm	35
	Severance	mm	40
	Piercing	mm	20
Gas supply		Air / N ₂	
Gas Pressure	bar	5,0 - 6,0	
Gas Flow	l/min	280 ÷ 330	
Protection Class	IP	23 S	
Dimensions	mm	390x185x595	
Weight	Kg	24	

Other voltages available on request

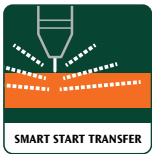
ORDER INFORMATION

CODE	MANUAL CUTTING
004430	SHARK 105 400V-3 Ph. With SK125 - 6 m torch, 10mm ² / 4m ground cable & kit of spares (343963)
004434	SHARK 105 400V-3 Ph. With SK125 - 12 m torch, 10mm ² / 4m ground cable & kit of spares (343963)
PLASMA TORCH	
022028	Manual Torch SK125 6 m 125 A
022035	Manual Torch SK125 12m 125 A
343957	Consumable Basic Kit Box for SK125 (Page 25)
343963	Consumable Starting Kit for SK125: 1 Electrode, 2 Nozzles 105 A, 1 Shield cap 100-125 A
ACCESSORIES	
418487	Compass for SK125 torch
410684	Wheeled torch holder guide
418508	Bevel Tool Kit: guide carriage and circle attachment for straight and bevel cutting
234926	Transport Trolley CTP 10
427529	Compressed air filter
427530	Filter cartridge Package of 4 pcs
CODE	MECHANIZED CUTTING
004431	SHARK 105-M 400V-3 Ph. with SKM125 torch 6 m - 10 mm ² / 4 m ground cable
004432	SHARK 105-M 400V-3 Ph. with SKM125 torch 12 m - 10 mm ² / 4 m ground cable
PLASMA TORCHES	
022074	Machine Straight Torch SKM125 6 m - 125 A with gear rack
022081	Machine Straight Torch SKM125 12 m - 125 A with gear rack



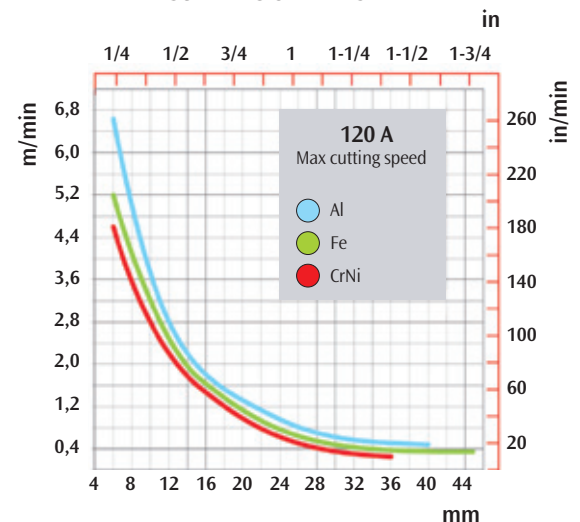
SHARK 125 is equipped with display for managing all the digital control. In combination with the technology HPC High-Performance-Cutting of the torch SK125, it grants to every user a cutting beam very concentrated and hot. This feature allows a very high precision and speed in cutting for a wide range of thickness. Shark 125 has also the special function Smart Start Transfer and Smart End Cutting for a better management of the cut during the start and end.

- ✓ **SK125 torch with HPC High Performance Cutting technology and coaxial cable**
- ✓ **Digital display for the digital control of all parameters**
- ✓ **High duty cycle: 120A @ 60%**
- ✓ **More productivity thanks to high quality and cutting speed**



- ▶ Reduced operating costs granted by longer life of the consumable parts
- ▶ Electronic control for an excellent cutting quality
- ▶ Professional high flow air circulation
- ▶ Pilot arc torch
- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ Ability to gouging jobs
- ▶ Cutting parameter stability within $\pm 20\%$ mains voltage fluctuations
- ▶ Shockproof and dustproof control rack protection cover
- ▶ Electric protection on the torch for the maximum safety of the operator

CUTTING SPEED CHART



SK125



SKM125



Possibility of CNC automated cutting for SHARK 105-M and SHARK 125-M power source when fitted with SKM125 machine torch.



234927



418508



343957



410684



427529



427530



418487

TECHNICAL DATA

			SHARK 125
Input Voltage	50/60 Hz	V	400-3ph
Input Power @ I ₂ Max		kVA	21
Delayed Fuse (1 eff)		A	30
Power factor / cos φ			0,89 / 0,99
Efficiency Degree		%	86
Current range		A	25 ÷ 120
Duty Cycle at (40°C)	100%	A	100
	60%	A	120
	x%	A	-
Motorgenerator requirement for full capacity		kVA	40
Cutting Capacity	Recommended	mm	40
	Maximum	mm	45
	Severance	mm	50
	Piercing	mm	25
Gas supply			Air / N ₂
Gas Pressure		bar	5,0 - 6,0
Gas Flow		l/min	280 ÷ 330
Protection Class		IP	23 S
Dimensions		mm	515x290x730
Weight		Kg	48

ORDER INFORMATION

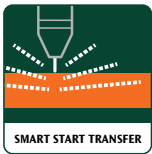
CODE	MANUAL CUTTING
004462	SHARK 125 400V-3 Ph. With SK125 - 6 m torch, 25 mm ² / 4 m ground cable & kit of spares (343955)
004467	SHARK 125 400V-3 Ph. With SK125 - 12 m torch, 25 mm ² / 4 m ground cable & kit of spares (343955)
PLASMA TORCH	
022028	Manual Torch SK125 6 m 125 A
022035	Manual Torch SK125 12m 125 A
343957	Consumable Basic Kit Box for SK125 (Page 25)
343955	Consumable Starting Kit for SK125 - 125 A: 1 Electrode, 2 Nozzles 125 A, 1 Shield cap 100-125 A
ACCESSORIES	
418487	Compass for SK125 torch
410684	Wheeled torch holder guide
418508	Bevel Tool Kit: guide carriage and circle attachment for straight and bevel cutting
234927	Transport Trolley CTP 15
427529	Compressed air filter
427530	Filter cartridge. Package of 4 pcs
CODE	MECHANIZED CUTTING
004463	SHARK 125-M 400V-3 Ph. with SKM125 torch 6 m - 25 mm ² / 4 m ground cable
004464	SHARK 125-M 400V-3 Ph. with SKM125 torch 12 m - 25 mm ² / 4 m ground cable
PLASMA TORCHES	
022074	Machine Straight Torch SKM125 6 m - 125 A
022081	Machine Straight Torch SKM125 12 m - 125 A
CODE	MECHANIZED CUTTING BY ROBOT / PLC
004465	SHARK 125-MR 400V-3 Ph. -with torch 6 m torch SKM125 - 25 mm ² / 4 m ground cable - complete with ROBOMAT 1 interface and 5 m cable for connected with automated equipment
004466	SHARK 125-MR 400V-3 Ph. -with torch 12 m torch SKM125 - 25 mm ² / 4 m ground cable - complete with ROBOMAT 1 interface and 5 m cable for connected with automated equipment

Other voltages available on request



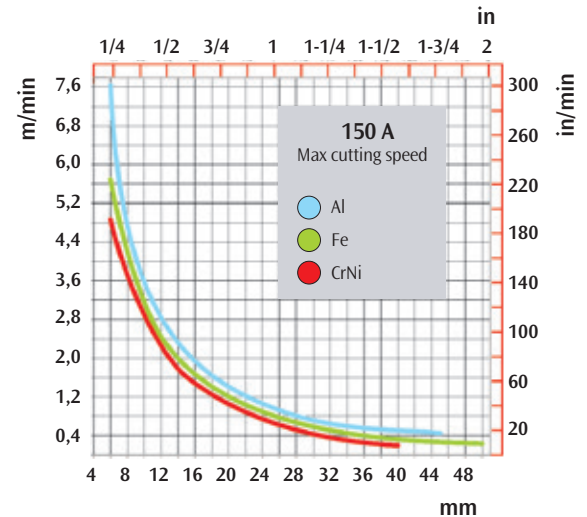
With its stunning cutting force, SHARK 155 is the most powerful machine in the range. Robust and precise, it ensures extremely high quality cutting results also on very large thickness. Equipped with a display for the digital control of all the parameters, it grants the highest cutting quality at high speed by means of SK165 HPC High-Performance-Cutting technology torch, which combines the concentrated cutting beam to high power. Smart Start Transfer and Smart End Cutting functions permit both initial and final cutting phases in the best way.

- ✓ **SK165 torch with HPC High Performance Cutting technology and coaxial cable**
- ✓ **Digital display for the digital control of all parameters**
- ✓ **Very high cutting power**
- ✓ **More productivity thanks to high quality and cutting speed**



- ▶ Reduced operating costs granted by longer life of the consumable parts
- ▶ Electronic control for an excellent cutting quality
- ▶ Professional high flow air circulation
- ▶ Pilot arc torch
- ▶ Possibility of cutting grids and perforated lamination sheets
- ▶ Contact cutting possibility
- ▶ Ability to gouging jobs
- ▶ Cutting parameter stability within $\pm 20\%$ mains voltage fluctuations
- ▶ Shockproof and dustproof control rack protection cover
- ▶ Electric protection on the torch for the maximum safety of the operator

CUTTING SPEED CHART



SK165



SKM165



Possibility of CNC automated cutting for SHARK 155-M power source when fitted with SKM165 machine torch



234927



418507



343958



410686



427529



427530



418488

TECHNICAL DATA

		SHARK 155	
Input Voltage 50/60 Hz	V	400-3ph	
Input Power @ I ₂ Max	kVA	27,5	
Delayed Fuse (I eff)	A	30	
Power factor / cos φ		0,89 / 0,99	
Efficiency Degree	%	86	
Current range	A	25 ÷ 150	
Duty Cycle at (40°C)	100%	A	100
	60%	A	120
	x%	A	150 (30%)
Motorgenerator requirement for full capacity	kVA	50	
Cutting Capacity	Recommended	mm	45
	Maximum	mm	50
	Severance	mm	60
	Piercing	mm	25
Gas supply		Air / N ₂	
Gas Pressure	bar	5,0 - 6,0	
Gas Flow	l/min	360 ÷ 410	
Protection Class	IP	23 S	
Dimensions	mm	515x290x730	
Weight	Kg	48	

ORDER INFORMATION

CODE	MANUAL CUTTING
004435	SHARK 155 400V-3 Ph. with SK165 torch - 6 m , 35 mm ² / 4 m ground cable & kit of spares (343059)
004442	SHARK 155 400V-3 Ph. with SK165 torch - 12 m , 35 mm ² / 4 m ground cable & kit of spares (343059)
PLASMA TORCHES	
022032	Manual torch SK165 6 m 160 A
022034	Manual torch SK165 12 m 160 A
022083	Manual torch SK165xl 130 cm, cable 7,5 m
343958	Consumable Basic Kit Box for SK165 (Page 25)
343059	Consumable Starting Kit for SK165 : 1 Electrode, 1 Nozzle 105A, 1 Nozzle 125 A, 1 Nozzle 160 A, 1 Shield cap 105-160 A
ACCESSORIES	
418488	Compass for SK165 torch
410686	Wheeled torch holder guide
418507	Bevel Tool Kit: guide carriage and circle attachment for straight and bevel cutting
234927	Transport Trolley CTP 15
427529	Compressed air filter
427530	Filter cartridge. Package of 4 pcs
CODE	MECHANIZED CUTTING
004436	SHARK 155-M 400V-3 Ph. with SKM165 torch 6 m - 35 mm ² / 4 m ground cable
004437	SHARK 155-M 400V-3 Ph. with SKM165 torch 12 m - 35 mm ² / 4 m ground cable
PLASMA TORCHES	
022076	Machine Straight Torch SKM165 6 m - 160 A
022082	Machine Straight Torch SKM165 12 m - 160 A
CODE	MECHANIZED CUTTING BY ROBOT / PLC
004439	SHARK 155-MR 400V-3 Ph. -with torch 6 m torch SKM165 - 35 mm ² / 4 m ground cable - complete with ROBOMAT 1 interface and 5 m cable for connection with automated equipment
004440	SHARK 155-MR 400V-3 Ph. -with torch 12 m torch SKM165 - 35 mm ² / 4 m ground cable - complete with ROBOMAT 1 interface and 5 m cable for connection with automated equipment

Other voltages available on request



Torch	Current	Back Striking	HPC	Coaxial cable	Quick connector	Length
SK25	30 A @ 40%	✓		✓		4 m
SK65	60 A @ 80%	✓		✓	✓	4 m
SK75	70 A @ 50%		✓	✓	✓	6 / 12 m
SK125	125 A @ 60%		✓	✓	✓	6 / 12 m
SK165	160 A @ 60%		✓	✓	✓	6 / 12 m
SKM75	70 A @ 50%		✓	✓	✓	6 / 12 m
SKM125	125 A @ 60%		✓	✓	✓	6 / 12 m
SKM165	160 A @ 60%		✓	✓	✓	6 / 12 m

SK AND SKM TORCHES

SK and SKM torches used for SHARK equipment are the result of research carried out in the last decade, in order to improve the performance of the plasma cutting beam, thus increasing its control and its thermal energy.

SK25 - SK65, torches, used on single phase equipment, are based on back striking technology which produces consistently precise arc striking with a consequent longer life of the consumables.

SK75 - SK125 - SK165 torches for manual cutting and **SKM75 - SKM125 - SKM165** machine torches for mechanized cutting are characterized by High Performance Cutting HPC technology which permits an increase in air quantity and speed, to better concentrate the plasma cutting beam and to stabilize the cutting arc, thus achieving:

- high cutting speed
- optimal quality and cleanliness of the cut surfaces
- high concentration of the plasma cutting beam
- lack of dross
- reduction in the heat affected zone
- longer life of the consumables
- piercing on lamination achieved in shorter times

All SK and SKM torches are fitted with a **coaxial cable** which combines great flexibility to robustness and resistance to crushing.

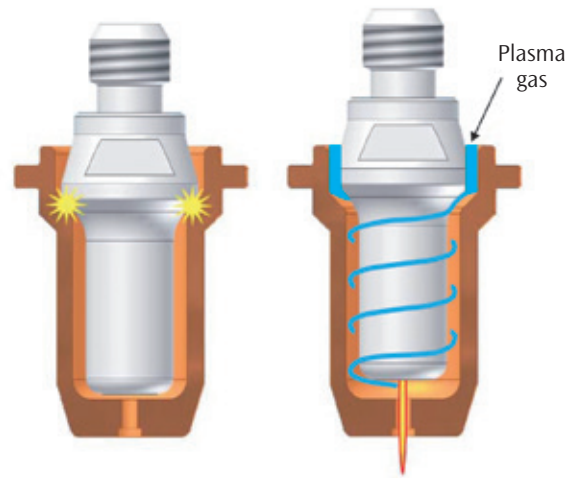
TORCH TECHNOLOGY

BACK STRIKING

It represents the best solution for plasma torches up to 60 A. In conventional torches without high frequency, the arc striking is obtained by means of compressed air which moves away the electrode head from the inner part of the nozzle. This system causes, in the plasma flow exit area, both electrode and nozzle material deterioration because of burns and deformations subsequent to pilot arc striking between them. In contrast, the back striking system takes place in the rear side of the electrode and nozzle, thus leaving clean and unaltered the flow exit area.

Main advantages are:

- Longer life of the consumables
- Striking always precise and safe
- Better cutting quality over time

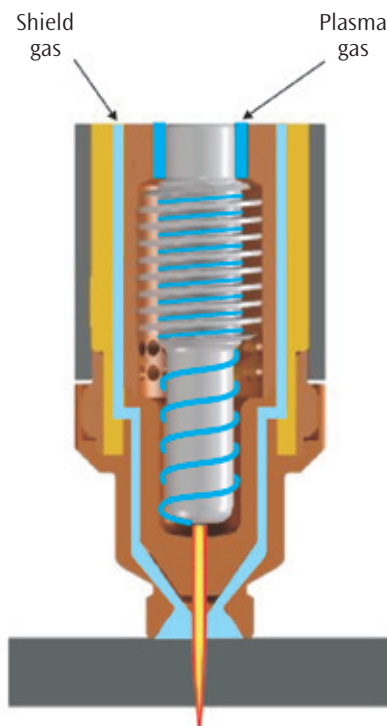


HIGH PERFORMANCE CUTTING - HPC

HPC – High Performance Cutting technology permits the generation of radial and swirling gas flows to the cutting arc axis, thus creating a plasma beam at a very high temperature that melts and vaporizes the surface being cut in a more efficient way.

This technology also avoids the phenomenon of the double arc – formation of two arcs in series between the cathode and the workpiece surface – the main reason for damage to the nozzle and arc instability – by ensuring the highest quality and the best cutting performance together with a longer life of the consumables.

High Performance Cutting technology is the very best choice for plasma torches with nominal cutting currents above 60 A.



New **High Performance Cutting SK torches** increase the density of the plasma cutting beam and reduce the width of the arc cut area, by producing a narrower and less inclined cut. This is achieved by easily removing the molten material with a consequent improvement of the cutting quality, which shows neat cuts, lack of dross, minimal heat-affected zone and sufficiently squared edges.

Main advantages are:

- Better cutting quality
- High cutting speeds
- Narrower cuts
- Longer life of the consumables

Swirling gas flow and collimation of the beam



CS - ORIGINAL SPARE PARTS

CS is our guarantee hallmark for CEA PLASMATECH consumables. All original consumables belonging to SK and SKM torches of SHARK equipment are CS marked to prove the origin. The CS mark, present on all consumables, is the guarantee that all declared performances can be achieved.

Geometric shape study of torch components, quality in their employed materials, precision in machining and coupling - the results of years of experience - form the basis of SK and SKM torch development and utilization with our cutting power sources.

The use of CS marked original consumables is strictly recommended.

The reason for this is that the use of non original parts, besides affecting the optimal performance of the equipment, will tend to generate overheating and changes in the electrical voltages with the consequent risk of:

- Overheating and damage to the torch
- Poor performance and damage to the power source
- Worsening in cutting quality
- Compromised safety of the equipment

Considering the foregoing, using non original CS marked components will render void all warranty and CEA PLASMATECH can no longer be deemed responsible for any consequent accident or injury which might occur.



BASIC CONSUMABLE KIT BOX

BASIC CONSUMABLE KIT BOX are the best solutions for having an easy and complete range of consumables for the torches: SK75; SK125; SK 165. We based this kit on our experience and we've included a wide range of consumable: nozzle, external nozzle, electrode, shield, swirl ring, o-ring and siliconic lubricant for o-ring. We're sure that this kit will be very useful for all those who do not want to run out of consumable.

Kit Box for **SK75**

CODE **343956**



POS.	CODE	DESCRIPTION	QTY.
1	433605	O-ring	2
2	425022	Electrode	20
3	482134	Swirl ring	1
4	408609	Nozzle 50 A	5
5	408610	Nozzle 70 A	15
6	486049	External nozzle	1
7	487630	Shield cap (manual cut)	2
8	425059	Extended electrode	3
9	408623	Extended nozzle 50 A	1
10	408624	Extended nozzle 70 A	2
11	424490	Extended Shield cap (manual cut)	1
12	---	Silicone lubricant for O-Ring	1

Kit Box for **SK125**

CODE **343957**



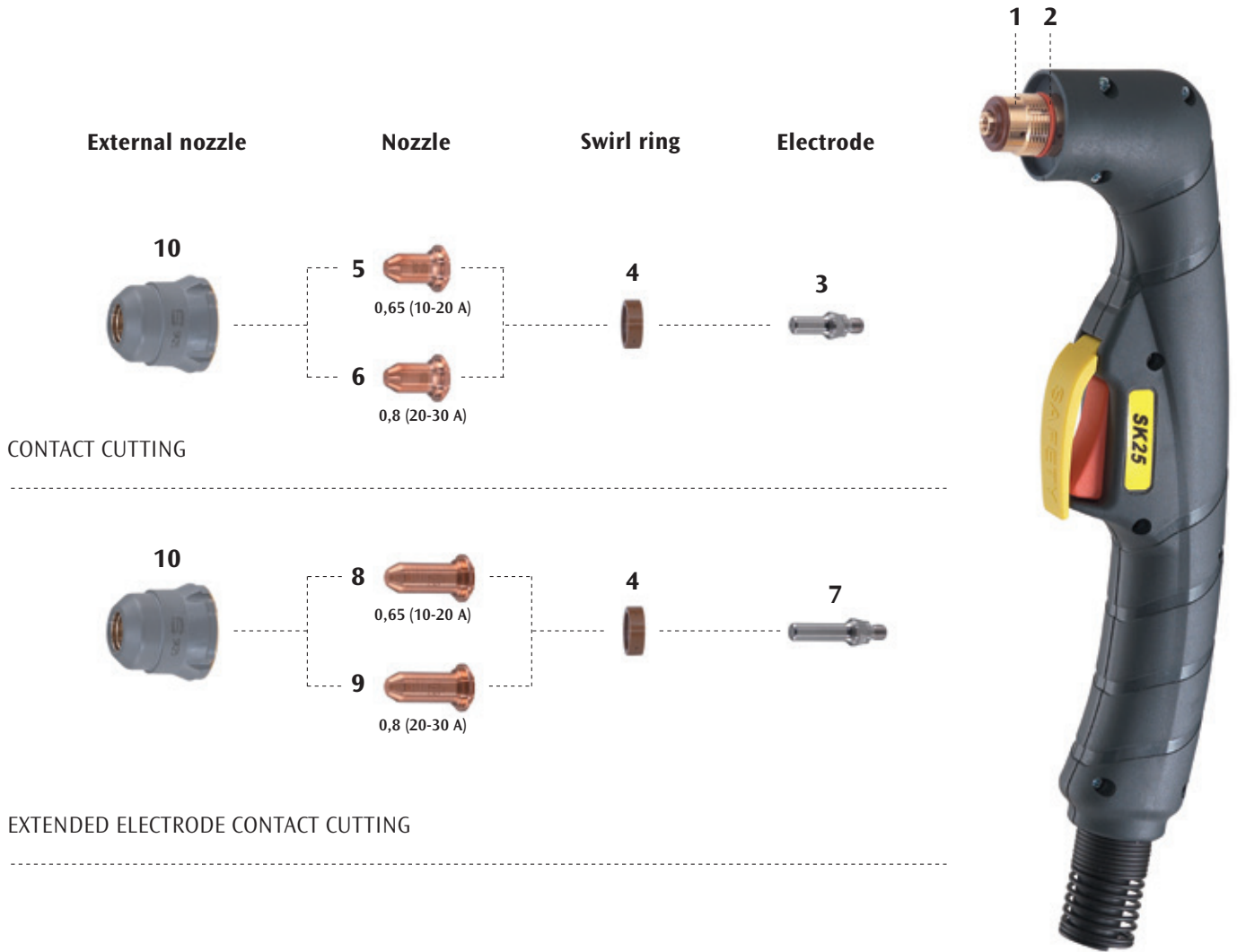
POS.	CODE	DESCRIPTION	QTY.
1	433608	O-ring	2
2	482135	Swirl ring 45-85 A	1
3	482136	Swirl ring 100-125 A	1
4	425023	Electrode	10
5	408616	Nozzle 85 A	5
6	408612	Nozzle 105 A	5
7	408617	Nozzle 125 A	5
8	486028	External nozzle 45-85 A	1
9	486029	External nozzle 100-125 A	1
10	487632	Shield cap 45-85 A (manual cut)	1
11	487631	Shield cap 100-125 A (manual cut)	1
12	---	Silicone lubricant for O-Ring	1

Kit Box for **SK165**

CODE **343958**

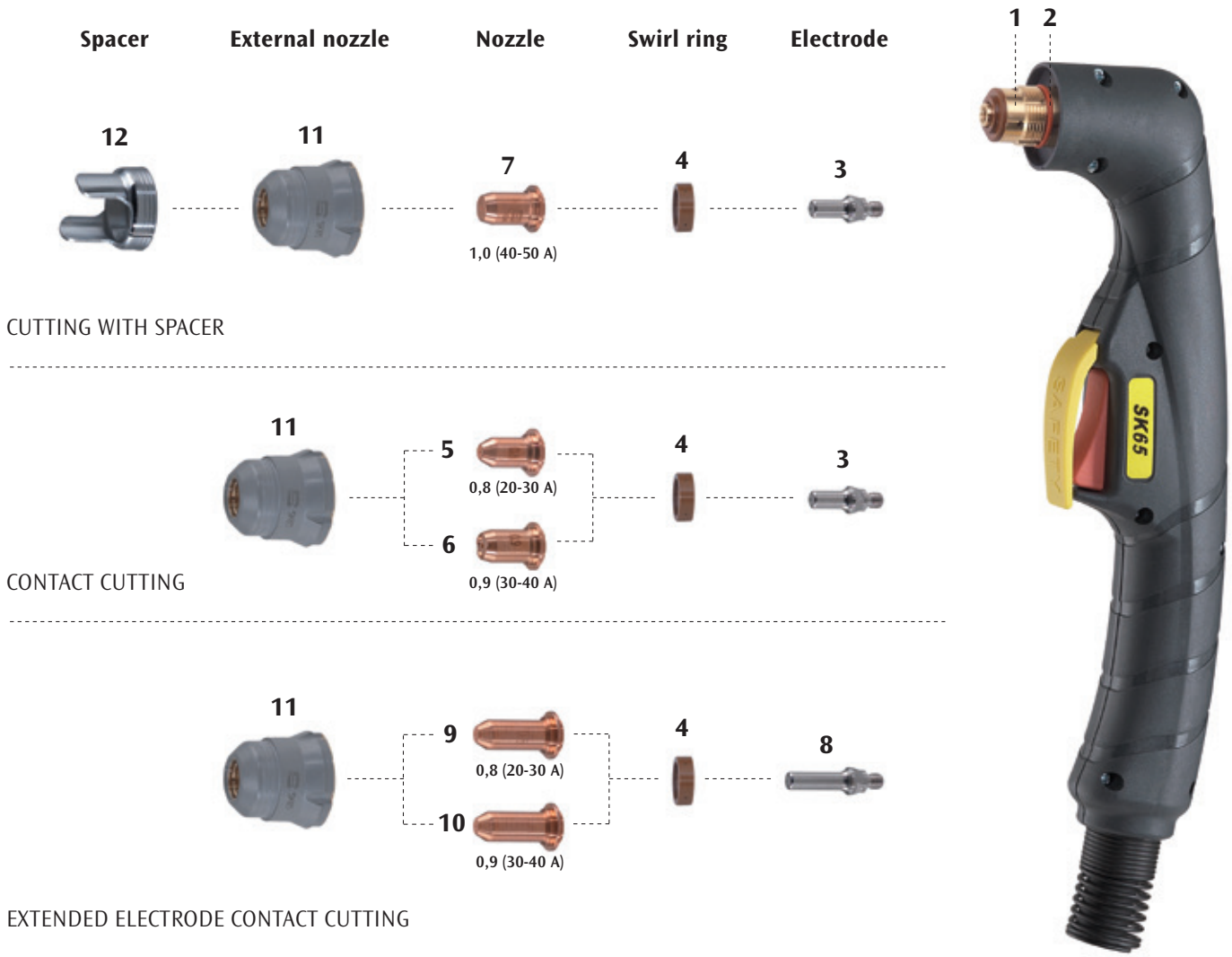


POS.	CODE	DESCRIPTION	QTY.
1	433609	O-ring	2
2	425024	Electrode	10
3	482137	Swirl ring	1
4	408642	Nozzle 85 A	5
5	408645	Nozzle 160 A	5
6	486021	External nozzle 45-85 A	1
7	486022	External nozzle 105-160 A	1
8	487633	Shield cap 45-85 A (manual cut)	1
9	487634	Shield cap 105-160 A (manual cut)	1
10	---	Silicone lubricant for O-Ring	1



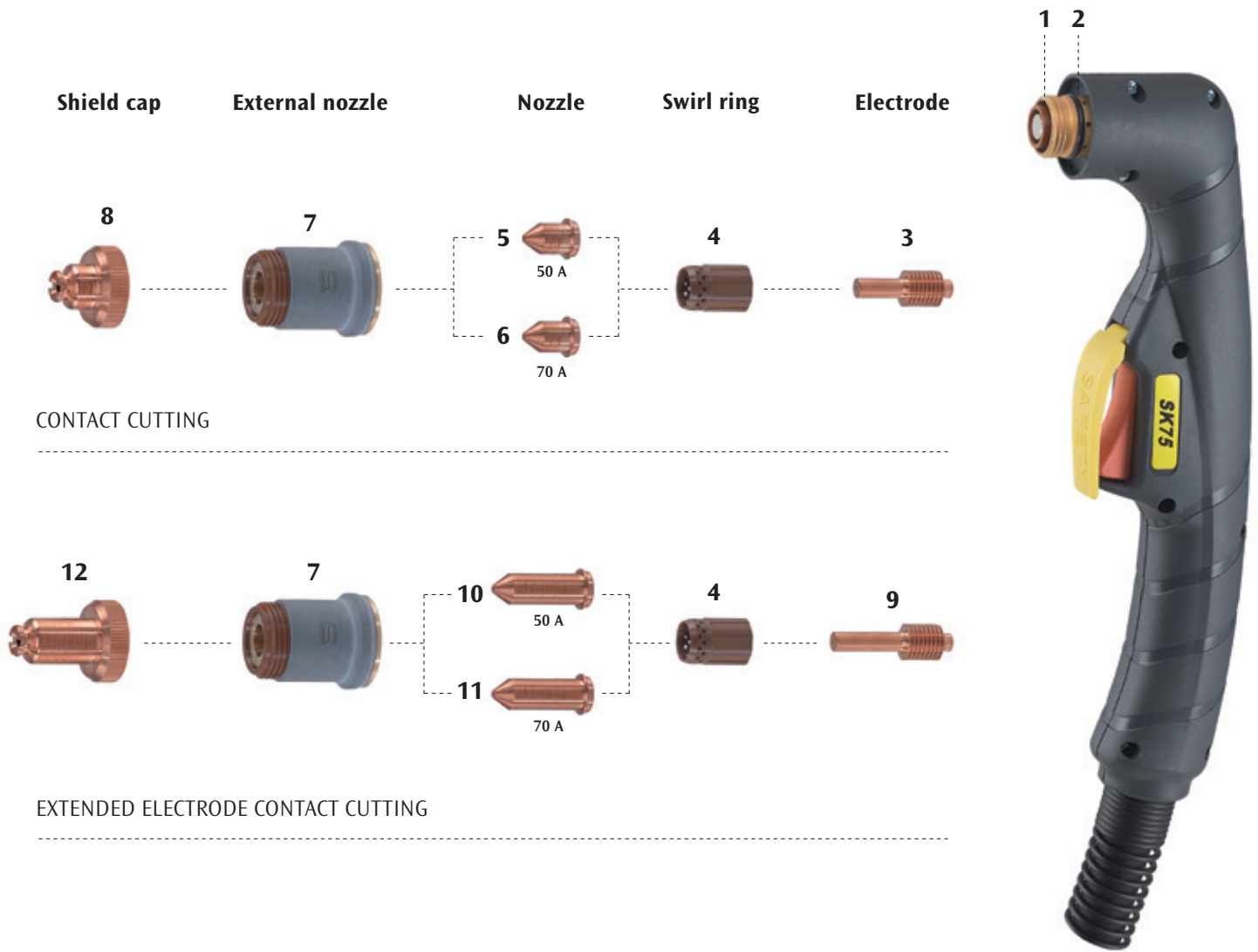
POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422665	Torch body	1		
2	433607	O-ring	10		
3	425021	Electrode	10	•	
4	482126	Swirl ring	5	•	
5	408600	Nozzle contact cutting \varnothing 0,65 (10-20 A)	10		
6	408601	Nozzle contact cutting \varnothing 0,8 (20-30 A)	10	•	
7	425058	Extended electrode	5		
8	408620	Extended nozzle contact cutting \varnothing 0,65 (10-20 A)	5		
9	408621	Extended nozzle contact cutting \varnothing 0,8 (20-30 A)	5		
10	486076	External nozzle	1	•	

- Assembled on SK25 torch when supplied with the equipment



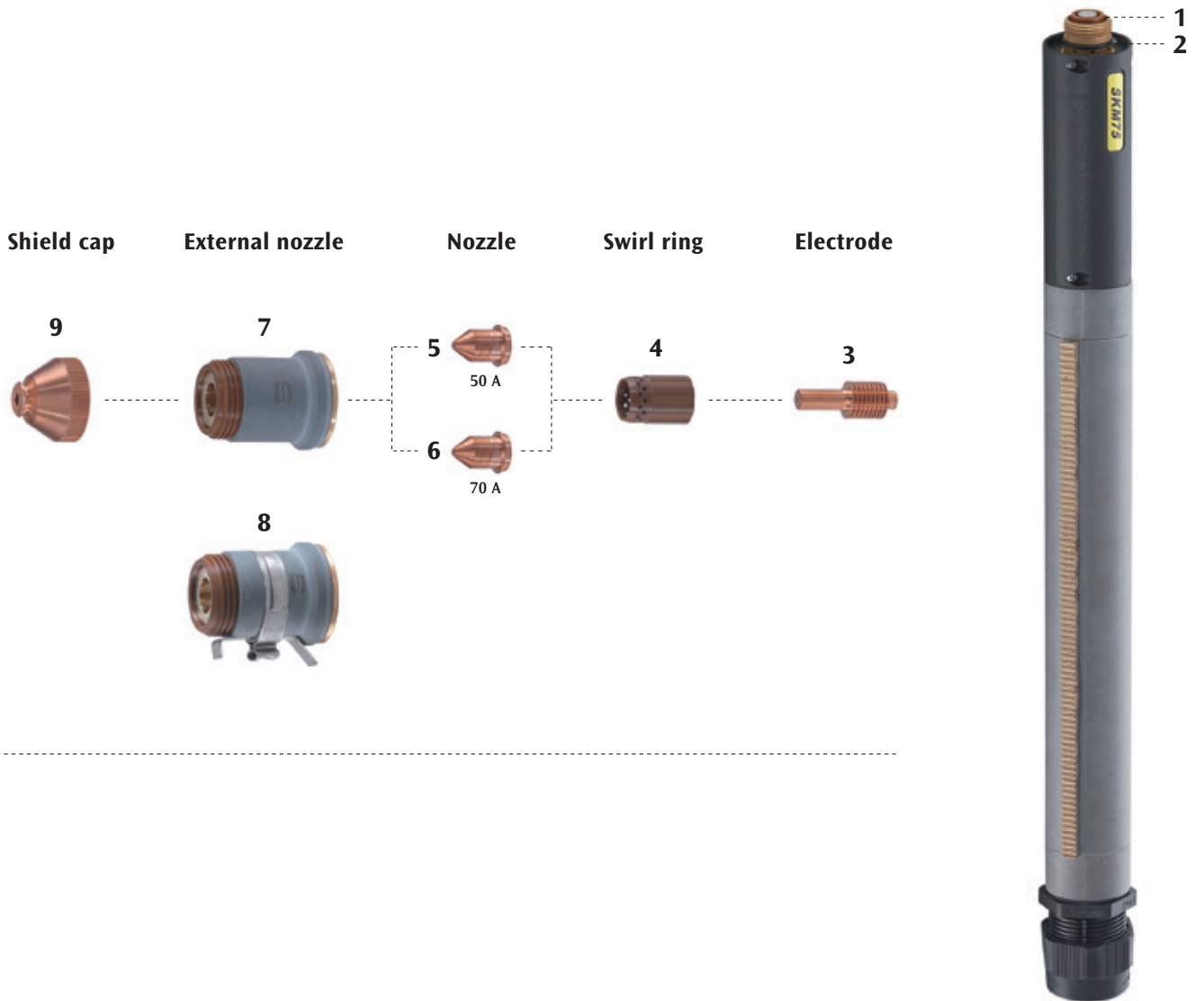
POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422664	Torch body	1		
2	433607	O-ring	10		
3	425021	Electrode	10	•	
4	482126	Swirl ring	5	•	
5	408601	Nozzle contact cutting \varnothing 0,8 (20-30 A)	10		
6	408602	Nozzle contact cutting 4 embossed \varnothing 0,9 (30-40 A)	10		
7	408603	Flat Nozzle \varnothing 1,0 (40-50 A)	10	•	
8	425058	Extended electrode	5		
9	408621	Extended nozzle contact cutting \varnothing 0,8 (20-30 A)	5		
10	408622	Extended nozzle contact cutting \varnothing 0,9 (30-40 A)	5		
11	486078	External nozzle	1	•	
12	424480	Double pointed spacer	2	•	

• Assembled on SK65 torch when supplied with the equipment



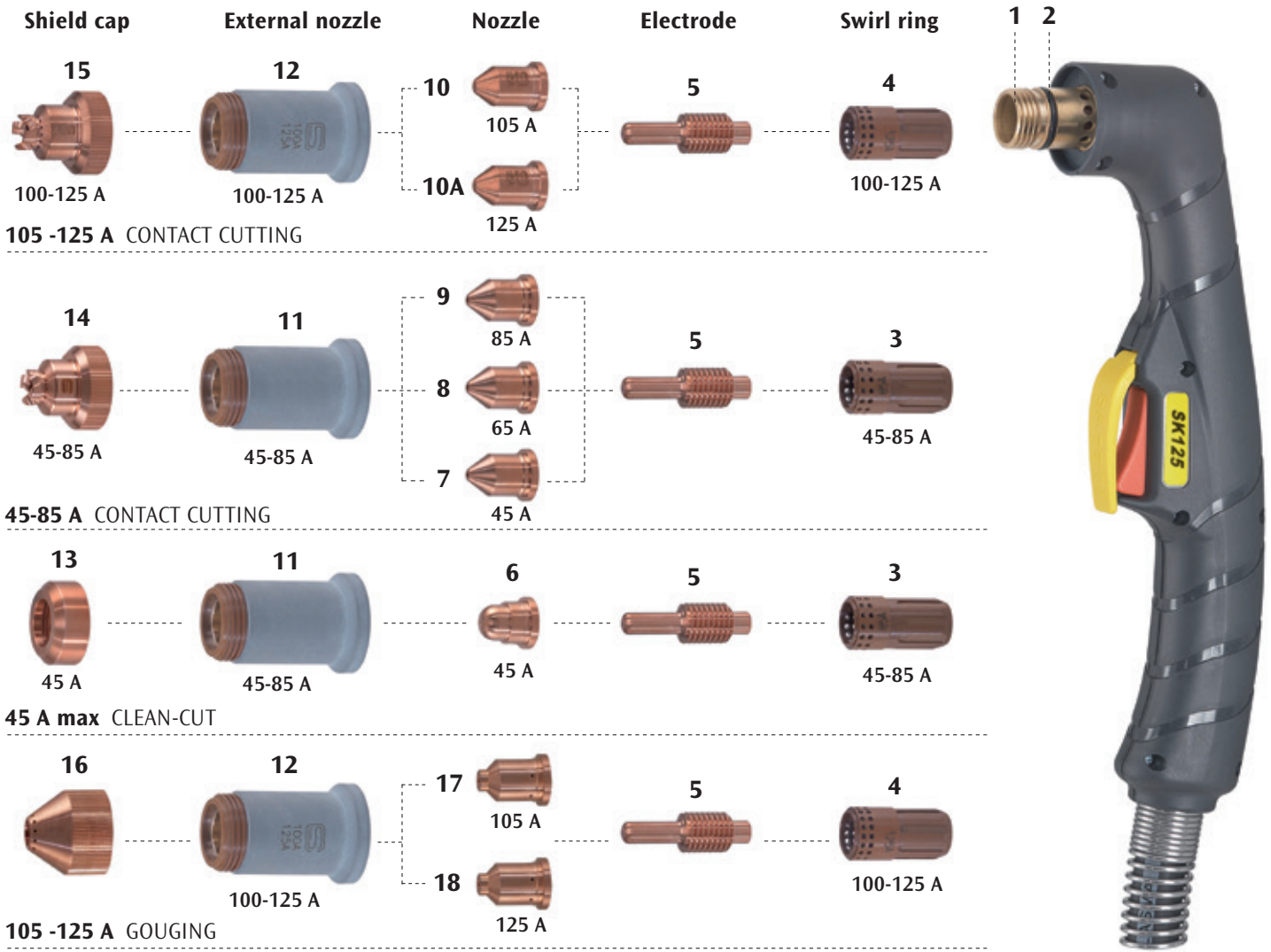
POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422674	Torch body	1		
2	433605	O-ring	20		
3	425022	Electrode	5	•	
4	482134	Swirl ring	2	•	
5	408609	Nozzle 50 A	10		
6	408610	Nozzle 70 A	10	•	
7	486049	External nozzle	1	•	
8	487630	Shield cap (manual cut)	2	•	
9	425059	Extended electrode	5		
10	408623	Extended nozzle 50 A	5		
11	408624	Extended nozzle 70 A	5		
12	424490	Extended Shield cap (manual cut)	2		

• Assembled on SK75 torch when supplied with the equipment



POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422676	Torch body	1		
2	433605	O-ring	20		
3	425022	Electrode	5	•	
4	482134	Swirl ring	2	•	
5	408609	Nozzle 50 A	10		
6	408610	Nozzle 70 A	10	•	
7	486049	External nozzle	1	•	
8	486027	External nozzle with ohmic sensor	1		
9	487629	Shield cap (mechanized cutting)	2	•	

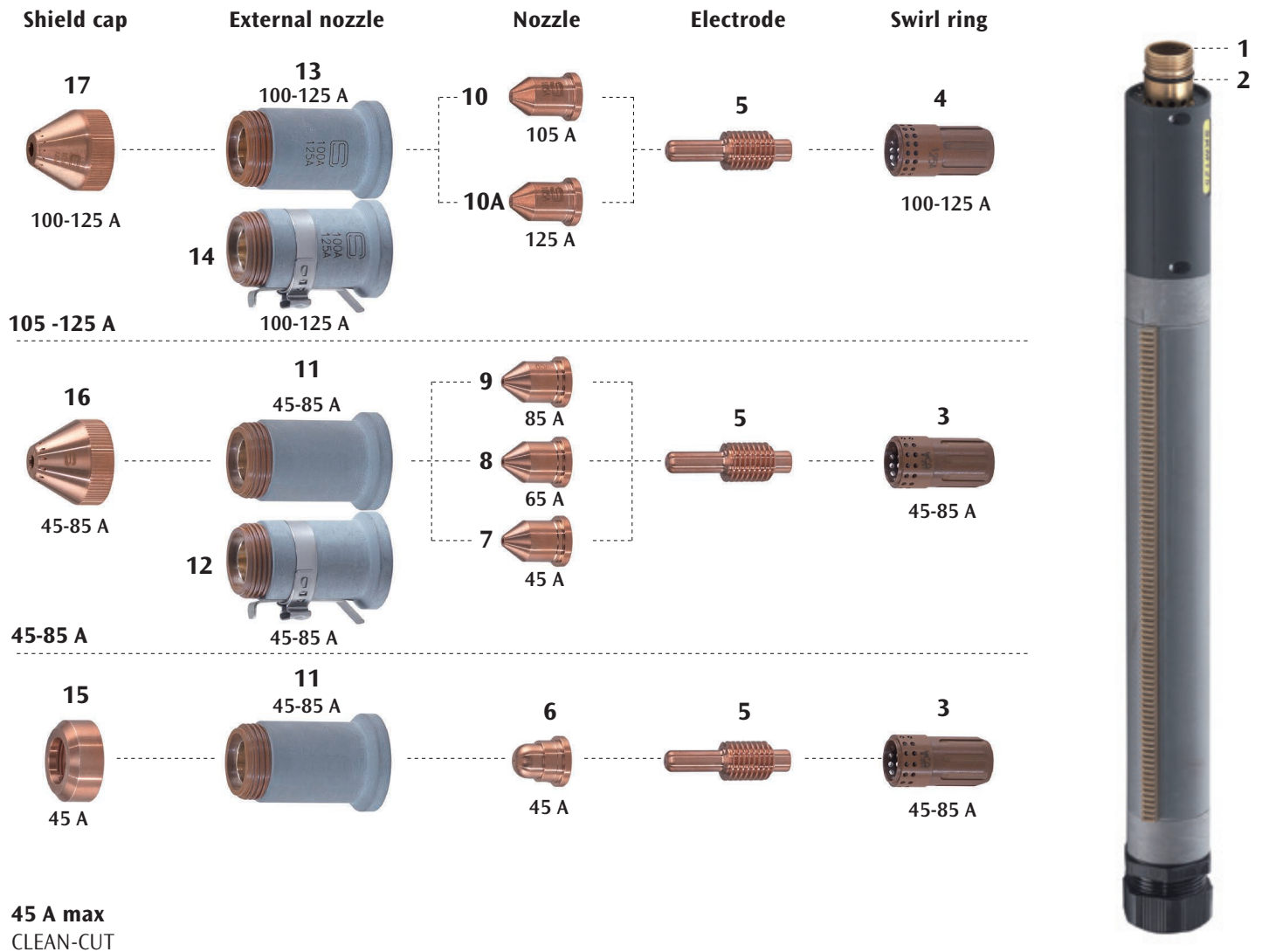
- Assembled on SKM75 torch when supplied with the equipment



POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422675	Torch body	1		
2	433608	O-ring	20		
3	482135	Swirl ring 45-85 A	2		
4	482136	Swirl ring 100-125 A	2	● ▲	
5	425023	Electrode	5	● ▲	
6	408613	Nozzle 45 A, Clean-Cut	10		
7	408614	Nozzle 45 A	10		
8	408615	Nozzle 65 A	10		
9	408616	Nozzle 85 A	10		
10	408612	Nozzle 105 A	10	●	
10A	408617	Nozzle 125 A	10	▲	
11	486028	External nozzle, 45-85 A	1		
12	486029	External nozzle, 100-125 A	1	● ▲	
13	482030	Shield cap 45 A - Clean-Cut	3		
14	487632	Shield cap 45-85 A (manual cut)	2		
15	487631	Shield cap 100-125 A (manual cut)	2	● ▲	
16	487640	Shield cap (gouging)	3		
17	408631	Nozzle 105 A (gouging)	5		
18	408634	Nozzle 125 A (gouging)	5		

● Assembled on SK125 torch when supplied with the equipment SHARK 105-M/MR

▲ Assembled on SK125 torch when supplied with the equipment SHARK 125-M/MR

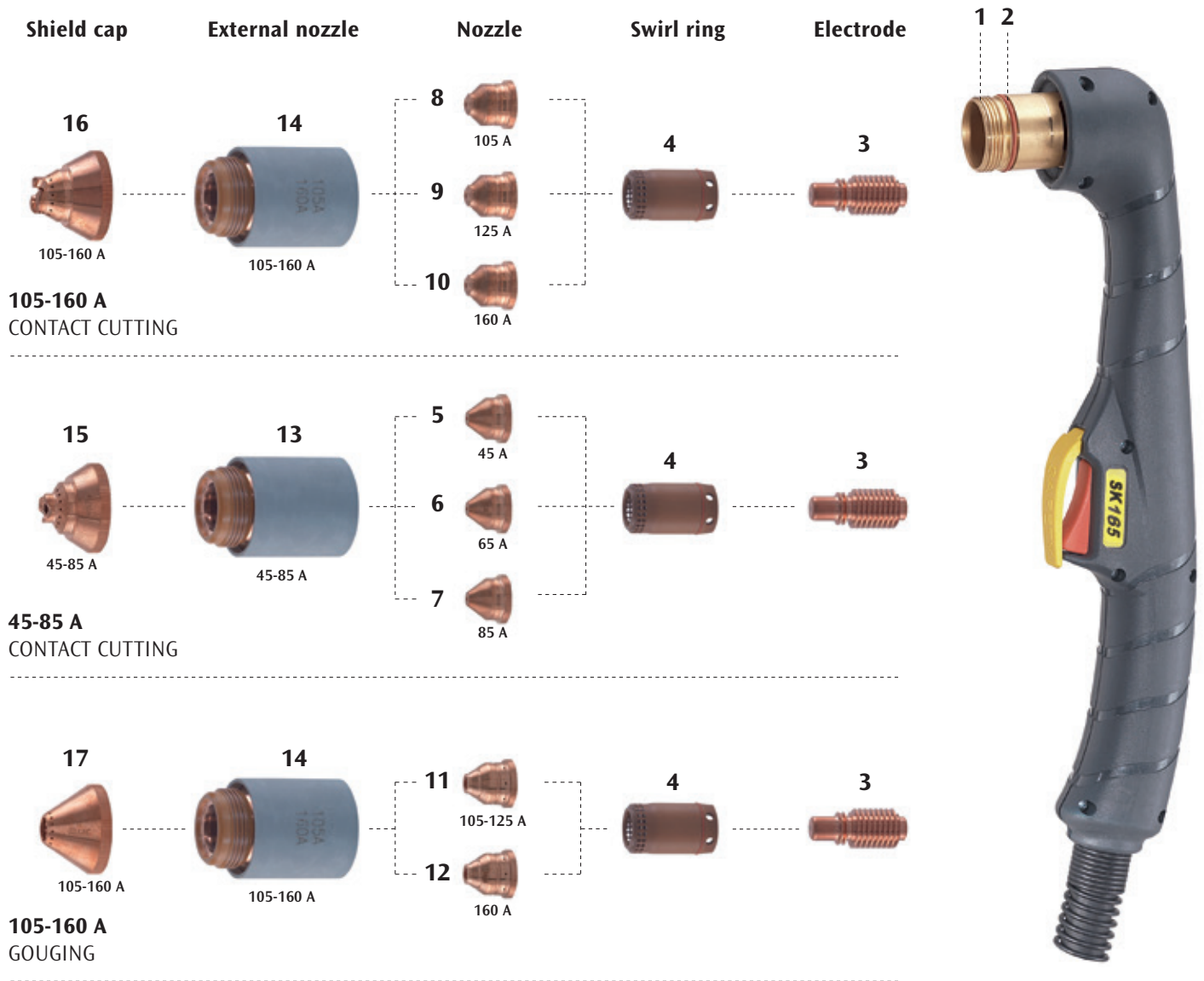


45 A max
CLEAN-CUT

POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422677	Torch body	1		
2	433608	O-ring	20		
3	482135	Swirl ring 45-85 A	2		
4	482136	Swirl ring 100-125 A	2	● ▲	
5	425023	Electrode	5	● ▲	
6	408613	Nozzle 45 A, Clean-Cut	10		
7	408614	Nozzle 45 A	10		
8	408615	Nozzle 65 A	10		
9	408616	Nozzle 85 A	10		
10	408612	Nozzle 105 A	10	●	
10A	408617	Nozzle 125 A	10	▲	
11	486028	External nozzle 45-85 A	1		
12	486025	External nozzle 45-85 A with ohmic sensor	1		
13	486029	External nozzle 100-125 A	1	● ▲	
14	486026	External nozzle 100-125 A with ohmic sensor	1		
15	482030	Shield cap 45 A - Clean-Cut	3		
16	487635	Shield cap 45-85 A (mechanized cutting)	2	● ▲	
17	487636	Shield cap 100-125 A (mechanized cutting)	2		

● Assembled on SKM125 torch when supplied with the equipment SHARK 105-M/MR

▲ Assembled on SKM125 torch when supplied with the equipment SHARK 125-M/MR



POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422678	Torch body	1		
2	433609	O-ring	20		
3	425024	Electrode	5	•	
4	482137	Swirl ring	2	•	
5	408640	Nozzle 45 A	10		
6	408641	Nozzle 65 A	10		
7	408642	Nozzle 85 A	10		
8	408643	Nozzle 105 A	10		
9	408644	Nozzle 125 A	10		
10	408645	Nozzle 160 A	10	•	
11	408632	Nozzle for gouging 105-125 A	10		
12	408633	Nozzle for gouging 160 A	10		
13	486021	External nozzle 45-85 A	1		
14	486022	External nozzle 105-160 A	1	•	
15	487633	Shield cap 45-85 A (manual cut)	2		
16	487634	Shield cap 105-160 A (manual cut)	2	•	
17	487641	Shield cap (gouging)	2		

• Assembled on SK165 torch when supplied with the equipment

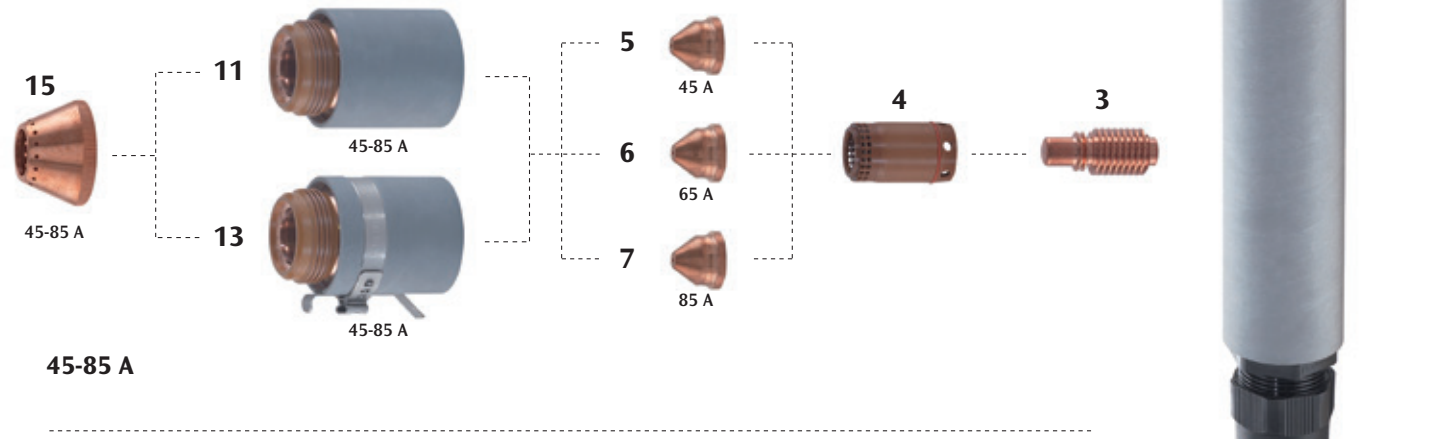
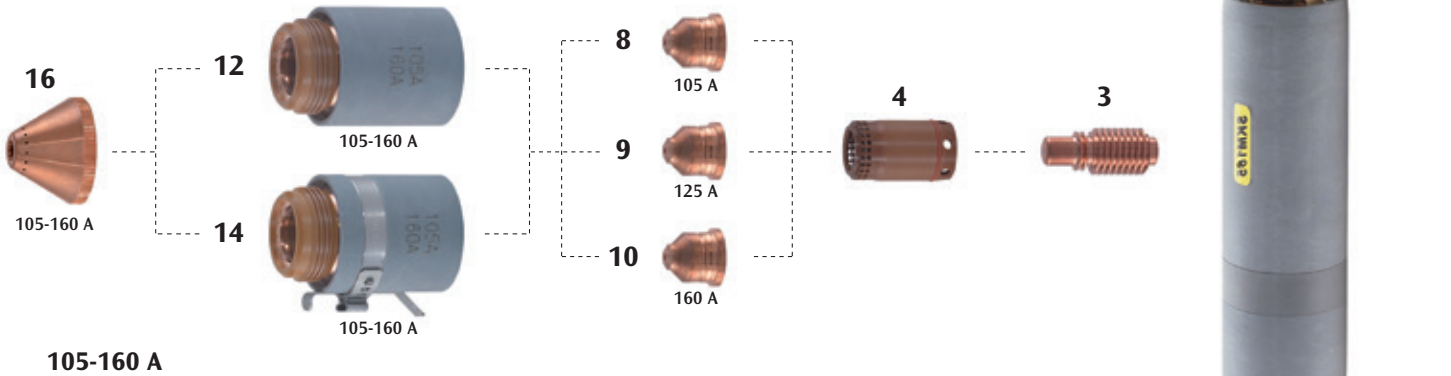
Shield cap

External nozzle

Nozzle

Swirl ring

Electrode



POS.	CODE	DESCRIPTION	BLISTER QTY.		
1	422679	Torch body	1		
2	433609	O-ring	20		
3	425024	Electrode	5	•	
4	482137	Swirl ring	2	•	
5	408640	Nozzle 45A	10		
6	408641	Nozzle 65A	10		
7	408642	Nozzle 85A	10		
8	408643	Nozzle 105A	10		
9	408644	Nozzle 125A	10		
10	408645	Nozzle 160A	10	•	
11	486021	External nozzle 45-85 A	1		
12	486022	External nozzle 105-160 A	1	•	
13	486023	External nozzle 45-85 A with ohmic sensor	1		
14	486024	External nozzle 105-160 A with ohmic sensor	1		
15	487637	Shield cap 45-85 A (machine cut)	2		
16	487638	Shield cap 105-160 A (machine cut)	2	•	

• Assembled on SKM165 torch when supplied with the equipment

BEVEL TOOL KIT

Necessary for beveling edges in a precise way, this accessory is composed by:

- Compass for both straight and inclined cutting
- Adjustable axle support for both straight and inclined cutting
- Wheeled torch holder



COMPASS

To perform circular cutting on all metals. The compass is standard equipped with the **wheeled torch holder** ideal for manual cutting jobs.



COMPRESSED AIR FILTER

By reducing humidity from the compressed air, it permits to supply dry filtered air, which ensures a better performance during cutting operations.



ULTRALUX MASK AND GOGGLES



CODE **439232**

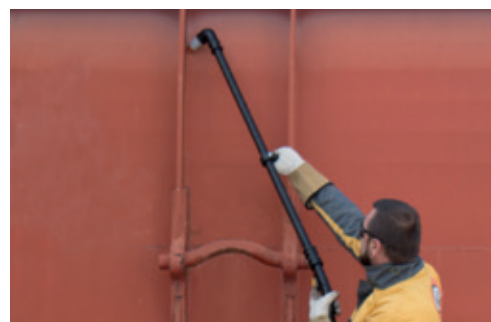
Safe protection during cutting process from UV and IR rays, heat and sparks. DIN 9÷13 fully adjustable darkening level. EN 175 standard compliance.



CODE **439255**

UV/IR 5.0 protection goggles recommended for cutting up to 50A. EN 166 standard compliance.

LONG TORCH SK 165XL



CODE **022083**

LONG TORCH SK 165 XL 130 cm / 45° - cable 7,5 m





CEA COSTRUZIONI ELETTROMECCANICHE ANNETTONI S.p.A.
C.so E. Filiberto, 27 - 23900 LECCO - ITALY
Cas. Post. (P.O. BOX) 205
Tel. +39 0341 22322 - Fax +39 0341 422646
export@ceaweld.com
www.ceaweld.com



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