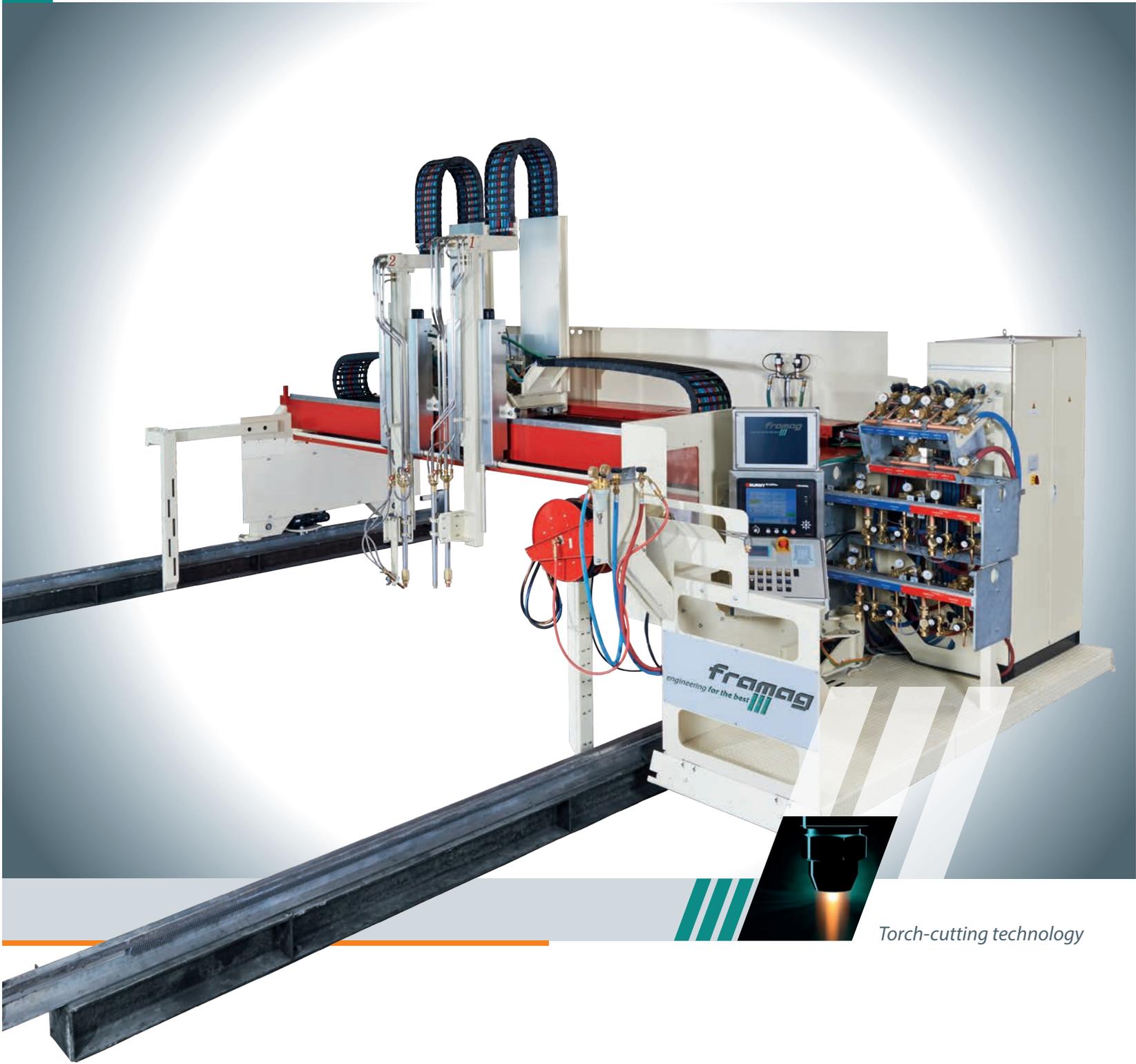




TORCH CUTTING TECHNOLOGY – we like it hot!



Torch-cutting technology

35 years of experience in torch cutting technology

In 1979 **framag** was founded as a subsidiary of Lenzing AG. In addition to mechanical engineering, the company – which is based in Upper Austria – lists vibration technology as one of its core competences.

framag serves the steel industry in the torch cutting area. **framag** has had success with its made-to-order torch cutting machinery, for use on everything from continuous casting to finishing to special applications (risers, shapes, scrap).

Complete turnkey solutions can also be provided on request. **framag** maintains its leading position by continuous optimisation of torches and nozzles.

Thanks to its ongoing research and development and the company's high-quality, "Made in Austria" workmanship, **framag** has been able to secure its position as technological leader for the future.



Torch-cutting technology



Test stand technology



Machine frames



Sawing technology



Special-purpose machines



Contract production



framag - Torch cutting units
for every application

Low and high alloy steels



Special foundry solutions: Riser separation

framag torch cutting machinery for CONTINUOUS CASTING

framag torch cutting machinery of type SGN, with its outstandingly robust design, is used directly on the strand.

This machine type is used to cut the hot slabs at the back end of the continuous casting line.

Powder cutting devices for increasing the flame temperature when cutting high-alloy steels are also available for this machine type.

Benefits

- Low-consumption nozzles
- Savings in materials due to narrow kerf
- Optimised for the steel mill (robust)
- Maintenance friendly
- Strand synchronisation (mechanical or electronic)
- Automatic edge and height detection
- High-performance torch with integral ignition flame
- High-efficiency water cooling
- Short cycle times



Suitable for material dimensions (mm)	
Thickness	Width
For all material dimensions	

Material quality Carbon steel, stainless steel



framag torch cutting machinery for FINISHING

framag torch cutting machinery of type BSA (machine with boom) and BSE (portal machine) are used for the length slitting and/or cross cutting of daughter slabs or to straighten the head or tail ends of the slabs for further processing.

On request, the machine can be fitted with CNC control for shape cuts or lateral levelling of the slabs.

Powder cutting devices for increasing the flame temperature when cutting high-alloy steels are also available for this machine type.

Benefits

- Low-consumption nozzles
- Savings in materials due to narrow kerf
- Optimised for the steel mill (robust)
- Maintenance friendly
- Automatic edge and height detection
- High-performance torch with integral ignition flame
- High-efficiency water cooling
- Short cycle times



Suitable for material dimensions (mm)

Thickness

Width

For all material dimensions

Material quality Carbon steel, stainless steel

framag torch cutting machinery for risers in **FOUNDRIES**

framag torch cutting machines for risers are designed for use in foundries for separating risers from the castings.

The machine has a total of five axes (four driven by servo-motors and one with manual settings). The operator employs remote control with a teach-in function. The machine travels to the predefined starting position, as guided by the operator, and the risers are separated one by one.

Benefits

- Low space requirement due to boom design
 - Low-consumption nozzles
 - Small kerf
 - Optimised for the steel mill (robust)
 - Maintenance friendly
 - High-performance torch with integral ignition flame
 - High-efficiency water cooling
 - Cutting depth up to 2.5 m
 - Exact shape cuts with the latest CNC control
 - Crosshead for bevel cut
- Suitable for hot and cold castings
 - Pivoting torch carrier (360 °)
 - Teach-in function



Suitable for material dimensions (mm)

Riser diameters

300 - 2,500

Material quality Carbon steel, high-alloy steels



framag torch cutting machinery for cutting **SCRAP**

framag scrap torch cutting machinery of type SBS is designed for cutting scrap or steel waste (ladle skulls, distributor skulls) into reusable parts.

An optional exhaust extraction system can be installed to collect and remove the dust created by this. Filters are installed directly by the machine bay. The products for cutting are positioned on the material trolley by a fork lift, crane or other handling equipment.

Benefits

- Low-consumption nozzles
- Small kerf
- Optimised for the steel mill (robust)
- Maintenance friendly
- High-performance torch with integral ignition flame
- High-efficiency water cooling
- Cutting depth up to 2.5 m
- Teach-in function
- Multinozzle torches are possible
- Powder cutting device
- Turnkey solutions
- Optimised safety concept



Suitable for material dimensions (mm)	
Thickness	Width
Up to 2,500	Flexible

Material quality Carbon steel, stainless steel

framag manual torch cutting machinery

Manual torch cutting machines of type **Secator** are mainly used in slab finishing for length slitting and cross cutting of the slabs. **Secator** can be used as an emergency torch cutting device on the strand.

The operator starts the machine with a mobile operating unit.

Benefits

- Precise cutting quality
- Narrow kerf
- Minimal loss of material, and thus major cost savings
- High cutting speeds
- Short cycle times
- Low use of cutting media
- Maintenance-free



Suitable for material dimensions (mm)	
Thickness	Width
700	3,000

Material quality Carbon steel, stainless steel



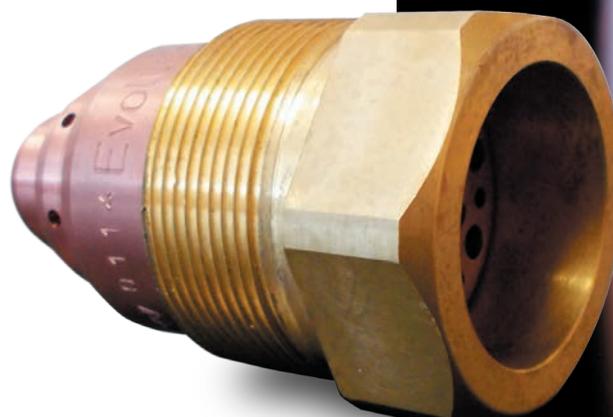
framag EVOLUTION – the new generation of nozzles

To achieve the highest quality and performance goals in torch cutting technology, **framag** mobilises all resources, makes use of potential and focuses on one goal: **efficiency in cutting.**

“In the course of continuously striving for improvements, **framag** has developed a new generation of flame-cutting nozzles and successfully tested them for the long term at Salzgitter Flachstahl GmbH. The nozzles show improved cutting quality, higher cutting speeds and lower gas consumption,” says Peter MÜLLER, Director of Continuous Casting and Finishing at Salzgitter Flachstahl GmbH.

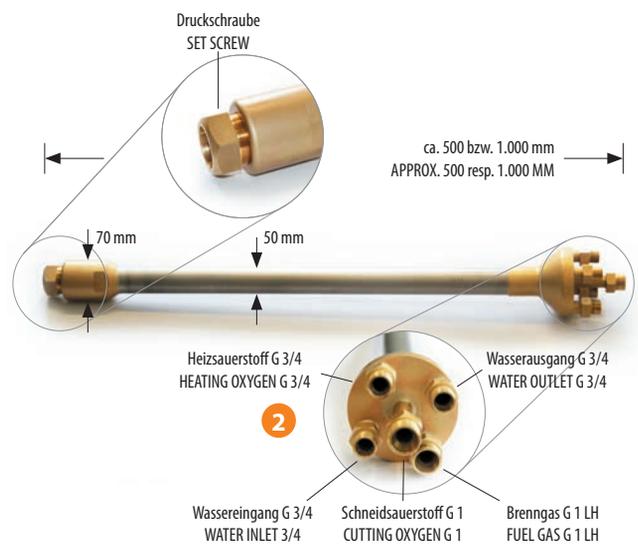
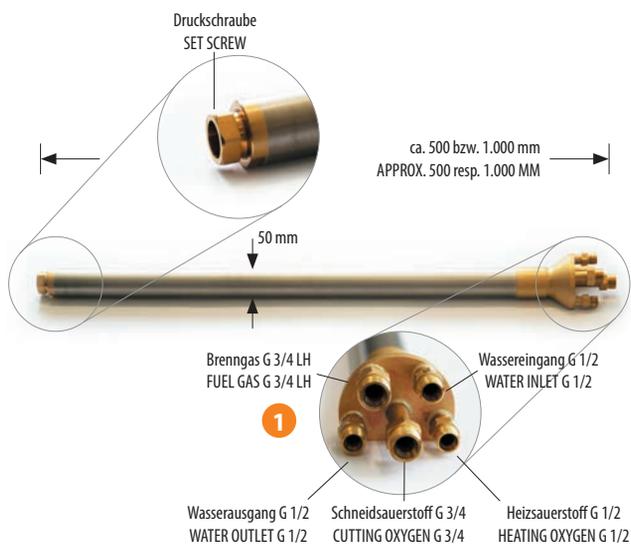
General benefits of framag EVOLUTION FCN nozzles

- Small kerf
- Low material loss and thus enormous cost savings
- Precise cutting quality
- 30 % higher cutting speeds
- Short cycle times
- Optimised media consumption



Technical data FCN

	FCN 150	FCN 300	FCN 500	FCN 700
Material quality	Carbon steel	Carbon steel	Carbon steel	Carbon steel
Material thickness	150 mm	300 mm	500 mm	700 mm



1 Series 600

Torch	Art. No. Torch	Set screw		Crosshead	
		Short	Long for FCN nozzles only	Integrated	Optional (Order no.)
Prestocut C 635	731.29800	731.00268	FCS0000-06-001	No	731.36623
Prestocut C 655	731.29790	731.00268	FCS0000-06-001	No	731.36623
Prestocut C 651	731.30530	731.00268	FCS0000-06-001	No	731.36623
Prestocut C 6513	731.32980	731.00268	FCS0000-06-001	No	731.36623
Prestocut C 6513G	731.25645	731.00268	FCS0000-06-001	x	None
Prestocut C 6515G	731.31160	731.00268	FCS0000-06-001	x	None
Prestocut C 6525G	731.25646	731.00268	FCS0000-06-001	x	None
Prestocut C 6535G	731.25647	731.00268	FCS0000-06-001	x	None
Prestocut C 6545G	731.25648	731.00268	FCS0000-06-001	x	None

Suitable nozzles >

NOZZLE AND TORCH RANGE

2 Series 1200

Torch	Art. No. Torch	Set screw		Crosshead	
		Short	Long for FCN nozzles only	Integrated	Optional (Order no.)
Prestocut 1255	731.14067	731.00477	No	No	731.30742
Prestocut 1251	731.14065	731.00477	No	No	731.30742

Suitable nozzles >

3 Series 1500

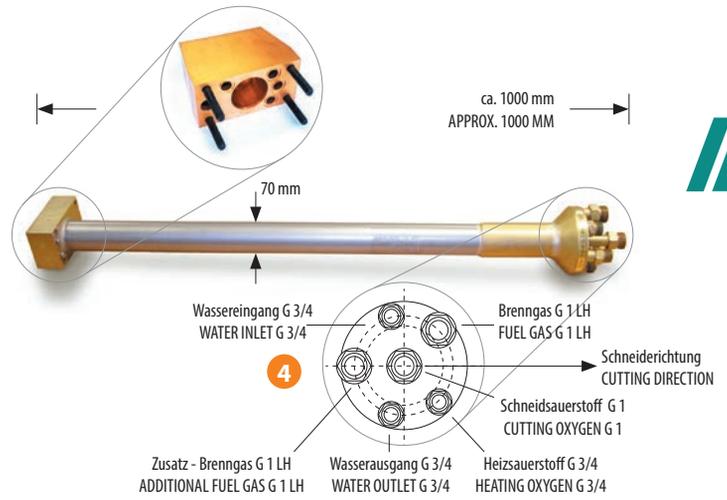
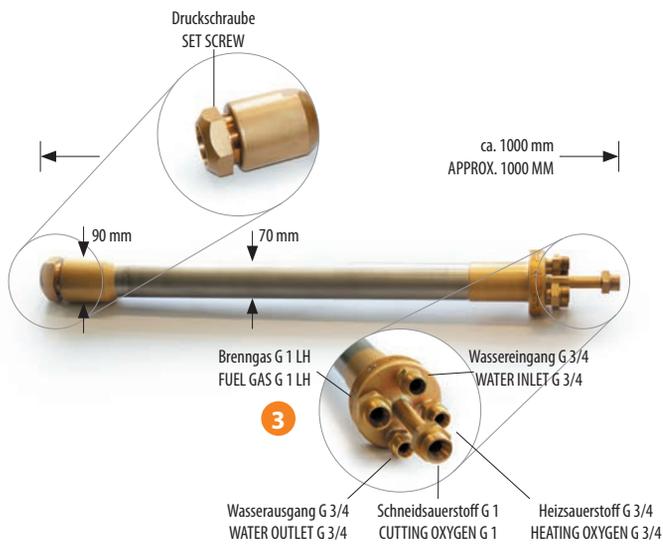
Torch	Art. No. Torch	Set screw		Crosshead	
		short	Long for FCN nozzles only	Integrated	Optional (Order no.)
Prestocut 1571	731.14351	731.14353	No	No	026-33-061

Suitable nozzles >

4 Series 2000 (Gigant)

Torch	Art. No. Torch	Set screw		Crosshead	
		Short	Long for FCN nozzles only	Integrated	Optional (Order no.)
Gigant 2000	731.34621	No	No	No	None

Suitable nozzles >



Nozzle	Art. No. Nozzle	Cutting thickness up to x mm	Gas mixture		Gas	
			Internal	External	Natural gas/propane	Acetylene
DB0300N-PM-06	731.26594	300	x		x	
DB0600N-PM-06	731.25507	600	x		x	
FCN0150N-PM-06	FCN0150-06-100	150		x	x	
FCN0300N-PM-06	FCN0300-06-100	300		x	x	
FCN0500N-PM-06	FCN0500-06-100	500		x	x	
FCN0700N-PM-06	FCN0700-06-100	700		x	x	
PB0200N-PM-06	731.40782	200		x	x	
PB0300N-PM-06	731.29417	300		x	x	
PB0400N-PM-06	731.34791	400		x	x	
PB0600N-PM-06	731.25508	600		x	x	
PB0600L-PM-06	731.36763	600		x	x	
DP0300N-AC-06	731.07433	300	x			x
DP0600N-AC-06	731.07434	600	x			x

Nozzle	Art. No. Nozzle	Cutting thickness up to x mm	Gas mixture		Gas	
			Internal	External	Natural gas/propane	Acetylene
PB0300N-PM-12	731.05667	300		x	x	
PB0600N-PM-12	731.05668	600		x	x	
PB0900N-PM-12	731.05669	900		x	x	
PB1200N-PM-12	731.05674	1200		x	x	

Nozzle	Art. No. Nozzle	Cutting thickness up to x mm	Gas mixture		Gas	
			Internal	External	Natural gas/propane	Acetylene
PB0300N-PM-15	731.31485	300		x	x	
PB0600N-PM-15	731.31418	600		x	x	
PB0700N-PM-15	731.38319	700		x	x	
PB0900N-PM-15	731.31419	900		x	x	
PB1200N-PM-15	731.31420	1200		x	x	
PB1500N-PM-15	731.14352	1500		x	x	
PB2000N-PM-15	731.39905	2000		x	x	
PB2000S-PM-15	731.32050	2000		x	x	

Cuts in one direction only

Cuts in one direction only

Nozzle	Art. No. Nozzle	Cutting thickness up to x mm	Gas mixture		Gas	
			Internal	External	Natural gas/propane	Acetylene
PB1200N-PM-20	731.01267	1200		x	x	
PB2000N-PM-20	731.00621	2000		x	x	
PB2500N-PM-20	731.09102	2500		x	x	

framag Torch Technology

Torches in the Prestocut series:

The cutting torches in the **Prestocut** series are suitable, depending on torch length and nozzle, for cutting cold or hot, unalloyed or alloyed materials up to 2,500 mm in thickness, preferably in the continuous casting area.

A cutting aid such as iron powder may be necessary for cold or hot material, depending on material composition, material thickness and material cross-section (e.g. round).

- Robust torch design, optimised for the steel mill
- Stainless steel shaft tube, hard-soldered connections
- Large-dimension connections according to DIN EN 560, ensuring minimal pressure losses.
- Water cooling directly up to the nozzle seating (in operation without water cooling, sealing of water connections with sintered metal filter)
- NC produced taper design, large sealing surfaces, ensuring optimum sealing and extremely high heat conduction
- Separation of cutting nozzle and set screw, eliminating distortion when tightening, i.e. no wear to the sealing surface
- Simple repairs to the cutting torch
- Integrated ignition flame in case of external mixture nozzles or separate ignition torch in case of internal mixture nozzles

framag Cutting Nozzle Technology

The series of **internal/external mixture cutting nozzles** optimally combines the benefits of internal and external mixture nozzles (high heat output, clean cuts).



In the **external mixture cutting nozzle**, the fuel gas and heating oxygen are only mixed as they leave the cutting nozzle. There is no ignitable fuel gas/oxygen mixture in the cutting torch and nozzle. This gives backfire safety at every pressure setting. External mixture results in a very smooth surface with low edge fusing

In the **internal mixture cutting nozzle**, the fuel gas and heating oxygen are individually mixed in each outlet orifice within the cutting nozzle. This principle ensures that there is no ignitable fuel gas-oxygen mixture in the cutting torch. The dimensioning of the individual orifices in the cutting nozzle means that there is backfire safety in the operating pressure range. Owing to the very high heat output, this nozzle is particularly suitable for cutting without ignition aid.

Benefits of **framag** nozzles

- High cutting speed due to optimised design
- Economical media consumption
- Long service life due to wide nozzle spacing
- Efficient cutting start due to high heat output
- High operating safety due to tapered seal
- High profitability due to narrow kerf
- Long lifetime due to simple maintenance
- Versatile use on cold and hot material
- Suitable for all common fuel gases
- Can be used for all cutting torches in the **Prestocut series**



framag Turnkey Solutions

Modern mechanical engineering is developing in one direction: **increased productivity**.

framag supplies and engineers total turnkey plants customised according to the customers' requirements.

The robust design of **framag** plants and the savings on media and materials due to the narrow kerf make a significant contribution to increased productivity.

But cutting quality is also in focus at **framag**. **framag's** revolutionary EVOLUTION generation of nozzles guarantees perfect cutting quality (no erosion) and narrow kerfs.

And **framag** cutting torch machinery is also operator and maintenance friendly.

Total plants from one source

- Torch cutting machinery
- Exhaust extraction
- Material transport
- Roller conveyors/material supports
- Slab handling
- Enclosures
- Moveable production bays, etc.

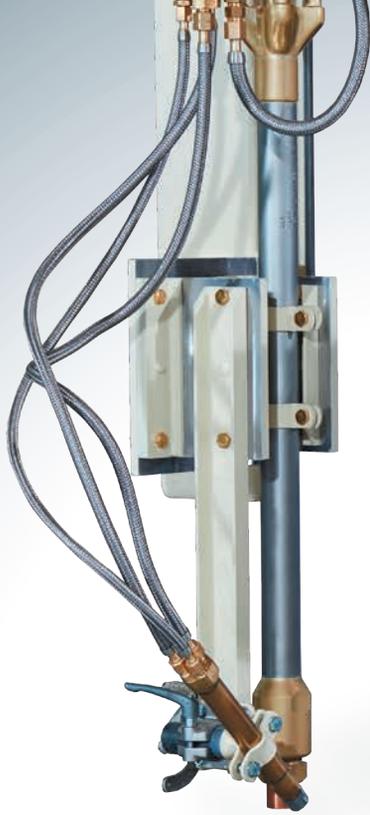


Turnkey solution for a torch cutting plant for scrap in Sweden



framag service mail

service@framag.com



Your capable service partner

As a machine manufacturer, **framag** has an important advantage over its competitors - **framag** knows its machines and can service them optimally and bring them up to cutting-edge standards with the most up-to-date components. But our highly trained **framag** service technicians can also modify third-party machines with **framag's** state of the art technology.

Favourable service contracts (annual service during the term of the contract) guarantee that your machine will operate sustainably for many years and with the highest level of quality. To make servicing easier, **framag** also offers **a remote maintenance module, using ultramodern technology.**

In an **emergency framag** promises rapid **assistance!**

framag has sold innumerable machines worldwide that have been in use for more than 20 years and, thanks to regular servicing by **framag** technicians, still meet the high quality standards required by customers. **Service your machines regularly too!**

Your **framag** benefits

Torch cutting technology:

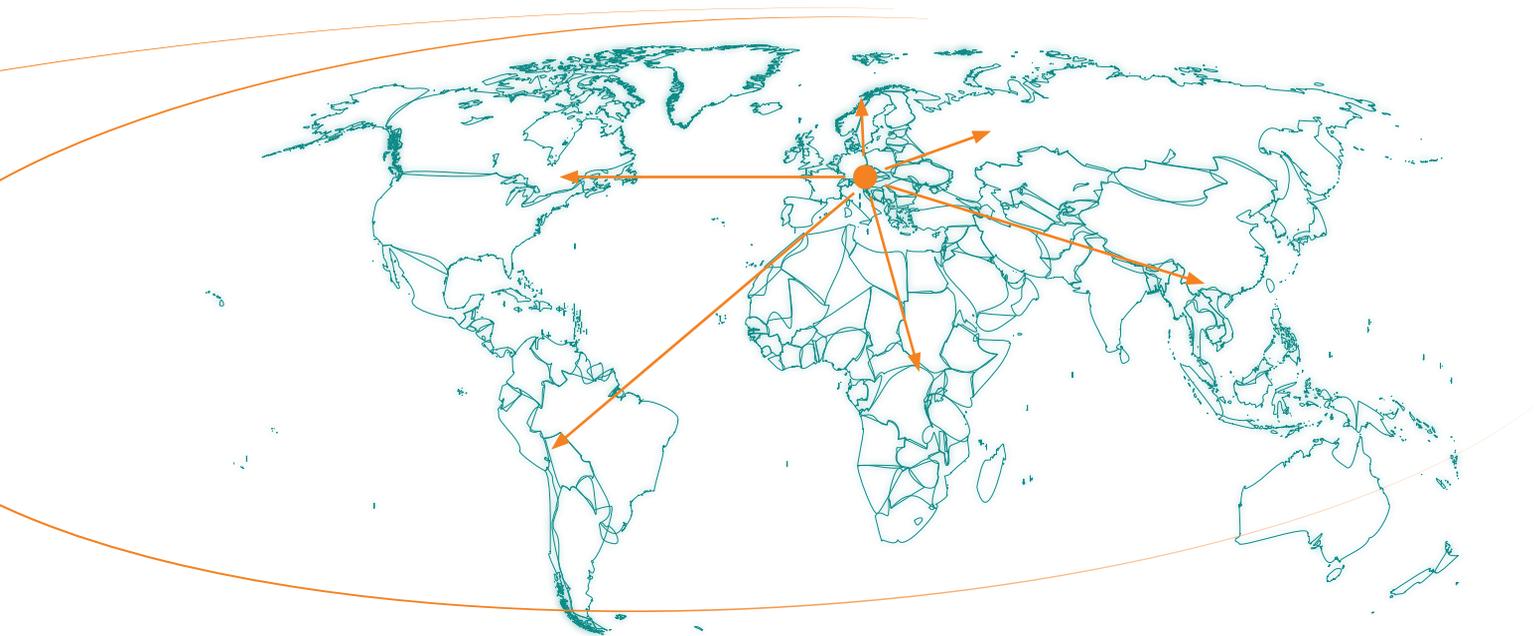
- Savings in materials due to narrow kerf
- Short cycle times
- No material erosion
- Highly trained service technicians
- Rapid assistance in an emergency
- Plant monitoring via remote maintenance



framag service telephone

+43(0)7683/5040-1000

When we speak of solutions, we also mean viewing the diversity of our tasks as an important challenge: Identification with the goals of our clients, an understanding of international market conditions and performance in application technology. We go the extra mile – just to be close to our customers.



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