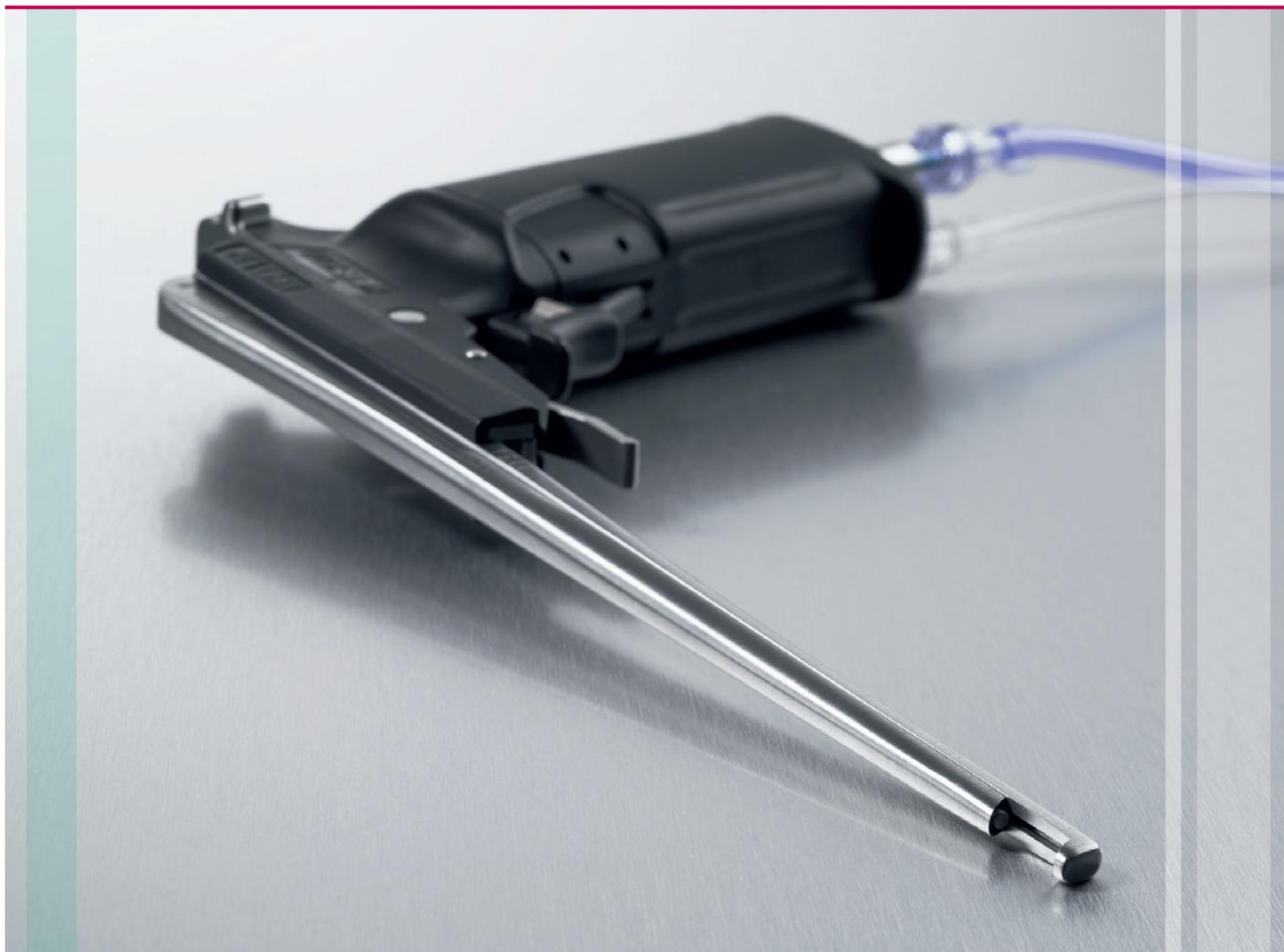


# Aesculap Neurosurgery

## KAIRison

Pneumatic bone punch



Technology that makes life easier.

# Air: The Elementary Solution.

A stroke of genius  
and the ability to translate it into technological innovation.  
KAIRison. A revolutionary bone punch  
with tangible benefits for surgeons.



## The problem

**Strenuous manual work?  
An excessive strain?**

Spine surgery requires total concentration and considerable strength. This is particularly true when the surgeon has to remove significant amounts of bone material, for example in vertebral canal stenosis or decompression procedures.

**Time for a change.**

Until now, rapid fatigue, and hand, joint and arm pain have been unwelcome but constant companions for Spinal Surgeons, Orthopedists and Neurosurgeons. But the time is ripe for a rethink of the traditional Kerrison bone punch, not least because of technological progress. It is time to consider pneumatics.

## The idea

**Prof. Fabrizio Caroli, Dr. Laura Raus,  
National Cancer Institute of Rome, Italy**

"The inspiration for the pneumatic Kerrison bone punch came from the need for a completely new system. The aim was not simply to develop an additional surgical instrument, but innovative technology: A system that permanently and reliably combines precision and power, and minimizes physical effort on the part of surgeons. We know that the new pneumatic KAIRison fulfils all of these requirements. And we are convinced that KAIRison will enter the neurosurgical history."



Developed in  
cooperation with:  
Prof. Fabrizio Caroli,  
Dr. Laura Raus; Rome

## The solution: KAIRison, pneumatic bone punch.



Technology that makes life easier.



## The solution

**Safe and powerful, nature's way.**

Air is a fascinating element. And pneumatics, the use of pressurized air to effect mechanical motion, is widely used in science, medicine and industry. This simple, robust, and easily available technology is increasingly found in surgical instruments.

**Tried and trusted.**

In conjunction with more sophisticated device design, pneumatics has become safer, more reliable – and therefore more widespread. It was tried and tested with perforators long ago. And now it's the KAIRison bone punch's turn: This innovative tool is perfectly safe, and enables cutting with very little effort. And offers remarkable reliability.

**KAIRISON**<sup>®</sup>

Again a new innovation from Aesculap.



# KAIRISON® Pneumatic Bone Punch

Technology that makes life easier.



## The benefits

- Easy handling
- Reduces physical effort required
- Relieves strain on hands and joints
- Less risk of reduced motor skills through fatigue
- Innovative safety mechanism
- Short learning curve
- Excellent balance
- Suitable for right- or left-handed use
- Reliable, does not jam
- Ergonomic design

## The reaction

**"My first reaction after using the KAIRison was to wonder why this unique tool had not been invented 20 years sooner."**

Dr. Joseph Maroon, UPMC, Pittsburgh, PA, USA.





### To lock and open



Quick and easy shaft replacement

### Safety first



Apply the safety catch to block the trigger mechanism when cleaning the punch.

### ON and OFF



When the bone punch is not in use, deactivate the system via the on/off switch to prevent accidental operation.

### Complete control



There are two power settings. For positioning the bone punch, apply light pressure to the trigger and stop when you meet resistance. Release the trigger to stop the flow of air at any time, and return the bone punch to its original position – without punching. To cut bone, apply full pressure to the trigger.

### Air on tap



Simply connect to the existing compressed air outlet in the OR.

# **KAIRISON**<sup>®</sup> Pneumatic Bone Punch

Technology that makes life easier.



## **A user-friendly tool, a career-extending tool**

Dr. Joseph Maroon, UPMC, Pittsburgh, PA, USA

"Aesculap's pneumatic Kerrison will add years to my spine surgery career. I have experienced none of the hand and joint pain I typically have after a routine laminectomy. KAIRison is similar to a regular Kerrison punch in terms of feedback, control and speed – but makes cutting effortless. This pneumatic Kerrison bone punch will become the bone-cutting tool of choice – a must for spinal surgeons in the US."



Dr. Joseph Maroon  
UPMC, Pittsburgh, PA, USA.

## **An effective and reliable system**

Dr. Thomas A. Kopitnik, Jr., Cheyenne Regional Medical Center, Wyoming, USA

"This efficient and very precise punch enables OR staff to cut bone with no effort. For example, it is very easy to perform a lumbar fusion where you have to cut significant amounts of bone material. Because I can operate without a standard bone punch or my drill system, I save time. In my opinion, this instrument is a must. I will not work without it when I have to cut large quantities of bone material."



Dr. Thomas A. Kopitnik, Jr.  
Cheyenne Regional Medical Center,  
Wyoming, USA

## In just three easy steps



- 1 | Connect the tube to the compressed air outlet in the OR. Then connect the tube to the pressure reducer, and connect the disposable tube to the handle.



- 2 | Insert the shaft, and turn this toward the handle until you hear it click into place. Please check the shaft is positioned correctly.

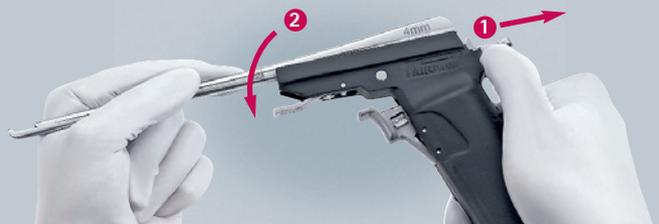


- 3 | Switch the KAIRison on. It is now ready to use. It is that simple.



C25511  
Kairison short guide poster

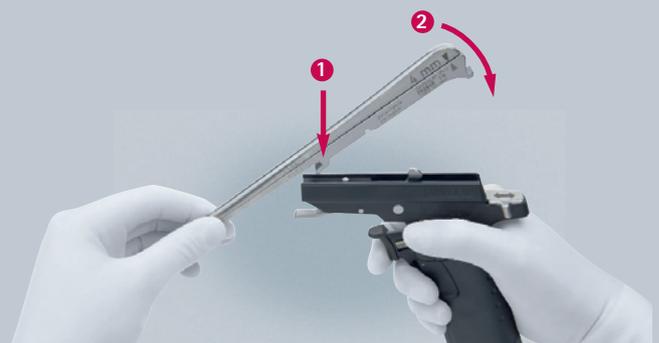
## Easy shaft replacement



- 1 | Pull the hock (1) and turn the shaft (2).



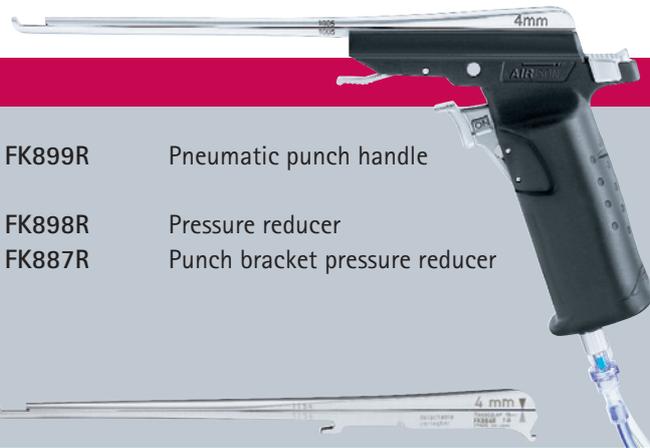
- 2 | To detach the shaft just lift it up.



- 3 | Insert the new shaft (1) and turn this toward the handle until you hear it click into place (2) – „click“.



C25411  
Kairison assembly/disassembly poster



FK899R Pneumatic punch handle  
 FK898R Pressure reducer  
 FK887R Punch bracket pressure reducer

Punch bracket pressure reducer



Pressure reducer



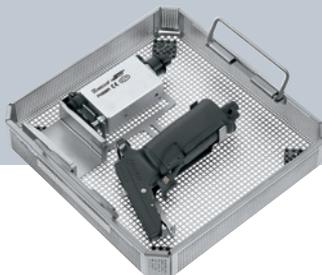
Length	Punch shaft	Width	Footplate	Working length	Jaw opening	Ejector
235 mm	FK882R	2 mm	standard	140 mm	12 mm	✓
	FK883R	3 mm	standard	140 mm	12 mm	✓
	FK884R	4 mm	standard	140 mm	12 mm	✓
	FK885R	5 mm	standard	140 mm	12 mm	✓
	FK886R	6 mm	standard	140 mm	12 mm	✓
285 mm	FK892R	2 mm	standard	190 mm	12 mm	✓
	FK893R	3 mm	standard	190 mm	12 mm	✓
	FK894R	4 mm	standard	190 mm	12 mm	✓
	FK895R	5 mm	standard	190 mm	12 mm	✓
	FK896R	6 mm	standard	190 mm	12 mm	✓

**FK888SU**

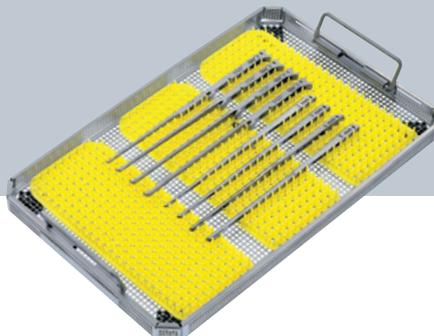
Disposable tube (3 m)  
 Sales unit: PAK = Package of 10 tubes



**FK881R**  
 Storage rack for KAIRison handle and pressure reducer



**FK891R**  
 Storage rack for KAIRison shafts

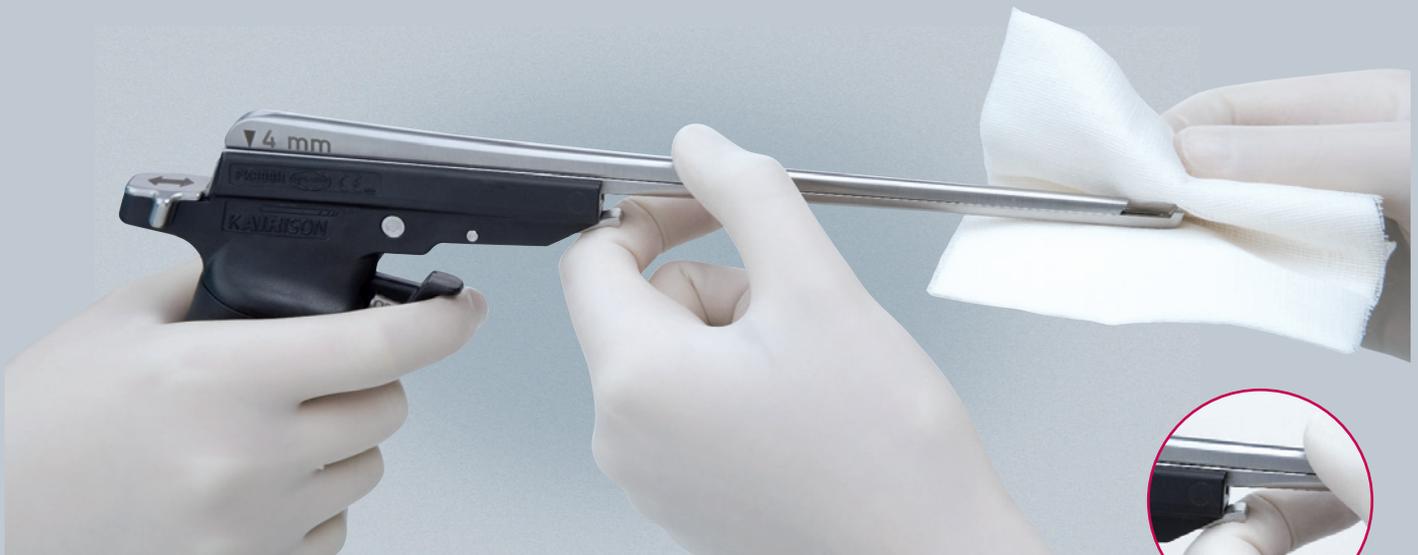


**GA466**  
 Pneumatic hose (5 m) with Aesculap-Dräger connection



**GA468**  
 Pneumatic hose (5 m) with Aesculap-Schrader connection





## A well-balanced, reliable, and safe instrument

PD Dr. Tobias Pitzen, University Hospital, Homburg

"Neurosurgeons who want to protect their fingers will spare their skills which are really in need during microsurgical steps of dissection.

This is particularly important for operations at the posterior cranial fossa or during spinal surgeries. Whenever facing a vertebral and thick bone e.g. at the occiput and posterior spine that has to be removed for microsurgical approaches to the cerebellum and spinal cord, the system avoids any fatigue in surgeon's wrist.



PD Dr. Tobias Pitzen  
University Hospital, Homburg

Use the blocking lever during bone fragment removal to prevent inadvertent actuation.

This punch reduces physical effort and can be even used right- or left-handed. Because of its easiness and safety it just needs a short learning curve."



AESCULAP®

**B | BRAUN**  
SHARING EXPERTISE

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