

GAV 8000 eco
GAV 8000 electronic
GAV HF



***Automatic riveting from GESIPA®:
Unique, performing, reliable***

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GESIPA®


Blind riveting unit GAV 8000 eco

Fully automatic blind riveting unit and basic type of the GAV 8000 electronic
– without setting process monitoring

Working range

- Blind rivets from 2.4 mm Ø up to 6.4 mm Ø alu and cu
- Blind rivets up to 6 mm Ø steel
- Blind rivets up to 5 mm Ø stainless steel
- Blind rivets up to a head diameter of 11.4 mm
- Rivet shaft lengths up to 30 mm
- Setting force up to 11,770 N at 6-7 bar air pressure

Productivity and possible savings

- Setting of up to 40 blind rivets per minute
- No specialised personal for the operation required
- Integration into fully automatic production lines possible



CE-Conformity:

Machine safety acc.
EU-Directive N° 2006/42/ EG

System description

- Easy to handle
- Intuitive menu guidance via navigation and function keys
- Screen operated setting of all operating parameters
- Maintenance screen easy fault-finding and troubleshooting
- Bespoke software adjustment possible
- Perfect for applications which do not require process control
- Mandrel disposal via vacuum system
- Spring loaded trigger system available as an option
- Self-sufficient or system-related operation possible
- SPS control via GESIPA® interface possible



Upgrade to GAV 8000 electronic possible in factory Walldorf, Germany against additional charge

Blind riveting unit GAV 8000 electronic

Fully automatic blind riveting systems for industrial production with process control

Working range

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- Blind rivets up to 6 mm Ø steel
- Blind rivets up to 5 mm Ø stainless steel
- Blind rivets up to a head diameter of 11.4 mm
- Rivet shaft lengths up to 30 mm
- Setting force up to 11,770 N at 6-7 bar air pressure

Productivity and possible savings

- Profitable from an quantity of approx. 500,000 blind rivets per year (in relation to German labour cost level)
- Up to 50 % time and cost savings compared to conventional blind riveting tools
- Large action radius of the riveting pistol due to up to 5.0 m long hose assembly (standard length 3.75 m)
- No specialised personal for the operation required
- Integration into fully automatic production lines possible
- Setting of up to 40 blind rivets per minute



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Setting pistol variants for GAV 8000 eco and GAV 8000 electronic



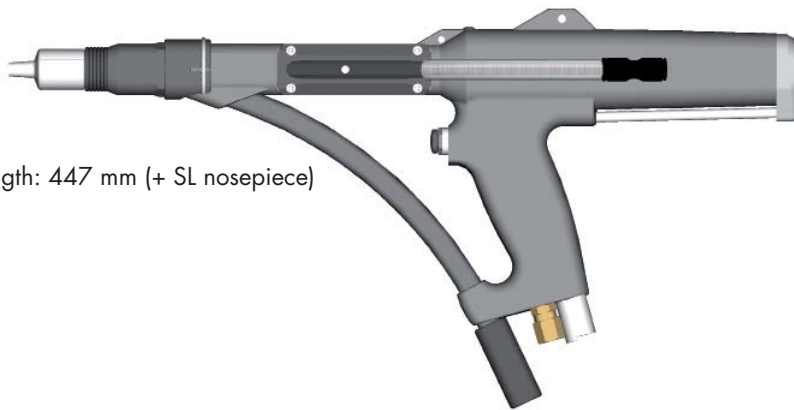
Specific workstation configuration

All GAV versions can be equipped with three different versions of setting pistols for ideal adaptation to the workstation and for best access to the rivet locations.

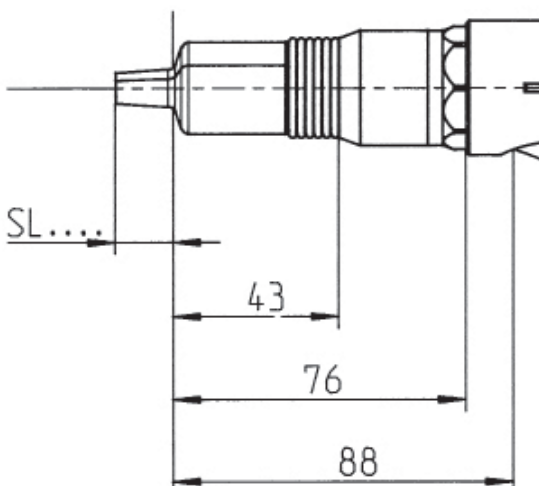
For manually operated workstations both overhead pistols with overhead hose assembly or standard pistol with floor-mounted hose assembly can be used. Both versions can be hanged to a balancer, thus providing fatiguefree working. The robotic pistol was created especially for use in fully automatic production or in systems operated by robotic devices. It is equipped with a mounting interface for easy installation.

One pistole type belongs to the GAV's standard scope of delivery. Which model it is, is left to customer's choice according to the riveting application and to the workstation design.

Standard pistol



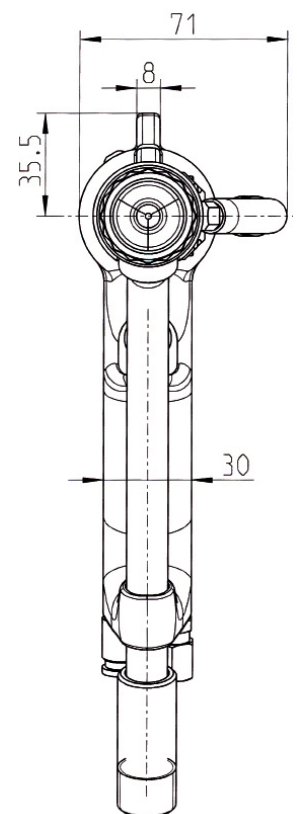
Overall length: 447 mm (+ SL nosepiece)



The standard pistol is used predominantly for manual operation

Advantages:

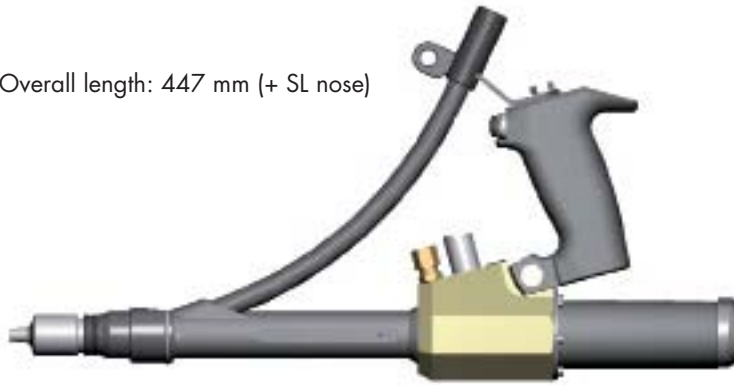
- Usable likewise for vertical or horizontal blind rivet setting
- Well-priced variant
- Can be equipped with an additional hand grip to improve ergonomy when used in vertical operation.



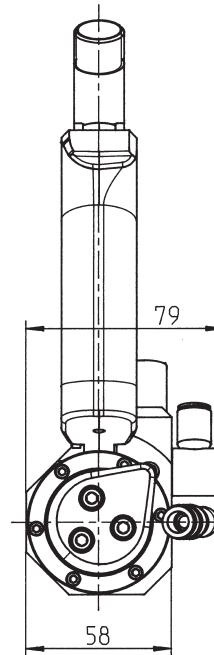
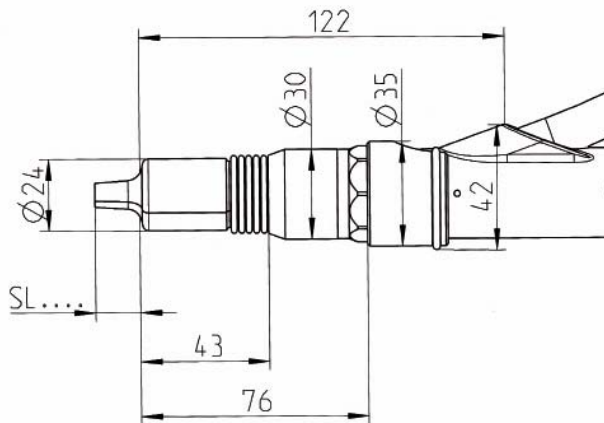
All sizes in mm

Overhead pistol

Overall length: 447 mm (+ SL nose)



The overhead pistol is used where the hose assembly would stay in the way of the operator's legs or when contact between hose assembly and sensitive surfaces should be avoided.



Advantages:

- Available with pressure trigger control on request

All sizes in mm

Robotic pistol

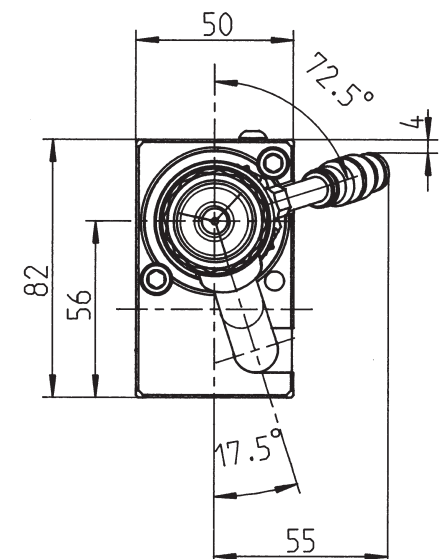
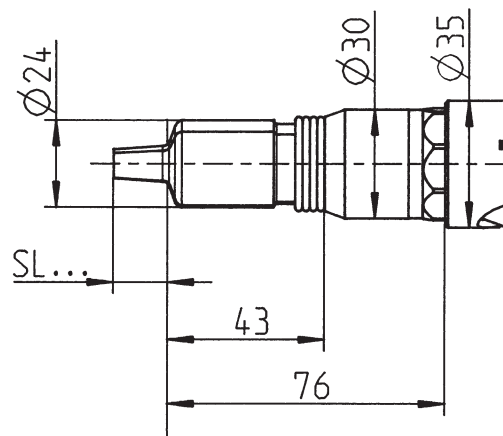
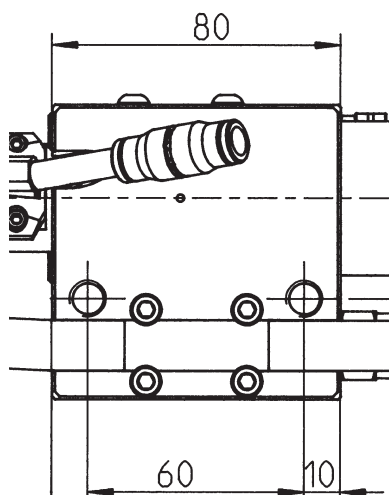


Overall length: 441 mm (+ SL nose)

The robotic pistol is predominantly designed for the application in fully automatic systems (linear guided systems or robot arm mounted operation).

Advantages:

- Perfect for integration into production systems
- Can optionally be equipped with an additional hand grip (with release button), especially for vertical riveting and can be used manually for this as well



All sizes in mm

Accessories for GAV 8000 (both versions)

The accessories for GAV 8000 eco and GAV 8000 electronic allow an individual system configuration for each application

Interface for connection to external control

The GESIPA® interface offers 16 digital inputs and outputs for bespoke function control, a card writer for local process data storage and a USB hub for quick data communication.



GESIPA® interface

GAV transport cart

The specially for the GAV designed transport cart makes it mobile and allows a quick and easy change of workstation and a flexible assignment.

Electrical foot pedal

The electrical foot pedal offers a good solution, especially for use cases in which both hands are needed for holding the parts of the riveting application.



electrical foot pedal

Hose assembly – special lengths

Using a hose assembly with special length offers a bigger working radius, e.g. for operation in fully automatic production lines. Those are available in different dimensions between 3,75 m and 5,0 m adapted to the specific application.

Comparing features between GAV 8000 eco and GAV 8000 electronic

Features	GAV 8000 eco	GAV 8000 electronic
Possible rivet diameters: 2.4 mm - 5 mm all materials, 6.0 mm steel and 6.4 mm alu	x	x
Up to 40 setting processes per min.	x	x
Self-sustained operation possible	x	x
SPS control possible	x	x
„Intelligent“ control – high process safety	x	x
Screen controlled adjustment of all operating parameters	x	x
Client specific software adjustment	x	x
Service indicator	x	x
Process control		x
Process parameter saving for up to 9,999 different components		x
Online transfer of process data		x
Saving of the last 2 mio. riveting processes in the unit		x

The modular design guarantees efficiency and reliability

Individual design for cost efficiency and versatility

GESIPA®s fully automatic blind riveting units can be flexibly tailored to the specific production requirements of each customer. All factors as workstation layout, production type, application, securing of reproducible and safe working processes, adaptation to the industrial environment as well as process documentation can be realized using combinations of different pistol versions, lengths of tubing, special accessories for different rivet dimensions and production requirements.

This allows a large choice of versions for maximum economic efficiency.

The GAV is usable as part of a complete production system or in self-sustained configuration. In case of change of the application, the system can be quickly and easily adapted to the new conditions.

GAV 8000 – in line with robotic applications

Industrial use in robot-guided applications

Both versions of GAV 8000 can be integrated in robotic systems. Industrial robots are used in nearly all parts of industry. They can be programmed on most different courses of movement and can so be very efficiently adapted to riveting tasks in combination with the GESIPA® riveting technique.

Using a fully automatic GAV combined with a multi axial robot within a regulated, fast and safe production process offers following advantages:

- Highest precision
- High economic efficiency
- Short cycle times
- High flexibility



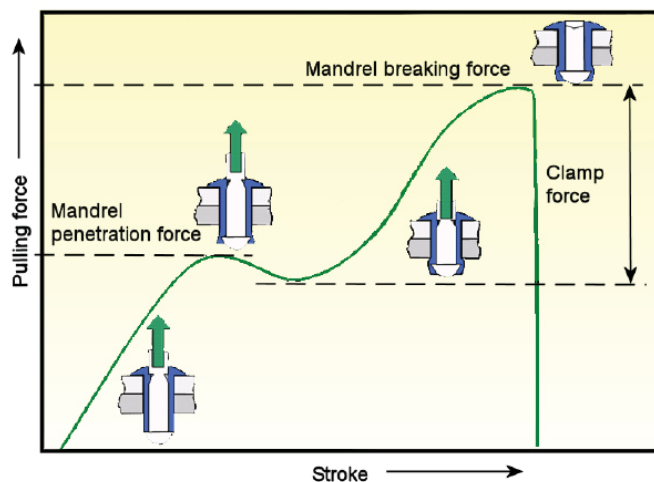
Rivet setting documentation and setting process monitoring

The GESIPA® total quality management system guarantees precision and accuracy from the start of the production up to setting of the blind rivet into its final application.

The combination of documented blind rivet function and of setting process control into the application by the GAV 8000 electronic guarantees process safe rivet joints.

The complete quality management system works in three steps:

- Dimension and tolerance measurements during the components production
- Factory conducted function testing and documentation after the production
- Setting process control directly in the riveting application at the customer's production site

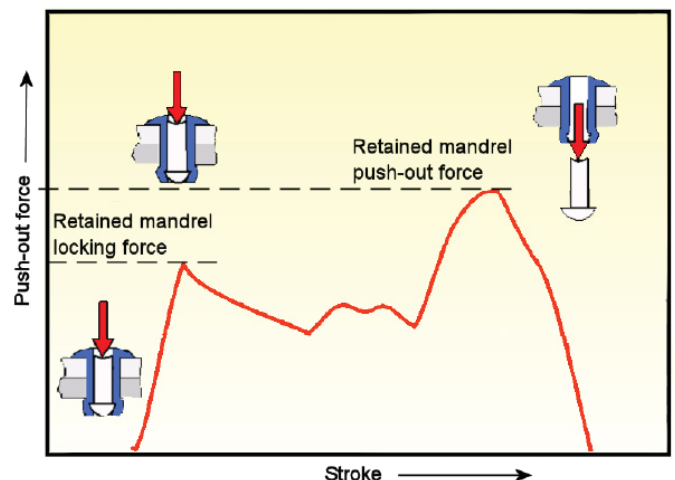


Functional tests / Setting curve

For every production batch of blind rivets for special applications, the setting curve is measured on a sophisticated test bench. The measured results of shaft deformation, insertion characteristics, mandrel breakload and clamp force are compared with the target values in order to ensure that the blind rivet deforms as intended in the application and produces a secure fastening.

Functional tests / mandrel ejection

The rest mandrel encaged in the set rivet is pushed out with the aid of a needle. The measured force determines whether the rest mandrel is properly locked and will not cause any rattling noises or even fall out. The batch is only released for delivery if both values are within tolerances.



Monitored process – Reliable connection

Safety relevant processes in industrial use of blind rivets make 100% reliability of riveting operations essential. The fully automatic riveting unit GAV 8000 electronic allows economic application solutions, from the basic system to systems with barcode scanners and process computer.

Concept of integrated setting process monitoring

The process control system is an integrated part of the GAV 8000 electronic. It offers following advantages:

- Optimal process safeguarding by integrated quality concept
- Blind rivet specific process control
- Self-sustained operation possible
- No stored program control (SPC) for unit operation necessary
- In case of unit exchange no system calibration necessary
- Little installation effort
- Interface for control integration

Display of a GAV 8000 electronic with indicated setting curve as part of the setting process control



Set-up of the setting process control



Riveting sequence

Step 1: Installation of blind rivet specific profiles

Capture and archiving of quality relevant process parameters for setting up a blind rivet joint with reference process curve and evaluation window definition

Step 2: Generating of component specific profile lists

Profile summarization in setting order as control file for process order and process evaluation

Step 3: Operation of the unit

Online analysis and recording of process data with process interruption for identified deviations

Blind riveting unit GAV HF

Fully automatic blind riveting unit for high-strength blind rivets



Working range

- Blind rivets from 4.8 mm up to 8.0 mm Ø all materials
- Rivet shaft lengths up to 35 mm
- Setting head diameter up to 19 mm
- Rivet mandrel up to 5.5 mm Ø
- Setting force up to 25,000 N at 5 bar air pressure

Advantages

- Supply bowl filling level display
- Operating pressure 5 bar
- Vibration-damped pressure transducer suspension
- Multiple monitoring of the setting pistol by sensors
- Industrial controls with 8" colour screen
- Up to 25 m transport distance possible when used in fully automatic production systems
- Easy handling
- Intuitive menu guidance via navigation and function keys
- Screen operated setting of all operating parameters
- Service indicator, easy troubleshooting
- Client specific software adjustment possible
- Perfect for applications, which do not require process control



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Machine safety acc.
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Comparing sizes of a GAV HF settable blind rivet with a GESIPA® PolyGrip and an 1-Euro-coin



- Mandrel disposal via vacuum system
- Spring loaded trigger system available optionally
- Self-sustained or system-integrated operation possible
- SPS controlling via GESIPA® interface possible

Accessories for GAV HF

Special accessories for GAV HF allow a close adaptation of the system to the riveting application and to the production environment

Electrical foot pedal

The electrical foot pedal offers a good solution, especially for applications in which both hands are needed for fixing the parts which should be riveted.

Pressure trigger control with tripping device

This special form of the pressure trigger control assures failsafe, accurate assembling of the components. Safety relevant applications make it essential to totally exclude any tempering or manipulation attempt of the riveting process.



electrical foot pedal

GSM radio module

The GSM transmission module (GSM = Global System for Mobile Communications) automatically reports performance deviations or abnormal unit status (nearly empty supply unit, for instance) with a call or sms on a mobile phone or to the process control centre. This allows short reaction times.

Electronic key system and safety switch

An electronic key system and a safety switch guarantee a safe access control for at least two user groups. They lock the top cover to prevent unauthorised access to the components of the supply unit.

Hose assembly – special lengths

Use of hose assemblies in special lengths offers a bigger working radius, e.g. for operation in fully automatic production lines. These are available in different dimensions up to 25 m adapted to the specific application.

Display indicating the operating conditions

The light signal with the colours red, white and green, installed on the machine, indicates the operating conditions of the machine through light signal. An empty blank rivet supply bowl, an eventual deviation from the nominal operating status, etc. become immediately visible.



light signal to indicate the operating conditions

GAV 8000 eco and electronic compared with GAV HF



	GAV 8000 eco and GAV 8000 electronic	GAV HF
Supply unit		
Weight	100 kg	270 kg
Volume of the rivet feeding bowl	according to size ca. 1,800 up to 5,500 pieces (3.5 l)	according to size ca. 1,800 up to 5,500 pieces (3.5 l)
Power supply		
Nominal voltage	230 volt ~ 50 Hz	230 volt ~ 50 Hz
Nominal power consumption	< 2.5 A	< 8 A
Protection category	IP 54	IP 54
Pneumatic system		
Mains system pressure	< 10 bar	< 10 bar
Operating air pressure	6 - 7 bar	5,2 bar
Air consumption/Riveting	15 NL	30 NL
Air consumption/Mandrel suction	340 NL / min.	340 NL / min.
Connecting line	½" (12.5 mm) max. length 5 m	¾" (18.75 mm) max. length 5 m
Mandrel evacuation tube	external Ø 8 mm/ bore Ø 5 mm	external Ø 10 mm/ bore Ø 6 mm
Pressure transducer	pneumatic hydraulic	pneumatic hydraulic
Riveting pistol		
Weight	ca. 2,5 kg	ca. 7 kg
Setting stroke	16 - 20 mm	20 mm
Traction power	11,770 N	25,000 N
Standard hole assembly length	3.75 m	6 m
Working cycle (theoretical)	1.25 sec.	2 sec.

Please contact our sales team for further information about an implementation in your specific application.

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