MACHINES LOCATION

GUILLEMIN

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WORLD EXPERT IN ASSEMBLY
and riveting machines

GUILLEMIN

WHO ARE WE?

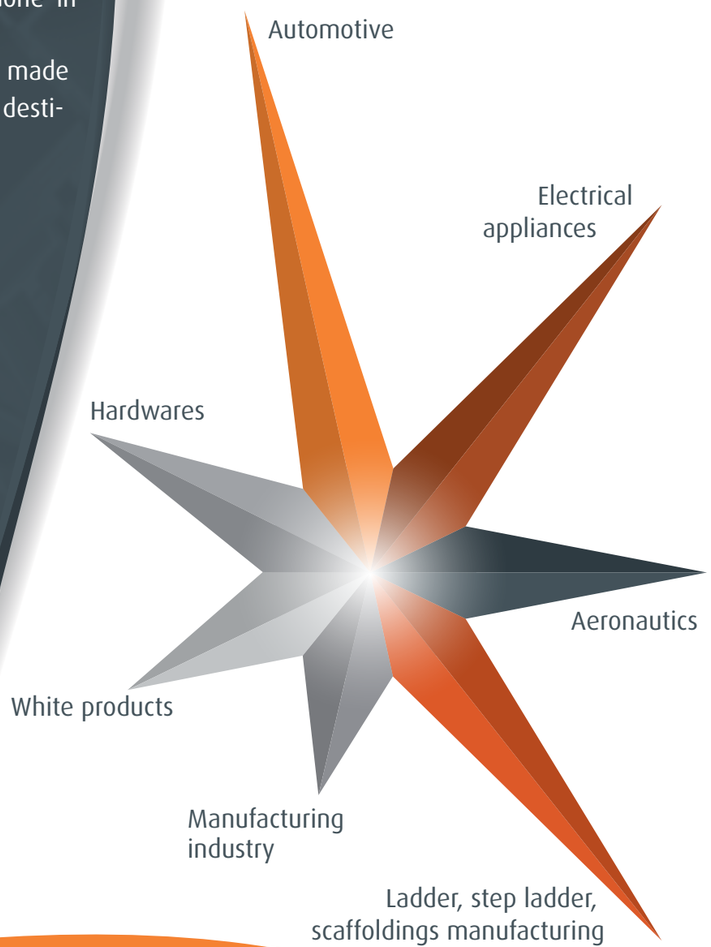
GUILLEMIN is a renowned world specialist in Orbital and Radial riveting and crimping as well as in the automated assembly of parts, since 1911.
With more than 15 000 assembly machines installed all over the world, GUILLEMIN has the widest range of riveting machines on the market, from standard riveting machines up to automated assembly lines for large series of production.
The manufacturing of the machines is done in France according to European standards.
Machines intended for exportation are made according to the standards in force in the destination country.

OUR BUSINESS SECTORS

A presence in all the industrial sectors.

OUR SKILLS

In addition to our machines, we offer a wide set of related pluridisciplinary services in order to provide you with sustainable and productive equipments.



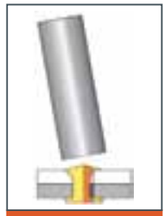
RADIAL AND ORBITAL RIVETING

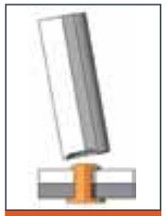
This assembly process offers many benefits. It is particularly recommended for safety parts as well as assemblies that must be impregnable and should not be dismantled. It enables to assemble different types of material altogether.
It is intended for fixed or hinged assemblies.
It provides for a cost-saving assembly with excellent mechanical strength, reduced space requirement, is fast and easy to use.

GUILLEMIN has full technical proficiency in the two most efficient technologies:
- *orbital riveting,*
- *radial riveting.*


Flat insider


Flat


Conical


Tronconical


Oval head


Roll swaged

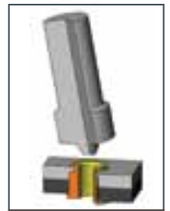

Flared


Torx riveting


Rolled swaged


Inner swaging


conditions of limited accessibility


Flared riveting

ORBITAL RIVETING - ORBIONE

Orbital pneumatic riveting machine, multi-purpose, economical and robust, intended for small, medium and mass production with simple tool.

- *Micrometric setting of the spindle stroke of 20 µm / Riveting process with high accuracy 1/10 mm / Programmable Logic Controller.*

ECONOMICAL RANGE	ORBIONE
Power (DaN)	**2000**
Rivet diameter (mm) in steel 370 N/mm²	Ø12
Power	***Pneumatic***
Adjustable stroke (mm)	10 to 60
Spindle (1500 tr/mn)	Electrical 0.75 KW

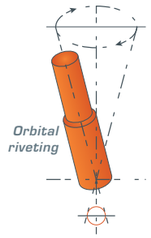
ORBITAL RIVETING MACHINES

Radial pneumatic or hydraulic riveting machines, multi purpose, ideal for small, medium and mass series.

- *Adjustable unit and table, Micrometric setting of the spindle stroke by step of 50 µm / Riveting process with high accuracy 1/10 mm / programmable logic controller.*

Many options:

Electronic Control system of the riveting power */ Multi pins head / Specific tool*



MODEL	S2	S5	S8	S12
Power (DaN)	**100**	**750**	**1 200**	**1 900**
Rivet diameter in steel 370 N/mm²	Ø2 mm	Ø5 mm	Ø8 mm	Ø12 mm
Power motion	***Pneumatic / from 4 to 6 bars***			
Adjustable stroke (mm) Micrometric setting	0 to 20	5 to 50	5 to 50	5 to 50
Spindle motor 1500 tr/mn	0.18 KW	0.37 KW	0.75 KW	0.75 KW

MODEL	S12H	S131	S201
Power (DaN)	**2 000**	**3 000**	**5 000**
Rivet Diameter (mm) in steel 370 N/mm²	Ø12 mm	Ø14 mm	Ø18 mm
Power motion	***Hydraulic / from 50 to 85 bars***		
Adjustable stroke (mm) micrometric setting	5 to 50	10 to 50	10 to 50
Spindle motor 1500 tr/mn	0.75 KW	1.8 KW	2.2 KW

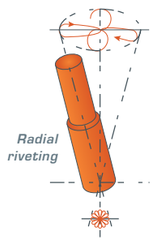
RADIAL RIVETING MACHINES

Radial pneumatic or hydraulic riveting machines, multi purpose, ideal for small, medium and mass series.

- *Adjustable unit and table, Micrometric setting of the spindle stroke by step of 50 µm, Riveting process with high accuracy 1/10 mm / programmable logic controller.*

Many options:

Electronic control system of the riveting power */ Specific tool*

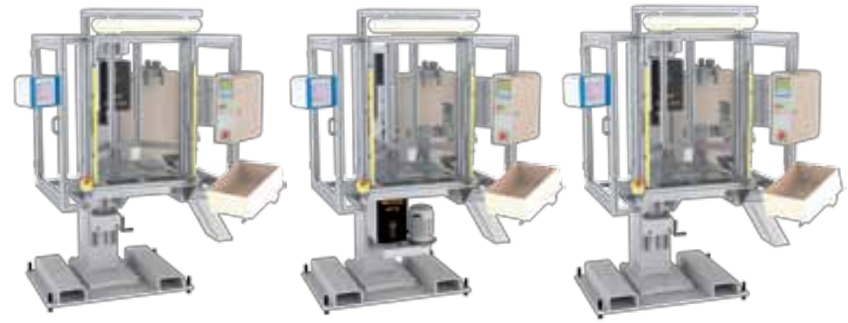


MODEL	M8	M12	M14	M24
Power (DaN)	**1 200**	**1 900**	**3 000**	**5 000**
Rivet diameter in steel 370 N/mm²	Ø8 mm	Ø12 mm	Ø15 mm	Ø20 mm
Power motion	***Pneumatic***		***Hydraulic***	
Pressure (bars)	4 - 6	4 - 6	50	85
Adjustable stroke (mm) micrometric setting	5 to 50	5 to 50	10 to 50	10 to 50
Spindle motor 1500 tr/mn	0.75 KW	0.75 KW	1.8 KW	2.2 KW

MODEL DLS - DLM
LOADING BY DRAWER

MASS PRODUCTION MACHINES	DLS - DLM Loading by AUTOMATIC DRAWER	DLS - DLM Loading by MANUAL MOVABLE DRAWER
Loading mode	Machine configuration with loading by automatic movable drawer 2 or 3 positions. Machine in accordance with CE. Riveting unit can be orbital or radial. Tool fitted to the product application.	Machine configuration with loading by manual movable drawer 2 or 3 positions. Machine in accordance with CE. Riveting unit can be orbital or radial. Tool fitted to the product application.
MORE PRODUCTIVITY: + 25% *Increase the ergonomics and safety for the worker (loading on the machine is at 50% hidden).*		
ORBITAL Model	**DLS 5**	**DLS 8**	**DLS 12**	**DLS 131**	**DLS 201**
RADIAL Model	-	**DLM 8**	**DLM 12**	**DLM 14**	**DLM 24**
Power (DaN)	**750**	**1 200**	**1 900**	**3 000**	**5 000**
Dimensions of the tool (width x depth)	550 x 250 mm			320 x 170 mm	
Standard Equipment	• GUILLEMIN Controller (16 inputs / 16 outputs) • 1 riveting unit • "Cycle Start" by sensitive hand control • Multiple light beam safety device • Pneumatic or hydraulic equipment			• GUILLEMIN Controller (16 Inputs/ 16 outputs) • 1 riveting unit • "Cycle Start" by manual motion of the drawer • Pneumatic or hydraulic equipment	
Drawer stroke	150-200-250 mm			150-200-250 mm	
Config TYPE 1	Automatic drawer 2 positions			Manual drawer 2 positions	
Config TYPE 2	Automatic drawer 3 positions			Manual drawer 2 positions - automatic return	
Config TYPE 3	-			Semi automatic drawer 3 positions: position 1->2 manual, position 2 -> 3 automatic, 3 -> 1 manual	
General Options	***Refer to Accessories / Options P.10***				

MODEL RTS - RTM
ROTARY TABLE



MASS PRODUCTION MACHINES	RTS - RTM ROTARY TABLE	RTS - RTM ROTARY TABLE BOTTOM UP UNIT	RTS - RTM ROTARY TABLE CONTROL OF THE COMPONENTS AUTOMATIC UNLOADING
Loading mode	Machine configuration with loading system on rotary indexing table 2, 4 or 6 workstations. Loading is done during the riveting operation. Orbital or radial Unit. Standard CE		
Configuration	Standard riveting unit 	Bottom up unit 	• 1 work station for control of the components • 1 work station for unloading handling
	MORE PRODUCTIVITY: +100%		**MORE PRODUCTIVITY: +125%**
	Loading is hidden		Loading and unloading are hidden
ORBITAL Model	**RTS 5**	**RTS 8**	**RTS 12**	**RTS 131**	**RTS 201**
RADIAL Model	-	**RTM 8**	**RTM 12**	**RTM 14**	**RTM 24**
Power (DaN)	**750**	**1 200**	**1 900**	**3 000**	**5 000**
Max dimensions of tool (mm)	Ø600 (2 or 4 tools) Ø800 / Ø1000 / Ø1200 (2, 4 or 6 tools)				
Standard Equipment	Ø600 (4 tools of 150 x 100 mm)	Ø800 (4 tools of 350 x 200 mm) (6 tools of 250 x 200 mm)	Ø1000 (4 tools of 400 x 300 mm)	Ø1200 (4 tools of 400 x 300 mm)	
Équipement Standard	• GUILLEMIN Controller (32 inputs / 32 outputs) • "Cycle start" by sensitive hand control • Multiple light beam safety device • Lighting/ Pneumatic or hydraulic equipment 				
Controller options	**SIEMENS or SCHNEIDER Controller / HMI device**				
General options	***Refer to Accessories / Options P.10***				

ORBITAL RIVETING MACHINES HIGH POWER

From 12 000
to 20 000 DaN

MODEL	S 1200	S 2000
General	The high power CNC machines allow to work on large diameters, for example, the manufacturing of bearings or all other applications where high power is required (Alloy steel or stainless steel)	
Advantages	**VERSATILE - MULTI PRODUCTS** **Very fast selection of the type of product by change of the tool on the machine and selection of the product program** **High productivity with the numerical Z axis (optimization of the stroke)**	
Power (DaN)	**12 000**	**20 000**
Rivet shank diameter (mm) steel 500 N /mm²	Ø22 mm	Ø40 mm
Part diameter on rings or pipes (mm) steel 500 N /mm²	Ø ext. 30 mm / Ø int. 10 mm *	Ø ext. 60 mm / Ø int. 30 mm *
Numerical Z axis/ stroke (mm)	0 to 280 mm - Numerical by servo motor	
Adjustable speed (mm/s)	0.1 to 50	
Accuracy / Repeatability	40 µm /10 µm	
Power of spindle motor (adjustable speed from 250 to 1250 tr/mm)	7,5 kW	15 kW
Standard Equipment	• Frame with 4 columns for a high rigidity • Product on its fixture is lifted up to the riveting unit • Motion is monitored by an electrical cylinder (servo motor)	**SIEMENS CONTROLLER with HMI 12"**
General options	Anti rotation device Pressure pad from 5 to 10 tons **Electronic control of the riveting power**	

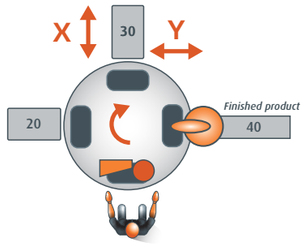
** Technical tests done on rings or pipe*

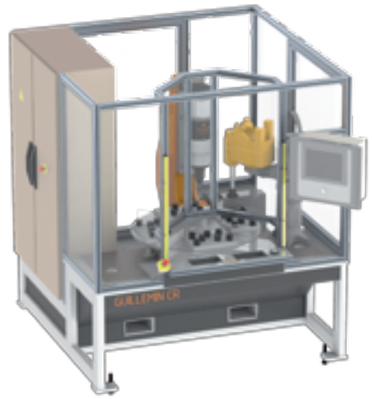
CNC RIVETING MACHINES with indexing table (X,Y,Z)

VERSATILE MACHINES

CNC riveting machines for customers having a large diversity of products to manufacture on the same machine.

- *Very fast selection of product by change of the tool on the machine and selection of the product program.*
- *High productivity with the numerical Z axis (optimization of the strokes).*
- *Production of multi-products in the same time.*

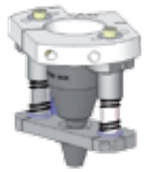




CNC RIVETING MACHINES	CR T100		CR T200		CR T500
Power (DaN)	**1 000**		**2 000**		**5 000**
Indexing table diameter (mm)	Ø850	Ø1200	Ø850	Ø1200	Ø1500
Number of pallets	2 or 4				2.3 or 4
Pallet dimensions (mm)	300 x 200	400 x 350	300 x 200	400 x 350	500 x 300
Stroke in X / Y / Z (mm)	300 / 200 / 100	400 / 350 / 100	300 / 200 / 100	400 / 350 / 100	600 / 400/ 160
Speed X / Y / Z	**25 m/mn (X, Y)** - 100 mm/s (Z)				20 m/mn (X, Y) - 80 mm/s (Z)
Command system	**Panel PC SIEMENS / HMI 8 ''** **Hard disk (for the storage of the production data) / 2 USB ports**				
Options	***Control station of components before assembly/ unloading by robot/ Electronic control of the riveting power***				

CNC RIVETING MACHINES	CR 350	CR 500
Power (DaN)	**2 000**	
Number of pallets	2	
Dimensions of the pallet (mm)	350 x 220	500 x 300
Stroke in X / Y / Z (mm)	650 / 525 / 120	800 / 730 / 120
Speed X / Y / Z	20 m/mn	
Options	***2nd riveting unit/ 1 Press station 3000 DaN / 1 or 2 lubrication stations***	

ACCESSORIES / OPTIONS



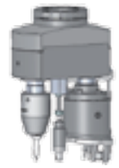
Head and pressure pad
T120 or **T200**

Head with
anti rotation device
T120 or **T200**

Standard Head
with electrical pressure
pad **T120** or **T200**

Multi pins head
with pressure pad

Multi- spindle head (3)



Multi spindle heads with:
1 single head **T120**
+ 1multi pins head

Head with
Anti rotation device **S159**
and central pressure pad

Multi-spindle head (2)
with pressure pad

Rolling head type 1

Rolling head type 2

Rolling head type 3

Rolling head type 4

Rolling head type 5

Specific Tool
for assembly of
the components

Sensitive two hands
control unit

Cycle start by sensitive
hand control

lighting

Indicator light
2 or 3 colors

table for components
300 x 400 (mm)

SIEMENS
or SCHNEIDER
Controller on DLS, DLM

SIEMENS
or SCHNEIDER Controller
on RTS/ RTM

Hydraulic group located
outside the machine
S131, S201, M14, M24

Hydraulic group with
air ventilation on all models
(CNOMO STANDARD)

Handling Pallet
(on all models)

ELECTRONIC CONTROL SYSTEM

OF THE POWER RIVETING

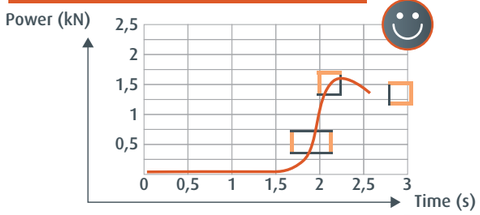
GUILLEMIN 's riveting machines have been designed to integrate an electronic control system of the riveting power. This system developped by one of the most famous specialists in Europe is one of the most efficient of the market.

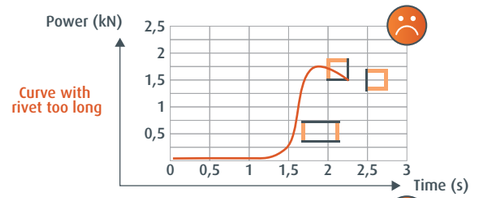
- *The system is made up of:*
- *power sensor (measures of the power of riveting).*
- *1 monitoring control panel.*

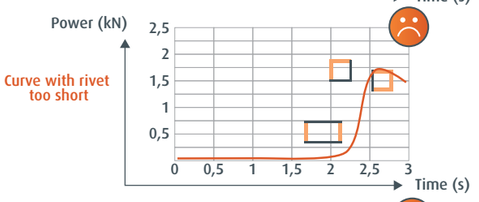
According to the parameters of control, it checks the parts and stores data.

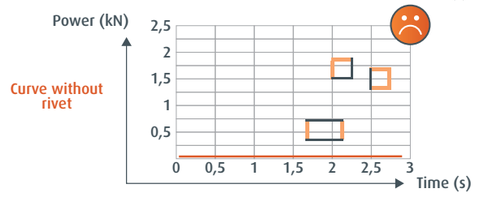
	BASIC CONFIGURATION	ADVANCED CONFIGURATION
Set	Power sensor Monitoring control panel	Power sensor Monitoring control panel **Linear motion Sensor**
Curves measured	**F=f(t)** Measure of the riveting power (P) according to time (t)	**F=f(x)** Measure of the riveting power (F) according to displacement (x) **F=f(t)** Measure of the riveting power (F) according to time (t)
Main function	**Detection of a too long rivet, too short rivet, no rivet, too hard rivet. The corresponding process values can be displayed and saved in numerical form.**	

BASIC CONFIGURATION

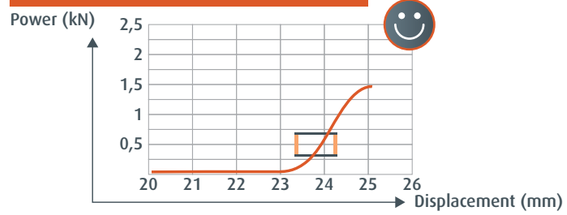


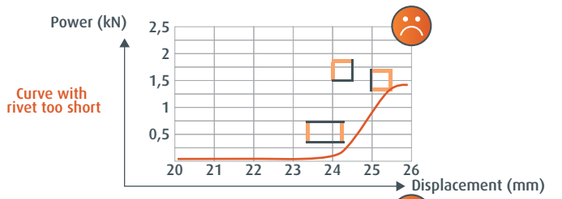


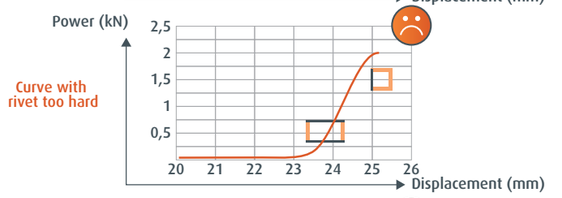


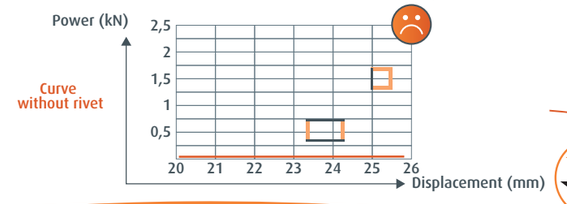


ADVANCED CONFIGURATION





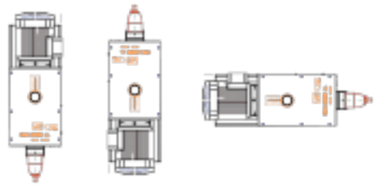




RIVETING UNITS

ORBITAL AND RADIAL

- The riveting units are intended for integration in machines or assembly lines. They can be oriented in all directions.



ORBITAL UNIT standard	GS5	GS8	GS12	GS131	GS201
Power (DaN)	750	1 200	1 900	3 000	5 000
Max Stroke (mm)	50				
Unit motion	Pneumatic			Hydraulic	

ORBITAL UNIT Narrow range	GS4	GS6	GS12H
Power (DaN)	530	1 020	2 000
Max Stroke (mm)	60	60	50
Unit motion	Pneumatic		Hydraulic

Narrow range - small size in width

ORBITAL UNIT Large stroke	SV8	SV12	SV131	SV201	SV301
Power (DaN)	1 200	1 900	3 000	5 000	8 000
Max Stroke (mm)	150				
Unit motion	Pneumatic		Hydraulic		

Large stroke - for the products wich require a large stroke to reach the riveting point

RADIAL UNIT Standard stroke	GM8	GM12	GM14	GM24
Power (DaN)	1 200	1 900	3 000	5 000
Max Stroke (mm)	50			
Unit motion	Pneumatic		Hydraulic	

MODEL	MECATRONIC e6	MECATRONIC e12
Power (DaN)	1 000	2 000
Max Stroke (mm)	90 mm - Numerical axis	
Speed (mm/s)	0.2 to 150	
Power	100 % Electronic Motion Spindle rotation and unit motion by SERVO MOTORS	

CNC Unit for highly complex and precise riveting , or multi products on the same machine.
Spindle rotation speed is adjustable numerically from 500 to 1500 tr/mn
Location and stroke adjustable numerically, accuracy of 2/100 mm
Fast selection of the kind of product by change of program (PANEL PC SIEMENS)
Electronic control system of the riveting power

Automotive industry

Components in steel, Stainless steel, Aluminium, Composite, Cold plastics.


Ring gear


Hydraulic pump


Wheel hub bearing


EGR Valve


Back gear pinion


Rollers of sliding doors


Joint knob (by 70T press)


Shock absorber


Cylinder


Aluminium case of protection


Riveting of plastic mould of car optic


Seat articulation


Steering knob


Thermostat valve


Door latch


Silent blocs


Crimping of collar on hydraulic tube

Aeronautics industry (Stainless steel and steel)


Aircraft brake disks


Jet engine bearing


Admission gear knob

Electrical appliances industry (Stainless steel, Brass, Copper...)


Electrical circuit breaker plate


Relays


Rollers terminal


Integrated circuits


Electrical cabinet handle


Copper sockets


Contact block


Circuit breaker terminal


DVD player

Manufacturing industry


Ski fixation


Roller guide


Washing machine drum door

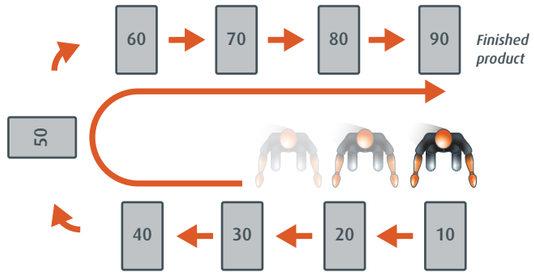

Gas load reducer

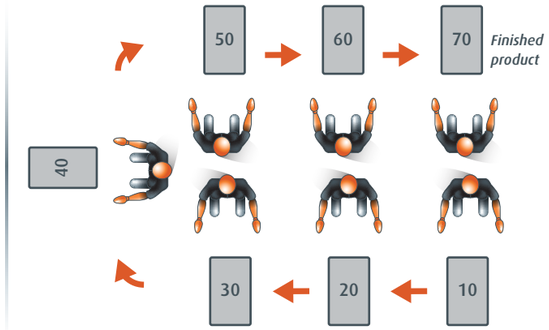

Ladder- aluminium/ fiberglass

Aluminium Ladder

Iron braces

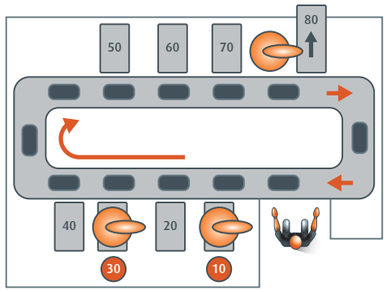
INDEPENDENT MACHINES in LINE or in U-shapped





- Each machine performs one determinated operation only. One single operator (or 1 operator at each workstation) performs the loading and unloading of machines. The product is moved from station to station by the operator, or by gravity slide or accumulation conveyor.

TRANSFER LINES



- In this configuration, the product is moved on a pallet. **The various components are loaded by bowl feeders and robots**. The workstations perform assembly operations and other operations such as insertion, greasing, control, marking....

Loading and assembly robots.

Bowl feeders (automatic selection and loading of the components which are part of the final product).

70 *Workstations of assembly and control (assembly, screwing, insertion, riveting, control, marking).*

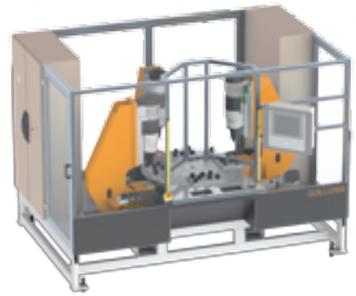
Pallet transporting the product to be assembled.

MACHINES WITH ROTARY TABLE

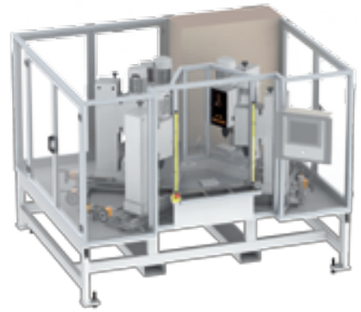
FOR MULTI RIVETING PURPOSES
VERSATILITY and PRODUCTIVITY

- **Multi riveting center, 3 to 5 units according to the lay out**

Various products simultaneously or 1 product with multiple rivets



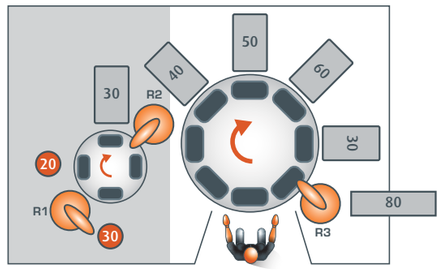
- Riveting center (X, Y, Z), multi-riveting with 3 CNC units.



- Riveting center multi-riveting with 5 units: manually adjustable in X, Y, Z.

MULTI ROTARY TABLES MACHINES

FULL AUTO LOADING



Module n°1 of automatic loading of components

Module n°2 of assembly and control of finished part

- In this lay out, module n°1 enables the automatic loading of components and their pre-assembly.
- These pre-assembled components are then integrated in the final product in the assembly module n°2.
- The workstations perform various assembly operations such as screwing, riveting, insertion and controls.
- **Various lay out are possible: they are customized by our engineering Department according to the product and the customers specifications.**

RIVETING ROBOTS

- The 5 axes robot is equipped with a digitalized riveting plier. It performs riveting operations of axes or rivets on products with intricate geometry.

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