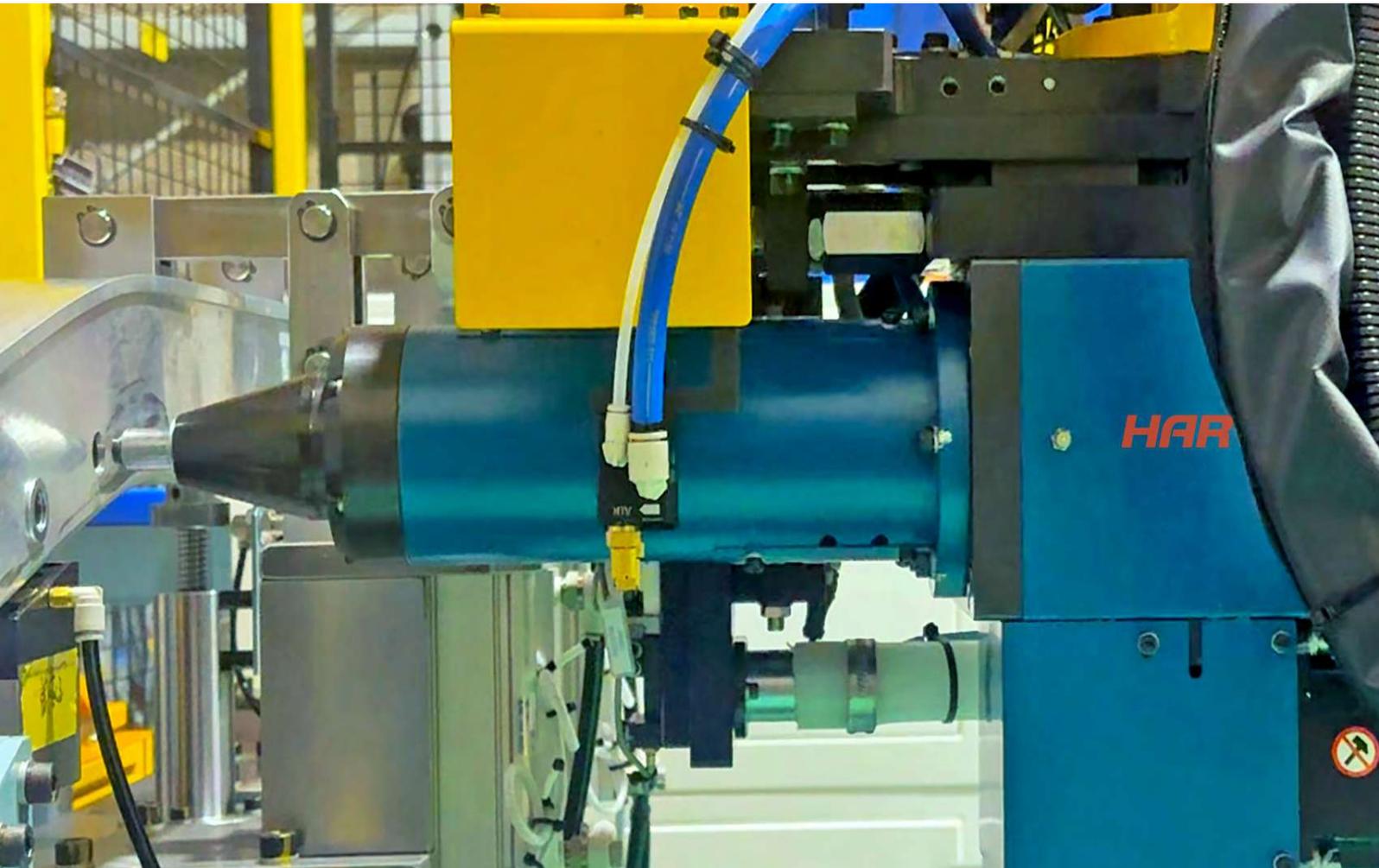




HARDY

HDRNS

**Automatic Rivet Nut System
with Visual positioning**



3D Vision Guidance + Fully Automatic Servo-Controlled Rivet Nut Riveting System

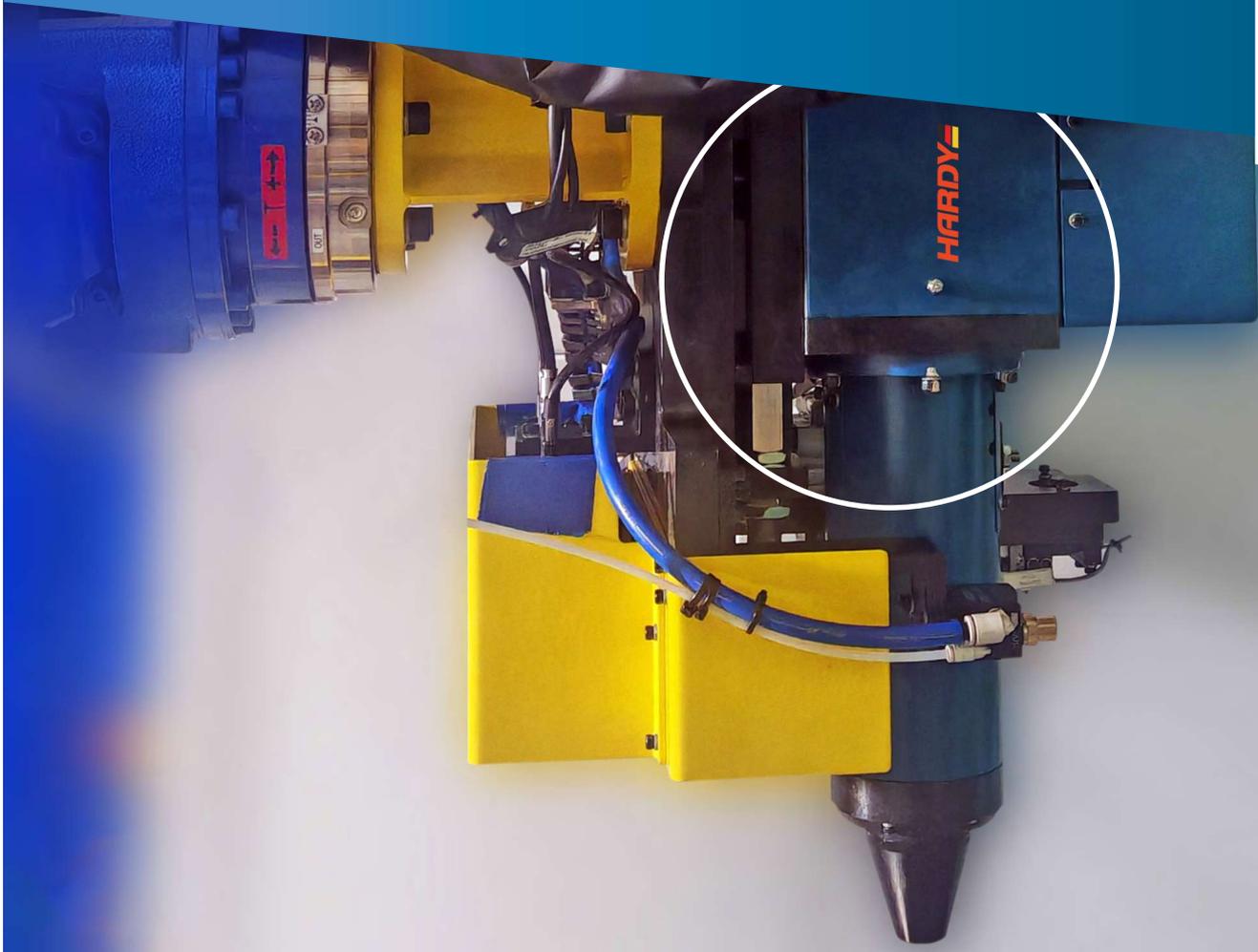
— HDRNS HARDY Rivet Nut System

Features:

- Patented floating head design enables X/Y-axis and angular adaptive riveting
- Adaptive Sheet Metal Riveting
- Dual servo drive system with full-process monitoring
- Up to 60kN setting force (M16 and below compatible)
- Quick-change head configuration

Innovation • Excellence • Leadership

HARDY





HDRCS

Handheld Rivet nut setting control system



Rivet Nut / Stud System



Pneumatic Rivet Nut/Stud Tool



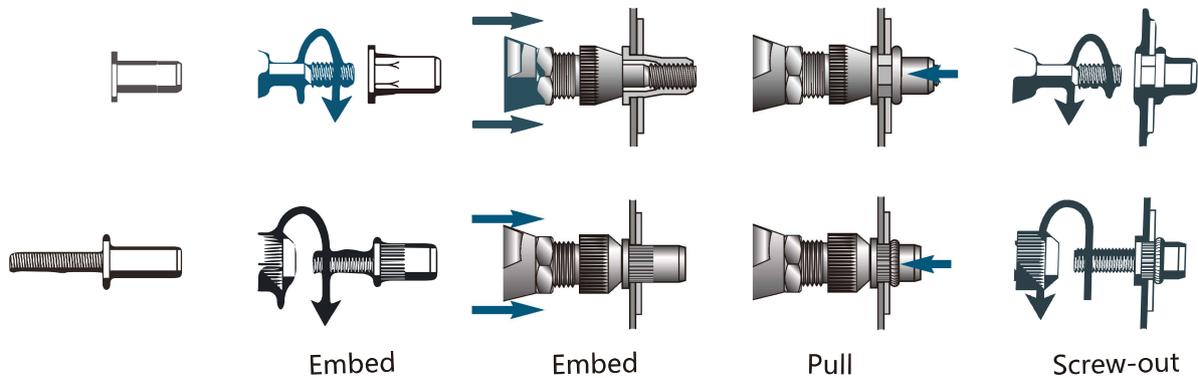
Cordless Rivet Nut Tool



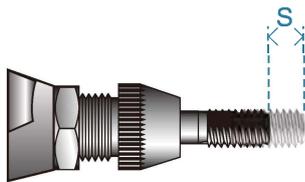
Innovation · Excellence · Leadership



Process Technology

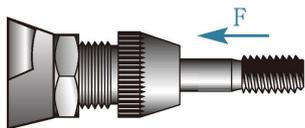


Riveting Control Solutions



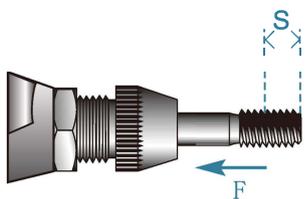
Stroke Control Mode - based on preset stroke parameters

- Ideal for materials with consistent and uniform thickness
- Fast and simple operation



Pressure Control Mode - based on preset riveting force

- Provides stable riveting for materials with thickness variations
- Force sensors enable quality monitoring



Pressure-Stroke Hybrid Control - Simultaneously monitors force and displacement

- Delivers optimal adaptive riveting for variable material thickness
- Enhanced quality control with graphical data visualization & dataization of all riveting anomalies
- Multiple program storage for automatic product changeover
- Maintenance logs for optimal mandrel life management
- Single tool compatibility with various rivet nut specifications



HDRNS Automatic Rivet Nut System



Technical Parameters

Applicable rivet nut/stud	≤M16 (rivet nut materials: stainless steel, steel, aluminum)
Applicable material thickness	≤14mm
Setting force	≤ 60kN
Force control accuracy	1N
Displacement control precision	0.01mm
Drive power	Dual servo system
Power supply	380V/50Hz
Bus communication protocol	EtherNet/IP、ProfiNet、DeviceNet etc.



HDRCS Handheld Rivet Control System



HDRCS

Technical Parameters

Applicable rivet nut	Nosepiece of M3, M4, M5, M6, M8, M10, M12 for rivet nut tool of M3~M12
Pull Force Range (kN)	22.5 (MAX adjustable) /6bar
Stroke (mm)	10 mm(MAX djutable)
Air Pressure (M Pa)	0.55-0.7MPa
Tool weight	2.8KG
HMI Hardware/Software	Yanhua Industrial PC+HUADA Software
Pressure Sensor Accuracy	±0.3kN
Displacement Sensor Accuracy	±0.1mm
Cycle Time	5S~6S (Depends on operation)
Operating Temperature	-10°— 45°
Humidity	< 95%
Device Noise Level	< 75db(1 M)
Power Supply	AC220/380V 50Hz



Independent control system

- Standardize "embedded PC" control
- The standard HMI for parameter setting, data curve viewing, and Error alarm reminder
- Simple and intuitive interface, password protected access levels
- The riveting process is automatically monitored to ensure the quality of riveting
- Data acquisition allows important data to be uploaded to the factory MES to ensure product quality
- Multiple communication protocols such as EtherNet/ IP, ProfiNet, equipmentNet, CC-Link etc.





Automatic fastener feeding system

Features:

- Direct Blow-Feed to Rivet tool Nozzle
 - Simplified & Stable Design
 - Customizable Feed Channels to fit fasters
 - Modular components for easy maintenance repair
- Multi-Spec Remote Transfer



Feeding hose

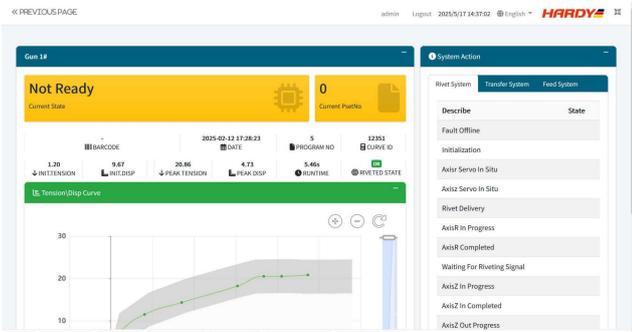
Features:

- Multi-Spec
- Remote Transf

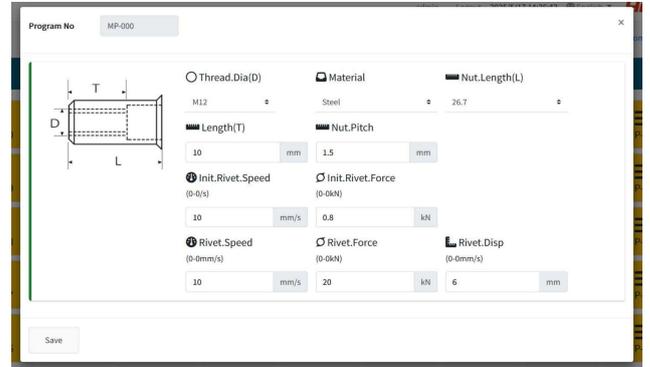




Software



Status display



Quick program settings

Output IO				Input IO			
Address	Name	Function	State	Address	Name	Function	State
+1	DRivet1RdyToCycle	Ready to Start	READY	+1	DoRivet1ToolSelct1	Tool Number 1	READY
+2	DRivet1InCycle	In Cycle	READY	+2	DoRivet1ToolSelct2	Tool Number 2	READY
+3	DRivet1Finished	Finished	READY	+3	DoRivet1ToolSelct4	Tool Number 4	READY
+4	DRivet1Faulted	Fault	READY	+4	DoRivet1ToolSelct8	Tool Number 8	READY
+5	DRivet1RstMonON	Process Monitoring On	READY	+5	DoRivet1SlowLoad	Manual Slow Load	READY
+6	DRivet1ToolOff	Tool Disabled	READY	+6	DoRivet1SlowUnload	Manual Slow Unload	READY
+7	DRivet1RstLow	Rivets Low	READY	+7	DoRivet1SlowRstOn	Manual Slow RstOn	READY
+8	DRivet1ToolHome	Home Position	READY	+8	DoRivet1SlowRstOff	Manual Slow RstOff	READY
+9	DRivet1ToolLoad	Load Position	READY	+9	DoRivet1SlowTool	Home Tool	READY
+10	DRivet1RstSet	Rivet Set	READY	+10	DoRivet1CatTool	CatToolLoad	READY
+11	DRivet1RstReserved1	(Reserved)	READY	+11	DoRivet1Cylctool	Cycle Tool	READY
+12	DRivet1RstReserved2	(Reserved)	READY	+12	DoRivet1RstReserved2	(Reserved)	READY
+13	DRivet1RstReservedR	Fault Before	READY	+13	DoRivet1RstReserved1	(Reserved)	READY
+14	DRivet1RstReservedF	Fault During	READY	+14	DoRivet1Pulsepump	Pulse pump	READY

IO Definition



Curve analysis

ID	Barcode	Peak Displ(mm)	Peak Press(kN)	Program No	State	RunTime (S)	Starting Time	Corner	Upload
12351		4.73	20.86	5	OK	5.46	2025-02-12 17:28:23	OK	
12350		6.46	20.58	5	OK	5.32	2025-02-12 17:28:09	OK	
12349		6.41	20.56	5	OK	5.82	2025-02-12 17:27:55	OK	
12348		5.78	20.59	5	OK	5.40	2025-02-12 17:27:41	OK	
12347		5.81	20.58	5	OK	5.38	2025-02-12 17:27:26	OK	
12346		6.14	20.62	5	OK	5.64	2025-02-12 17:27:12	OK	
12345		6.37	20.64	5	OK	6.83	2025-02-12 17:27:01	OK	
12344		7.81	20.54	5	OK	356.05	2025-02-12 17:17:02	OK	
12343		6.96	20.92	5	OK	7.54	2025-02-12 17:16:45	OK	
12342		6.59	20.61	5	OK	5.92	2025-02-12 17:16:31	OK	
12341		6.69	20.59	5	OK	7.58	2025-02-12 17:16:17	OK	
12340		6.86	20.55	5	OK	3447.95	2025-02-12 16:18:40	OK	
12339		6.46	20.97	5	OK	5.52	2025-02-12 15:45:34	OK	
12338		6.55	20.63	5	OK	5.87	2025-02-12 15:45:19	OK	
12337		6.70	20.56	5	OK	5.60	2025-02-12 15:45:05	OK	
12336		6.84	21.96	5	OK	5.57	2025-02-12 15:44:51	OK	
12335		5.48	21.41	5	OK	5.38	2025-02-12 15:44:37	OK	

Data acquisition