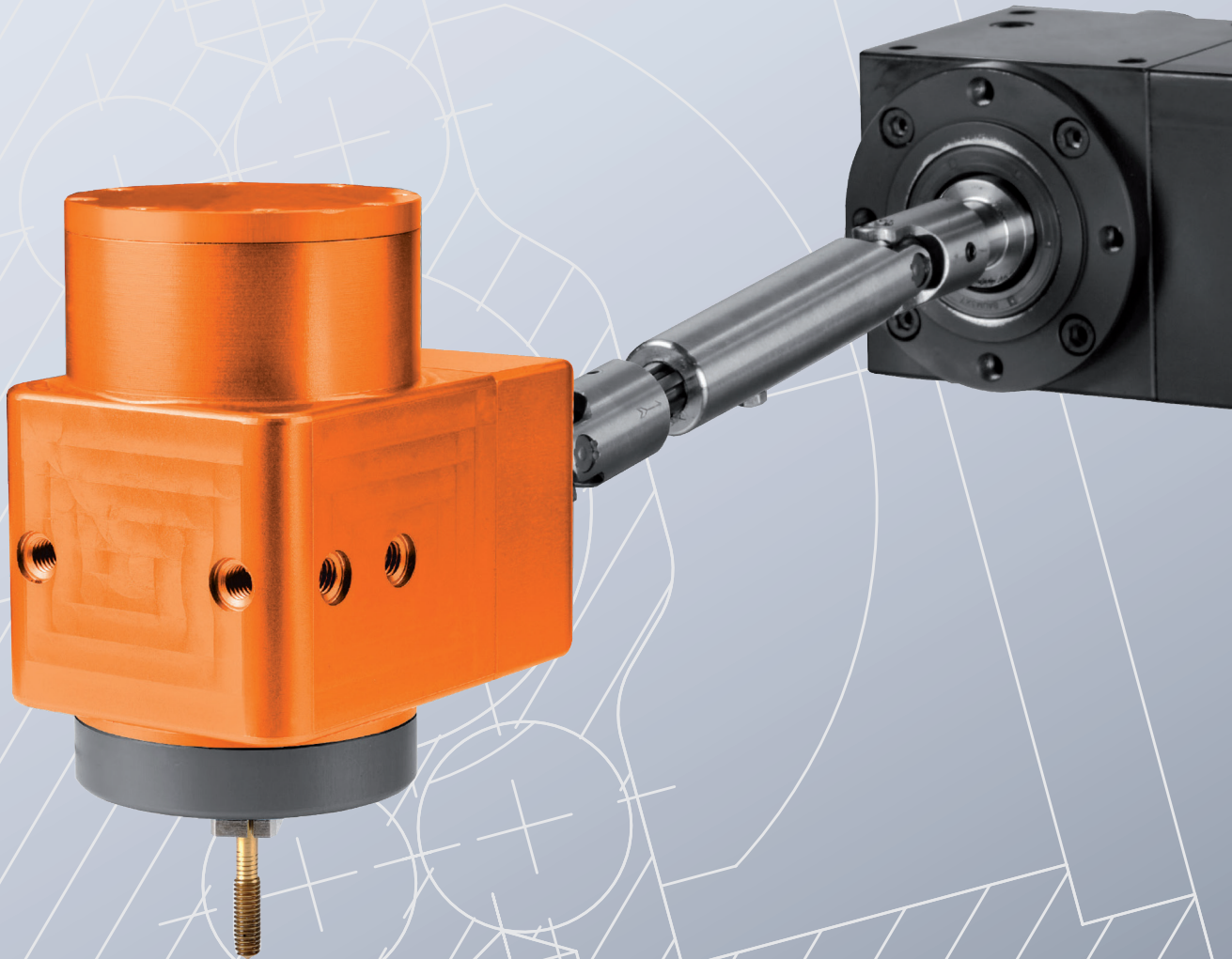


WE LOVE TECHNOLOGY



FIBRO ELECTRONIC TAPPING UNIT FETU



MEMBER OF THE LÄPPLE GROUP



FIBRO ELECTRONIC TAPPING UNIT FETU

THE ELECTRONIC THREAD TAPPING UNIT, SPECIALLY DESIGNED FOR PUNCHING AND FORMING PROCESSES, FEATURES EXCELLENT PROCESS INTEGRATION. WHETHER THE ELECTRONIC THREAD TAPPING UNIT IS USED IN FOLLOW-ON OR COMPOUND TOOLS, IN PRESSES OR IN AUTOMATIC PUNCHING AND BENDING MACHINES, THE REQUIRED THREADS ARE CREATED IN A RELIABLE AND CONTROLLED MANNER. THIS IMPROVES THREAD QUALITY, INCREASES PROCESS RELIABILITY AND ENSURES FAST, COST-EFFECTIVE PRODUCTION.

QUALITY

The thread tapping unit produces high quality threads in sizes M0.8 – M24. The thread shapes are characterized by:

- great strength and stability
- high surface quality

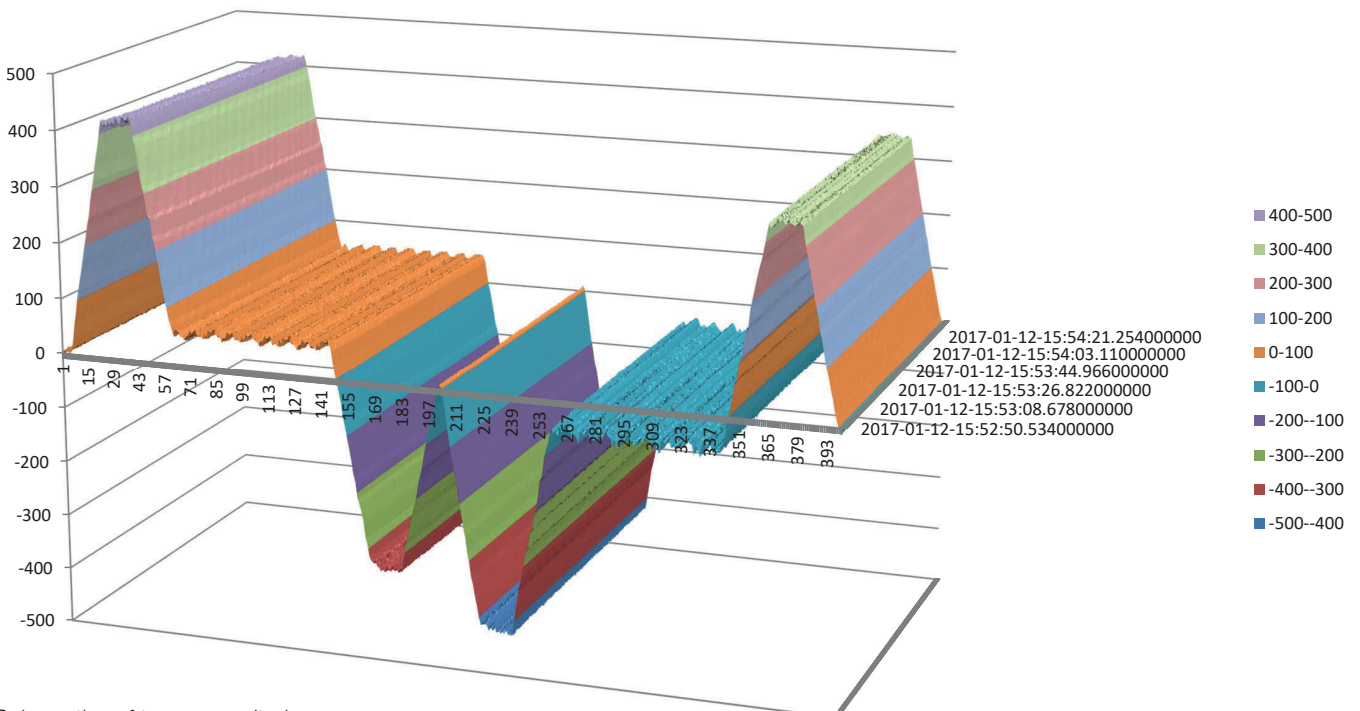
Using the auto teach function, the system fully automatically determines and monitors the optimized parameters for the respective process. In the event of a deviation in the parameters, for example in the event of tool breakage, tool wear or deviations of the core hole, even highly dynamic processes are stopped in fractions of a second and the forming tool automatically moves out of the danger zone to a safe position. All data records can be exported and summarized in a QA report.

COST EFFECTIVENESS

In addition to producing high quality threads, the cost-effectiveness of the thread tapping process is above all efficient.

Cost savings can be achieved via:

- long service life of the tools
- faster processing times
- avoiding rejects
- eliminating the feeding of parts and additional production stages
- Reusability of the drive and control components for multiple tools

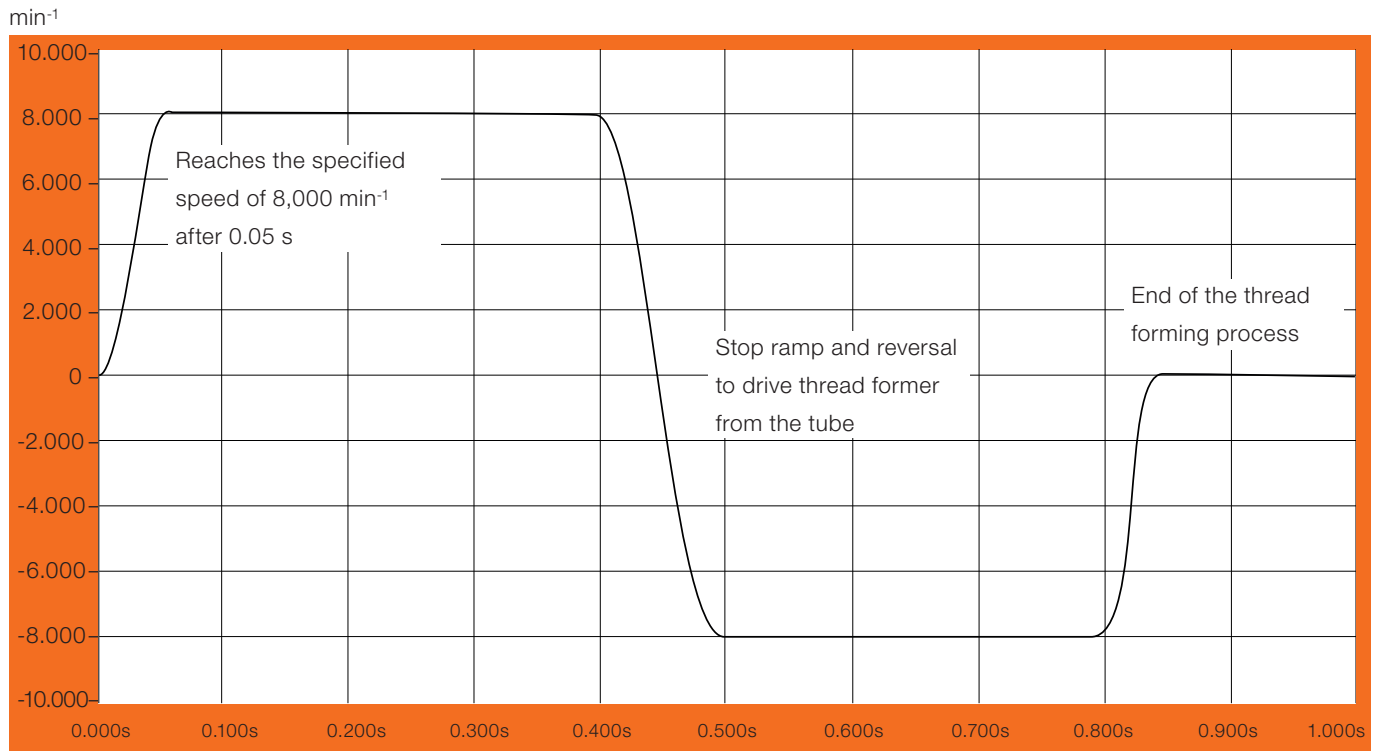


Schematics of torque monitoring:

During thread forming, a measurement takes place every 1 ms, and the value is compared with the case graph.

For each thread a separate data record is created, which can be monitored if necessary.

SHORT PROCESS TIMES FOR THE HIGHEST PRODUCTIVITY



Process schematics of a practical application with a speed of 8,000 min⁻¹ on the forming tool, a M8 thread with a thread depth of 35 mm

Highly dynamic drives ensure very quick acceleration ramp ups. Thus, very short process times at constant forming speeds on the threading tool are possible without affecting the life of the tool.

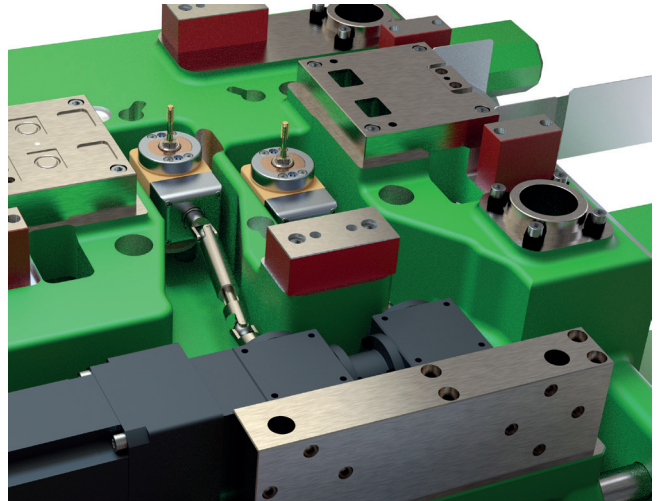
NUMBER OF STROKES OF SOME CASE HISTORIES

Thread size	M8	M6	M4	M0,8
Thread length / Material				
Thread length	15 mm	5 mm	2 mm	0,5 mm
Material	S 420 MC	16MnCr5	DX51D	X5CrNi18
Forming speed				
Forming speed	70 m/min	50 m/min	57 m/min	15 m/min
Number of revolutions of thread tool	2.800 min ⁻¹	2.600 min ⁻¹	4.500 min ⁻¹	6.000 min ⁻¹
Productivity				
Time / Thread	0,7 s	0,5 s	0,2 s	0,35 s
Stroke/min	50 min ⁻¹	60 min ⁻¹	160 min ⁻¹	110 min ⁻¹
System configuration				
Standard head	2x			1x
Multiple head		1x3	1x4	

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FLEXIBILITY

Using a movable articulated shaft, the system can also be utilized in positions that are difficult to access and at unusual angles. The forming head of the unit is mounted directly into the respective tool. Regardless of whether a multiple head or a head with internal lubrication is used, or whether a single or a double gearbox is to be connected upstream, the servo motor and the corresponding control always remain the same and can be reused for any subsequent project.



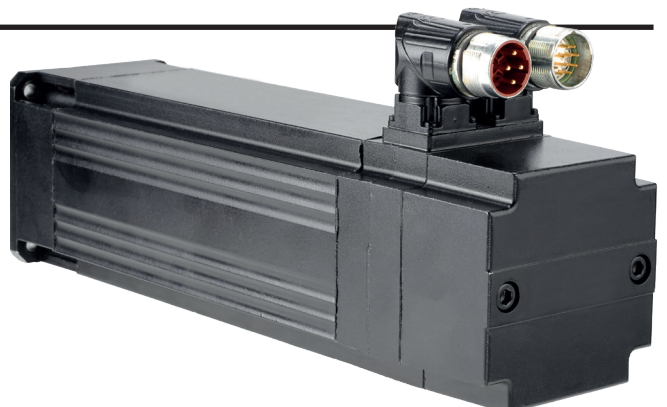
THE CONTROL BOX

The control and servo regulator for the drives are housed in the control cabinet. The size of the control cabinet varies according to the number of systems that are to be controlled. The free programming of the various parameters permit the control of different thread sizes (e.g. spindle speed, torque limitation, cycle time and part volume).

This entire spectrum results in key torque monitoring data that monitors every cycle step.

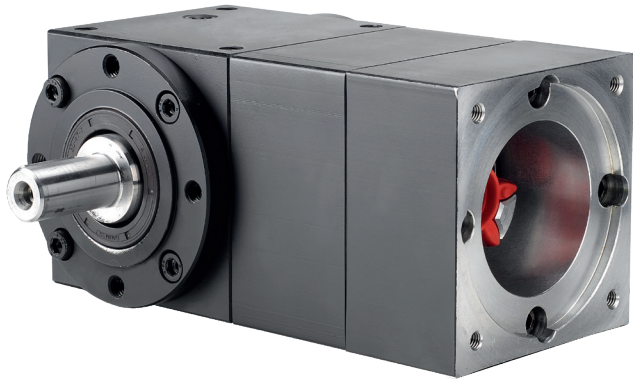
THE SERVO DRIVE

The servo drive consists of one synchronous servo motor which offers flexible usage options in single or multiple applications. This makes it possible to produce different thread sizes in one tool using one control and one motor. Thanks to the constant cutting speed, significantly longer service life durations are achieved than is the case with mechanical, positive control systems. The drive is independent from the press stroke and press motion.



THE DRIVE SHAFT

The articulated shaft transfers the torque from the drive to the forming head. By evening out differences in height and length, the forming head can be installed in any position within the tool, and can also be moved on hold-down plates. Using an articulated shaft is optional.

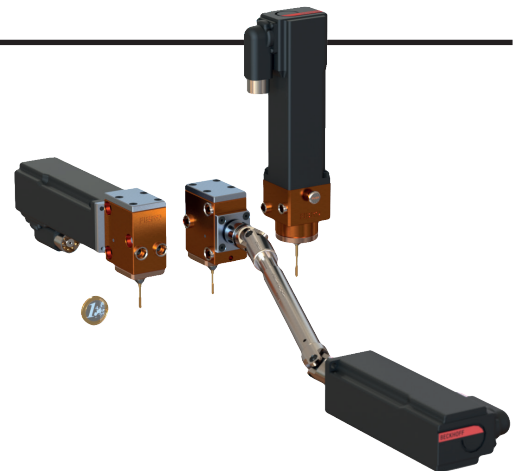


THE BEVEL GEAR

The angular gear serves to limit the length of the installation space required by the drive. Using the angular gear is optional.

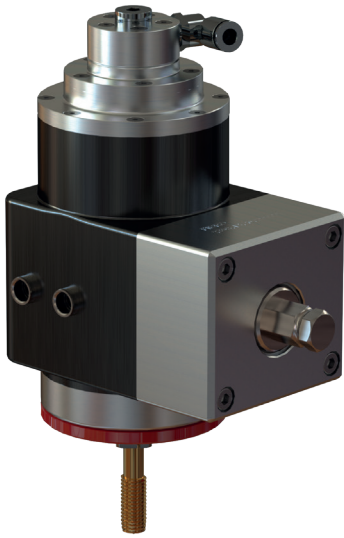
HIGH PERFORMANCE IN TIGHT SPACES

FIBRO has developed a miniature unit especially for the smallest thread sizes – M0.8 to M3.5 – that corresponds to the design and function of the large FETU unit, except that its structure is considerably more compact. With a width of only 30 mm, the mini forming head can be integrated into even the smallest tools.

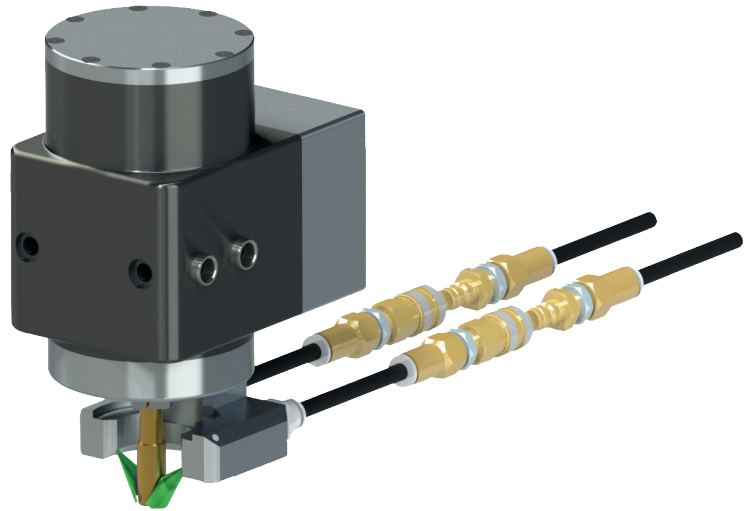


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FORMING HEADS WITH INTEGRATED LUBRICATION UNIT

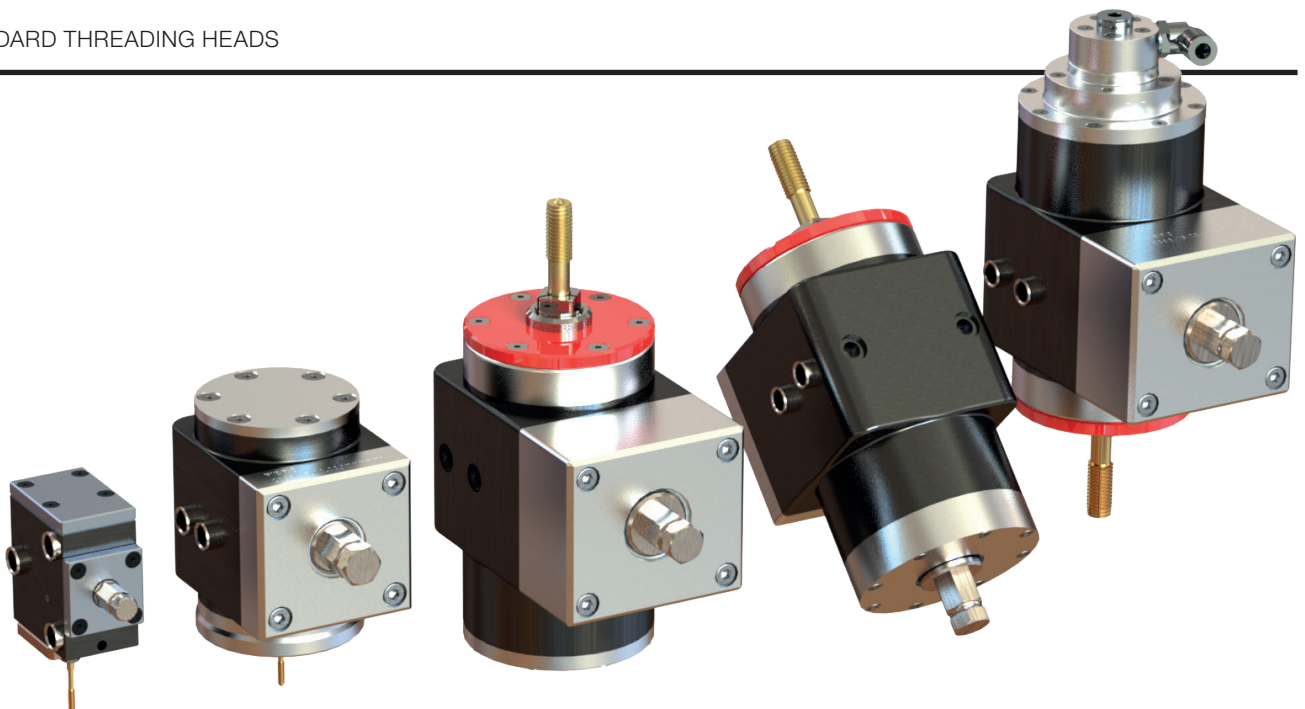


Forming head with connection for interior lubrication for use in tapping tools with interior lubrication.

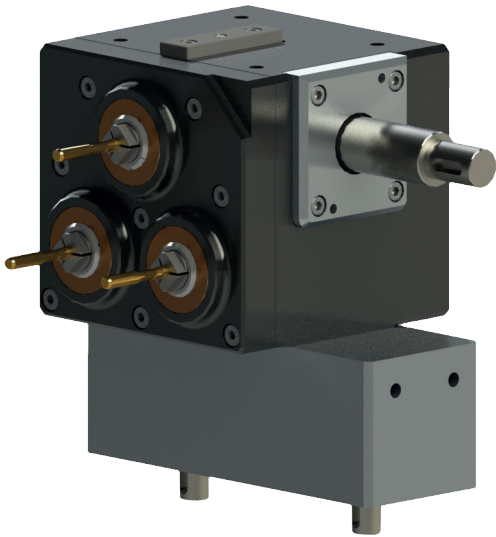


Threading head with ring nozzle technology

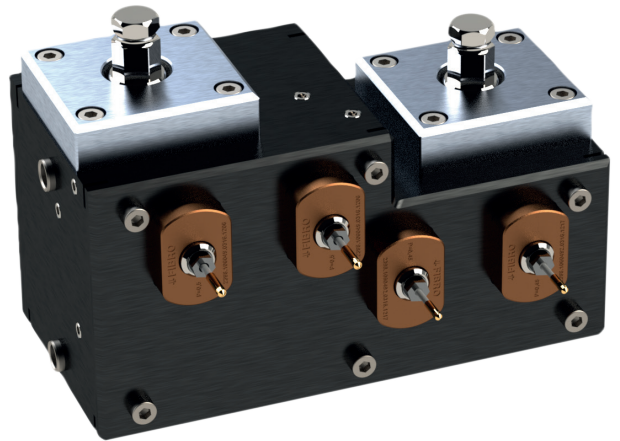
STANDARD THREADING HEADS



CUSTOM FORMING HEADS

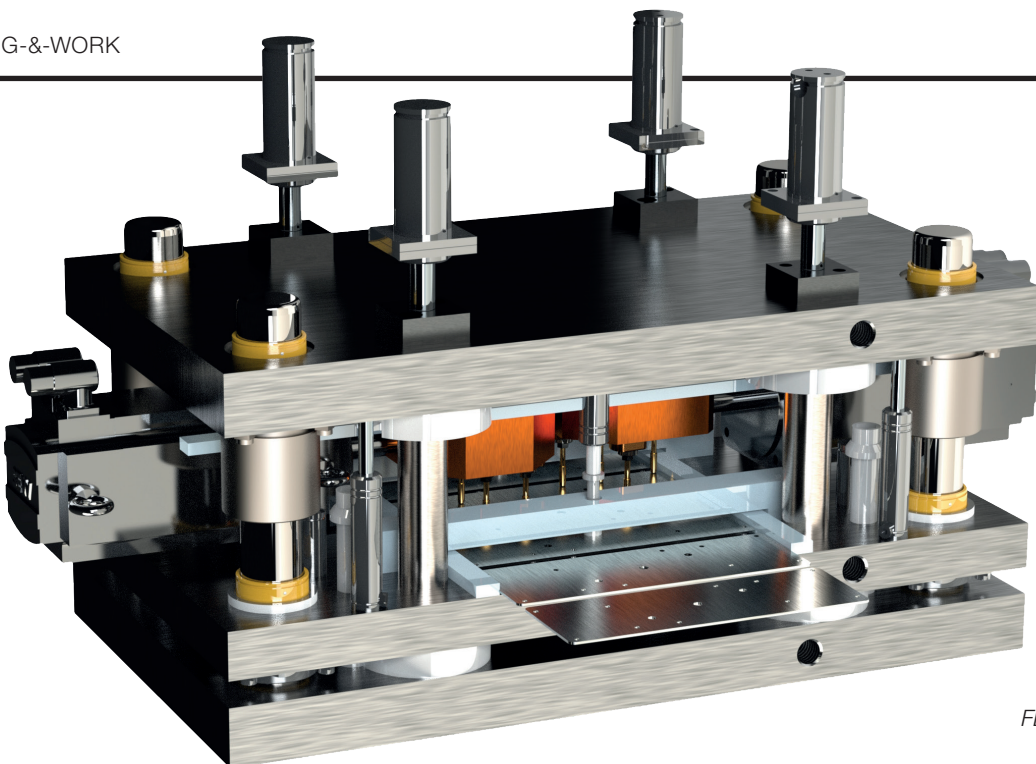


Triple threading head with one drive per spindle



M8 four-way forming head with two drives per head

PLUG-&-WORK



FETU plug-in solutions provide everything from one source

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