Electro-mechanical Assembly Press UFM 03/200/250

Article No.: 366830

PROMESS electro-mechanical assembly presses are particularly suitable for demanding joining, forming or testing tasks with integrated force-distance monitoring. A typical area of application is automated assembly processes that require high repeatability and monitoring of the joining quality, as well as documentation options.

DESIGN

The assembly press is based on a spindle – installed in a solid steel housing – with a high-precision press ram guidance. The systems consist of robust mechanical components with AC servo motor, ball gear drive for converting rotational movement into linear movement, integrated force transducer for direct measurement of the joining forces, as well as the control.

KEY FEATURES

- Integrated force, position and signal control
- Real-time force-distance analysis directly in the servo amplifier
- No external analysis system required
- Safety brake for category 4 optional
- Envelope and window functions
- Robust, tried-and-tested servo drive technology, no special hollow shaft motor solution

ADDITIONAL FEATURES

- Absolute encoder eliminates the need for a reference run
- Positioning by means of external position transducers possible
- Only one measurement range required, thanks to high-precision force transducer
- All customary bus systems are supported
- Compensation against bending
- Service life of bearings and threaded drive >12 million cycles
- In-house production
- Most comprehensive range of assembly presses
- Modular design allows versatile equipment configurations

FUNCTIONAL PRINCIPLE

Actuation is performed by an AC servo motor. The rotational movement of the servo motor is transferred to the ball or roller gear drive and the press ram, where it is converted to linear movement. With the spindle drive, the assembly press is able to apply the full force both in push and pull directions. The sequence of movements can be easily specified using the included control and monitoring software. The envelope and window functions make full monitoring and documentation of the assembly process possible.

MAIN FUNCTIONS	
Nominal load	3 kN
Stroke	200 mm
Nominal speed	250 mm/s
Acceleration	5000 mm/s^2
Dwell time of nominal load	at least 4s
Weight	22,22 kg
Max. tool weight	0,5 kg *
INTEGR. PIEZO ELECTR. FORCE TRANSDUCER	
Transducer accuracy (dismantled)	< 0,5 %
System accuracy	< 1 %
Smallest measuring step	0,732 N
Amplifier / W*H*D	Alu. die-cast hous. / 115*64*34.5 mm
Output signal	+/- 10 VDC
Protection class	IP 54
DISTANCE MEASURING	
Resolution	0,07
Repeatability of positioning	< 0,002 mm **
DRIVE / (W*H*D)	SP1401 / (100*386*219 mm)
Mains voltage	3 AC 380 V - 480 V, +/-10 %
Cable cross sectional – area	1 / 1 mm^2
Protection class	IP 20
Weight	5 kg
Recommended protection	IEC gG / 6 A
Temperature range	- 10 … + 50 ^{o}C
Thermal power loss	45 W
ADDITIONAL INPUTS	
1x Analog / 1x Incremental	11 Bit / Encoder (max. 410 kHz)
INTERFACE PC	Ethernet / RS 485
PLC INTERFACE (24 VDC)	
Standard (Option)	3I / 4O (16I / 16O)
OPTION: PLC FIELDBUS INTERFACe	Profibus, CANOpen, Interbus, DeviceNet

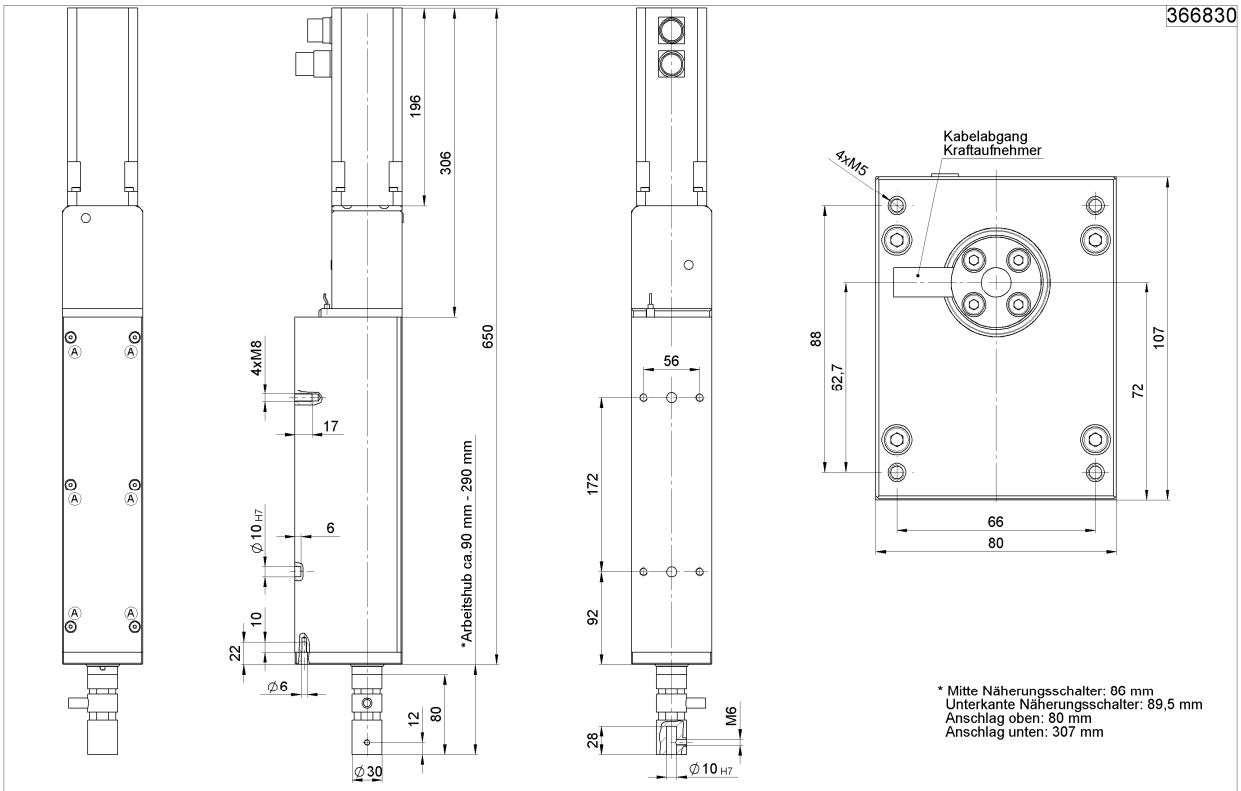
* if using a holding break = nominal load / ** at thermal steady-state

SCOPE OF SUPPLY AND SERVICE

A complete package consisting of press mechanics with drive chain, servo amplifier and the Windows-based operating software is included in the scope of supply of an assembly unit. The entire system is completely preconfigured and calibrated by PROMESS and ready for operation.

The system can be optionally modified using cable sets, field busses, press frames, mounting plates or electric cabinets.

PROMESS offers first-rate support with spare parts and service from a single source. This includes pilot testing, process analysis, start-up support and maintenance contracts.



Zum Schmieren des Kugelgewindetriebes Fügemodul so weit wie möglich ausfahren. Anschließend den Deckel abschrauben (6 Schrauben A) und die Spindel direkt schmieren. Schmierintervall 1000 h oder 250000 Hübe
In order to lubricate the ball screw extend the press unit as much as possible. Afterwards unscrew the cap (6 bolts A) and lubricate the ball screw directly. Lubricating intervals 1000 h or 250000 strokes

All specifications in the data sheets are valid at the print date. Before basing your own calculations/usage on the listed information, please inform yourself whether the information at your disposal is up-to-date. We do not accept any liability for correctness of the information.. Status: Sept. 2009

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