PROMESS UFM Line5

STANDARDISED BUT HIGH FLEXIBLE IN USE:
PROMESS ASSEMBLY PRESSES UFM LINE5

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The PROMESS UFM Line5 series combines the UFM Software V5 with a revised mechanical concept at an optimized cost/performance ratio. The components are state of the art. The product line was designed for a wide range of industrial applications. The user can choose between four different types covering the force range of 10 to 100 kN.

TYPE	FORCE	STOKE	SPEED
1	10 kN	350 mm	200 mm/s
2	30 kN	350 mm	250 mm/s
3	60 kN	350 mm	250 mm/s
4	100 kN	350 mm	200 mm/s

SPECIAL FEATURES

– Absolute encoder by default eliminates reference run
– Digital force measurement with a resolution of 24 Bit
– Calibration by characteristic map
– Sensors flexibly extendable via the PROMESS-BUS
– Fieldbuses can optionally be upgraded as plug-in module
– PLe for STO integrated by default
– Force monitoring by envelope and windows functions
– No PLC knowledge needed
– Motion and monitoring as integrated solution
– Small dimensions
– Automatic lubrication system optional
– Integrated program memory

MECHANICAL DESIGN

The electro-mechanical assembly presses of the Line5 series have a linear design. The spindle is directly driven by the aligned servomotor which achieves high dynamics due to the improved rotation performance. The robust mechanics are suitable for long periods of use. They are put together from the following components: AC servomotor with integrated absolute encoder, high precision gear (except type 1), integrated force transducer, steal housing with drive screw, anti-twist press ram.

A new concept for the greasing and lubrication of the presses eliminates manual lubrication. The assembly presses of the Line5 are most suitable for use in automated assembly lines due to their small dimensions.

SYSTEM DESIGN

The mechanics are triggered via a power amplifier with integrated NC-module. The risk processor fitted in the NC-module takes over the control and monitoring of the assembly unit. It can be programmed comfortably and easily with PROMESS software using a commercially available PC and thus guarantees the user the highest operating comfort as well as maximum reliability. The force-distance course can be monitored by envelope or windows functions. Quality control data and press programs can be stored via the data base plug-in and can be used again at any time.
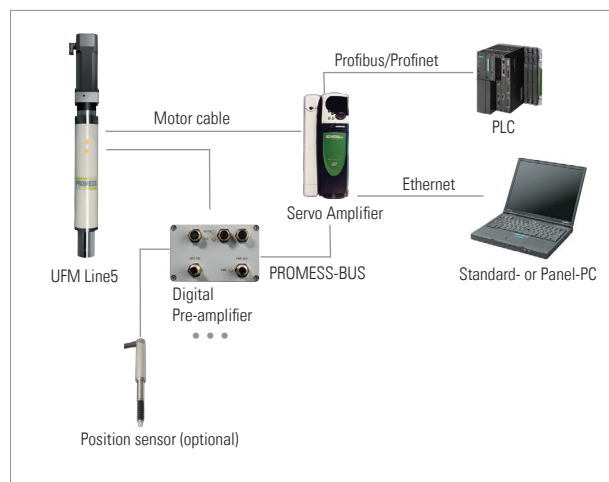
System design

The system features a digital pre-amplifier that transmits the force signal trouble-free with a resolution of 24 Bit. The calibration by measuring map allows for a very high accuracy of the force measuring and replaces the switchover of measuring ranges.
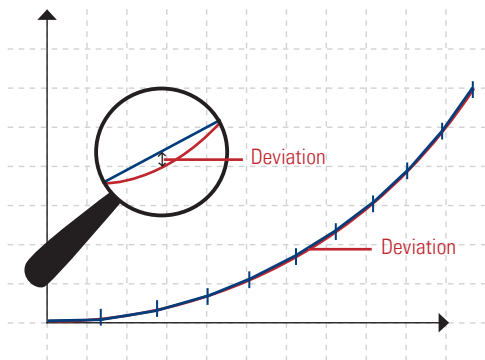
Caracteristic map

Beside the digital pre-amplifier, different extension modules can be connected via the PROMESS-BUS:
- 4 analogue E/A +/- 10 V
- 16 digitale E/A 24 V
- DMS module
- Piezo module

SOFTWARE

The assembly presses of the Line5 are delivered with the high efficient UFM Software V5. The software features large functionality and thus is suitable for a variety of demanding assembly and test applications. A transparent interface under Windows 2000/XP provides problem-free and simple operation. An integrated user administration with password input and rights management provides for quality assurance and traceability of the production process.
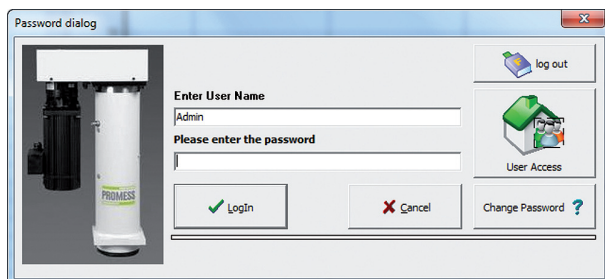

Login dialogue

The extended data base supports the server based systems SQL Server and Oracle and allows for more efficient data processing. New query and filter possibilities of the DB-Viewer display the requested records. Programs and editing can be stored and ever used again so that changes in the program can be retraced at any time.
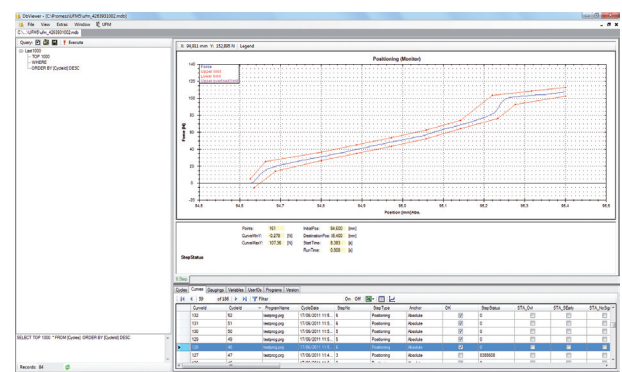
DB viewer

New features in programming make it possible to move the press ram to a position with different programmable speeds or to position the ram on force increase where the joining process is controlled by the change of the slope. The real time envelope test allows for an immediate stop of the press in case of the limits being broken. The monitoring of the limit curves and the setting of the status are carried out in real time. The force-distance course can be monitored by envelope or windows funtions.
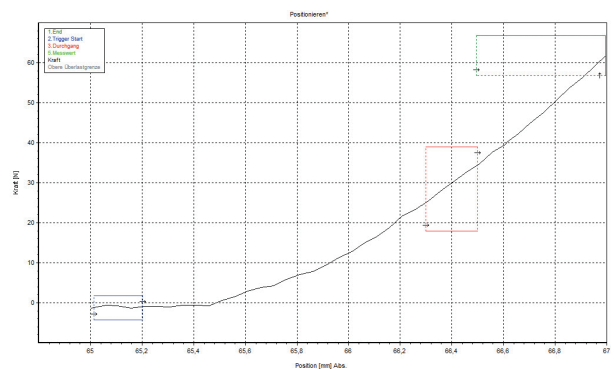
Window technique

Optional, the UFM Software V5 can be upgraded individually by different plug-ins. A .net assemblies interface is integrated by default.

Scope of supply UFM Software V5	Data Base plug-in – SQL Server – Oracle – Access
	.net assemblies interface
	Operating software UFM V5 – Programming – Visualisation – Monitoring
	Servo amplifier with NC-Module FIRMWARE V5

Set-up Software

Options Software Plugins	– Barcode Scanner: Programme selection and ID code transfer via barcode – Hysteresis Measurement: Measuring and analysis of the hysteresis – Multi Curve: Cockpit function: Display of several curves at one screen – Calibration Tool: Automatic calibration of the assembly press – qS-STAT: qs-STAT interface – …
Options Mechanics/ Hardware	– Angled motor instead of inline – External sensors (Heidenhain, incl. cable) – External sensors (Piezo, DMS) – Mounting plate – Safety brake incl. cable – Holding brake – Cable set (5, 10, 15 m) – Mains filter (for cable lengths over 10 m) – 12'Display – Field buses (Profibus, Profinet), others upon request – Additional analogue inputs – Additional digital inputs/outputs – Lubrication set – Greasing system – Calibration set

SCOPE OF SUPPLY

– Mechanics of the assembly press with calibrated force sensor
– Servomotor with absolute encoder
– Gear
– Unidrive incl. application module and UFM software V5 firmware
– Digital pre-amplifier, 24 Bit
– CD incl. PROMESS UFM operating software V5 and Data Base plug-in
– Digital manual in German, English and French (Further languages have to be ordered separately.)
– 24 months guarantee (optional 48 months)
– .net assemblies interface

OPTIONS

Options Service	– Manual in additional languages – Service contracts (service hotline, extension of guarantee) – Extension of guarantee of 12 months (max. 60 months) – Consignment stock – Delivery within 2 weeks *

*From the end of 2012 against extra charge

APPLICATION EXAMPLES

The Application Areas for the assembly units of the Line5 are diverse:

– Joining outer bearing rings in bearing housings
– Pressing of inner bearings onto shafts
– Assembly of pinions
– Assembly of drive shafts
– Assembly of universal joints
– Pressing rotors into sheet metal packages
– Pressing rubber dampers into metal bearings
– Setting and testing springs
– Molding rings to exactly 0.001 mm
– Pressing winding packages into the housing
– Use in riveting technology as well as in butt-welding plants
– Crimping of Electrodes
– Pressing bearing jewels into clockwork mechanism
– Assembly of injectors
– Bending of valves

Subject to change.