Manual workstation UFM-C-Compact

Assembly and testing of
industrial products -
compact, precise, ergonomic.

For more efficiency.

PROMESS
ASSEMBLY + SENSOR TECHNOLOGY

UFM-C-Compact

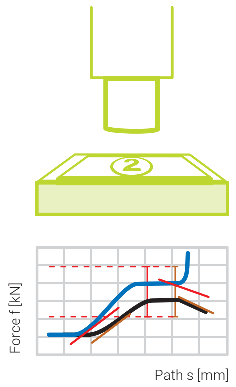
Ergonomic & flexible production

Our manual workstations with NC assembly presses are suitable for force-distance monitored assembly processes up to 30 kN. The autonomous stations are very compact and require very little space.

They are supplied ready to use and can be put into operation immediately. On request, we can supply the workstation on a height-adjustable table so that the table height can be set individually by the operator.

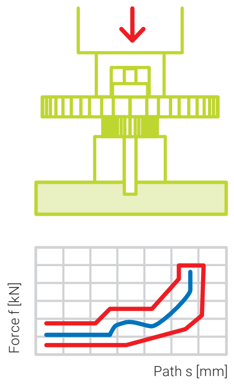
Benefits:

- Compact, space-saving design
- Ergonomic design
- No separate control cabinet required
- Electric safety door
- Robust and durable mechanics
- Short cycle times and high precision
- Intuitively understandable programming software
- Integrated force-displacement monitoring
- 100% traceability of the joint
- 100% quality assurance thanks to complete documentation
- Plug & Play



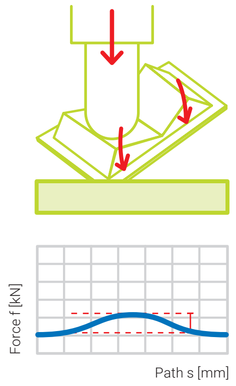
Embossing/forming

- Embossing and forming with detection of the part height and relative forming path.



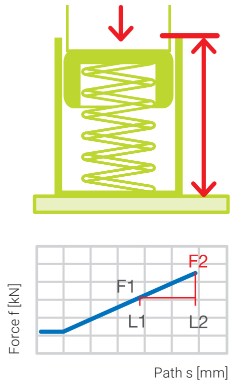
Joining on stop

- Joining on stop with precise force cut-off with absolute shoulder support.



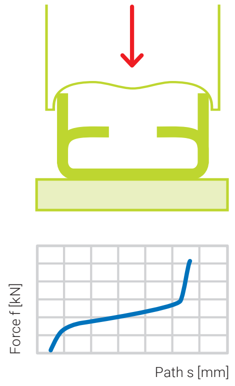
Check haptics

- Logging of forcedis-placement curves at switching points.



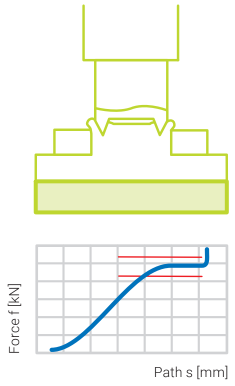
Testing/measuring

- Recording of forcedis-placement curves at several positions.



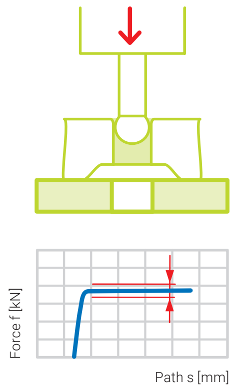
Bending

- Monitored bending of lugs, clamps etc. on safety parts.



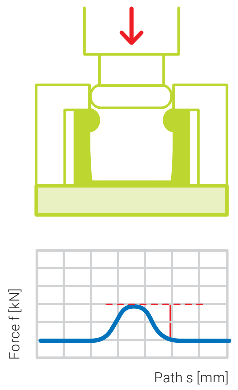
Caulking

- Caulking with controlled force on relative path.



Calibration

- Calibration with quality control using the monitored force.



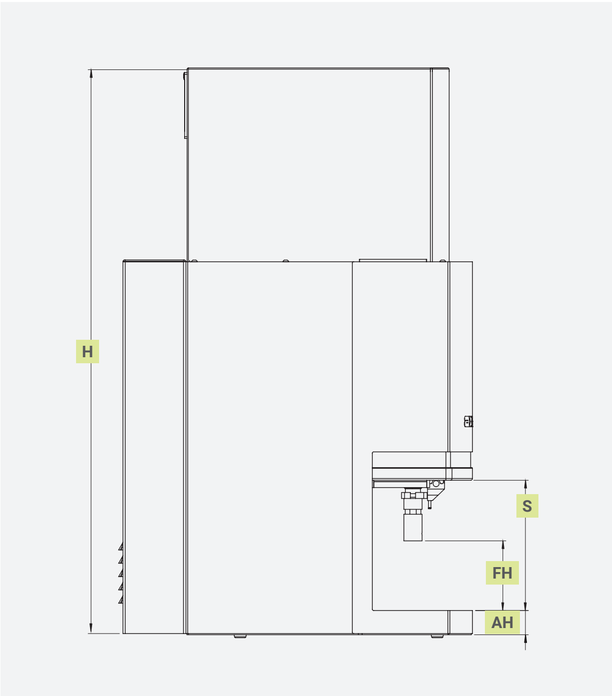
Clipping

- Joining of plastic and medtech parts with monitored snap force.

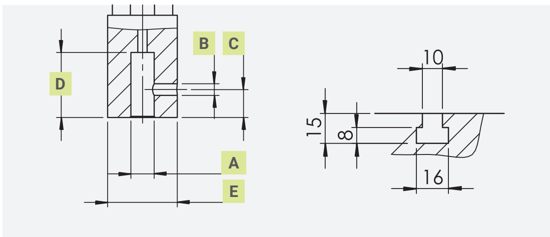
CompactS: up to 4 kN

Type		
	01/100/300	03/200/250
Force		
Nominal force (push/pull)	1/1 kN[1]	3/3 kN[2]
Sensor type	Piezo	
System accuracy[3]	<0.5 % of full scale with 2-point calibration <0.1 % of full scale with map calibration	
Displacement measurement		
Stroke	100 mm	200 mm
Nominal speed	300 mm/s	250 mm/s
Encoder system	Absolute multiturn	
Repeatability[4]	< 0.01 mm	
General		
Power supply	1x 230 VAC / N / PE, 50Hz, 10A	
Compressed air (optional)	6 bar (1-4-1 gemäß ISO 8753-1:2010)	
Weight	approx. 75 kg	

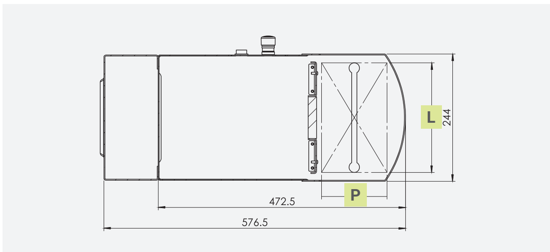
[1] Calibration possible up to 1.5 kN
[2] Calibration possible up to 4 kN
[3] Force measuring system statically calibrated, map calibration optional
[4] Higher precision optional (in thermally steady state)



Dimensions	01/100/300	03/200/250
H Total height [mm]	945	1'025
FH Free height [mm]	115 / 160 / 250	198
AH Working height [mm]	40 mm	
S Safety hood stroke	215 mm	



Tool holders		
A	Top mounting hole	ø10 H7
B	Threaded hole	M6
C	Thread position	12 mm
D	Bore depth	26 mm
E	Ram diameter	30 mm

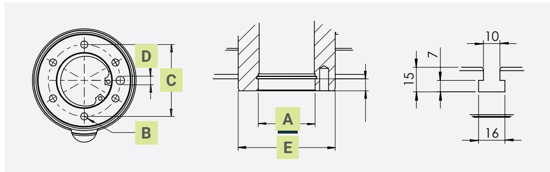


Working area		
P	Working area depth	125 mm
L	Working area width	210 mm

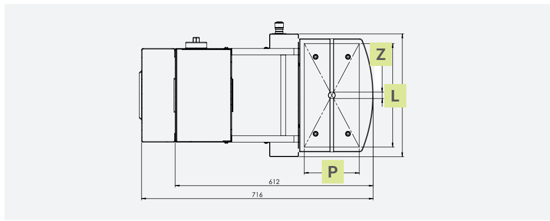
CompactM: Forces up to 30 kN

Type				
	Inline	Parallel	Inline	Parallel
	10/350/300		30/350/250	
Force				
Nominal force (push/pull)	10/10 kN[1]		30/30 kN[2]	
Sensor type	DMS			
System accuracy[3]	<1 % of full scale with 2-point calibration <0.3 % of full scale with map calibration			
Displacement measurement				
Stroke	350 mm		350 mm	
Nominal speed	300 mm/s		250 mm/s	
Encoder system	Absolute Multiturn			
Repeatability[4]	< 0.01 mm			
General				
Power supply	3x 400 VAC / N / PE, 50Hz, 20A			
Compressed air (optional)	6 bar (1-4-1 according to ISO 8753-1:2010)			
Weight	approx. 330 kg		approx. 350 kg	

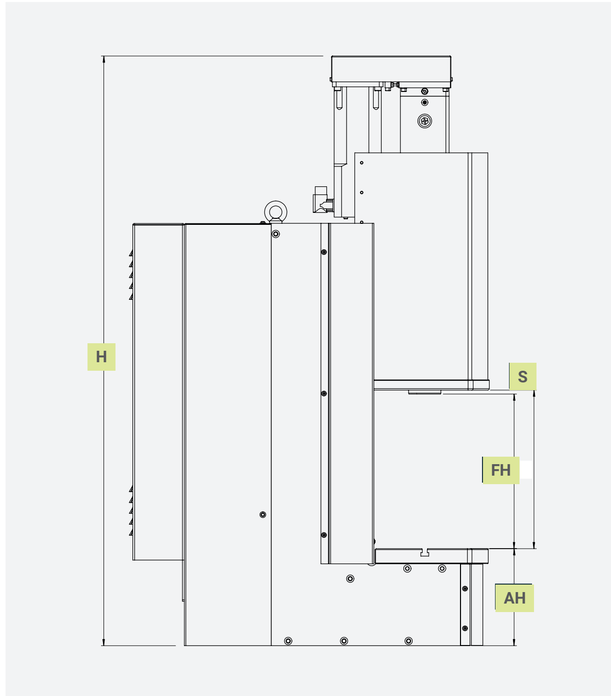
[1] Measuring system statically calibrated, map calibration optional



Tool holders		10/350/300	30/350/250
A	Reversible top hole	ø38 H7 ↓ 7.8	ø63 H7 ↓ 7.8
B	Threaded hole	6x M6 ↓ 12	6x M8 ↓ 18
C	Thread position	Pitch circle ø50	Pitch circle ø80
D	Pin bore	ø6 H7 ↓ 15	ø8 H7 ↓ 12
E	Ram diameter	ø65 f7	ø95 f7



Working area		
P	Working area depth	170 mm
L	Working area width	320 mm
Z	Centering hole	ø20 H7

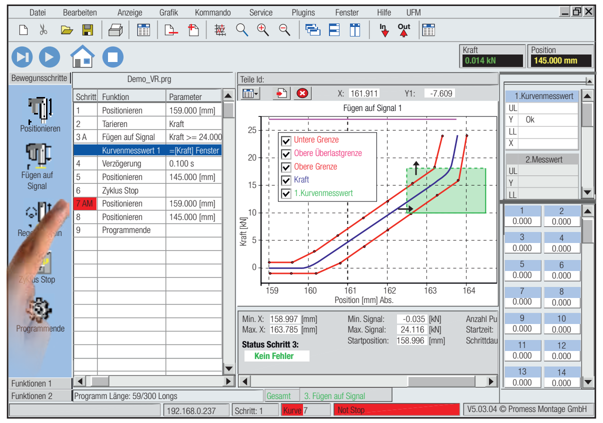


Dimensions	10/350/300	30/350/250
H Total height [mm]	945	1'025
FH Free height [mm]	312 mm	332 mm
AH Working height [mm]	195 mm	
S Safety hood stroke	320 mm	

Intuitive operating software UFM V5.xx

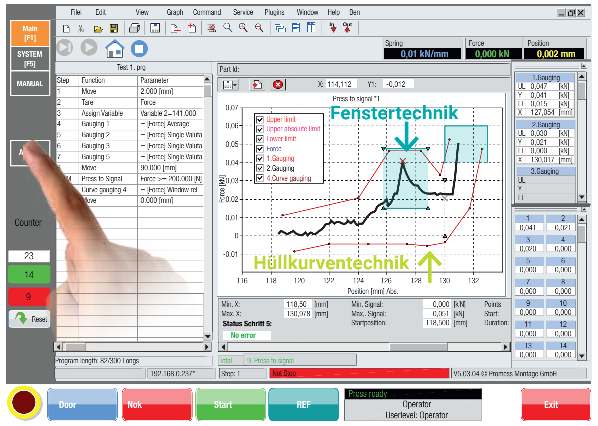
The C-Compact manual workstation with NC assembly presses is supplied with the intuitive UFM V5.xx operating software. It is used to create the joining program and for visualization, monitoring and evaluating process data. The software is intuitive to use and requires no PLC knowledge.

Transparent program interface



The transparent and clear program interface ensures fast program creation. All program steps and their functions are listed in the main window. Each function is assigned its own input mask in which the process parameters are entered. Force, distance, time, speed, acceleration and braking rate can be programmed individually and easily for each step.

Force-displacement monitoring



A force-displacement analysis of the joining process enables 100% control of each manufactured part in real time. Various monitoring objects are available for monitoring the joining process. Monitoring windows can be defined to monitor a specific area of the curve or envelopes to monitor the entire curve. In addition, measured values can also be recorded in order to record and monitor signals at any position, as well as average, maximum and minimum values.

Window technology

Monitoring is carried out via a defined position and a defined force interval. The user defines a rectangular window and specifies from which edge the curve enters this window and at which edge it exits again. If the curve deviates from these specifications, the part to be joined is marked as NOK. The medium, maximum, and minimum values can be calculated and monitored within the monitoring area.

Envelope technology

With the envelope technique, the signal curve is monitored via a lower and an upper freely editable limit curve. If the upper or lower limit is exceeded, this leads to an NOK evaluation.

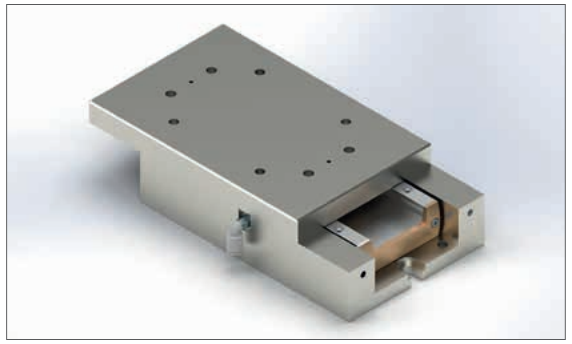
Benefits:

- Force, distance, time, speed, acceleration and braking rate can be programmed individually and easily for each step
- Precise path programming down to the µm range
- Precise force control and gradient evaluation
- Force available over the entire press stroke

Optional software extension

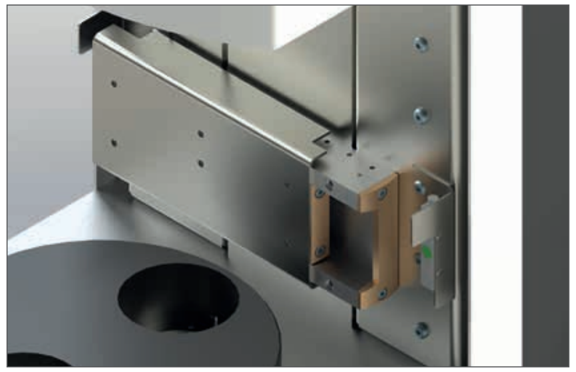
The UFM V5.xx operating software can be optionally extended with the HMI Compact Advanced software, e.g. for automatic loading and processing of recipes.

Complete your manual workstation
UFM C-Compact with a wide range of accessories:



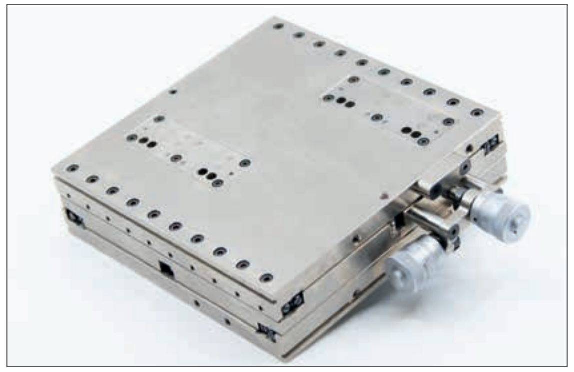
STE precision linear table

- High-precision positioning
- Rigidity during pressing
- Wear-free operation



Linear tool changer

- Simplified integration of tools
- Automatic tool changer
- Multiple tools without operator intervention



Manual XY cross table

- Precise position adjustment by means of micrometric stops
- Roller guide for high load capacity
- Small space requirement

Pneumatic assembly

- Integrated directly on the rear of the machine
- Simple configuration in the software CompactAdvanced
- Numerous options available

Precision probe head

- Almost force-free reference measurement
- Iterative pressing
- Measuring system integrated in press ram

External measuring probe

- External reference measurements
- Differential pressing

External force transducer

- Extremely accurate force measurement
- Force transducer integrated in the tool

Additional options

- Operation via start button, foot pedal or external control panel possible
- Connection of a barcode scanner
- Integration of additional digital signals via PDM-I/O module
- Integration of additional analog signals via PDM-A module
- ESD-compliant equipment

Underframes and work tables

We offer you various options for setting up your manual workstation flexibly and ergonomically to enable you to work in a way that protects your health.

1. **Electric height adjustment**
   The table is also available with a fixed height or with a manual height adjustment.
2. **17" touch screen**
   The screen can be supplied on a swivel arm or as a table version.
3. **Start via foot pedal**
   The foot pedal allows you to work comfortably and quickly with both hands.
4. **Drawer unit**
   All tools can be neatly stored in the side drawer unit.

Type	S		M	
Variant	without cut-out	with neckline	without neckline	with cut-out
Art. No.	005145	005146	005148	005149
For which version is the table suitable?				
Manual workstation	CompactS, CompactS RE		CompactM	
Dimensions				
Table [mm]	1200 x 900 (Other dimensions on request)			
Table height [mm]	approx. 800 to 1000 (fixed height, manual or electric height adjustment)			
Worktop thickness	40 mm thick			

Our services for you

On request, PROMESS will support you from process development through to the use of our assembly presses at your site. It does not matter whether you are using our assembly presses for the first time or if you are already familiar with them. We offer you the necessary service for along and sustainable use of our products:

The service for our products includes the following services:

- Process development
- Preliminary tests in our technical center
- Loan units
- Commissioning
- Documentation
- Training courses
- Remote / maintenance
- Calibration service
- Emergency, repair and spare parts service
- Sale of used assembly presses
- Consignment stock
- Worldwide sales and service network

For more „green" efficiency

By opting for a universal assembly presses from PROMESS, you are choosing a durable, energyefficient drive system. We design your assembly presses individually in advance, which prevents oversizing and increased energy consumption. This saves you energy costs and conserves resources. If possible, we take used assembly presses back, rework them back into the product cycle. The refurbished modules are state of the art and have short delivery times. In addition, you receive a 12-month warranty and contribute to climate protection.

PROMESS. For more efficiency.

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