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Producing weld preparations is done in seconds

FBM PIPE END PREPARATION MACHINES for

- Heat exchanger production • Offshore construction
- Apparatus manufacture • Shipbuilding
- Machine construction • Pipeline construction

Pipe end preparation machines

FBM-6 FBM-12 FBM-16 FBM-24

BEVELS PIPE ENDS QUICKLY, ACCURATELY AND SIMPLY

Simple

Because clamping is achieved by means of a self-centering prism clamp (which does not need any spare parts), this covers the whole clamping range of the machine. A set of tools can also be supplied which is suitable for the processing of all pipes within the range of the machine, without the need to continually adjust the tools.

Accurate

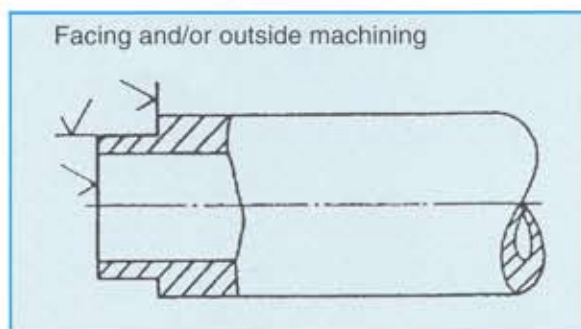
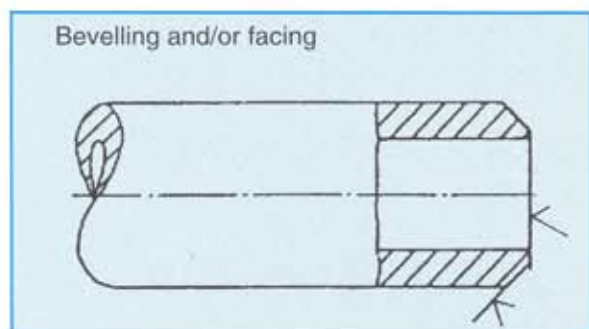
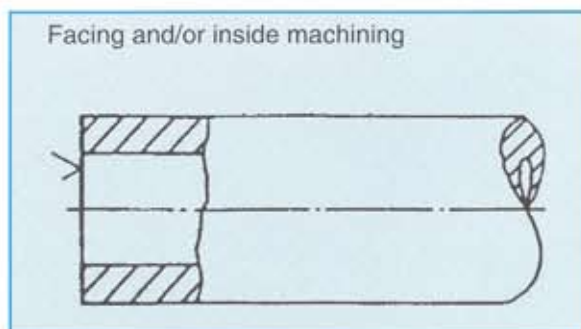
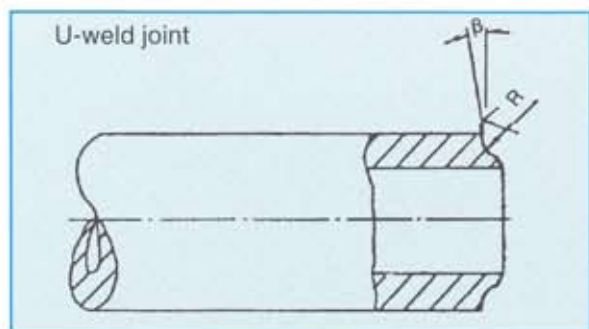
Thanks to the stability of the machines, every end preparation is identical. These identical end preparations are beneficial to the welding outcome and are likewise of the greatest importance when welding with, for example, a welding robot.

Quick

See the table below for individual machining times, measured during the production of a 30° weld preparation.

Pipe diameter	Wall thickness	Material	Processing time
4" - 114.3 mm	6 mm	St.37	approx. 15 sec.
6" - 168.3 mm	12 mm	St. 37	approx. 30 sec.
6" - 168.3 mm	25 mm	St. 37	approx. 2 min.
10" - 273.0 mm	19 mm	Duplex - stainless	approx. 2 min.
12" - 323.8 mm	12 mm	Duplex - stainless	approx. 1 min.
16" - 406.4 mm	13 mm	St. 37	approx. 45 sec.
20" - 508.0 mm	20 mm	Duplex - stainless	approx. 1 min.
24" - 609.6 mm	25 mm	Duplex - stainless	approx. 1 1/2 min.

Several types of end preparations can of course be carried out. It is likewise possible to produce a combination of end preparations. A number of end preparation examples are shown below.



Technical data for FBM-6, FBM-12 and FBM-16 machines



FBM-6 machine



FBM-12 and PBM-16 machine



Prism clamping for pipe diameters of 46 mm up to and including 180 mm



Suitable for wall thicknesses of 20 to 25 mm in one processing operation



Prism clamping for pipe diameters of 60 mm up to and incl. 330 mm (FBM-12) and 80 mm up to and incl. 410 mm (FBM-16)

	FBM-6	FBM-12	FBM-16
Clamping range*	46 - 180mm (1.5" - 6")	60 - 330mm (2" - 12")	80-410 mm (3" - 16")
Turning*	30 - 180mm	40 - 330mm	60-410 mm
Motor****	380V - 3 ph. 4.5/5.5 kW	380V - 3 ph. 4.5/5.5 kW	380V - 3 ph. 4.5/5.5 kW
Clamping**	Prism clamp - manual	Prism clamp - manual	Prism clamp - manual
Machining	Using HM inserts	Using HM inserts	Using HM inserts
Max. wall thickness***	25 mm (in 1 operation)	25 mm (in 1 operation)	20 mm (in 1 operation)
Feed**	Manual	Manual	Manual
Feed travel	100 mm	100 mm	100 mm
Turning speed	48 and 96 r.p.m.	36, 48, 72 and 96 r.p.m.	36, 48, 72 and 96 r.p.m.
Dimensions	1300 x 900 x 1450 mm	1400 x 1100 x 1800 mm	1400 x 1100 x 1900 mm
Weight	1250 kg	2000 kg	2250 kg
Cooling pump	Built-in	Built-in	Built-in

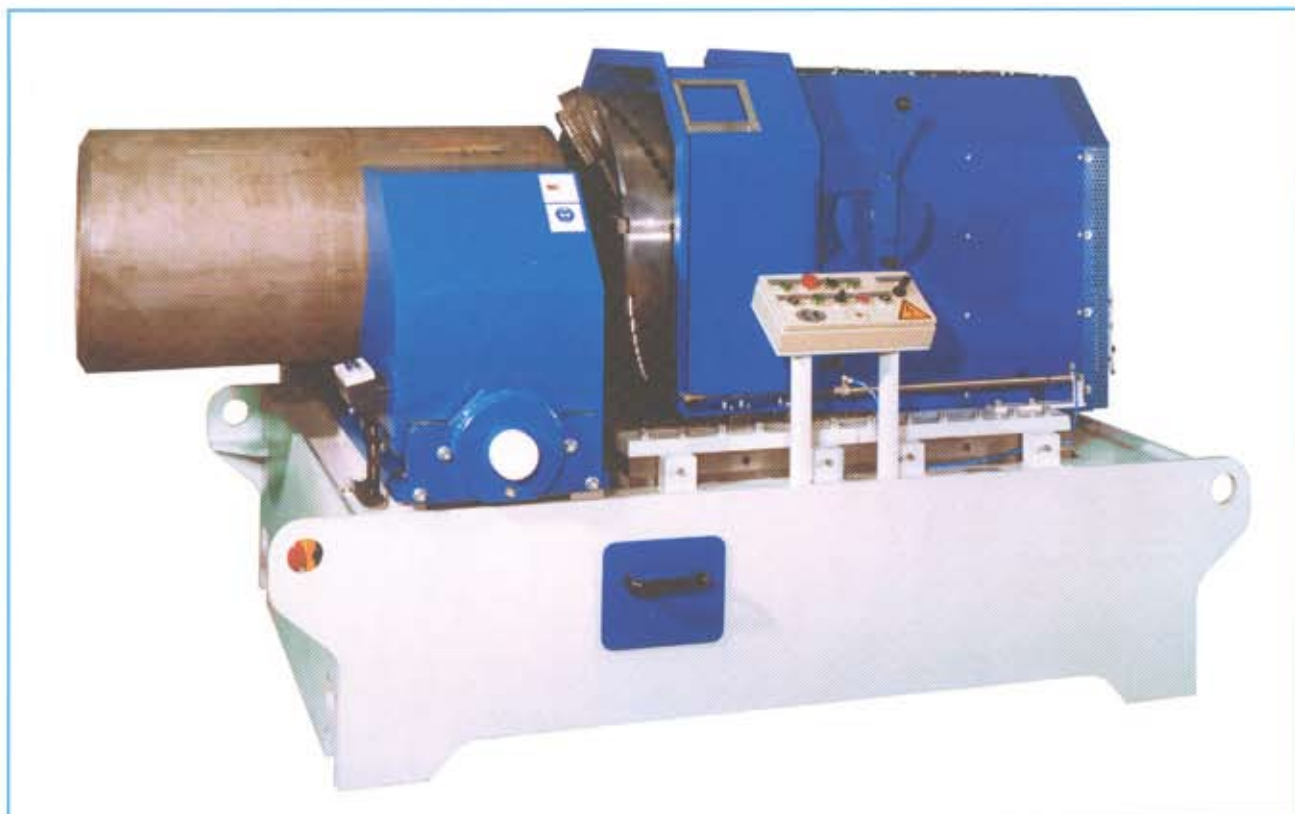
* The clamping and turning range can if necessary be reduced by means of special insert jaws (optional)

** Further options are automatic clamping, automatic feed and a so-called mist cooling system

*** By processing the pipe several times, the wall thickness becomes unlimited

**** Other voltages on demand

Technical data for FBM-24 machine



FBM-24 machine

	FBM-24
Clamping range	215 - 620 mm (8" - 24")
Turning range	170 - 620 mm
Motor*	380V - 3 ph. - 15 kW
Clamping	Prism clamp - electr. operated
Machining	Using HM inserts
Max. wall thickness**	45 mm (in 1 operation)
Feed	Electrically operated
Feed travel	100 mm
Turning speed	25, 38 and 50 r.p.m.
Dimensions	2000 x 2500 x 1800 mm
Weight	12000 kg
Cooling pump	Built-in

* Other voltages on demand

** By processing the pipe several times, the wall thickness becomes unlimited



Interchangeable insertholders for inserts with a cutting length of 45 mm

The FBM-24 machine is the largest in the series of FBM machines. The FBM-24 is supplied as standard with an electrically operated feed and electrically operated clamping. The insertholders which are available with this machine are produced with hard metal inserts with a cutting length of 45 mm (see photo below left). Thanks to the robust construction of the FBM-24 machine, a feed rate of 0.4 mm per revolution is no problem (and this with a cutting length of 45 mm).

Producing end preparations is done in seconds

Output is an important factor in the choice of a machine. In the case of the FBM machines this is a factor which can be established easily. To underline the speed of the FBM machines once more, we give an example of a machining time below.

Example of butting time

Pipe	: 24"
Wall thickness	: 25 mm
Bevel angle	: 30°
Material	: stainless steel
Machining time	: 90 sec.

Technical data for FBM-24 machine



Multifunctional control panel

The control panel is provided with the following functions: Start machine - stop machine - cooling pump on/off - pulse action tool head - rapid action feed left - rapid action feed right - start feed - feed rate regulator - stop feed - protection cover open/closed (pneumatic)

Electrically operated prism clamping

The FBM-24 machine is provided with an electrically operated prism clamp with adjustable clamping pressure. Pressing the knob causes the clamp to open and close.

The operating panel is located on the side of the clamp. There is an indicator lamp on the control panel which lights up when the pipe is clamped at the maximum adjusted clamping pressure.



Infinitely adjustable feed

The standard electrically operated feed is infinitely adjustable by means of a rotary knob. This knob is located on the control panel. The feed can thus be regulated very easily and efficiently.

Tool set for the FBM-24 machine

A special tool set has been developed for the FBM-24 machine. This tool set consists of 2 double insertholders (see photo) and 2 single insertholders. This set is adjusted once and it is then possible, without further adjustment of the insertholders, to machine all sizes of pipe within the range of the machine (see the brochure for a further set-up for the tool sets to be provided). The tool sets are supplied as standard in a 30° or a 37.5° configuration. Other angles or configurations are available on application.



Type TRB Roller Benches

The TRB series of roller benches have been specially developed for use with the FBM pipe end preparation machines.

The troughs with steel rollers ensure that the pipe can be rolled easily into the machine. The height is electrically adjustable, the top section with all V-rollers being moved in its entirety. The correct height adjustment can be read off and adjusted with the help of a graduated scale.

With the FBM machines a facility is provided to enable the plug of the roller conveyor to be plugged in at the machine. The TRB series of roller benches are of course of a heavy-duty and substantial construction.

Different dimensions and/or versions with for example stainless steel rollers or which are rotatable in their entirety through 180°, can be supplied on application.



Machine	Roller bench type	Roller bench length	Roller bench width	Carrying capacity	Weight
FBM-6	TRB-3000	3000 mm	300 mm	2000 kg	700 kg
	TRB-5000	5000 mm	300 mm	2000 kg	1000 kg
	TRB-7000	7000 mm	300 mm	2000 kg	1300 kg
FBM-12	TRB-3000	3000 mm	300 mm	2000 kg	700 kg
	TRB-5000	5000 mm	300 mm	2000 kg	1000 kg
	TRB-7000	7000 mm	300 mm	2000 kg	1300 kg
FBM-16	TRB-30-16	3000 mm	400 mm	3000 kg	900 kg
	TRB-50-16	5000 mm	400 mm	3000 kg	1200 kg
	TRB-70-16	7000 mm	400 mm	3000 kg	1500 kg
FBM-24	TRB-30-24	3000 mm	600 mm	8000 kg	2500 kg
	TRB-50-24	5000 mm	600 mm	8000 kg	4000 kg
	TRB-70-24	7000 mm	600 mm	8000 kg	5500 kg



Tool sets for the PBM machines

The tool sets for the FBM machines have been specially developed to machine all sizes of pipe within the range of the machines, without time-consuming adjustment of the tools. The tool sets consist of insertholders which are provided with hard metal inserts.

The inserts are suitable for the machining of various kinds of material. The tool sets are supplied with a so-called adjusting cone, which makes it possible to quickly and simply adjust the tools in the correct way. The tool sets are supplied as standard in a 30° or a 37.5° configuration. Other angles are available on application.

FBM-6 tool set

The 30° tool set for the FBM-6 consists of three insert holders, each being provided with one insert and one insertholder with two inserts. The 37.5° tool set consists of two single and two double insertholders. The drawing below provides a view of the insertholders and the sizes of pipe which they machine, for example insertholder no. 1 machines pipe diameters of 30 mm up to and including 1.5" and insertholder no. 2 machines pipe diameters of 1.5" up to and including 3", etc.

FBM-12 and FBM-16 tool set

The tool set for the FBM-12 machine consists of four double insertholders, each being provided with two inserts. The drawing below provides a view of the insertholders and the sizes of pipe which they machine, for example insertholder no. 2 machines pipe diameters of 2.5" and 3" and the second insert machines 8". Insertholder no. 4 machines a pipe diameter of 5" and the second insert of insertholder no. 4 machines a pipe diameter of 12", etc.

Machining wall thicknesses of more than 12 mm

To machine wall thicknesses of more than 12 mm, it is necessary to mount two or more tools "above" each other. Special insertholders are needed for this operation.

The situation is then the same as shown on the drawing below (for example no. 1 + 2).

FBM-24 tool set

The tool set for the FBM-24 machine consists of two insertholders, each being provided with one insert, and two insertholders, each being provided with two inserts. Because the inserts overlap each other in a straight line, the set can be used for all pipe diameters within the range of the machine. The tool set is likewise suitable for machining (in one operation) the maximum wall thickness of 45 mm.

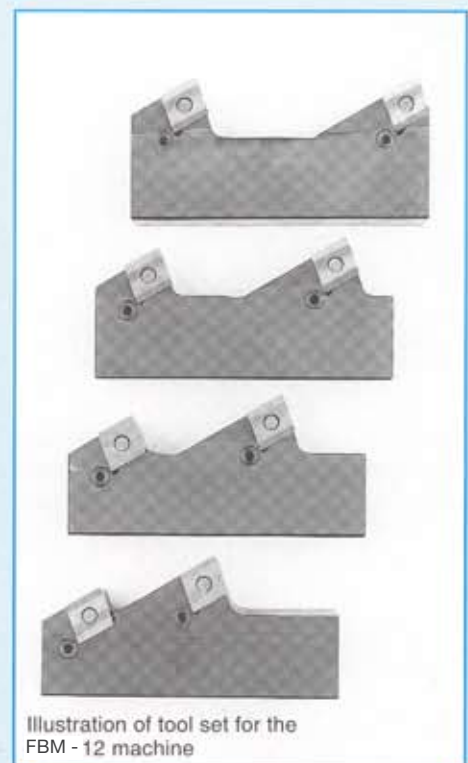
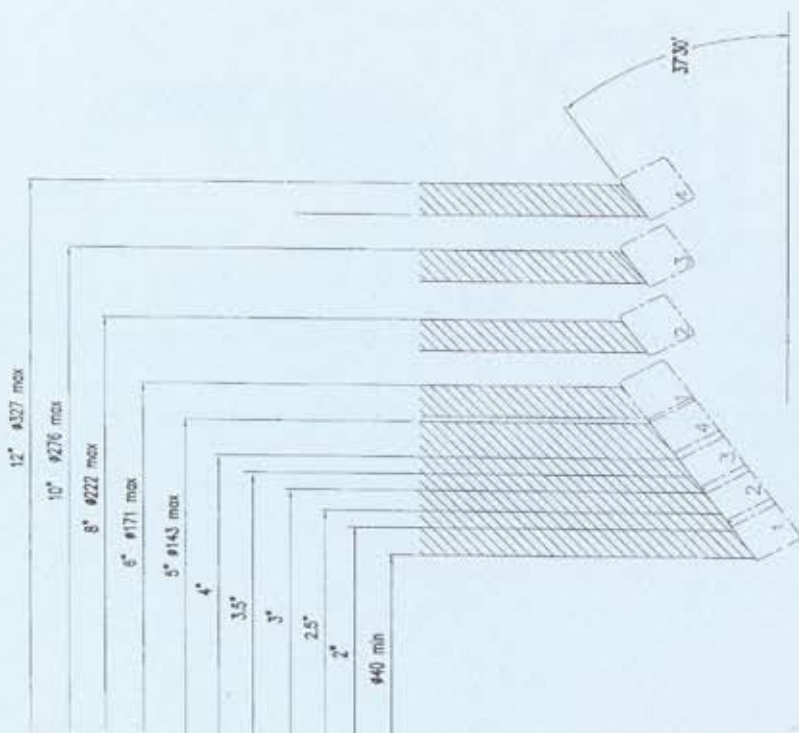


Illustration of tool set for the FBM - 12 machine