

ELECTRON BEAM TECHNOLOGY



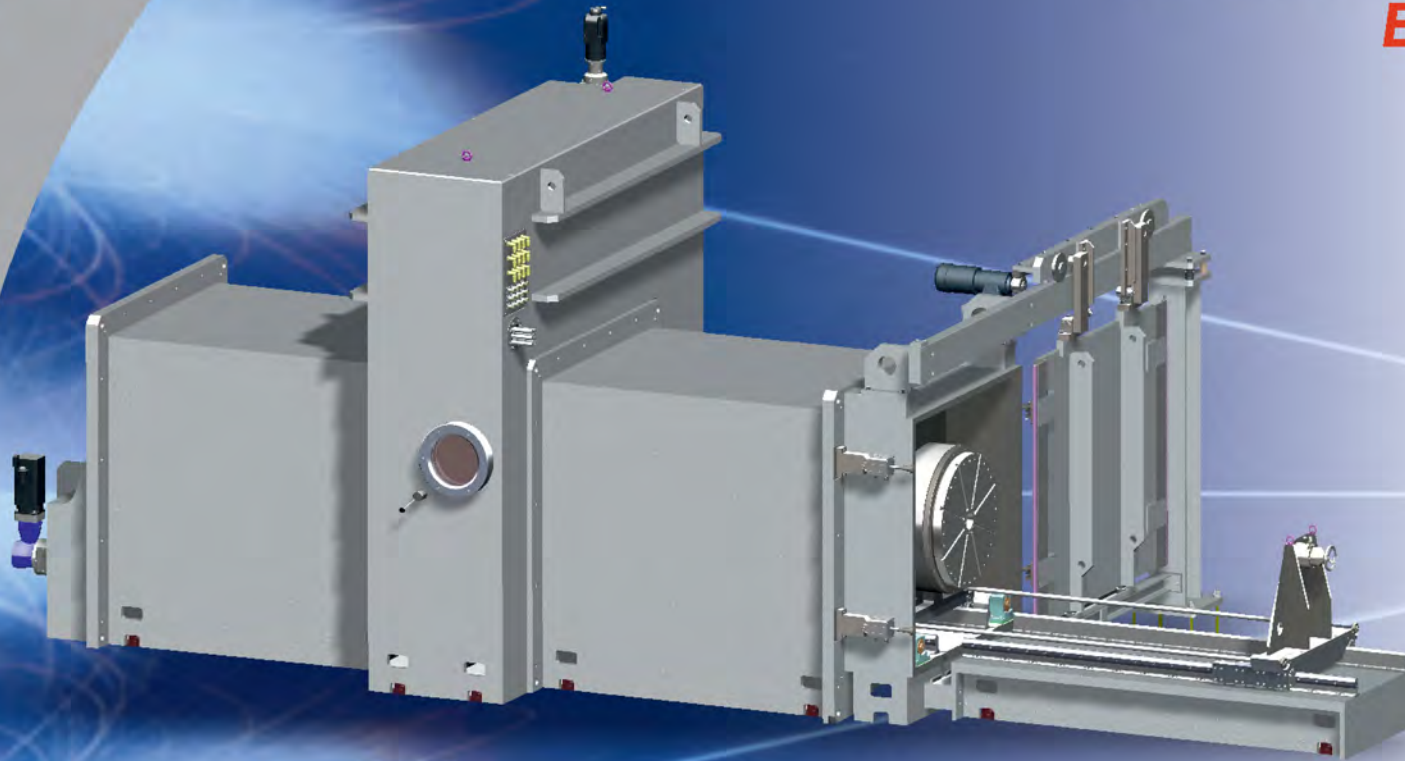
EB CHAMBER SYSTEMS

EBOFLEX series

**MODULAR
&
INNOVATIVE**

For use with the **EBODISC** series modules.

This saves space for many processing jobs and is a low-priced alternative for a wide range of applications.



**THE MOBILE GENERATOR
REDUCES CHAMBER VOLUME
AND EVACUATION TIME**

A company of



EB CHAMBER MACHINES **EBOFLEX** series

Narrow working chamber modules with inside mounted carriages for our new **MOBILGEN** series EB generators are the essential feature of our **EBOFLEX** chamber machines.

You can process any workpiece across the entire chamber width and height while moving the component on a linear slide whilst simultaneously moving the generator.

Eliminating a transverse carriage for the workpiece substantially reduces the chamber depth thus saving pump power and evacuation time.

The design enables the inclusion of any module developed for the **EBODISC** series and making it possible to expand it to compact chambers or complete production machines.

This series for processing large-scale components offers new standards together with the many other benefits of these modules.

EB GENERATORS **MOBILGEN MG 60**

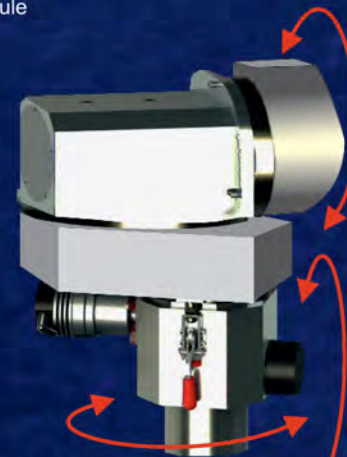
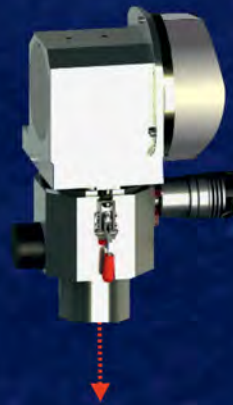
Its rotating high-voltage connections make it possible to move the generators in a tight space on the arranged slides.

That means all of the cables can be kept inside of the chamber and provides for the optional generator rotation and tilting.

Furthermore, you can adapt the generators for rapid beam deflection thus enabling you to take advantage of the following functions:

- **EBO Jump** multi-pool welding
- **EBO View** optical electron viewing
- **EBO Scan** joint scanning
- **EBO Set** automatic beam adjustment

Mobilgen MG 60T
60 kV
10-30 kW
A generator with a swivel module



Mobilgen MG 60TR
Generator with a rotating and tilting axis and swivel module

BEAM TECHNOLOGY WORLDWIDE



New designs of EB machining centres with 2-7 movement axes for generators and workpiece combined with the integrated rotating and horizontal axes built into the mobile generators.

MOBILGEN MG 60



Another innovation
of



EXTENSION AND REAR WALL MODULES

All of the options that are also available for the EBODISC series



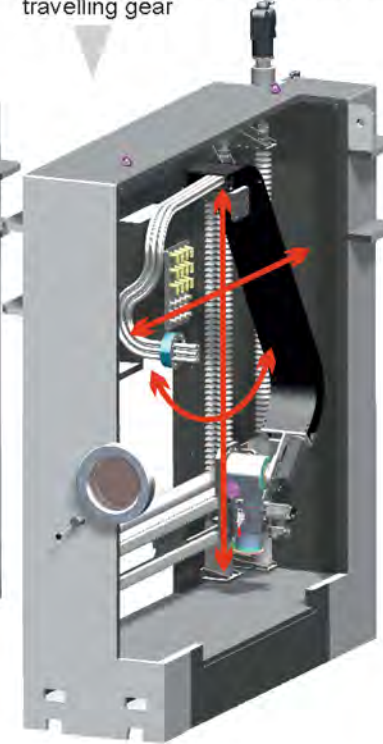
EF-H CHAMBER MODULES

Standard design with the transverse carriages



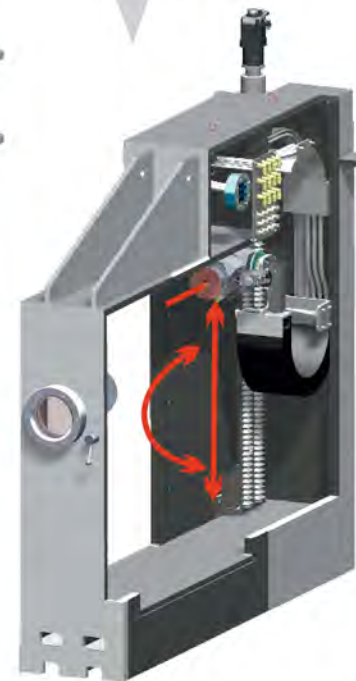
EF-HV CHAMBER MODULE

on vertical slides with the transverse travelling gear



EF-V CHAMBER MODULES

without the transverse travelling gear – only a vertical travelling carriage for processing with horizontal beam



We offer all of the designs with MG 60T generators and a rotating 60 kV connection as the standard. They can also be equipped with the option of a drive for tilting in the direction of the travelling axis. Another option is equipping with MG 60TR generators including built-in drives for rotating and tilting.

EXTENSIONS AND SLIDING DOOR MODULES

With all of the options that are available for the EBODISC series



THE LONGITUDINAL SLIDE FOR ALL CHAMBER AND EXPANSION MODULES:

The workpiece is moved in the chamber's longitudinal direction by means of the space saving slide system developed for the EBODISC series. An optional rotary device or rotary-tilt manipulator and a separately adjustable tailstock are also available.

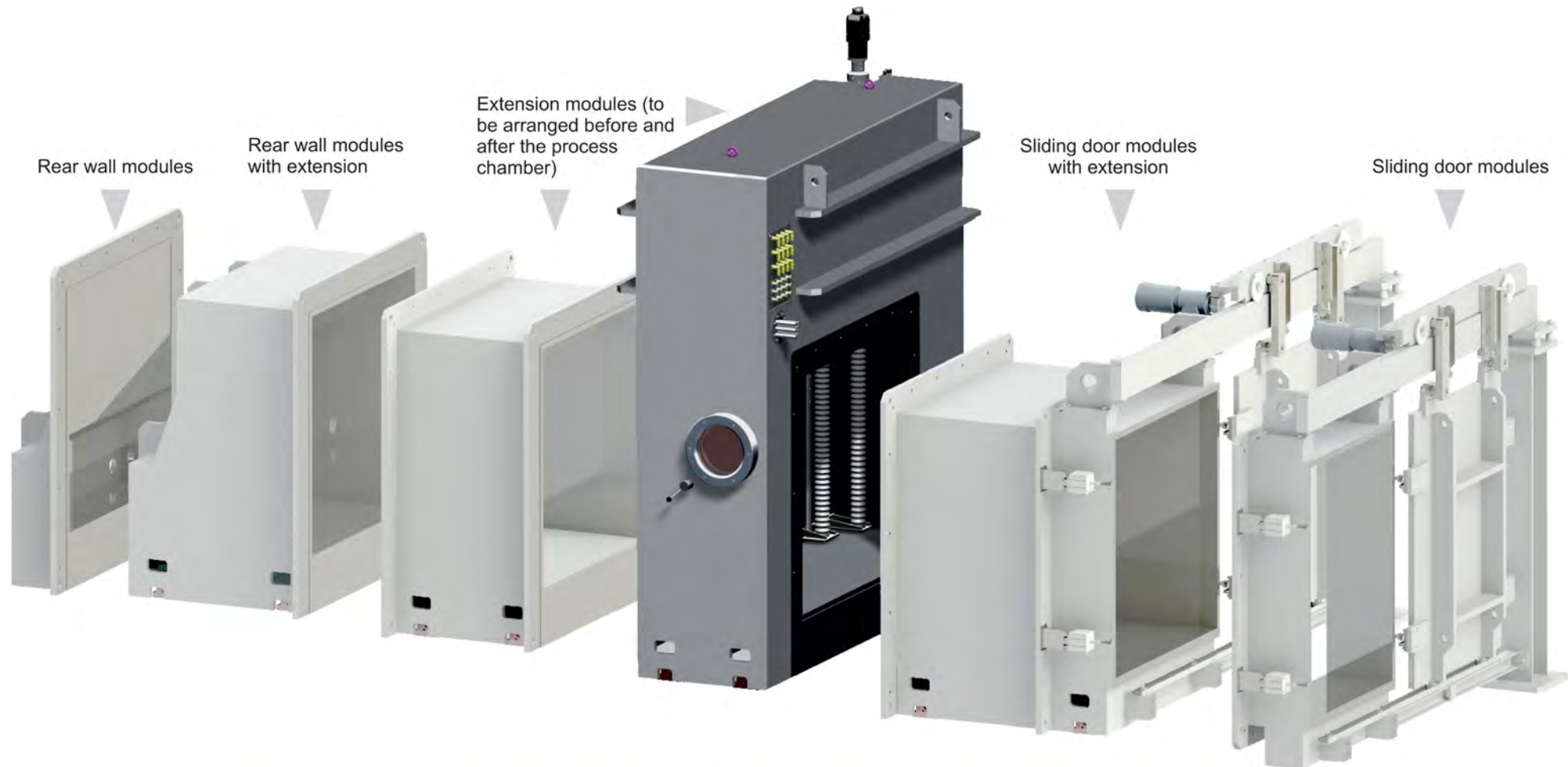
You can substantially reduce the volume of the chambers by arranging the guides and drive spindles (or – with lengths in excess of 3,000 mm with a rack and pinion drive) in the chamber corners.

ALL STANDARD CHAMBER MODULES

AND THEIR STANDARD DESIGNS

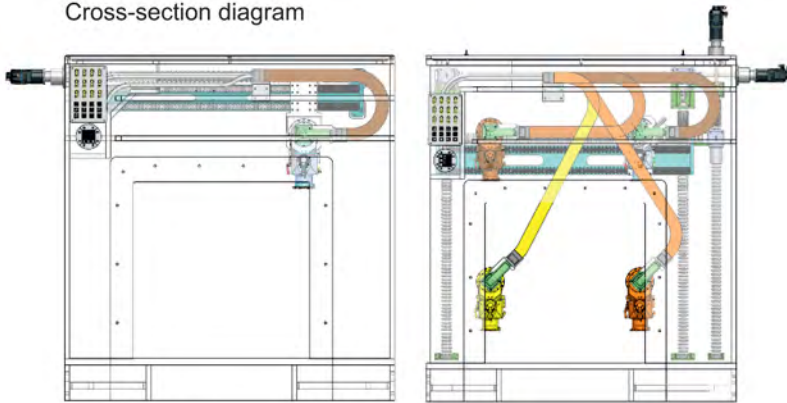
- are offered in 3 sizes with various design lengths

We can build modules and compact chambers in special designs with such axis systems and generators of the **MOBILGEN** series for workpieces with almost any dimension.

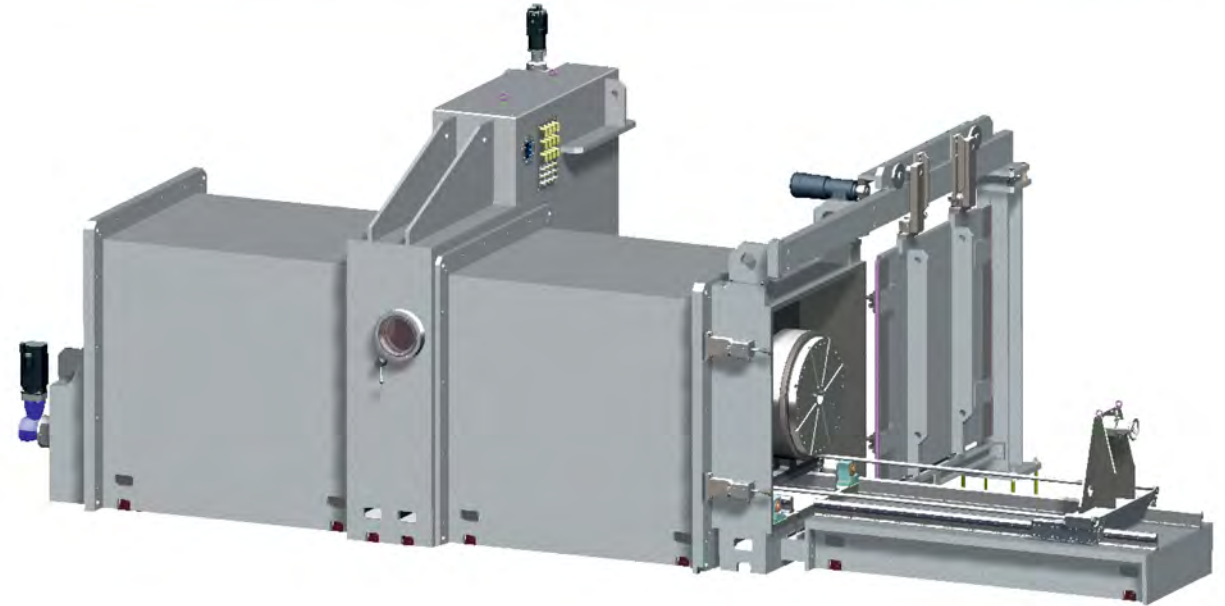


WITH THE STANDARD MODULES TO THE COMPACT CHAMBER

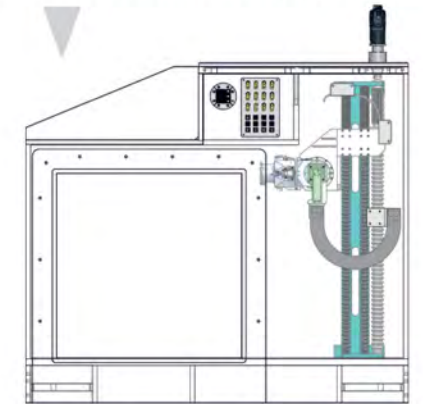
Cross-section diagram



EBOFLEX EF-H AND EF-HV CHAMBER DESIGN SERIES



EBOFLEX EF-V CHAMBER DESIGN SERIES



Cross-section diagram

WITH BYPASS AND BUFFER MODULES NEXT TO THE PRODUCTION MACHINE

Flexible production machines

We can configure chamber systems of different types with bypass and buffer modules of the EBOFLEX for series production of larger workpieces. The essential feature of these systems is the fact that the working and bypass chambers are always under a vacuum.

All chambers up to the load-lock are permanent evacuated.

That means:

- minimum energy costs
- shortest cycle times
- maximum production output

Process route

A new workpiece pallet is brought via roller conveyors into the buffer module(s) of the bypass module through the load-lock module. At the end of the work cycle, the finished component is moved from the longitudinal slide into the bypass module, moved onto the roller path and unloaded through the load-lock module, whilst a new part is loaded onto the slides from the buffer station and brought to the processing station.

The load-lock function

The pallet is exchanged through the load-lock module by activating the outside and inside door of the bypass module or evacuating the load-lock by maintaining the vacuum in the working chamber.

Different components can be alternately processed by means of pallet identification.



vertical

Bypass and buffer modules with internal lifting or sliding doors and pallet-lifting or transfer-devices.

horizontal

Load-lock modules with sliding doors

Standard chamber system and modules for building flexible production machines

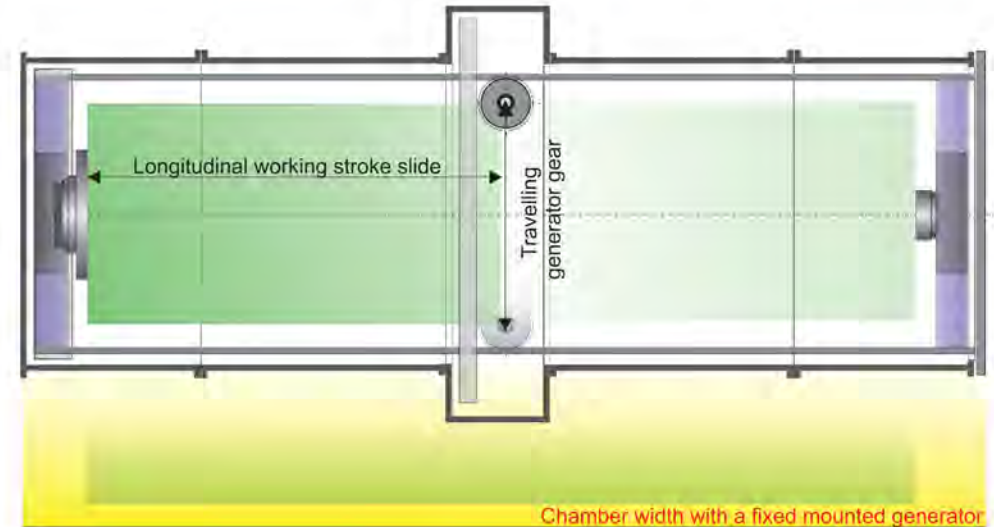
THE DIMENSIONS OF THE STANDARD **EBOFLEX** CHAMBER SERIES

A comparison of sizes with systems that have fixed mounted generators demonstrates:

THE CHAMBER VOLUME IS REDUCED MORE THAN 35%

The pump power or the evacuation time is reduced relative to reduction in chamber volume. When calculating costs, you can see the reduction in time and effort for cleaning and service work, not to mention smaller hall foot-print.

We build all special design systems for workpieces with virtually any dimensions.



STANDARD EBOFLEX SERIES WORK CHAMBERS

Type	Design size	Free cross-section for workpiece rotation (mm)	Chamber dimensions (mm)			Generator movement axis (axes)	Generator rotating axis (axes) (optionally)
			Width	Height	Length		
EBOFLEX EF-H	11	800 x 800	2.000	2.650	750	horizontal	Tilting + Rotating and tilting
	21	1.400 x 1.400	2.800	2.940	750		
	31	2.000 x 2.000	3.400	3.540	750		
EBOFLEX EF-HV	11	800 x 800	2.000	2.650	750	horizontal and vertical	Tilting + Rotating and tilting
	21	1.400 x 1.400	2.800	2.940	750		
	31	2.000 x 2.000	3.400	3.540	750		
EBOFLEX EF-V	11	800 x 800	2.000	2.650	750	vertical	Tilting + Rotating and tilting
	21	1.400 x 1.400	2.800	2.940	750		
	31	2.000 x 2.000	3.400	3.540	750		

Qualifying notes

Free cross-section for rotating the component:

Since a cross-slide is not needed on these chamber systems, the dimensions correspond to the maximum workpiece dimensions that can be processed (when rotating non-circular components with correspondingly reduced edge lengths).

Chamber length:

The volume-optimized extension modules and end modules are added to the short working chambers as needed.

The generator movement axis (axes):

The travelling paths of the transverse and vertical side are the same as the entire working space.

Generator rotation axis (axes):

The axes offered as an option for tilting and rotating the generator are integrated in the continuous-path control and allows 270° tilting and 540° rotating during machining.



STEIGERWALD STRAHLTECHNIK GMBH
Emmy-Noether-Straße 2
Maisach, Germany 82216
phone: +49(0)8141.3535-0
fax: +49(0)8141.3535-215
email: info@steigerwald-eb.de
internet: www.steigerwald-eb.de



PTR-PRECISION TECHNOLOGIES, INC.
120 Post Road
Enfield, CT 06082-5625, USA
phone: +1 860.741-2281
fax: +1 860.745-7932
email: info@ptreb.com
internet: www.ptreb.com



AJM ROBOTIC SYSTEM CO., LTD.
Building 40, No. 4 Dongdajie, Nankou Town,
Changping District
Beijing 102202
phone: +86 (10) 6977 80 00-10
fax: +86 (10) 6977 80 05-10
email: info@aijiemo-eb.com
internet: www.aijiemo-eb.com



BEAM TECHNOLOGY



OUR PROJECT ENGINEERS WILL BE GLAD TO ADVISE ON THE BENEFITS OF THE VARIOUS CHAMBER DESIGNS IN ANY WORK PROGRAMMES YOU ARE PLANNING.



IN OUR GLOBAL WELDING GROUP, WE HAVE 8 PRODUCTION LOCATIONS WITH MORE THAN 700 EMPLOYEES IN A WIDE VARIETY OF SALES & MARKETING AND SERVICE ACTIVITIES TO HELP YOU GET THE JOB DONE.