



ABB Robotics, July 2014

FlexMT™: Flexible Machine Tending
Improves machine tool utilization and
reduces labor cost

FlexMT™: flexible, standardized and simple Sets new standards for flexible automation of machine tools



The FlexMT is a standardized yet flexible solution which increases machine tool utilization by as much as 60% while reducing labor costs.

FlexMT: overview

Increase productivity and reduce operational cost



- **Maximize manufacturing productivity**
 - Increase machine utilization – 24/7 without breaks
 - Improved spindle utilization by 50%
- **Reduce operational cost**
 - Optimize labor cost
 - One person operating several machines
- **Reduce capital investment**
 - Efficient use of existing machines
 - Reduce need of peripheral equipment
- **Improve health & safety**
 - Better working conditions

FlexMT: overview

Standardize, flexible and simple



- Based on +15 years of experience
- Pre-built, well tested and reliable automation solution
- Load and unload the machine tool using vision guided robotics
- Parts buffered on in-and out-feeders
- Semiautomatic
- All part geometries:
 - Simple or complicated
 - Small or big
- No fixtures needed

FlexMT: overview

Standardize, flexible and simple



- Prepared with the most common functionality
- Pre-engineered and pre-assembled – Minimal commissioning
- Prepared and well developed interface to machine tools
- Typical machine tools supported
 - Horizontal and vertical lathes
 - Horizontal and vertical machining centers
 - 5 axis machines, grinders

FlexMT: key benefits

Improving the competitive position

* = depending on
specific application
in question



- Flexible to handle both small batch and large volume production
- Constant and predictable output from the machine tool
- Spindle utilization
 - Manually -> Typical ~60%
 - FlexMT -> Typical ~90%
- Labor cost
 - One person operating several machines

FlexMT: key benefits

Standard solution built to be robust, simple and flexible

Flexible

- Small batches as well as large volume production
- Teach in new products in just minutes
- Easy access to machining area

Standardized

- Based on standard components
- Efficient to commissioning, operate, maintain, and service

* Legend

The ABB logo is located in the bottom right corner of the slide. It consists of the letters 'ABB' in a bold, red, sans-serif font.

FlexMT: key benefits

Standard solution built to be robust, simple and flexible

Simple to use

- Intuitive part programming wizard and human-machine interface
- Pre-engineered and pre-assembled – Minimal commissioning

Robust and reliable

- Based on years of experience delivering turnkey automation projects
- Pre-built and well tested

* Legend

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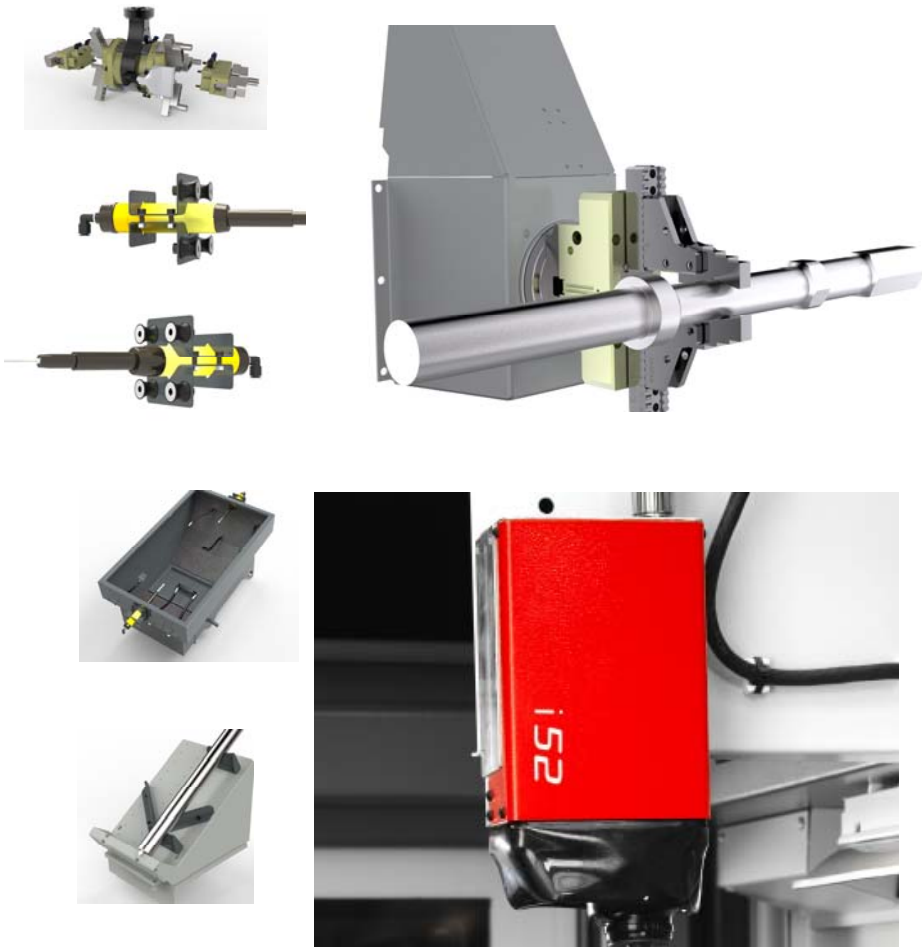
FlexMT: Variants



- Sizes based on robots with different reach and handling capacity:
 - FlexMT 20 20 kg / 1.65 m reach
 - FlexMT 60 60 kg / 2.05 m reach
- Features always included
 - Industrial robot
 - Integrated control cabinet with robot controller and electrical equipment
 - PickMT camera system and associated lightning
 - Operating panel
 - In-conveyor and out-conveyors
 - Drawer for statistical sampling

FlexMT: Product description

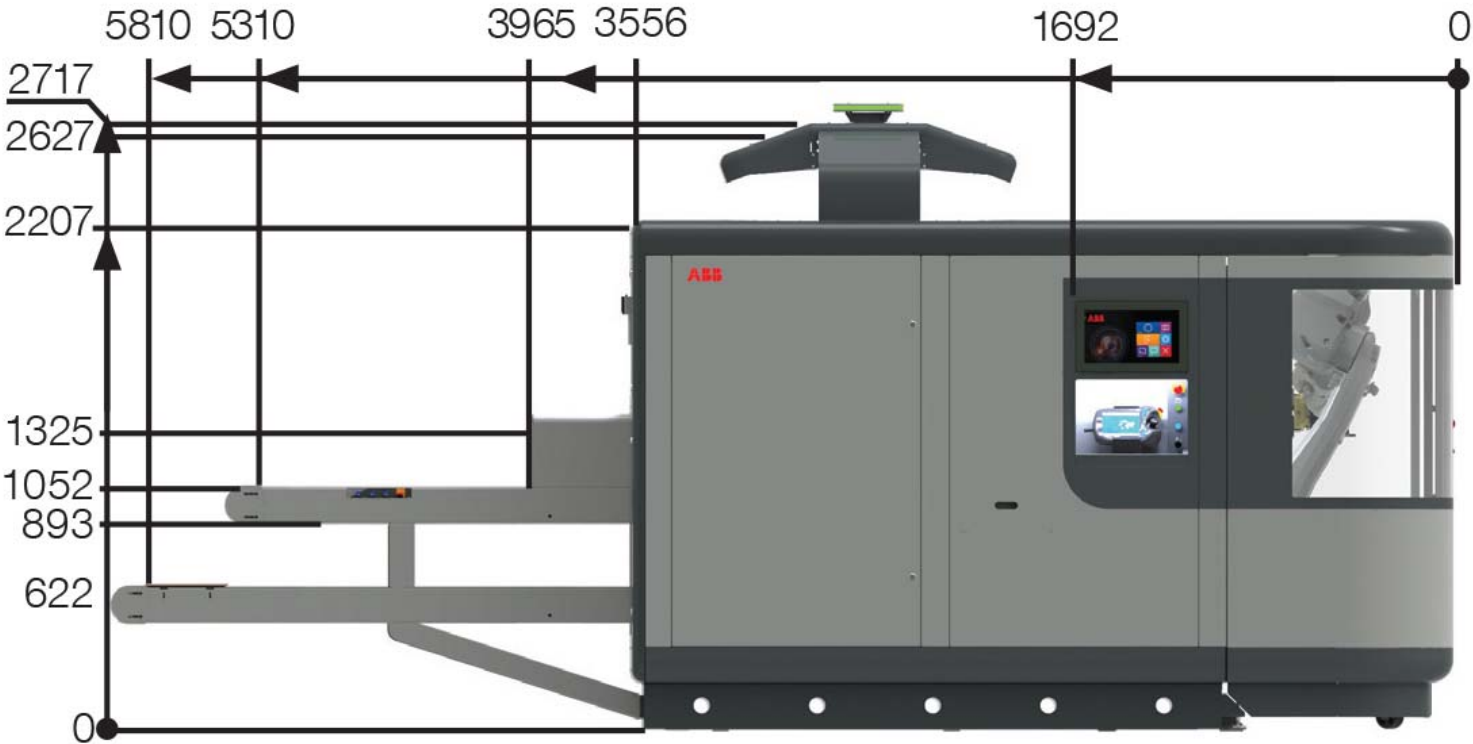
Options



- Flexible gripper solutions
 - Two-finger gripper
 - Three-finger gripper
- Options with plug n' play functionality;
 - Two different deburring tools
 - Re-grip table
 - Marking unit
 - Turn station
 - Air cleaning box
 - Extension panels

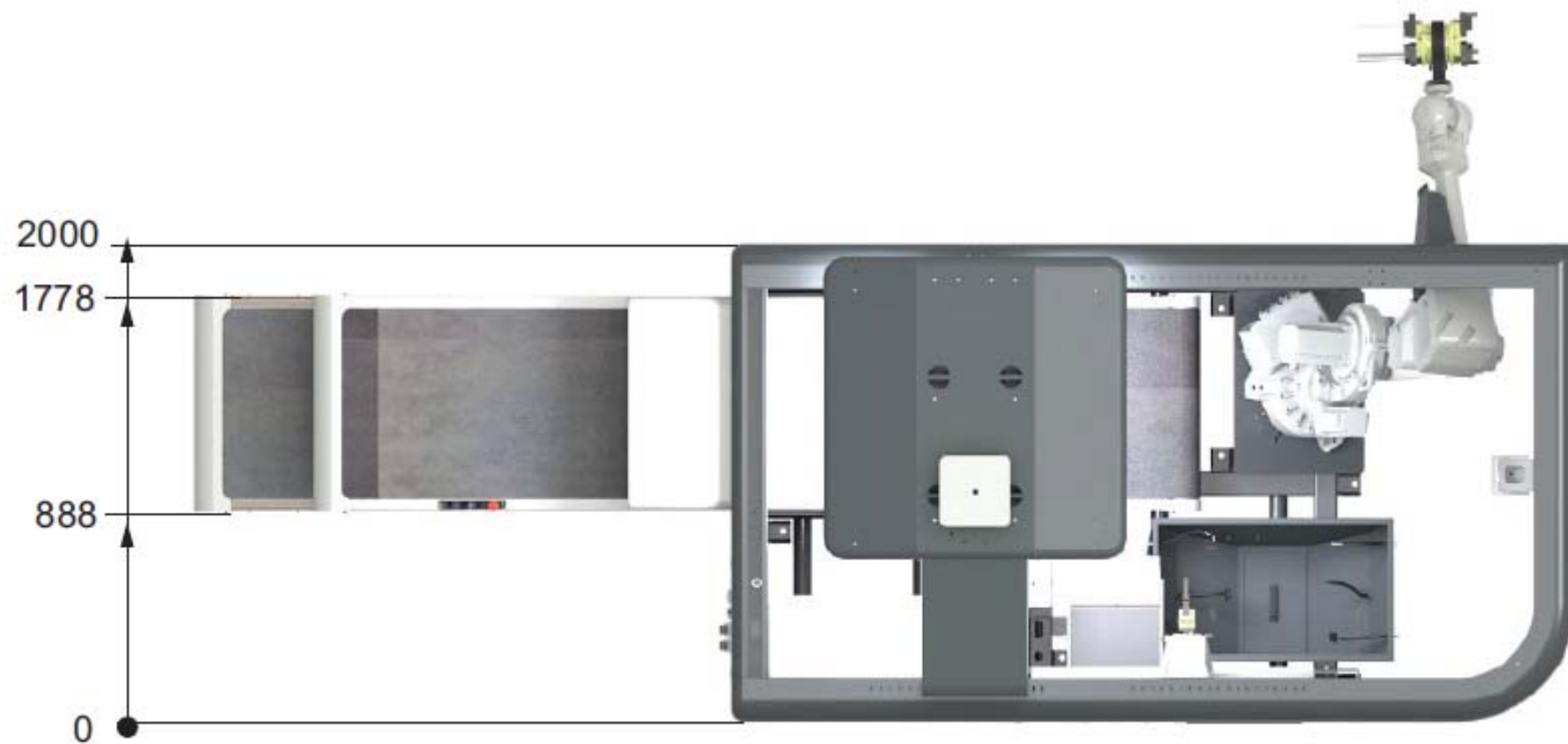
FlexMT: product data

Variants: FlexMT 20 and FlexMT 60



FlexMT: product data

Variants: FlexMT 20 and FlexMT 60



FlexMT: product data

	FlexMT 20	FlexMT 60
Length (mm)	5810 mm	5810 mm
Width (mm) (without corridor)	2000 mm	2000 mm
Height (mm)	2717 mm	2717 mm
Height (mm) (without camera and lighting)	2207 mm	2207 mm
FlexMT weight (kg)	2260 kg	2300 kg
Robot model	IRB 2600	IRB 4600
Robot payload (kg)	20 kg	60 kg
Robot reach (mm)	1650 mm	2050 mm

FlexMT Summary



- Sets new standards for flexible automation of machine tools
- Increase productivity - spindle utilization
- Reduce operational cost
- Standardize, flexible and simple
 - Pre-engineered, pre-built, well tested and reliable solution
- Flexible to handle both small batch and large volume production
- Two different variants – FlexMT 20 and FlexMT 60
- Standard options
 - Grippers, deburring tools, re-grip table, marking unit, turn station, air cleaning box, extension panels

Power and productivity
for a better world™

