



8

# SYSTEM 8

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**VERTICAL MILLING-TURNING CENTERS**

MULTI-FUNCTIONAL | 5-AXIS

SINGLE-SPINDLE | TWIN-SPINDLE

**STAMA**

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## TARGETED OBJECTIVE: **COMPLETE MILLING AND TURNING**

### **Workpiece: Turbo charger housing**

Work space features

1 milling spindle und 2 turning spindles

Trunion with OP10 and OP20

Concept: Prototypes und low volume

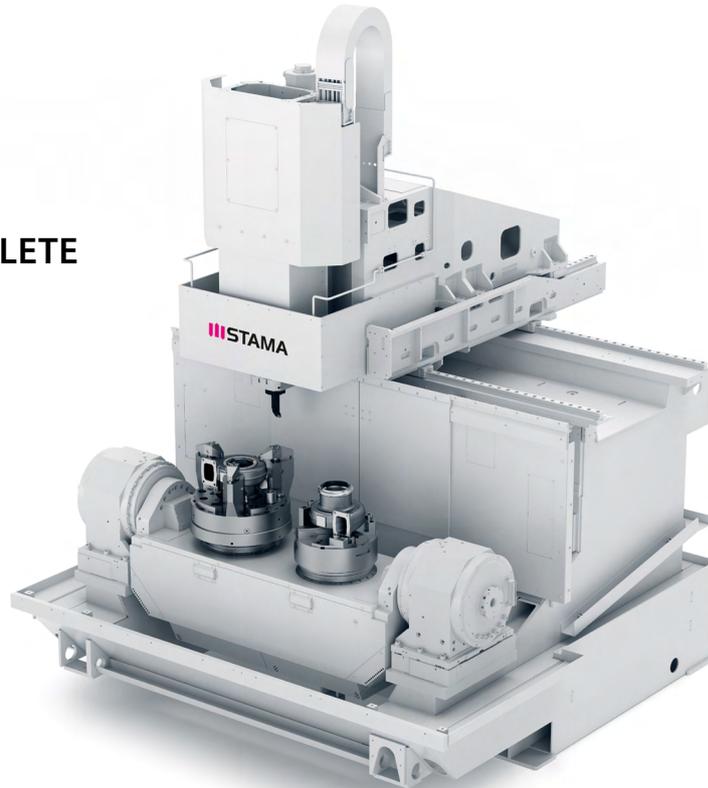
5-axis-milling-turning machining

1 finished part per cycle

15 tools

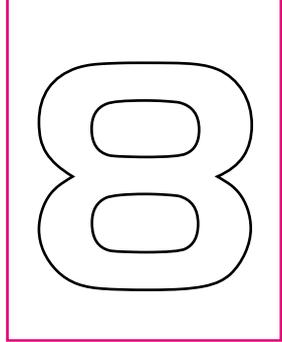
Raw part weight 30 kg

**MT 838 TWIN**  
**with HSK-A100**



# UNIVERSAL IS HIP

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## MT-FLEXIBLE, TWIN-PRODUCTIVE, STAMA-DYNAMIC IN LOW AND HIGH-VOLUME PRODUCTION

The focus here is on those workpieces that demand the use of the entire cutting range: Milling, drilling and turning.

Instead of splitting up the machining of high quality components using the Taylorist approach, we committed to this idea in 2002: Make it technically feasible and possible to implement any component and cutting process innovation on just one machine. For both – low and high-volume production applications.

Today, our System 8 machines offer complete flexibility to optimally set up processes with powerful and precise milling, drilling and turning operations, specific for each component.



Fully flexible with MT,  
twice as productive with  
TWIN and highly dynamic  
with STAMA.





# PRECISELY COMBINED

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## COMPLETE MACHINING FLEXIBILITY EACH STEP OF THE WAY FOR YOUR PRODUCT AND PROCESS INNOVATIONS

There are good reasons to split up a milling-turning process: Quantity, cycle time, exacting surface quality and precision. However, these arguments may also support an approach that does not divide the process based on cutters that are rotating and stationary. Instead coordinating it on the basis of the optimum sequencing of milling, turning and drilling operations. This is a significant advantage if the geometric dimensioning and tolerancing of a subsequent machining step have to be a complete match with a highly precise reference point. There are components in a wide range of industries, which, considering a variety of aspects, preferably should not be manufactured in separate processes on multiple machines reserved for specialized tasks. For these precise, complex workpieces, System 8 milling-turning centers offer full milling and turning power combined with high dynamics and precision – all on a single machine. This means complete process set-up and optimization flexibility. For even more precision.



# MC'S AT FULL SPIN

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## 4TH AND 5TH AXIS TORQUE DRIVES ARE STATE-OF-THE-ART **SYSTEM 8 OFFERS FULL TURNING POWER**

What a turning machine lacks in terms of powerful milling performance, applies vice-versa to milling machines: The milling performance of driven tools is less powerful and torque drives do not attain the rotational speeds and rigidity of full-fledged turning spindles.

System 8 centers combine the full performance scope of both cutting technologies. Another benefit: Fast set-up/re-tooling. Our TWIN technology delivers a high level of surface area productivity.

Complex and precise components up to Ø 600 mm are clamped into the swiveling turning spindles in a gravitation oriented manner. Single or twin-spindle all 5-axis machining options can be achieved in every clamping position – while achieving full milling and turning performance in HSK-A63 and HSK-A100.



# ISTAMA



# LOT SIZE FLEXIBILITY

## FROM PROTOTYPE TO 0-SERIES TO HIGH VOLUME PRODUCTION

3 OPTIONS FOR COMPLETE 5-AXIS MILLING-TURNING MACHINING



1

### Work space fitted with

- 1 milling spindle
- 1 turning spindle
- 1 clamping point/torque axis

### Concept

Prototypes and low volume

### 2 clamping positions

- OP10 sides 1–5  
Milling and turning
- OP20 sides 2–6  
Milling



2

### Work space fitted with

- 1 milling spindle
- 2 turning spindles

### Concept

Prototypes and low volume

### 2 clamping positions

- OP10 sides 1–5  
Milling and turning
- OP20 sides 2–6  
Milling and turning

PLANET CARRIERS

CLUTCH HUBS

TURBO CHARGER HOUSINGS

TRAILER HITCHES

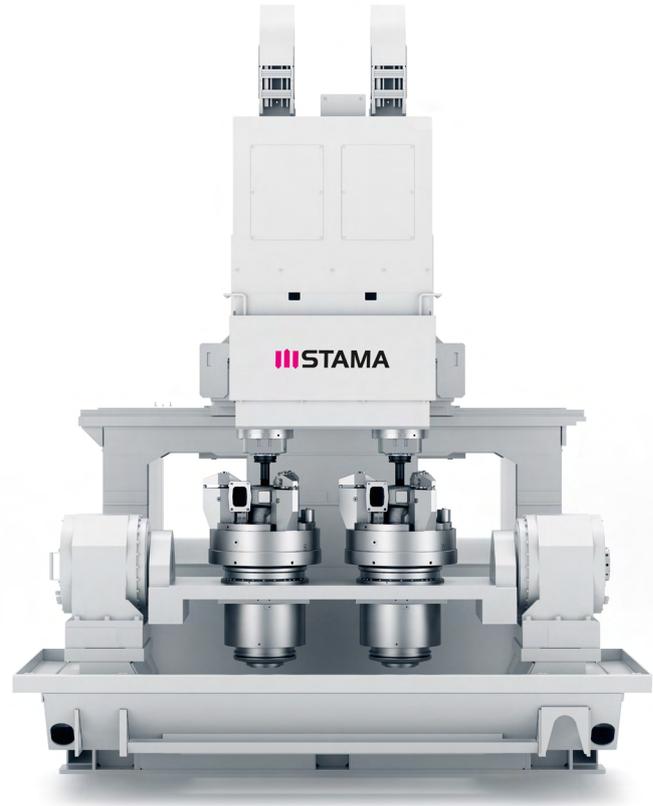
BEARING CARRIER

INDUSTRIAL VALVES ...



3

**Work space fitted with**  
2 milling spindles  
2 turning spindles  
**Concept**  
High-volume production  
**1 clamping position**  
2 x OP10 sides 1–5  
Milling and turning  
(2 x OP20 sides 2–6  
on a second TWIN center)



# TURNKEY COMPETENCE

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## AMPLE ROOM FOR INNOVATIVE MACHINING SOLUTIONS FOR LARGE WORKPIECES AND MULTIPLE SET-UPS

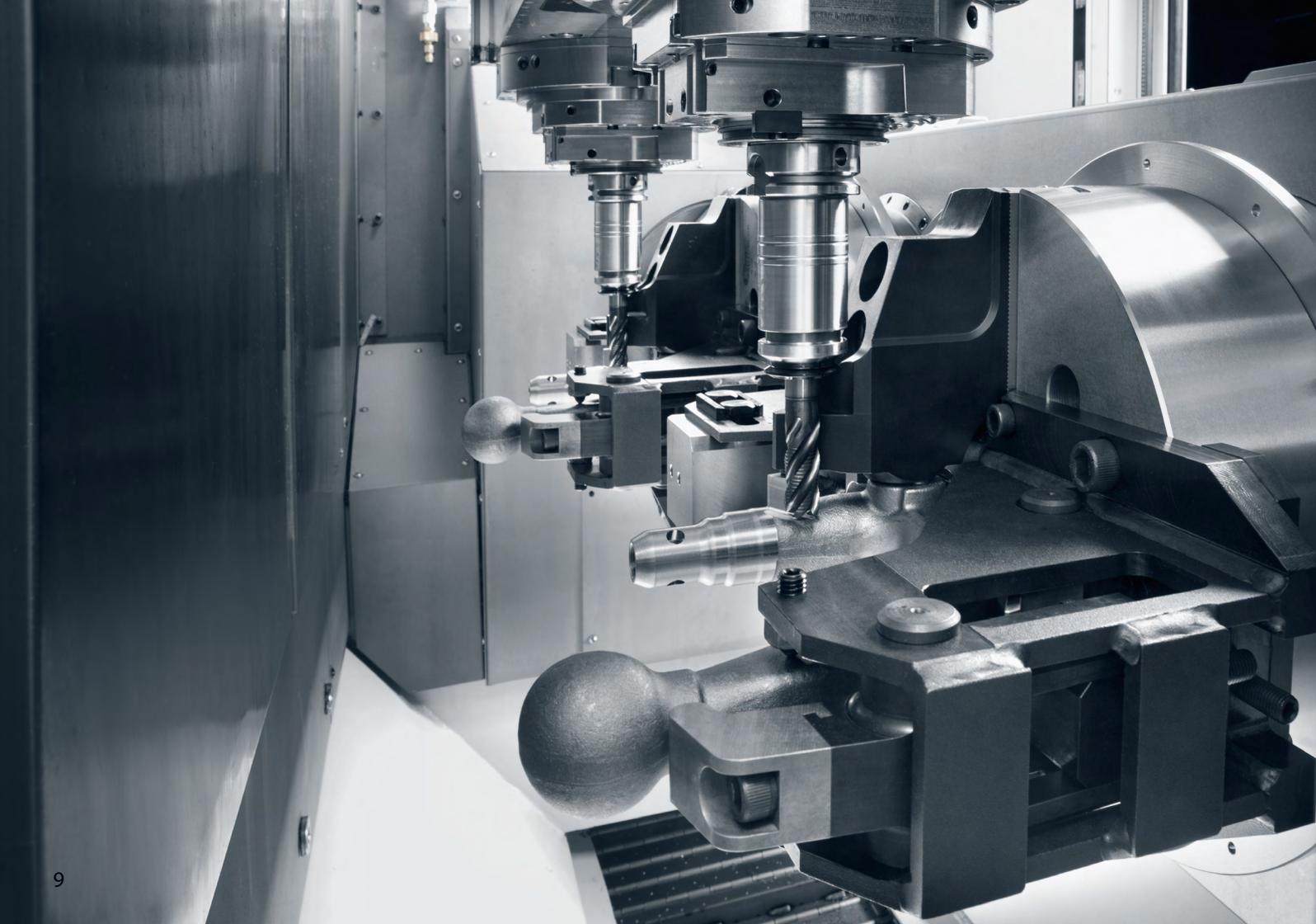
Besides rotation-symmetric workpieces, there are also asymmetric workpieces that require heavy-duty milling and turning. When turning an asymmetric component with a highly precise diameter, it is a special challenge to balance the centrifugal forces and to prevent any imbalance.

The solution: A clamping chuck, which automatically compensates for the imbalance. System 8 centers deliver an outstanding, powerful and solid basis for a

wide range of innovative solutions. In particular for materials that are difficult to cut.



 **STAMA**



# MT 831

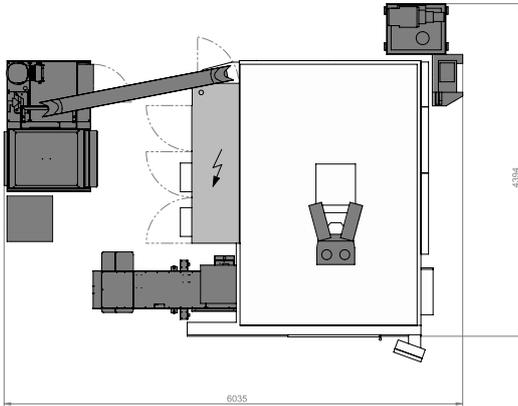


<b>Performance</b>		Single	TWIN
Spindle distance	mm	–	400
Milling spindle(s)	kW	22/51	2 x 22/51
Torque	Nm	140/170	2 x 140/170
Spindle speeds	x 1000 r.p.m.	10/12/15*	10/12/15*
Turning spindle(s)	kW	43	2 x 43
Torque	Nm	180	2 x 180
Spindle speeds	x 1000 r.p.m.	4.2	4.2
<b>Tools</b>			
HSK-A63	Places	70	2 x 35
Weight	kg	5/10	5/10
Diameter	mm	88/140	78/140
Length	mm	300	300
Chip-to-chip time	s	2.9	3.0

<b>Traverse paths</b>			
X-axis	mm	780	700
Y-axis	mm	400	400
Z-axis	mm	400	400
Rapid motion	m/min	75	75
Acceleration	g	up to 1.8	up to 1.5

**Control**  
Fanuc 31i-B5/Siemens 840D sl

\*15000 r.p.m. with 140 Nm



MT 831  
 multi-functional  
 5-axis  
 single-spindle  
 TWIN-spindle

Options		V1	V2	V3
Milling spindle(s)	Number	1	1	2
Turning spindle(s)	Number	1	2	2
Clamping point/torque axis	Number	1	-	-

Dimension/weight		
Width	mm	3330
Depth	mm	3650
Height	mm	3240
Weight	kg	7500

Data workpiece		
Workpiece-Ø	mm	< 395
Height**	mm	100
Clamping weight	kg	40

\*\*with chuck height of 150 mm

Subject to technical changes.  
 Version July 2019.



# MT 837 | MT 838



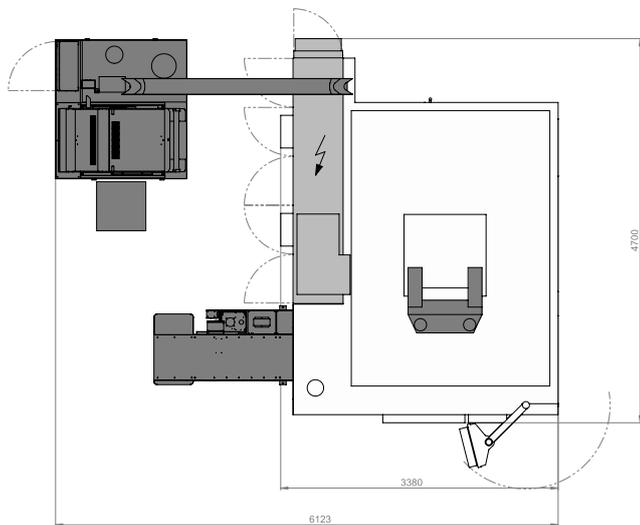
		MT 837		MT 838	
		Single	TWIN	Single	TWIN
<b>Performance</b>					
Spindle distance	mm	–	600	–	600
Milling spindle(s)	kW	31	2 x 31	65	2 x 65
Torque	Nm	115	2 x 115	400	2 x 400
Spindle speeds	x 1000 r.p.m.	16	16	10	10
Turning spindle(s)	kW	43/61	2 x 43/61	43/61	2 x 43/61
Torque	Nm	180/610	2 x 180/610	180/610	2 x 180/610
Spindle speeds	x 1000 r.p.m.	4.2/1.8	4.2/1.8	4.2/1.8	4.2/1.8
<b>Tools</b>					
HSK-A63	Places	60/96	2 x 30/48	–	–
HSK-A100	Places	–	–	40/64	2 x 20/32
Weight	kg	10	10	18	18
Diameter	mm	98/200	98/200	148/250	148/250
Length	mm	400	400	400	400
Chip-to-chip time	s	3.3	3.4	3.3	3.4

## Traversal paths

X-axis	mm	800
Y-axis	mm	550
Z-axis	mm	550
Rapid motion	m/min	65
Acceleration	g	up to 1

## Control

Fanuc 31i-B5/Siemens 840D sl



MT 837 | MT 838  
 multi-functional  
 5-axis  
 single-spindle  
 TWIN-spindle

### Options

	V1	V2	V3
Milling spindle(s)	1	1	2
Turning spindle(s)	1	2	2
Clamping point/torque axis	1	-	-

### Dimension/weight

		MT 837	MT 838
Width	mm	3380	3380
Depth	mm	4700	4700
Height	mm	3620	3620
Weight single	kg	14500	14600
Weight TWIN	kg	14900	15000

### Data workpiece

Workpiece-Ø	mm	< 590
Height*	mm	250
Clamping weight	kg	80

\*with chuck height of 150 mm

Subject to technical changes.  
 Version July 2019.



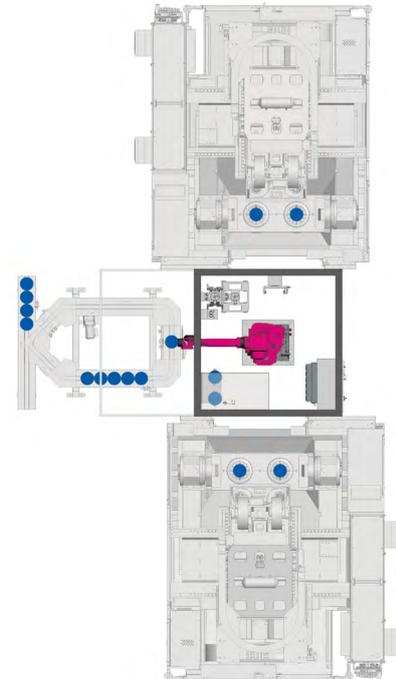
# WORKPIECE HANDLING

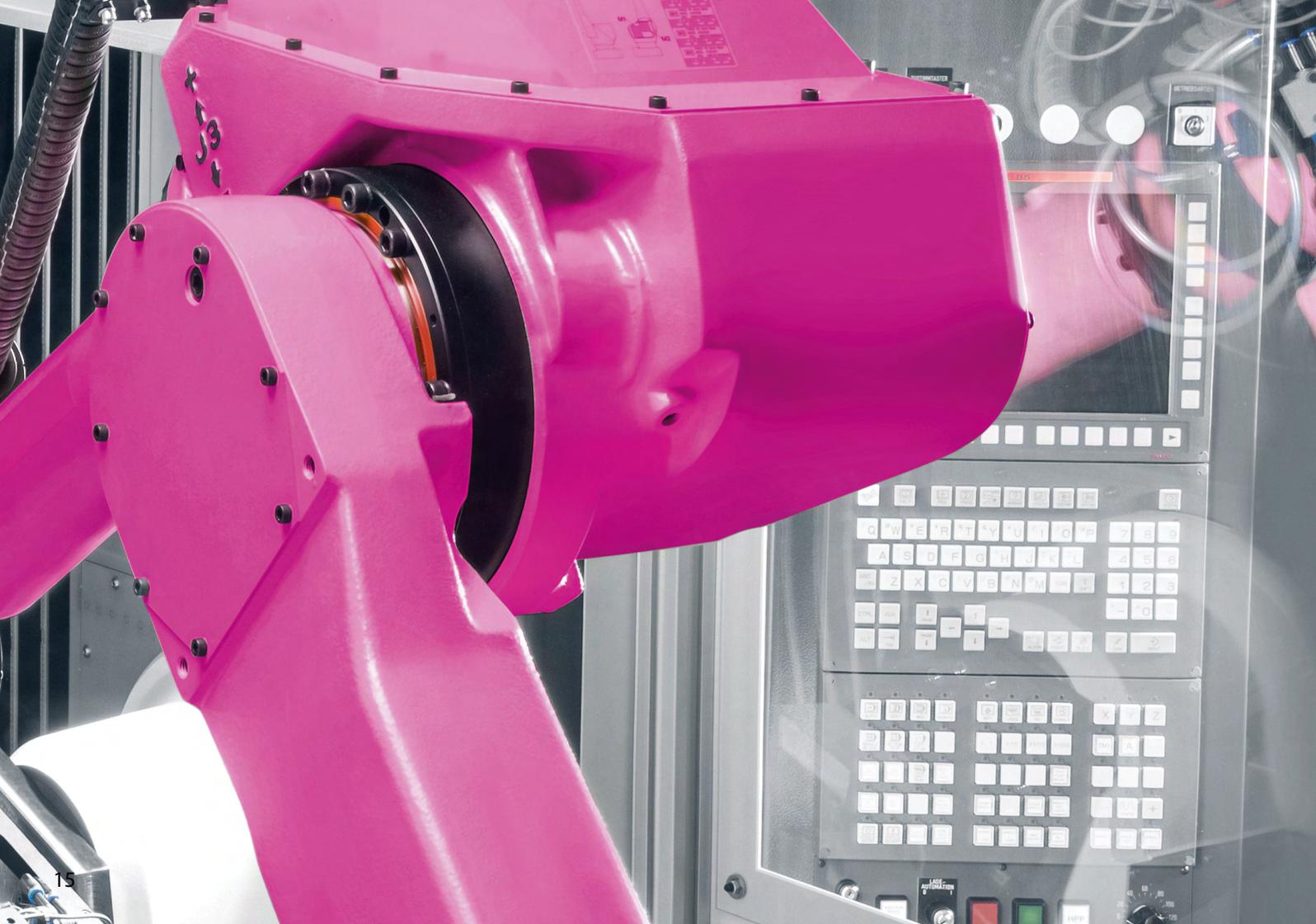
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HIGHLY PRODUCTIVE MANUFACTURING. **WHETHER  
AUTOMATED OR MANUAL LOADING**

The decision to use manual or automated workpiece handling is made on the basis of cost effectiveness and technical criteria.

The focus is always on the best process reliability and the lowest possible costs per part. Specific digitization to monitor or control the manufacturing process increases the level of autonomy.





# SYSTEM 8

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## VERTICAL MILLING-TURNING CENTERS

MULTI-FUNCTIONAL | 5-AXIS | SINGLE-SPINDLE | TWIN-SPINDLE

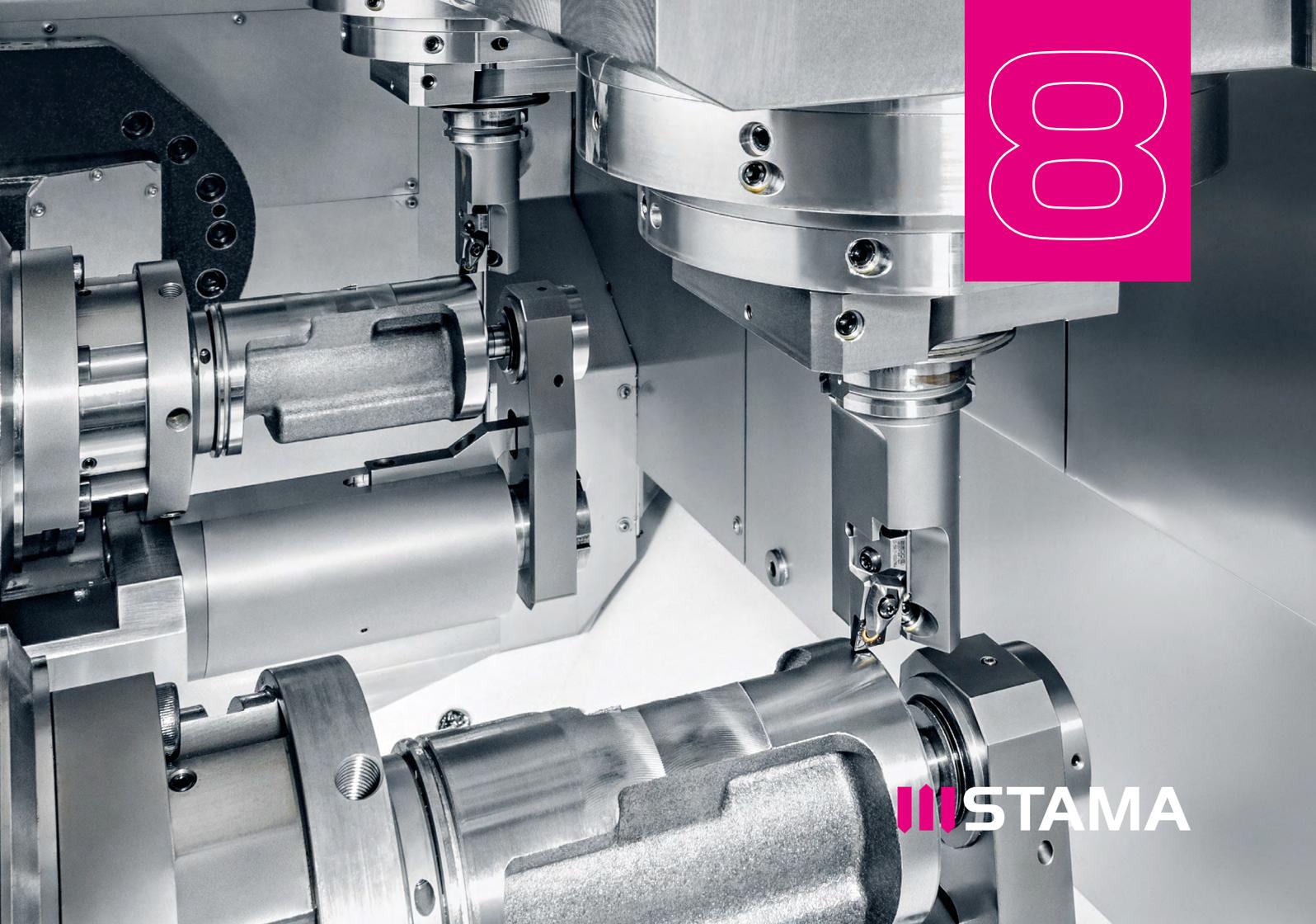


**MT 831**



**MT 837 | MT 838**





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 STAMA

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