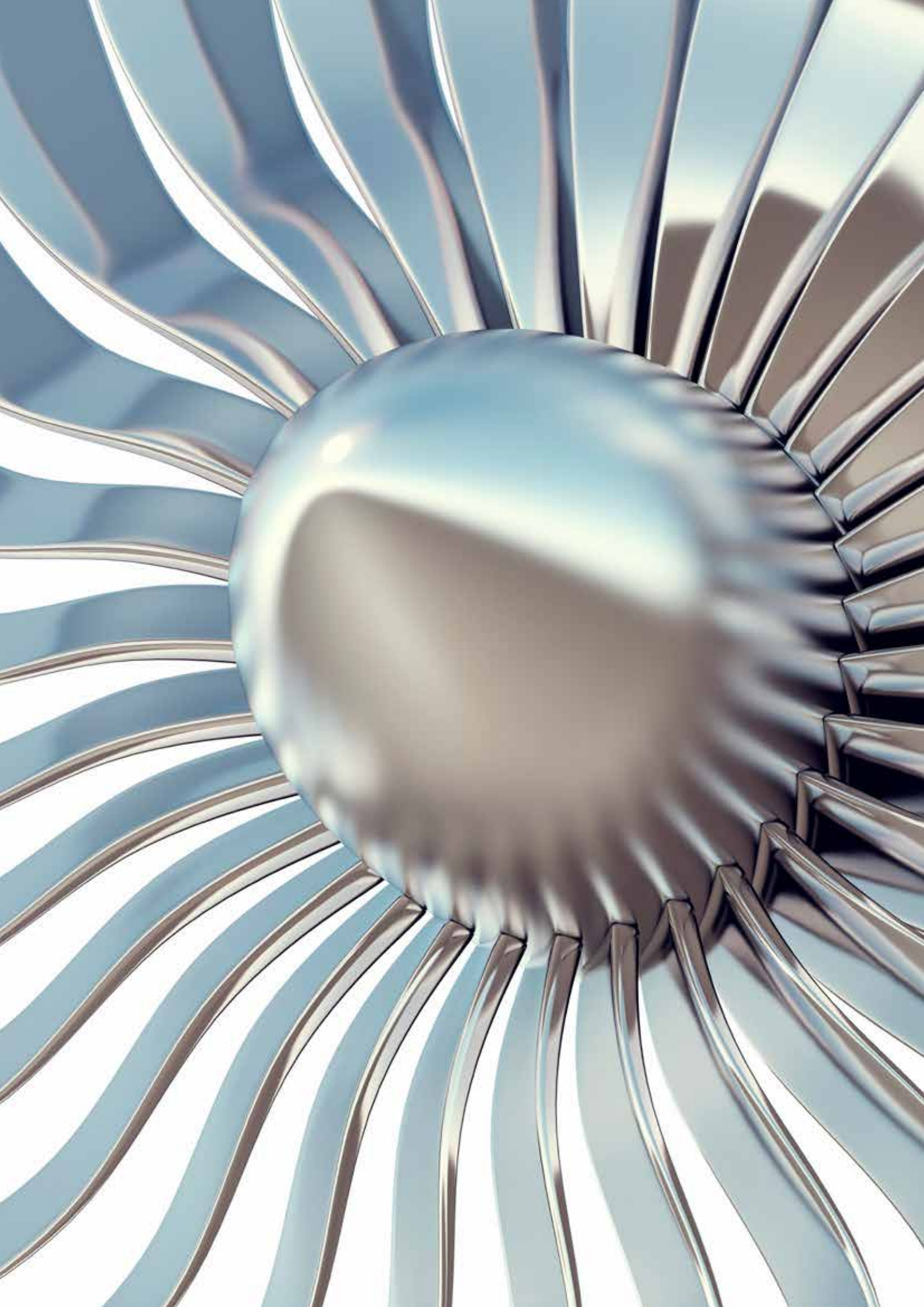
SPEEDMAT VM

PAMA

MACHINING CENTERS



TARGET AND APPLICATION

AEROSPACE

ENERGY

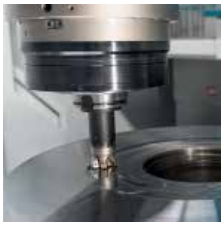
GENERAL MACHINING

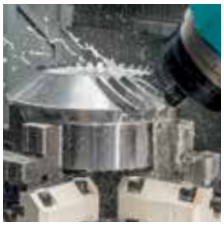
EARTH MOVING

DIE & MOLD

Speedmat VM technology provides the perfect solution for the most demanding machining applications requiring utmost rigidity and precision even on the hardest materials. Multitasking capabilty allows for milling, boring and turning operations to be carried out in the same set up.



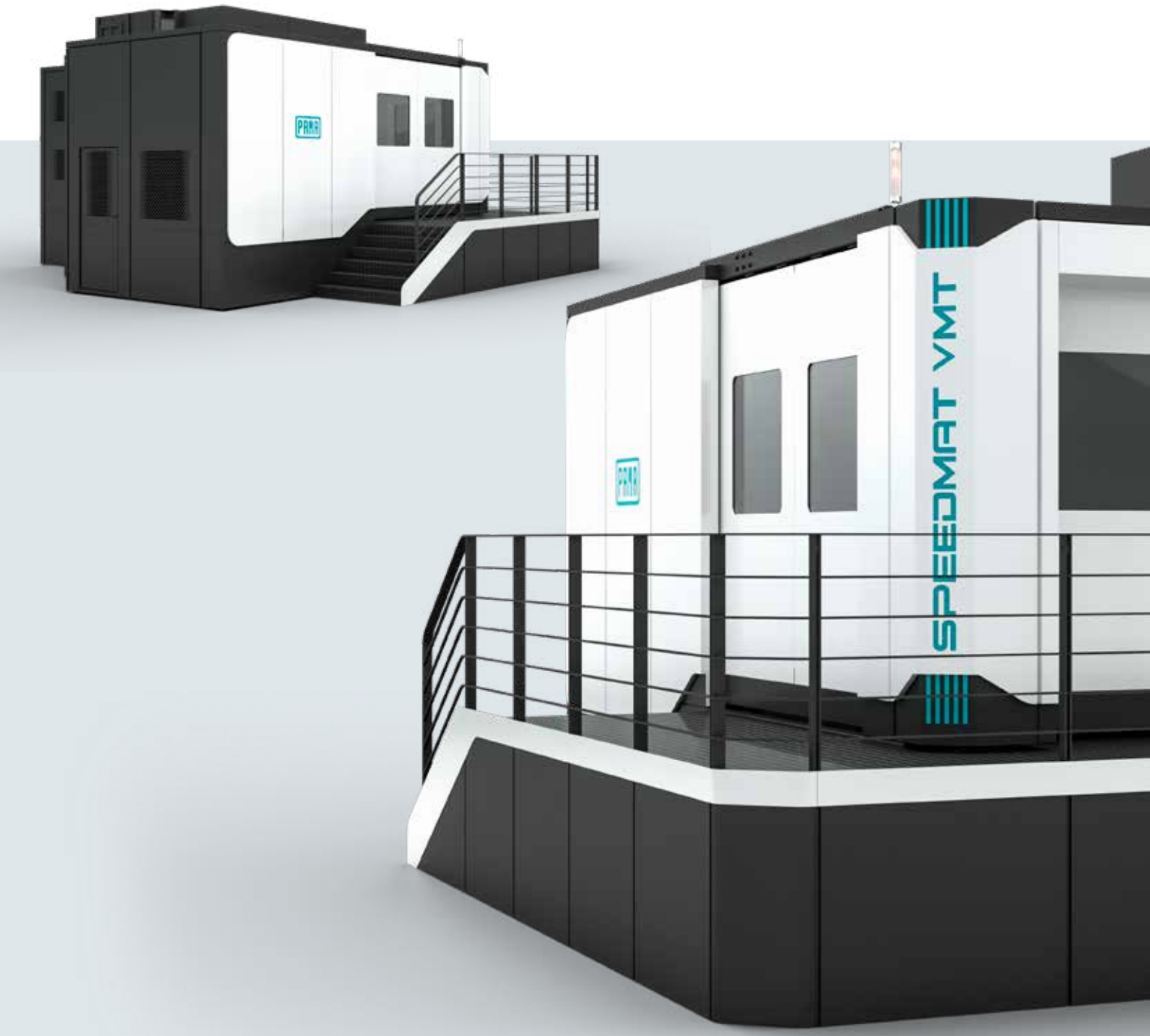


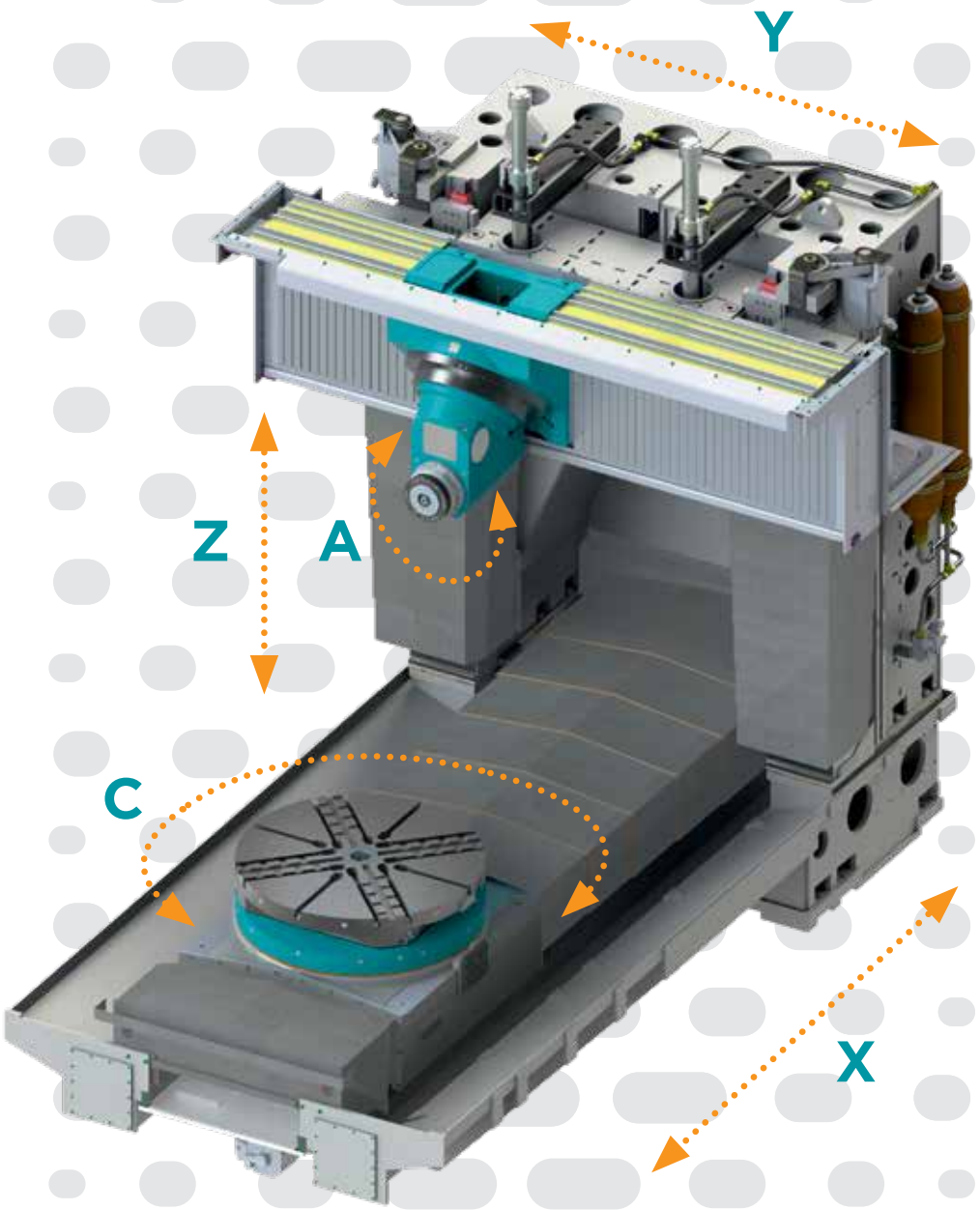
MACHINING CENTERS

The Speedmat VM series consists of three base models with: pallet size from 1000 x 1000 mm up to 2000 x 2000 mm with maximum table load capacity from 4 to 12 t (metric ton) and maximum work piece swing diameter up to 3000 mm.

MACHINING CENTERS

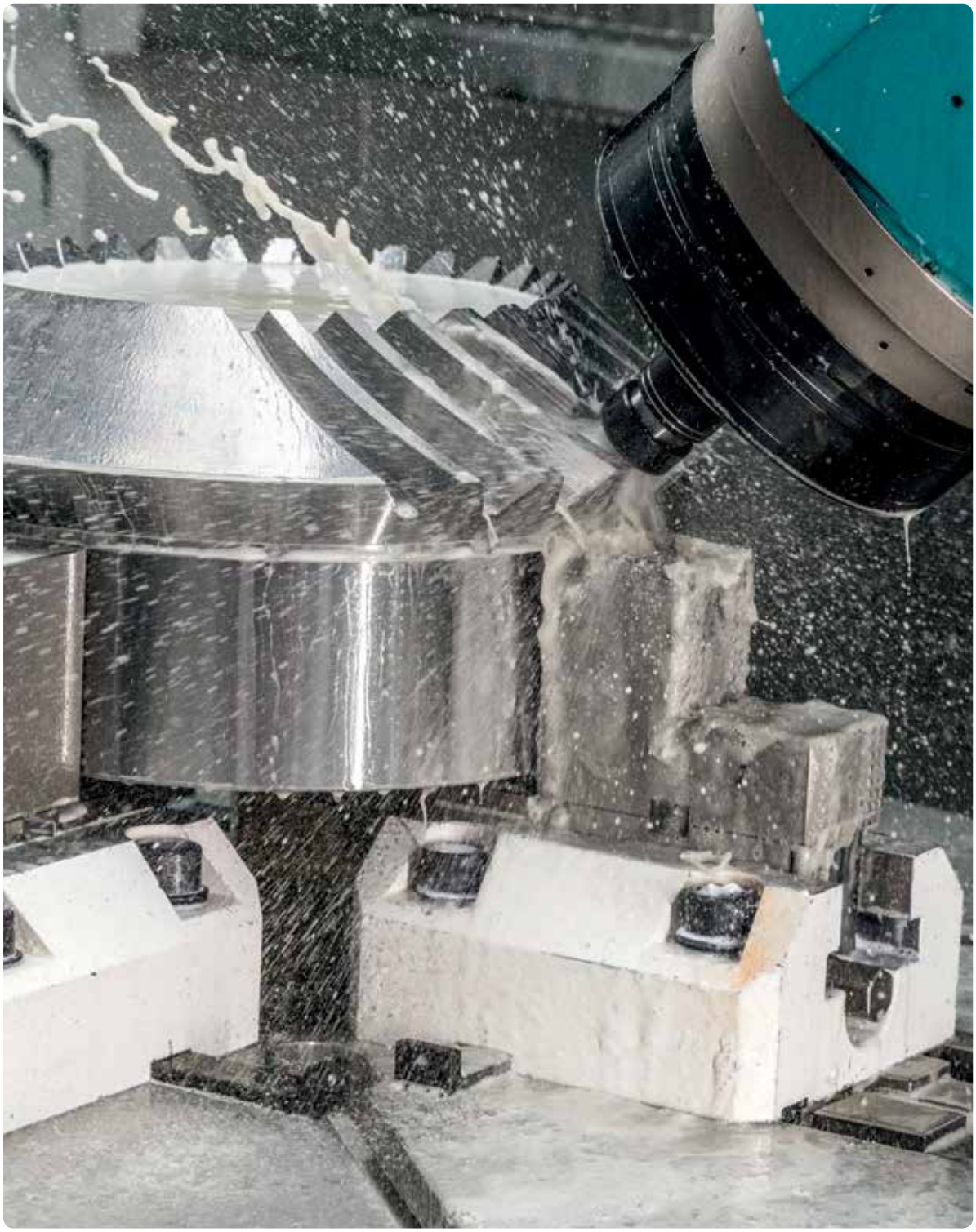


MACHINE FEATURES



Thermosymmetric structure and max. rigidity. Crossrail with twin ball screw in gantry mode and hydraulic balancing for the highest dynamic performance. Large size linear guideways provide high rapid traverse rates maintaining high rigidity on all linear axes.

MULTITASKING TURNING TABLE



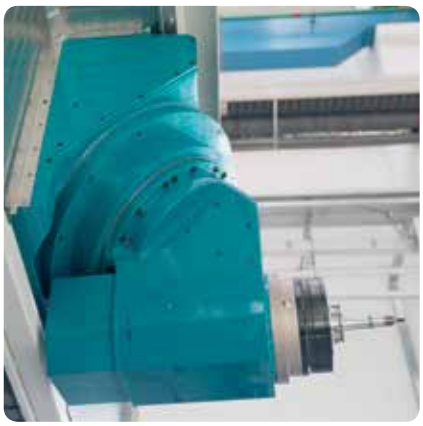
DOT (Dynamic Optimized Tuning): optimized automatic adjustment of table control parameters according to work piece inertia

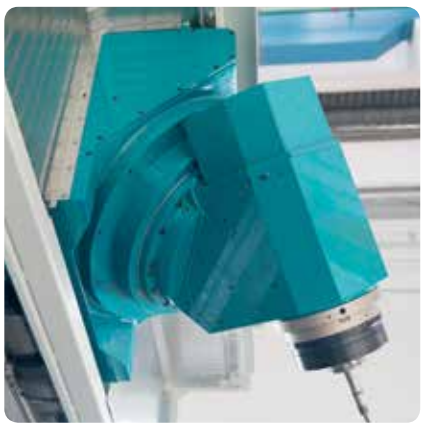
THT (Turning Hybrid Table): combined technology of roller and hydrostatic bearings for best turning and milling

Milling and turning rotary table. Based on a combination of axial/radial bearing for turning and preloaded hydrostatic support for milling mode.

MULTITASKING TURNING TABLE

UNIVERSAL HEAD





Universal head with continuous A axis for 5 axis operations. Available in high torque or high speed version to provide the best solution for any process or material to be machined.

Main technical features
- high spindle speed, power and torque
- superior machining accuracy
- high material removal rate on cast iron, steel and titanium alloys
- T taper for multitasking oparations
- mechanical spindle clamping system to allow turning operations

CSH (Clever Sensored Heads): equipped with temperature and acceleration sensors, allows for continuous head monitoring and predictive maintenance

AHC (Automatic Head Calibration): automatic verification of head geometry and adjustment of offset parameters

DSD (Direct Spindle Drive): no gearbox

AUTOMATIC TOOL CHANGER

The Speedmat VM line is provided with fast ATC, cam controlled, for simple and reliable operations. Tool identification system, taper cleaning device and tool presetting are available to enhance ATC system.

		CHAIN	RACK
Tool magazine capacity HSK 100	places	40/60/80/100	180/250
Tool magazine capacity ISO 50	places	40/60/80/100	153/225
Max. tool diameter (all pockets engaged)	mm	125	125
Max. tool diameter (adj. pockets empty)	mm	160	325
Max. tool diameter (oriented tool)	mm	250	400
Max. tool length	mm	500	600
Max. tool weight	Kg	20	35
Max. tool tilting moment	Nm	60	120

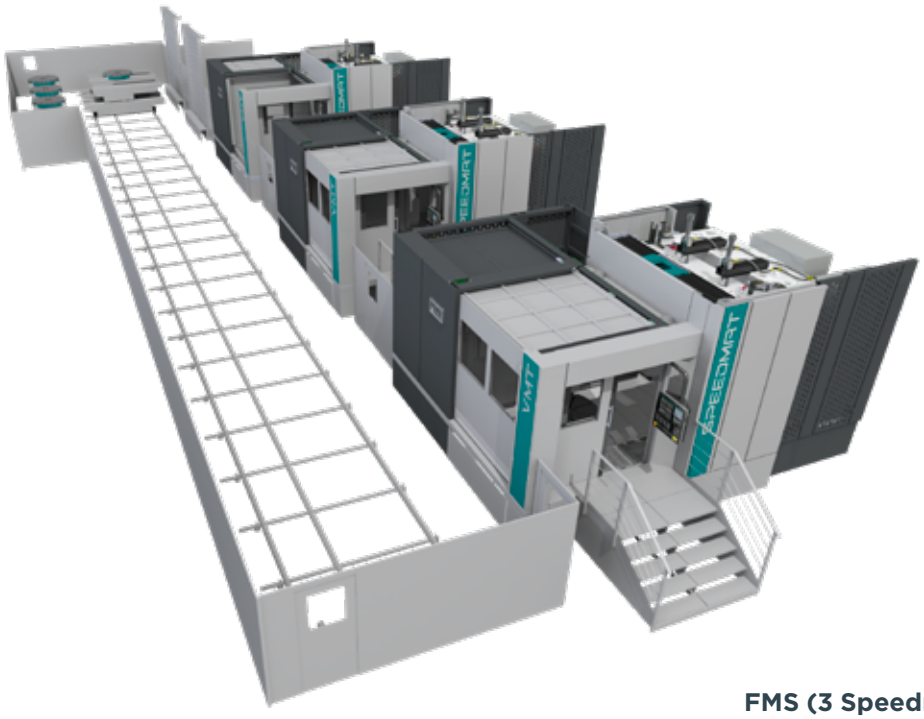
AUTOMATION

2 front pallets

5 pallets

cell of 2 Speedmat VM

Speedmat VM can be equipped with a variety of automatic pallet changers. Integration into simple cell or more complex FMS is possible thanks to our designed pallet shuttles managed by our PAMA PR2 SUITE.



FMS (3 Speedmat VM)

ERGONOMICS AND MAINTENANCE

SMART P

The Speedmat VM line is supplied with the SMART P new 24-inch multi touch monitor with integrated PC.

PR2 (Predictive Production Management): optimizes the efficiency and the saturation of the production system

PMP (PAMA Maintenance Program): software system reminds operators and maintenance personnel of scheduled PM activities

MSM (Machine Sensor Monitoring): temperature and acceleration sensors for continuous machine monitoring and predictive maintenance

The machine is equipped with sensors collecting main components data, allowing real time information transfer, which supported by remote troubleshooting, guarantees maximum equipment quality availability and efficiency.

PMP (PAMA Maintenance Program): software system reminds operators and maintenance personnel of scheduled PM activities via messages, alarm and or icons permanently displayed on the CNC screen.

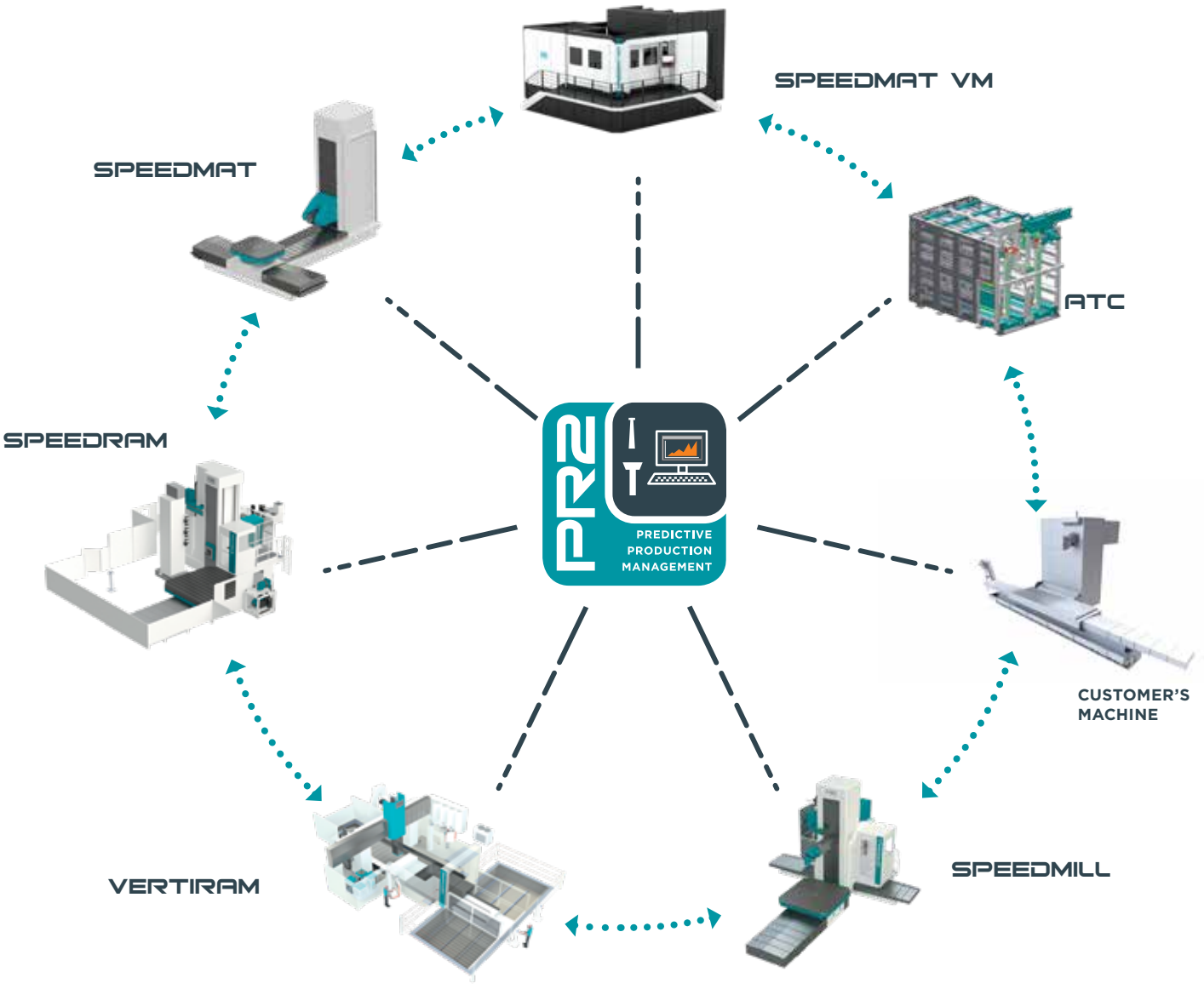
Required operations are illustrated by displaying the relevant page from the maintenance manual.

PR2 SUITE

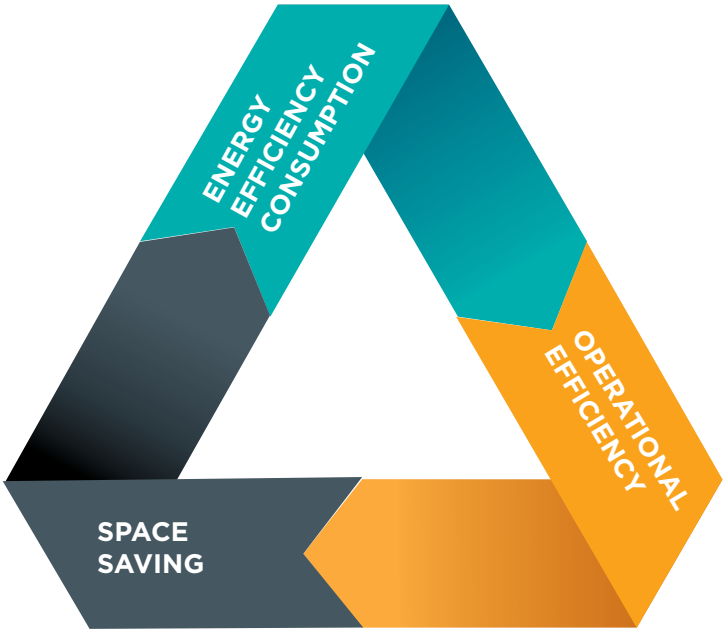
P HUB

Multi-level, applications integrated software developed by PAMA, designed to bring our clients to a higher level of efficiency and profit, thanks to user friendly interface, management of the production units in real time with predictive approach in both manned or unmanned conditions. Complete reporting of production unit activities. Efficient managing of complex units (even with clients existing, compatible machines). Efficient managing of single production unit.

INDUSTRY 4.0



PGE (PAMA Global Efficiency): energy saving, space saving, operational efficiency

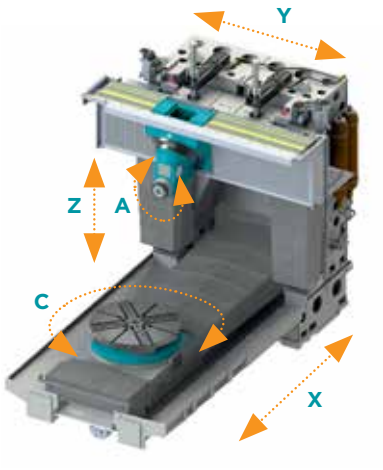


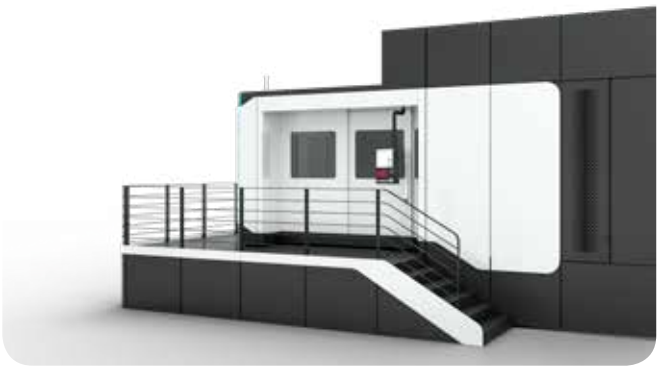
energy saving: low friction guides, use of direct drive technology, regenerating drives, intelligent use of all auxiliary units

operational efficiency: multitasking configuration, machine reliability, PMP preventive maintenance software, MSM machine sensor monitoring and predictive maintenance, PR2 SUITE to optimize the efficiency and the saturation of the production system

space saving: compact design, wide choice of tool changer, pallet changer and chip conveyors

SPEEDMAT VM





WORKING AREA		VM 1	VM2	VM3
X axis (table)	mm	1700	2000	2700
Y axis (headstock)	mm	1500	2000	2700
Z axis (crossrail)	mm	1300	1300	1700
Max swing diameter	mm	1500	2000	3000

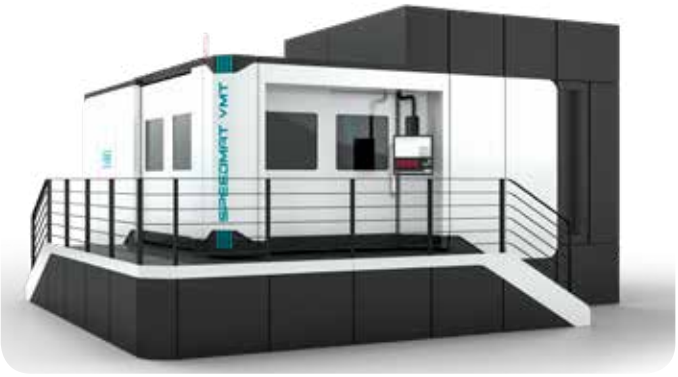
LINEAR AXES FEATURES				
X axes rapid traverse/feed rate	mm/min	50000	50000	40000
Y and Z axis rapid traverse/feed rate	mm/min	40000	40000	40000
Max acceleration	m/s^2	3	3	3
X, Y, Z axis thrust	kN	15	15	15

TABLE				
Table or pallet size	mm	1000x1000	1250x1250 Ø 1500	2000x2000 Ø 2200
Table capacity	t	6	6	12
Pallet capacity	t	4	4	10
C axis feed/rapid	rpm	10	10	10

HVA HEADSTOCK		M	ES
Max spindle speed	rpm	6000/9000	12500/14000
Max spindle power	kW	65	85
Max spindle torque	Nm	780/500	450
A axis max continuous torque	Nm	4000	4000
A axis max clamping torque	Nm	8000	8000

A HEADSTOCK		ES
Max spindle speed	rpm	12500/14000
Max spindle power	kW	85
Max spindle torque	Nm	450
A axis max continuous torque	Nm	5000
A axis max clamping torque	Nm	10000

SPEEDMAT VMT



WORKING AREA		VMT 1	VMT2	VMT3
X axis (table)	mm	1700	2000	2700
Y axis (headstock)	mm	1500	2000	2700
Z axis (crossrail)	mm	1300	1300	1700
Max swing diameter	mm	1500	2000	3000

LINEAR AXES FEATURES				
X axes rapid traverse/feed rate	mm/min	50000	50000	40000
Y and Z axis rapid traverse/feed rate	mm/min	40000	40000	40000
Max acceleration	m/s^2	3	3	3
X, Y, Z axis thrust	kN	15	15	15

TURNING TABLE				
Table or pallet size	mm	Ø 1250	Ø 1250 Ø 1500	Ø 1600 Ø 2200
Table capacity	t	6	6	8
Pallet capacity	t	4	4	7
Max turning speed	rpm	350	350	200

HVA HEADSTOCK		M	ES
Max spindle speed	rpm	6000/9000	12500/14000
Max spindle power	kW	65	85
Max spindle torque	Nm	780/500	450
A axis max continuous torque	Nm	4000	4000
A axis max clamping torque	Nm	8000	8000

A HEADSTOCK		ES
Max spindle speed	rpm	12500/14000
Max spindle power	kW	85
Max spindle torque	Nm	450
A axis max continuous torque	Nm	5000
A axis max clamping torque	Nm	10000

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