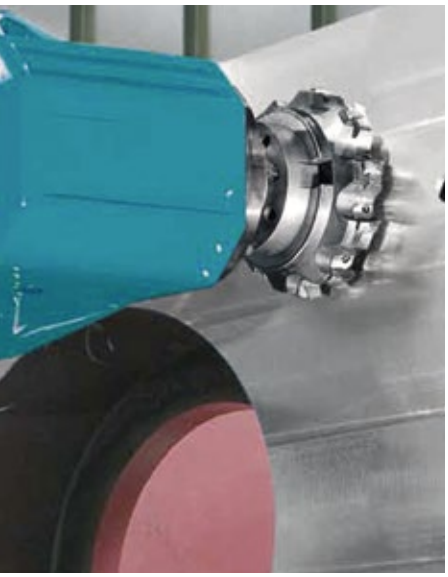
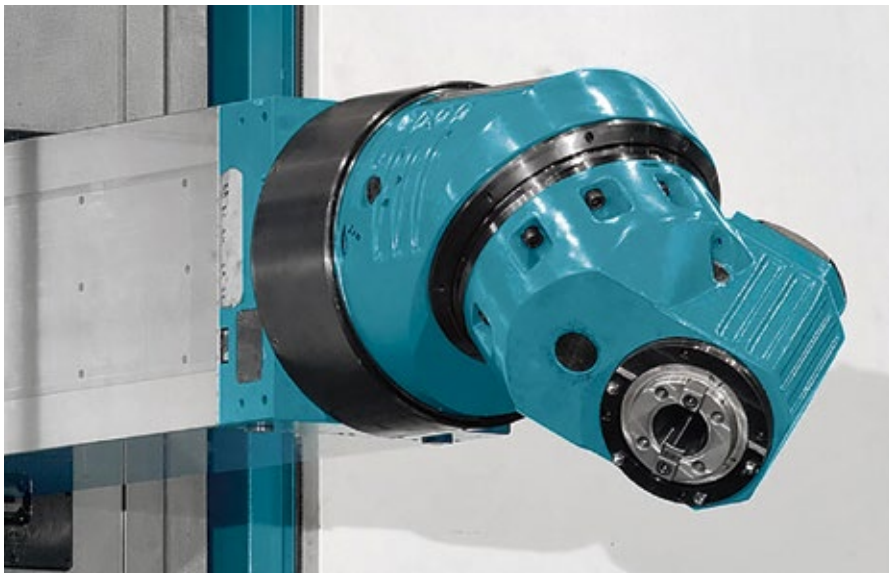
PAMA



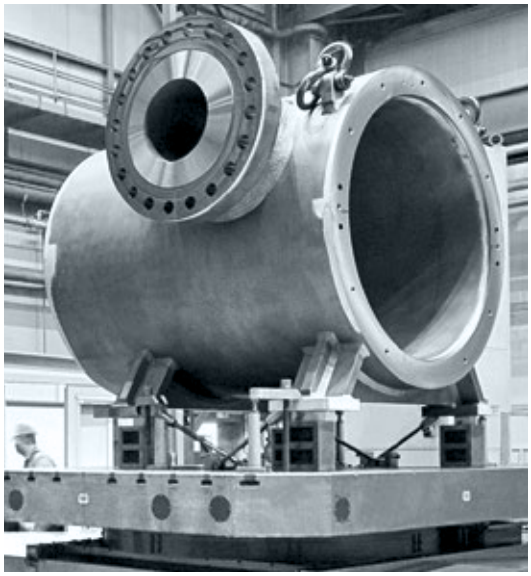


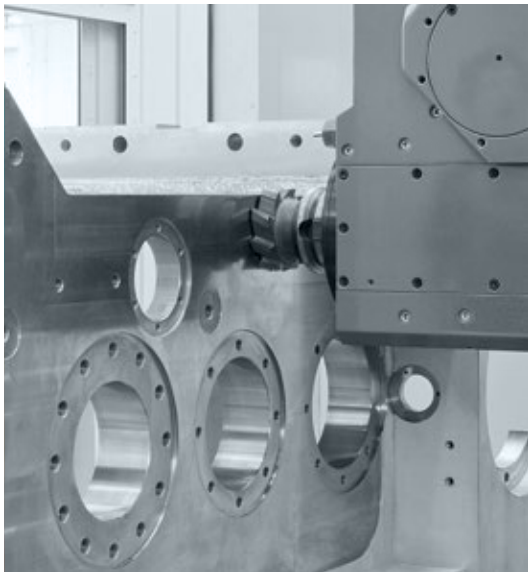
SPEEDMILL

FLOOR TYPE
HORIZONTAL MILLING MACHINES

TARGET AND APPLICATION

AEROSPACE
DIE & MOLD
EARTH MOVING
ENERGY
OIL & GAS
GENERAL MACHINING



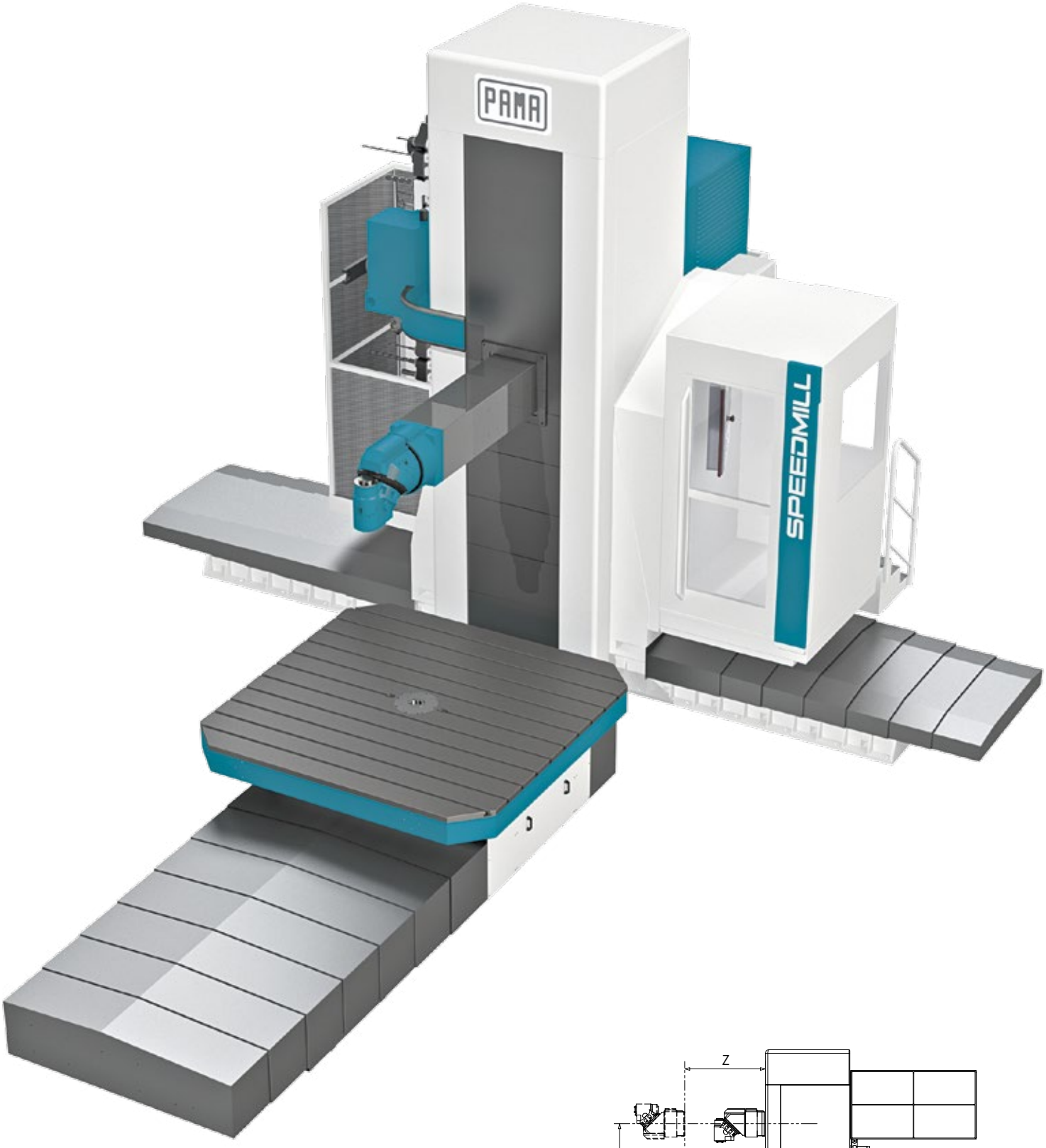


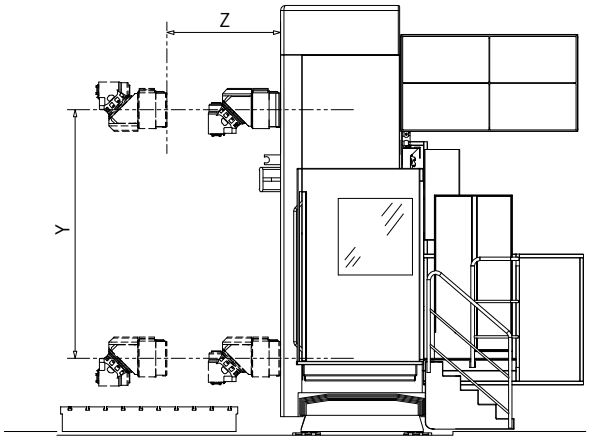
PAMA Speedmill is the ideal solution for all application requiring high speed machining coupled with high precision multi axis contouring, with the advantage of an horizontal spindle chip evacuation. Our exclusive solution utilizing Direct Drive for the spindle allows to take advantage of today's latest tooling technology as well as it's ready for future tooling developments.

Speedmill series consists of three base models with vertical stroke up to 4000 mm and ram stroke of 1600 mm

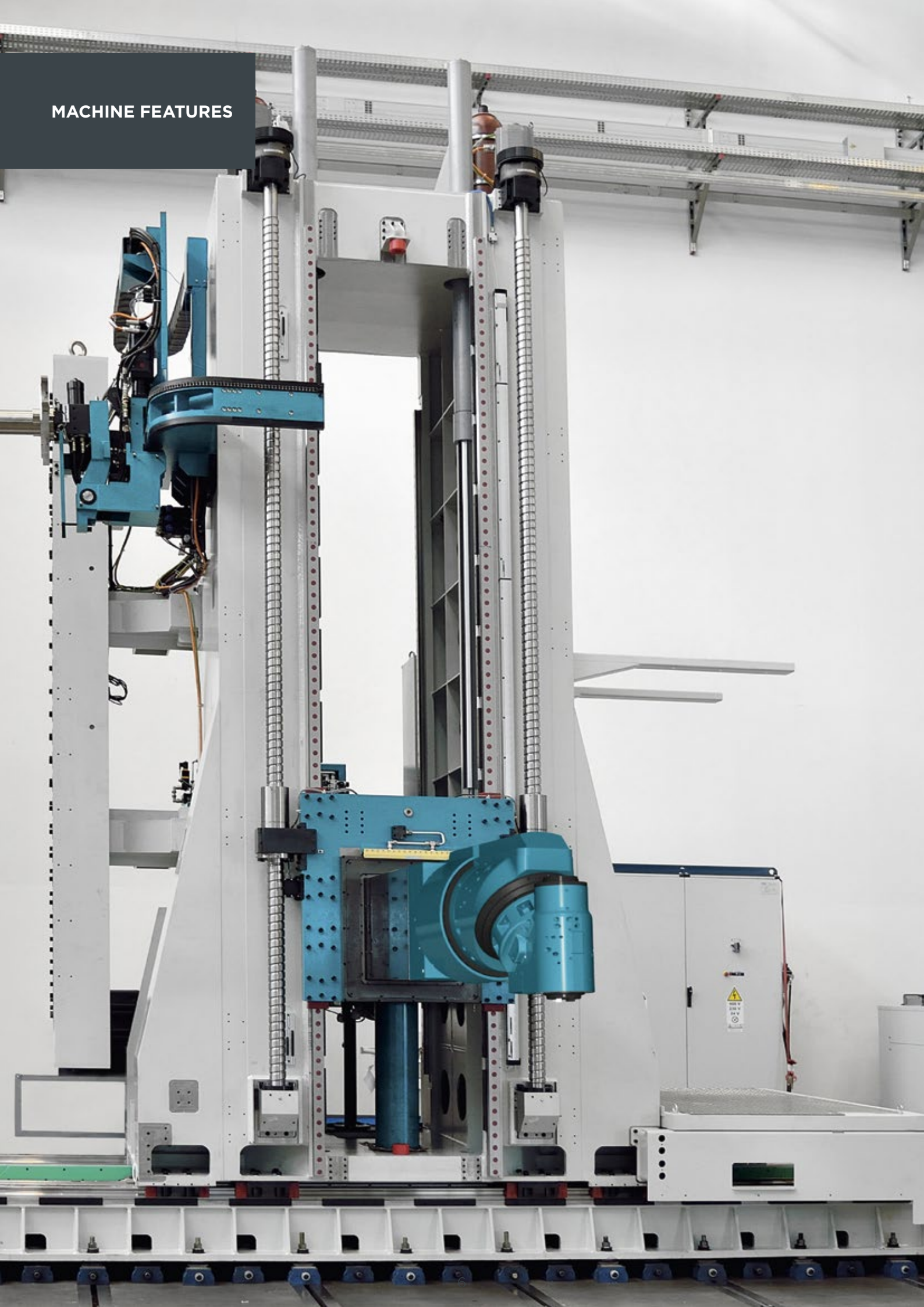
FLOOR TYPE HORIZONTAL MILLING MACHINES

The machine was developed for installation at floor level on a flat slab, allowing machining at the table top level


PAMA
SPEEDMILL


Z
Y

MACHINE FEATURES

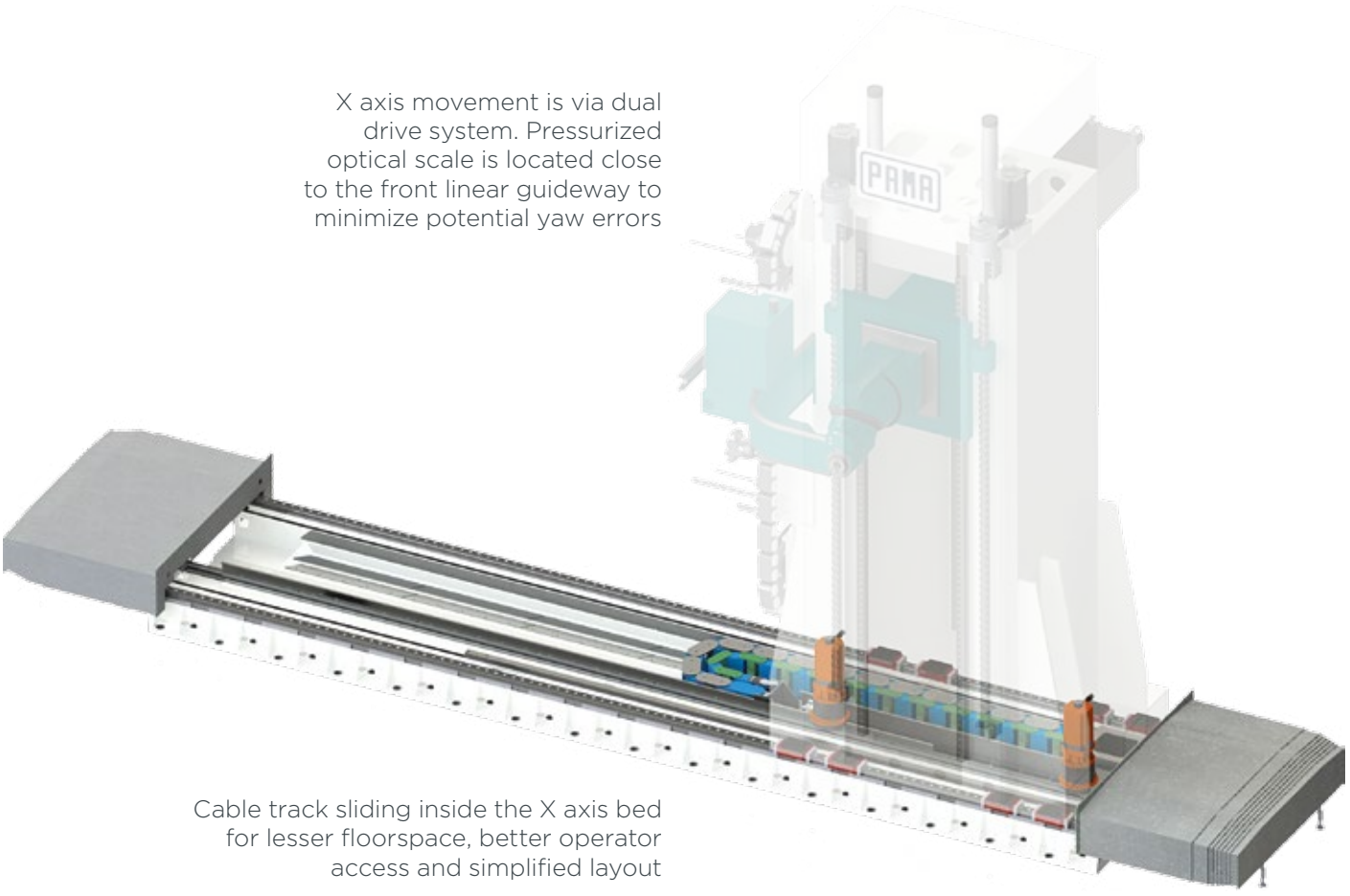


Thermo-symmetric structure with headstock located in central position for maximum accuracy.

Gantry type double ball-screw Y axis for high dynamic performance.

Large size linear roller guideways to provide high rapid traverse rate as well as maximum rigidity on all linear axes

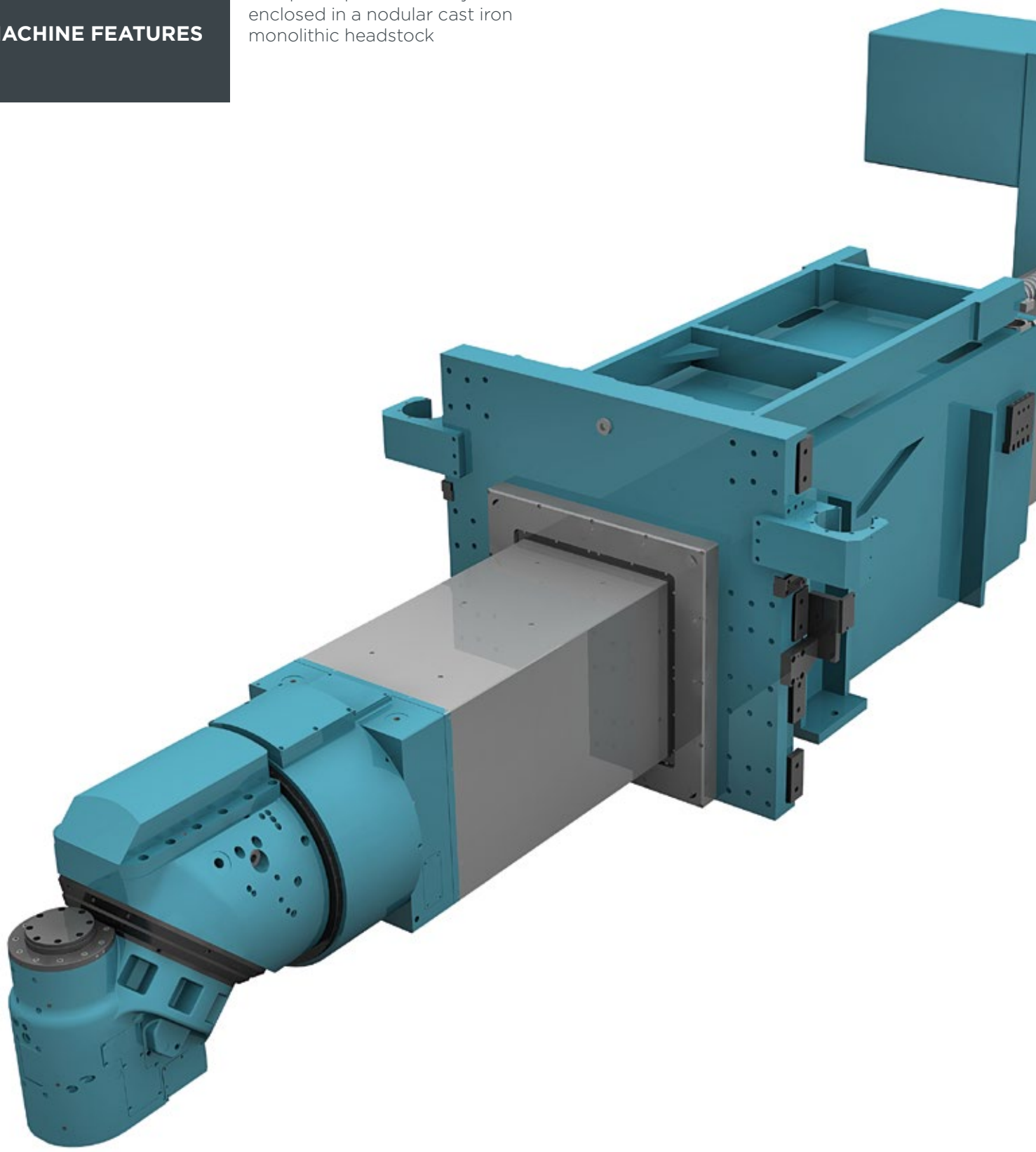
X axis movement is via dual drive system. Pressurized optical scale is located close to the front linear guideway to minimize potential yaw errors



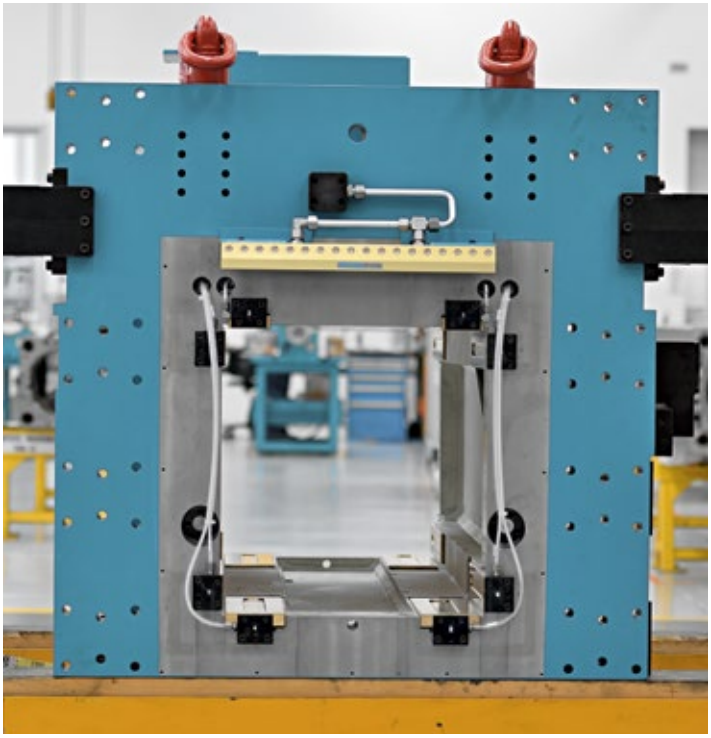
Cable track sliding inside the X axis bed for lesser floorspace, better operator access and simplified layout

MACHINE FEATURES

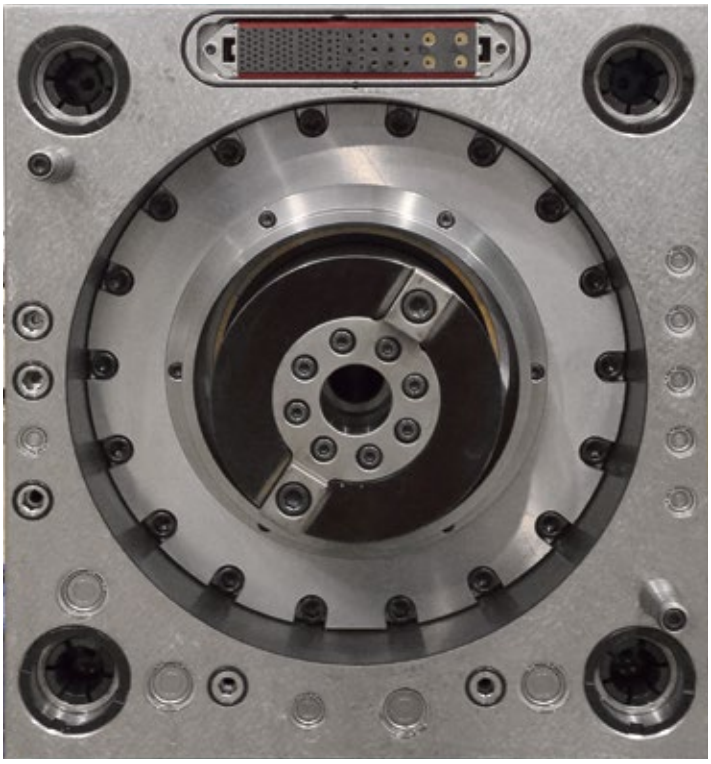
hydrostatic ram with automatic droop compensation fully enclosed in a nodular cast iron monolithic headstock



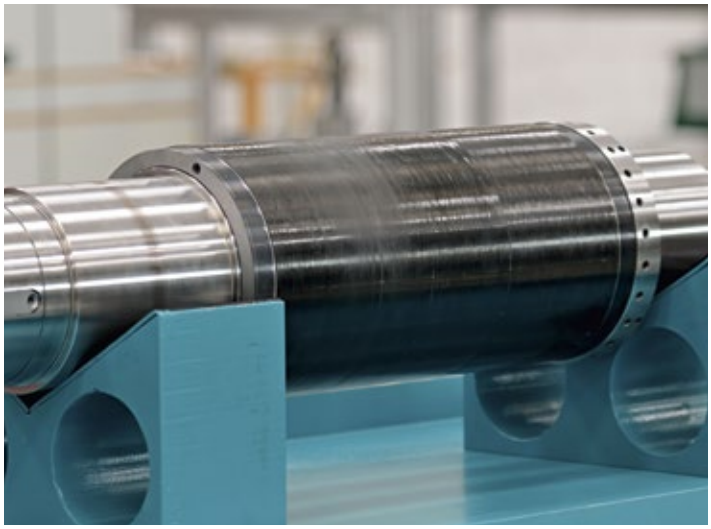
HMC (Hydraulic Machine Compensation): real time CNC controlled compensation of ram deflection, headstock tilting, column deflection and base rotation



hydrostatic ram supported by 16 bronze pads to provide maximum material removal rates even in the most unfavorable conditions



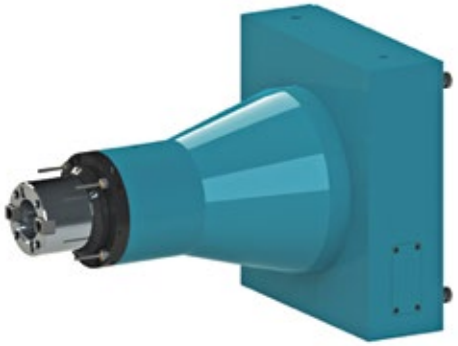
automatic head attachment change available as option



liquid cooled Direct Drive spindle technology

ATTACHMENT HEADS

Speedmill can be customized with different head attachments to best match the needs of different applications



ME 70
suitable for general machining, works perfectly combined with any PAMA rotary table

TW2 ES
full 5 axis contouring head suitable for aerospace and high speed machining

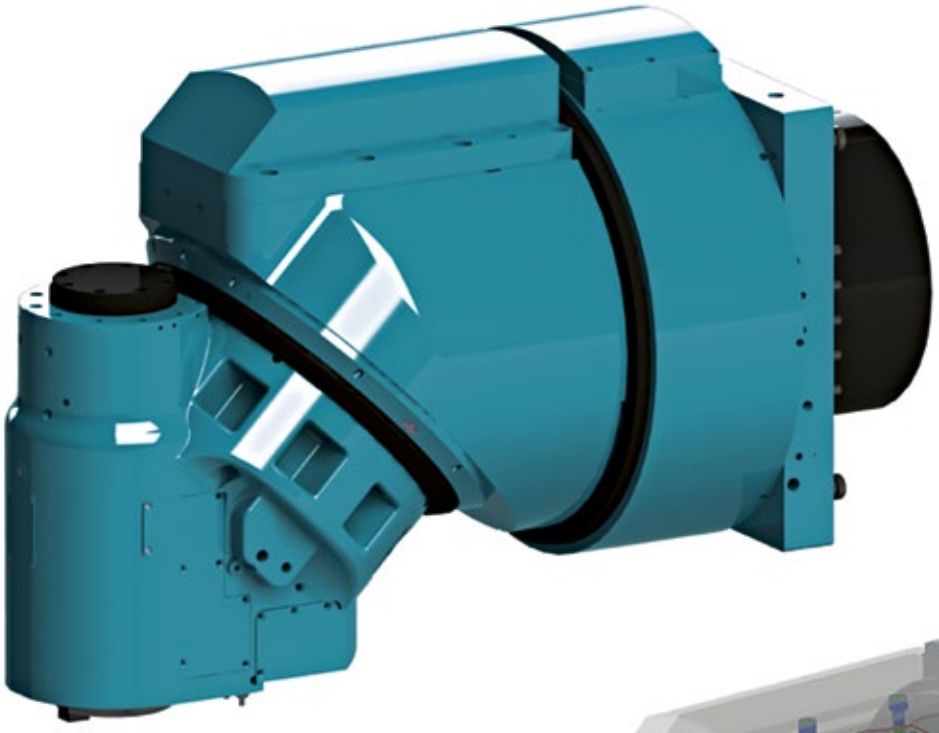
TTL2 50 ES
orthogonal 3+2 attachment suitable for die and mold applications

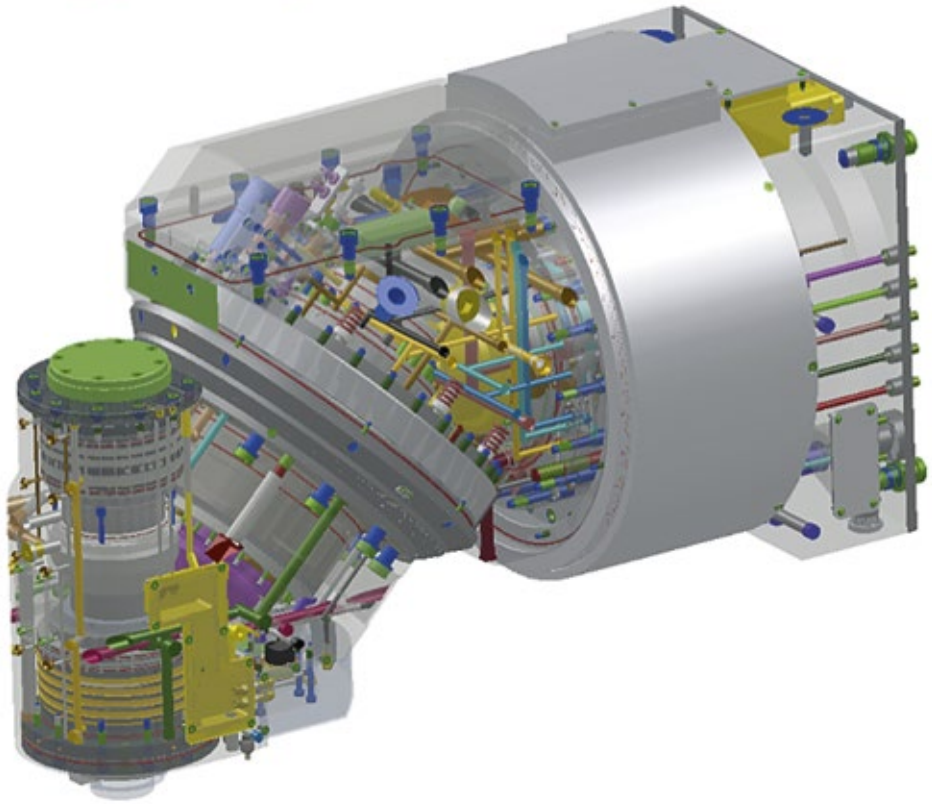
ATTACHMENT HEADS

		TU 50 HS144	TU 50 CHS	ME 70
Transmission		Mechanical	Mechanical	Mechanical
Power	Kw	50	50	73
Max speed	rpm	6000	6000 (8000)	6000 (8000)
Max torque	Nm	800 (1200)	1200	1200

CHS (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





TU 50 CHS
The innovative and only universal head with lubrication via thermo stabilized oil allowing use at full continuous power and speed. Available in 360000 positions

TW2 50 HS	ME 50 ES	TTL2 50 ES	TW2 40 ES	TW2 50 ES
Mechanical	High Speed Spindle	Electrospindle	Electrospindle	Electrospindle
50	50	50	40	50
5000	20000	20000	24000	20000
1200	130	130	65	130

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

ATTACHMENT HEAD STORAGE

Head storage unit completely enclosed with automatic roller curtain to avoid contamination

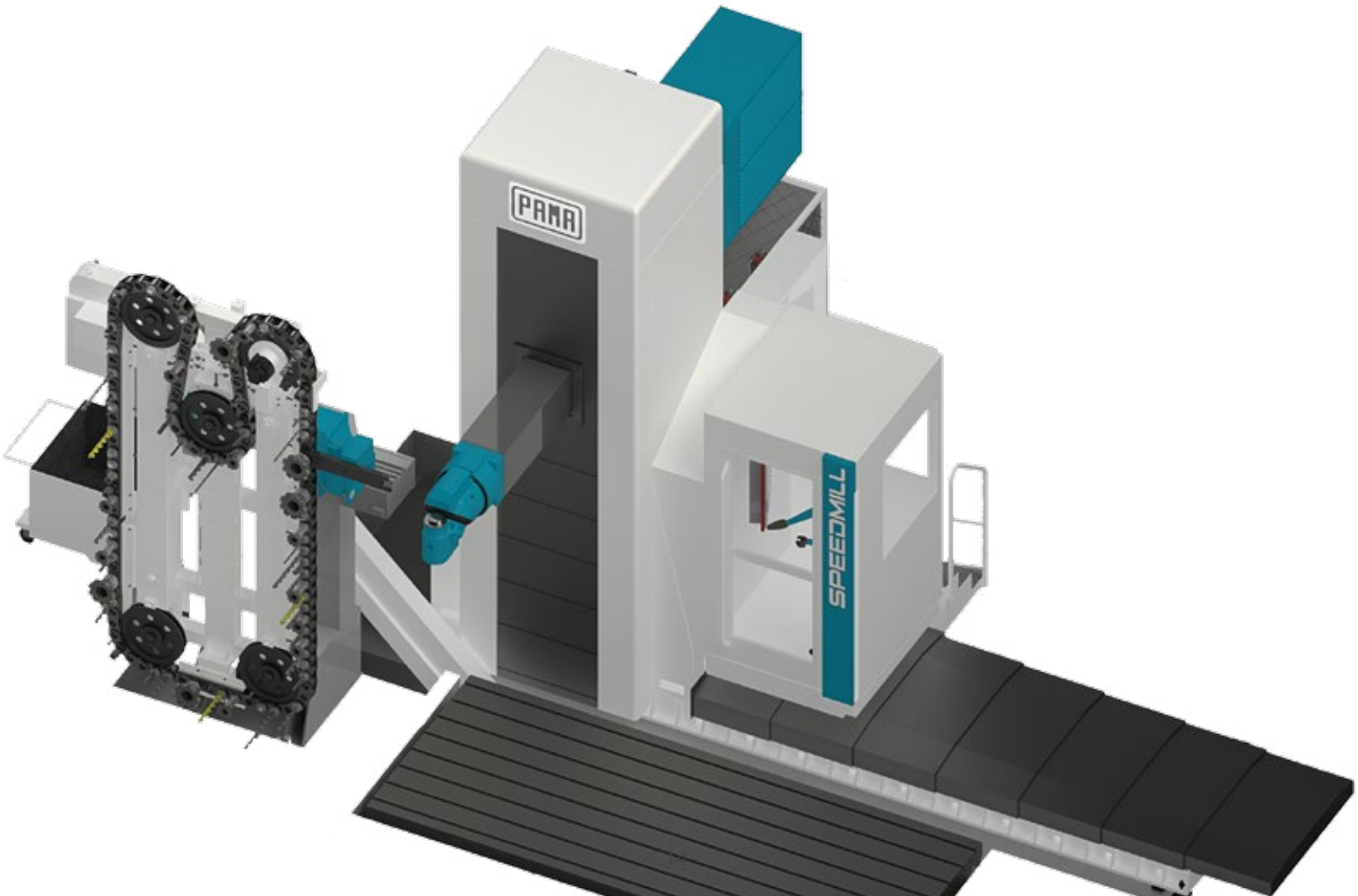
tool magazine is available mounted on the column (max 80 tools) or floor, either in chain or rack style for larger tool capacity requirements

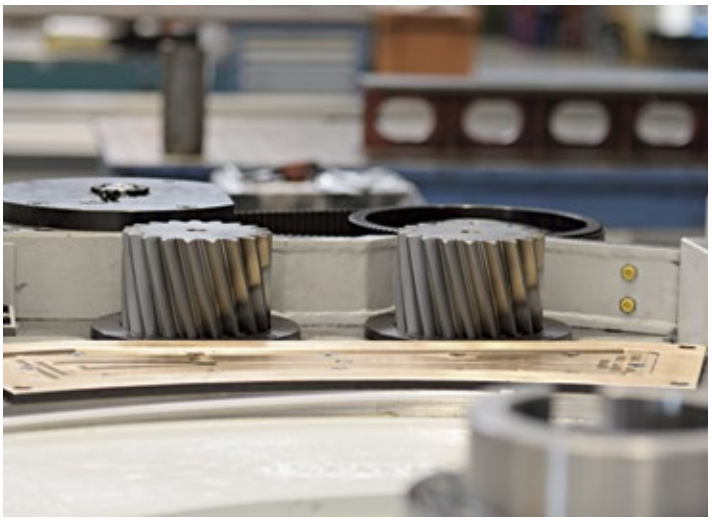
PMP (PAMA Maintenance Program): software system reminds operators and maintenace personnel of scheduled PM activities

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

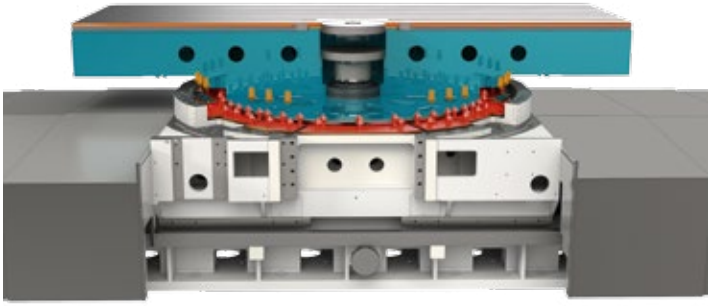
TOOL MAGAZINES

tool rack for oversize tools available as option



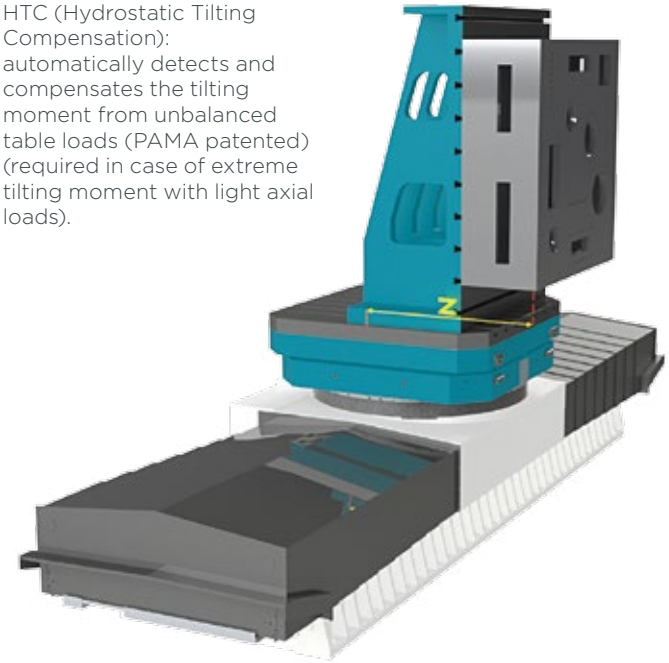


B axis is driven via bull gear and double pinion system (preloaded for backlash free operation)



Integral hydrostatic bearing with hand scraped bronze pads allow for optimal simultaneous 4 and 5 axis machining

HTC (Hydrostatic Tilting Compensation): automatically detects and compensates the tilting moment from unbalanced table loads (PAMA patented) (required in case of extreme tilting moment with light axial loads).



HTC (Hydrostatic Tilting Compensation): automatically detects and compensates the tilting moment from unbalanced table loads (PAMA patented)

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

PTB (PAMA Thrust Bearing): full hydrostatic table axial bearing

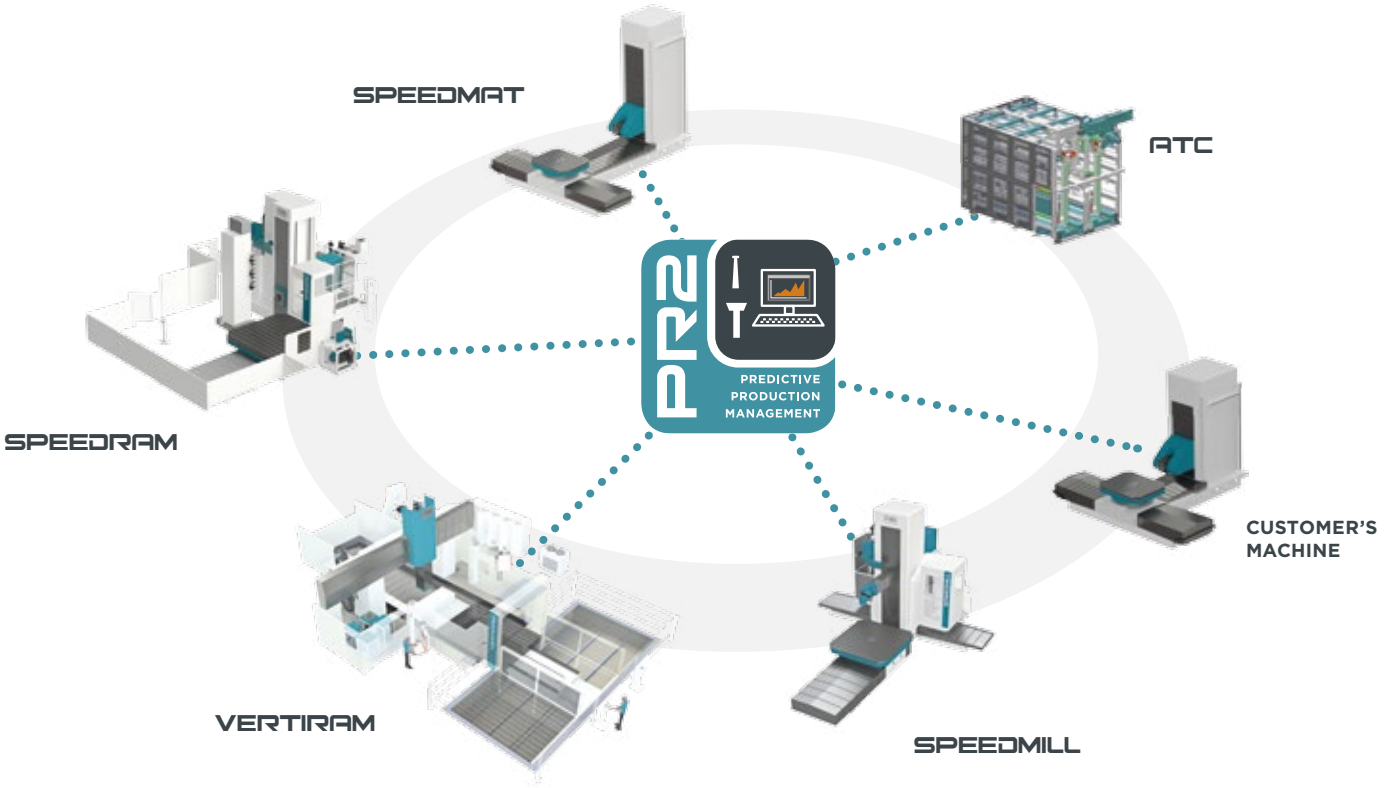
ROTOTRAVERSING TABLES

		TR10	TR16	TR25	TR35
loading capacity	t*	10	16	25	35
table surface - min.	mm	1250 x 1250	1600 x 1600	2000 x 2000	2000 x 2000
table surface - max.	mm	1600 x 1600	2000 x 2000	2500 x 2500	2500 x 2500
V axis longitudinal travel	mm	1500 - 4000	1500 - 4000	1500 - 4000	1500 - 4000

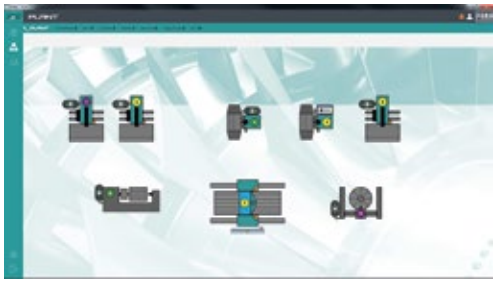
* t in metric ton

PR2 SUITE

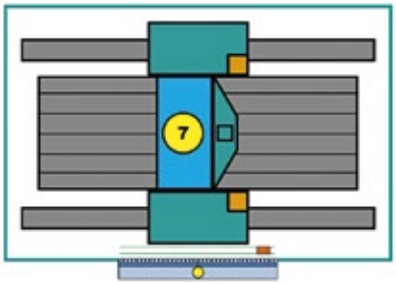
multi-level, applications, integrated software developed by PAMA, designed to bring our clients to a higher level of efficiency and profit, thanks to our intuitive user interface, management of the production units in real time with predictive approach in both manned or unmanned conditions.



complete reporting of production unit activities



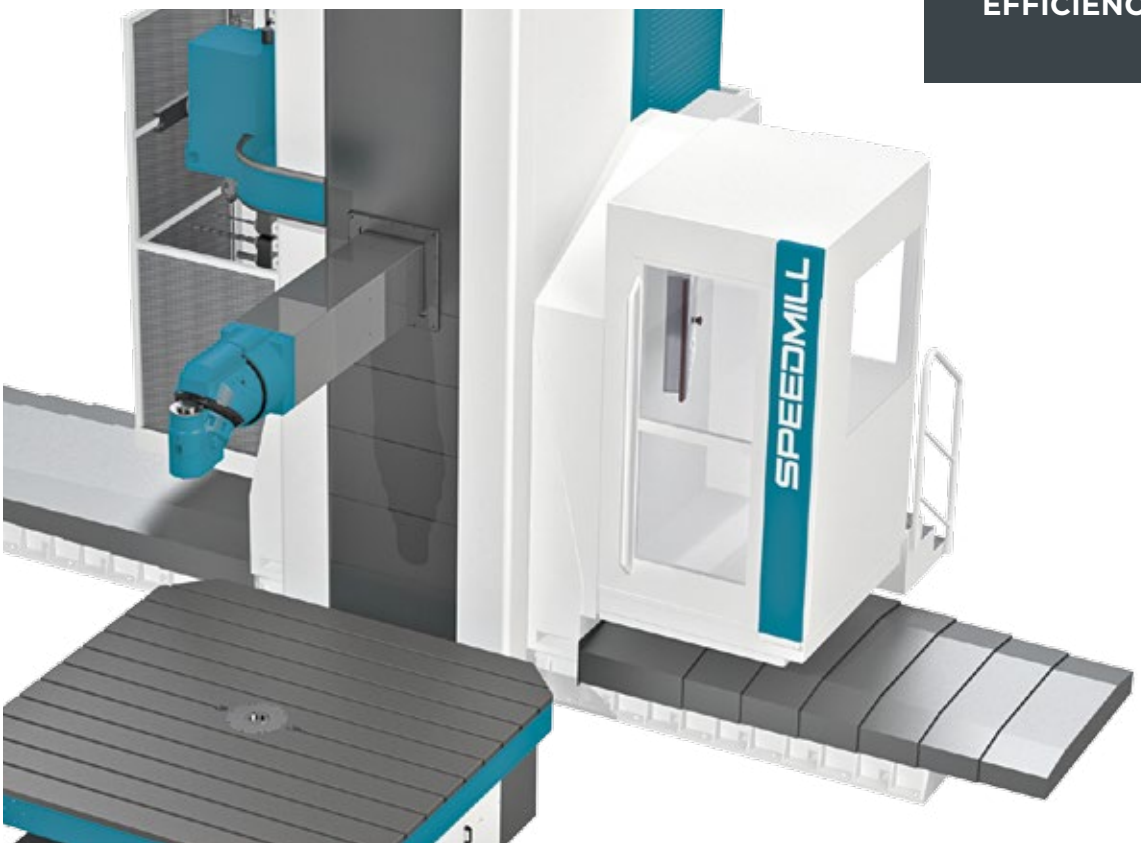
efficient managing of complex units (even with clients existing, compatible machines)



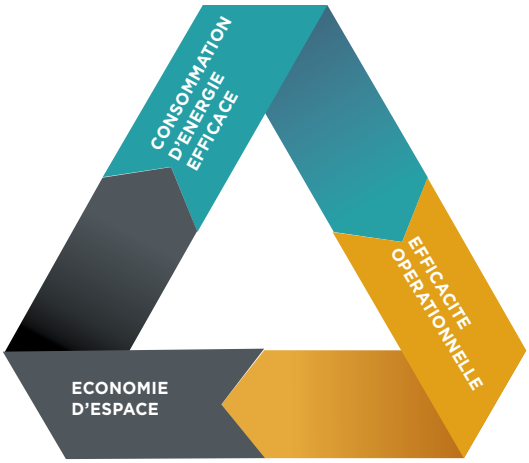
efficient managing of single production unit

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

PAMA GLOBAL EFFICIENCY



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



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

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

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

OPERATOR AND SAFETY

Operator platform fixed on saddle ergonomically designed for maximum comfort

Due to its high dynamic performance Speedmill can be supplied with a secondary floor mounted operator console to eliminate human limitation during machining operation

ERGONOMICS MAINTENANCE

easy maintenance, combined with predictive maintenance, is a must for an efficient workshop management

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

required operations are illustrated by the visualization of the corresponding part of the operator maintenance manuals

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

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


PAMA
SPEEDMILL

SPEEDMILL

WORKING AREA

		10000	20000	30000
Y axis stroke	mm	1800 - 2200	2500 - 3000	2500 - 4000
Z axis stroke	mm	1300	1600	1600
Ram section	mm	440 x 480	440 x 480	440 x 480
Motor speed	rpm	5000 (8000*)	5000 (8000*)	6000 (8000*)
Motor power (S1 - 100%)	kW	37 (45**)	37 (45**)	73
Motor torque (S1 - 100%)	Nm	600 (800**)	600 (800**)	1210
X,Y,Z axis rapid feed	m/min	up to 35	up to 35	up to 40
Linear axis acceleration	m/s^2	1 (3***)	1 (2***)	1 (2***)

TOOL MAGAZINE

Tool magazine type		chain	chain	chain
Tool magazine capacity	places	40	40 - 60	40 - 60 - 80
Max. tool diameter	mm	420	420	420
Max. tool lenght	mm	600	600	600
Max. tool weight	kg	35	35	35
Max. tool tilting moment	Nm	60	60	60

(*) High speed package
(**) High power/high torque package
(***) High dynamics package

09/15 Grafiche Antiga spa

PAMA

PAMA has a policy of continuous improvement of its products and reserves the right to change materials and specifications without notice.

COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =