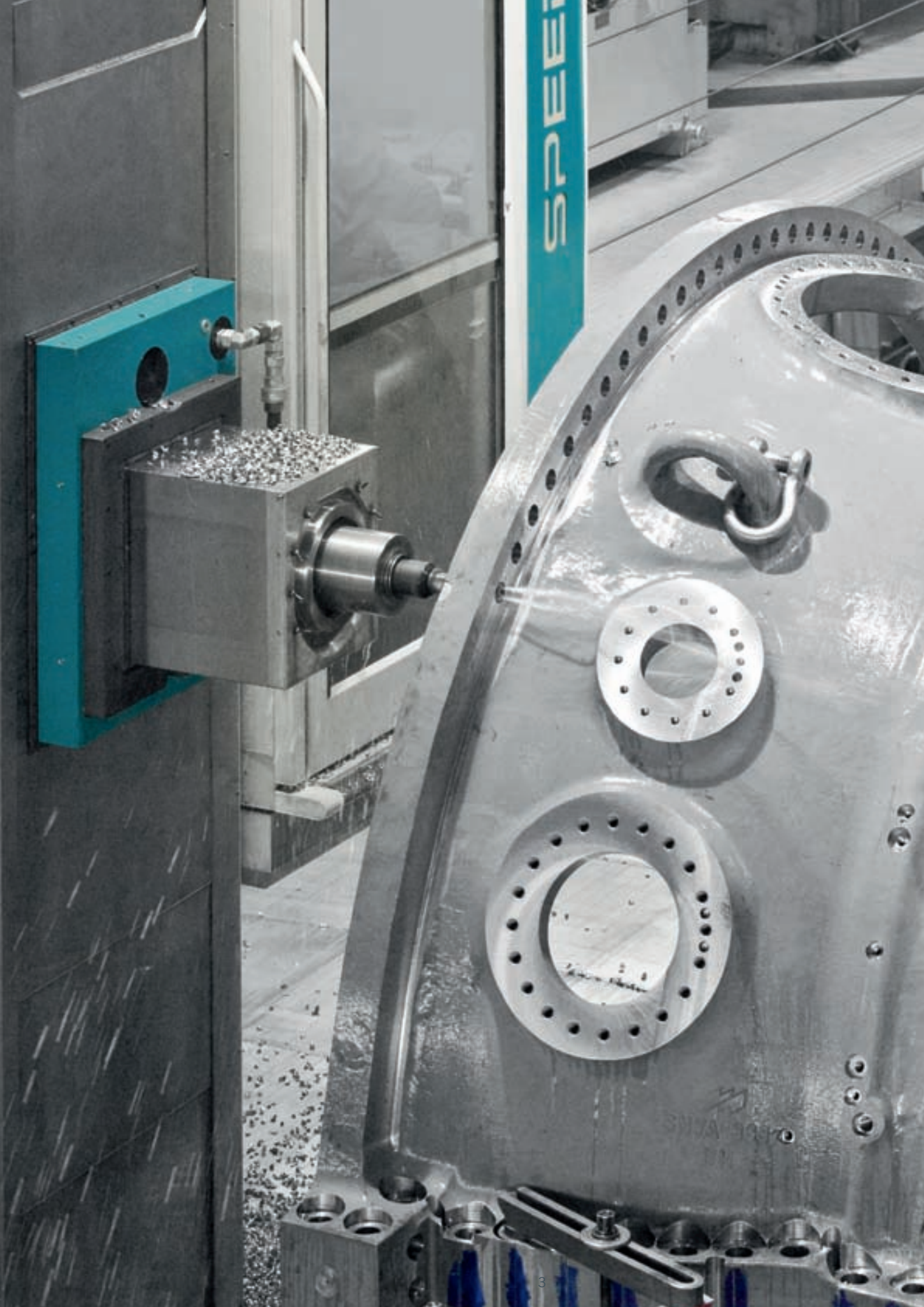


SPEEDORRAM HP

FLOOR TYPE BORING AND MILLING MACHINES



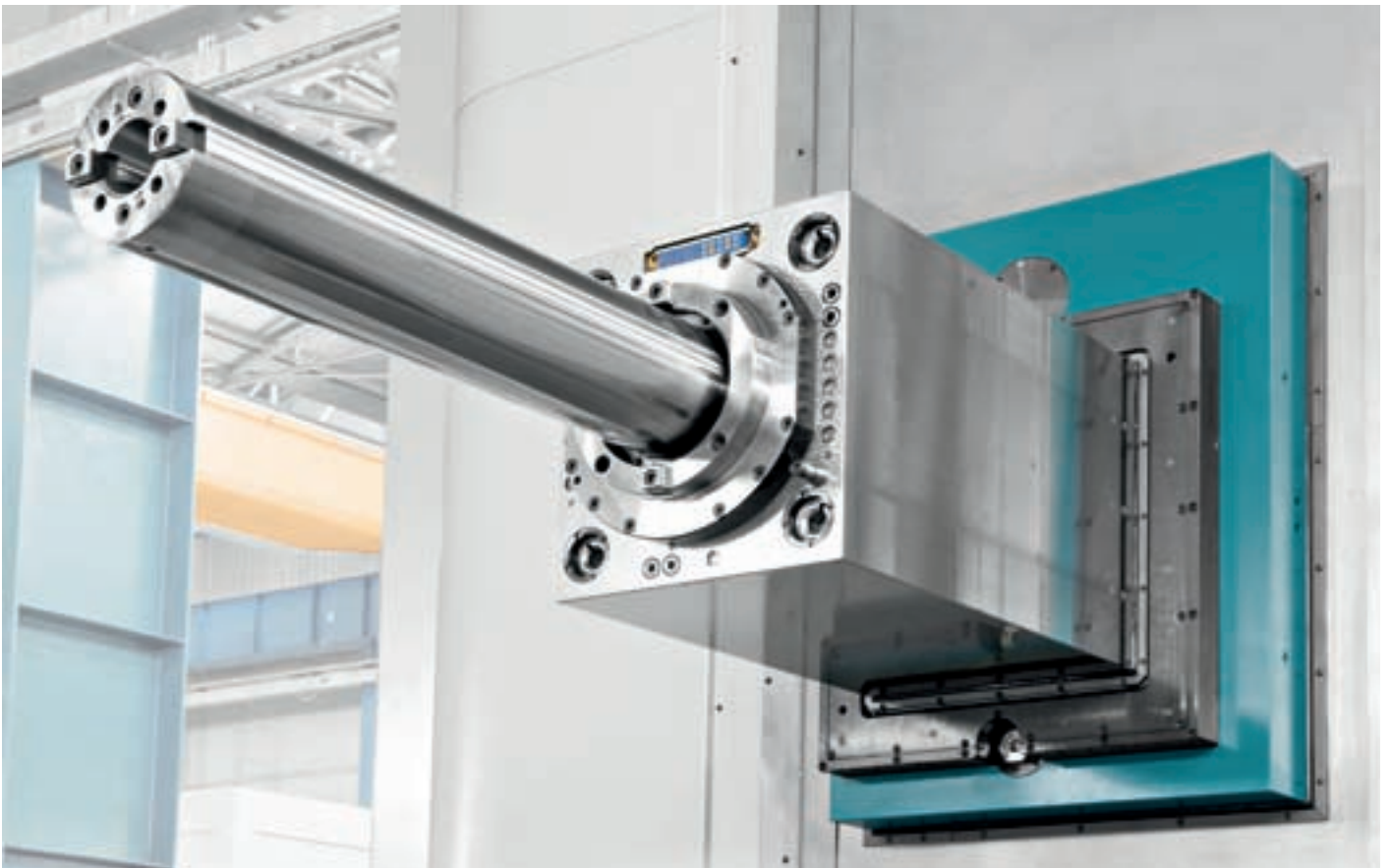
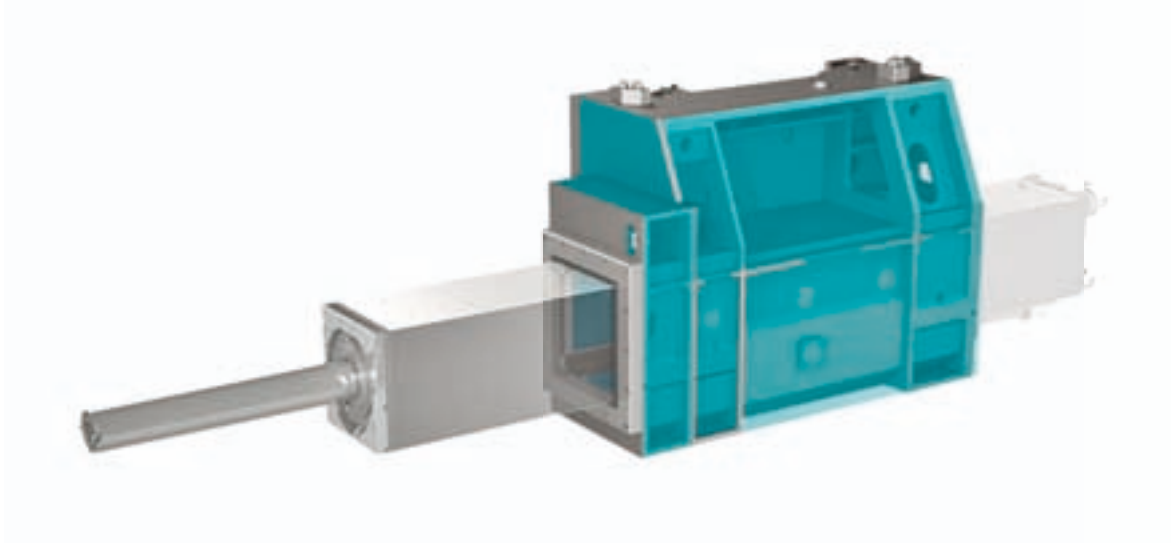
INNOVATIVE SPEEDRAM MILLING AND BORING MACHINES
WITH OUTSTANDING PERFORMANCES TO USE THE LATEST AND
FUTURE CUTTING TECHNOLOGIES



SPEEDS

Monolithic stabilized gray cast iron
(GJL-300) headstock

The Direct Drive spindle allows a very
compact, strong and light structure



SPEEDRAM HP

new headstock with direct drive spindle - no gearbox

new spindle with hybrid bearings and variable preload for higher speed

lighter and stiffer headstock

latest generation of optimized structures

monolithic cast iron headstock with 8 hydrostatic guideways on all sides

HEADSTOCK AND RAM DIRECT DRIVE SOLUTION

Innovative boring spindle technology
with integrated synchronous motor

the motor spindle unit is designed
as a cartridge that can be easily
replaced from the ram for any
extraordinary maintenance

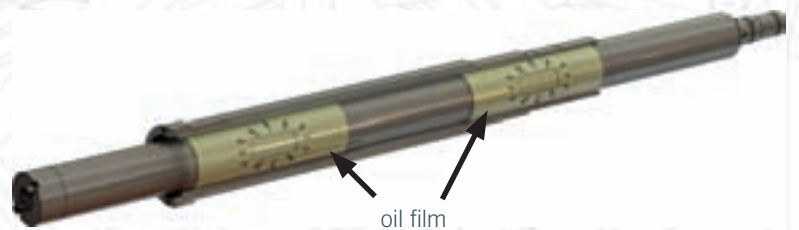
direct drive spindle advantages:

- higher spindle stiffness and dynamic performances
- rigid tapping without heavy limitation
- increased tool life

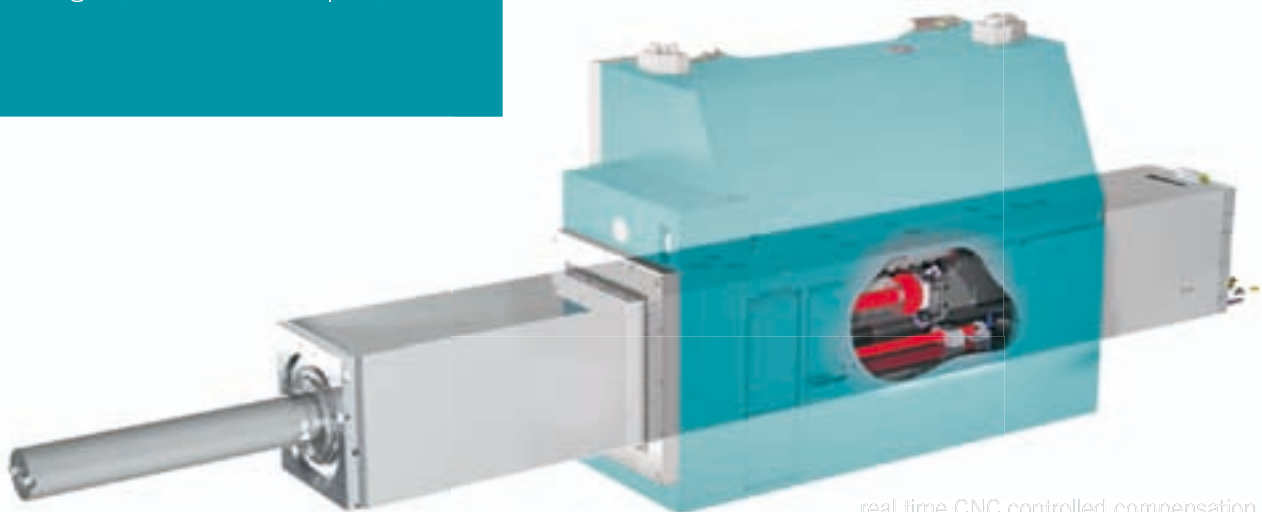
higher reliability:
mechanical components reduced by
30% (minus 500 components)

hybrid spindle bearings with variable
preload:

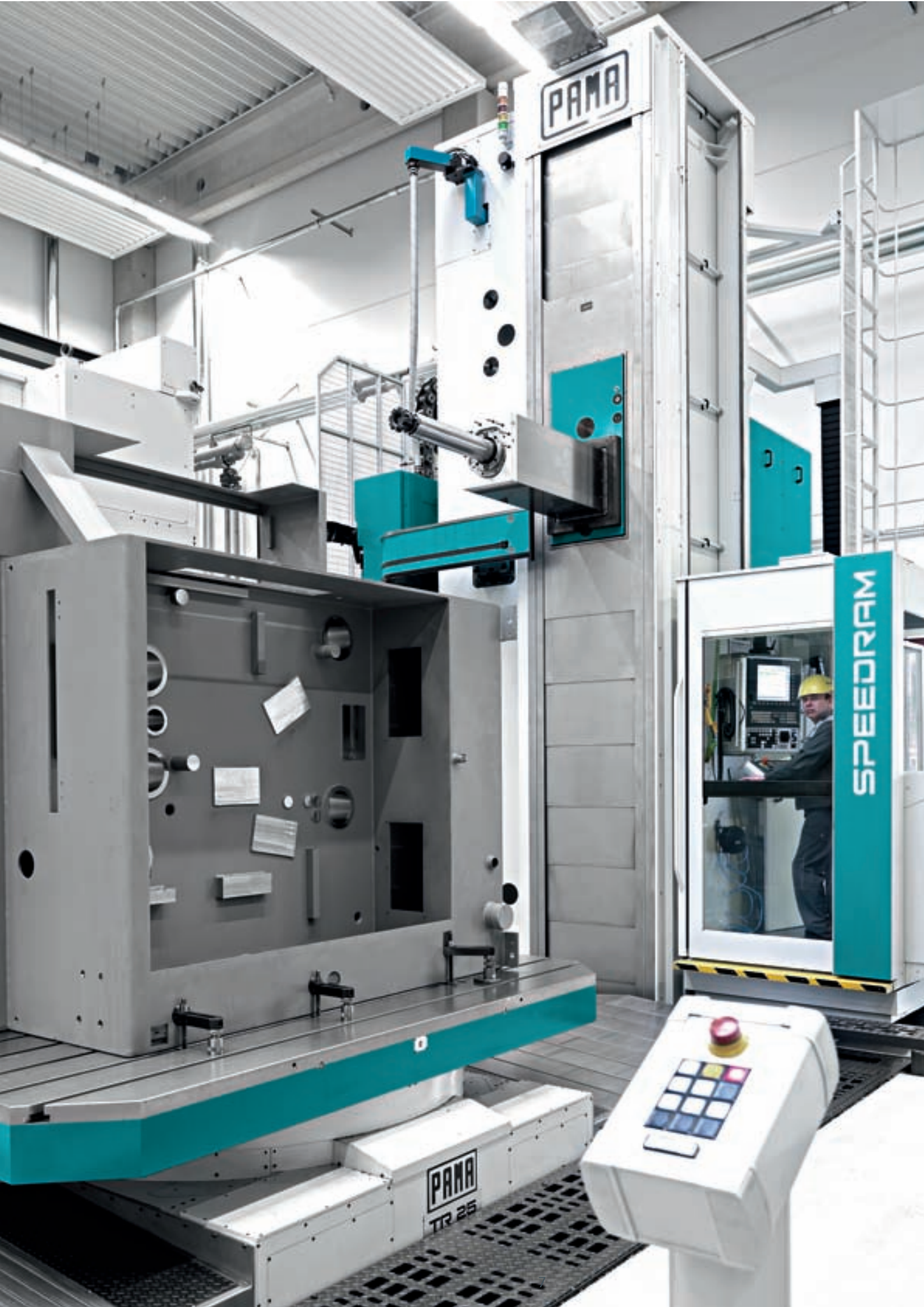
- higher spindle speed
- higher stiffness at low speed



hydrostatic boring spindle
(option)



real time CNC controlled compensation
of ram and spindle elongation/contraction
(PAMA patents)



ROTOTRAVERSING TABLES

PAMA produces a wide range of hydrostatic rototraversing tables naturally complementing the SPEEDRAM machines. Optimal integration of machines and tables is achieved thanks to the commonality of technology and solutions used

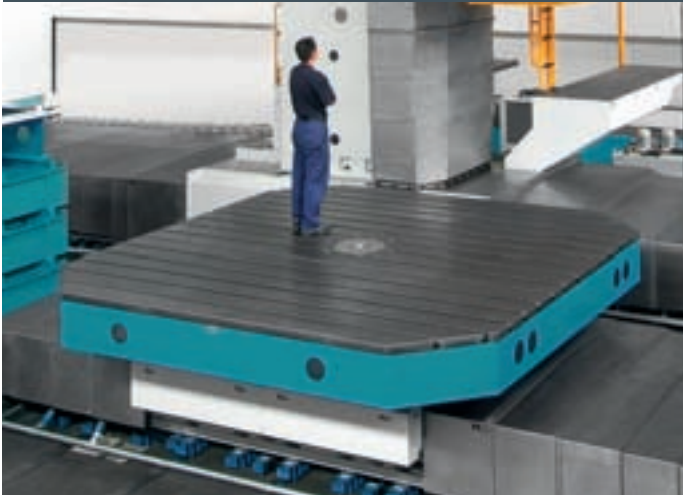
TECHNICAL FEATURES OF HYDROSTATIC ROTOTRAVERSING TABLES

		TH 50	TH 65	TH 80	TH 100	TH 120
loading capacity	t	50	65	80	100	120
table surface - min.	mm	2000 x 2000	2500 x 2500	2500 x 2500	3000 x 3000	3000 x 3000
table surface - max.	mm	3000 x 3000	3500 x 3500	4000 x 4000	4500 x 4500	5000 x 5000
V axis longitudinal travel	mm	1500 - 4000	1500 - 4500	1500 - 4500	2000 - 4500	2000 - 4500

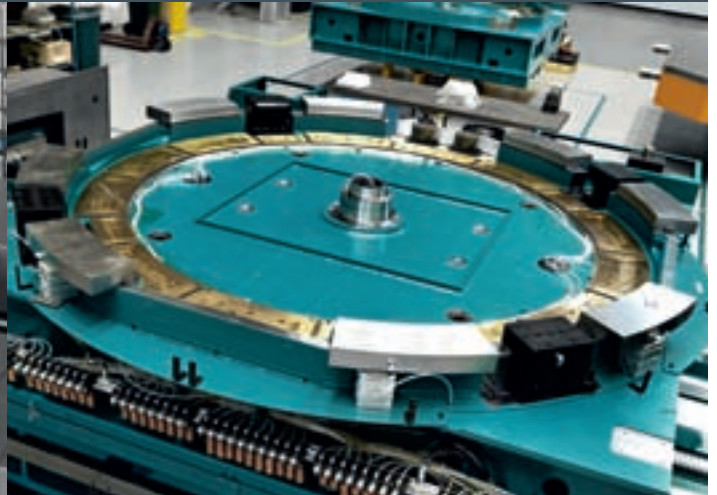
		TH 160	TH 250	TH 300	TH 600
loading capacity	t	160	250	300	600
table surface - min.	mm	4000 x 4000	4500 x 4500	5000 x 5000	6000 x 6000
table surface - max.	mm	6000 x 6000	6000 x 8000	6000 x 12000	8000 x 12000
V axis longitudinal travel	mm	3000 - 5000	5000 - 7000	5000 - 8000	5000 - 8000

tables with other dimensions and loading capacity are available upon request

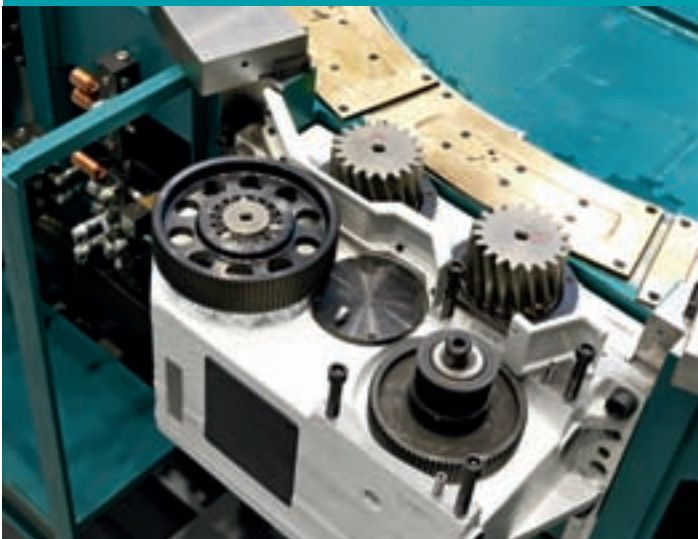
hydrostatic support for both rotary table and linear traversing axis



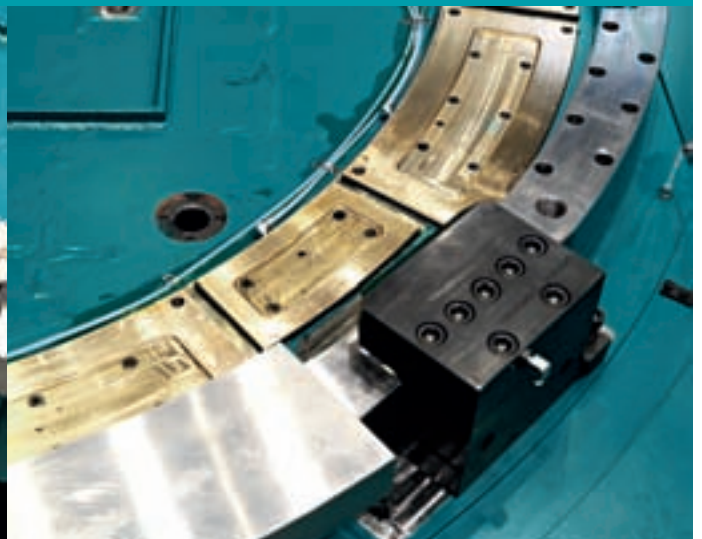
hydrostatic thrust bearing and hydrostatic pads



B axis is driven via a double rack and pinion system (preloaded for backlash free operations)

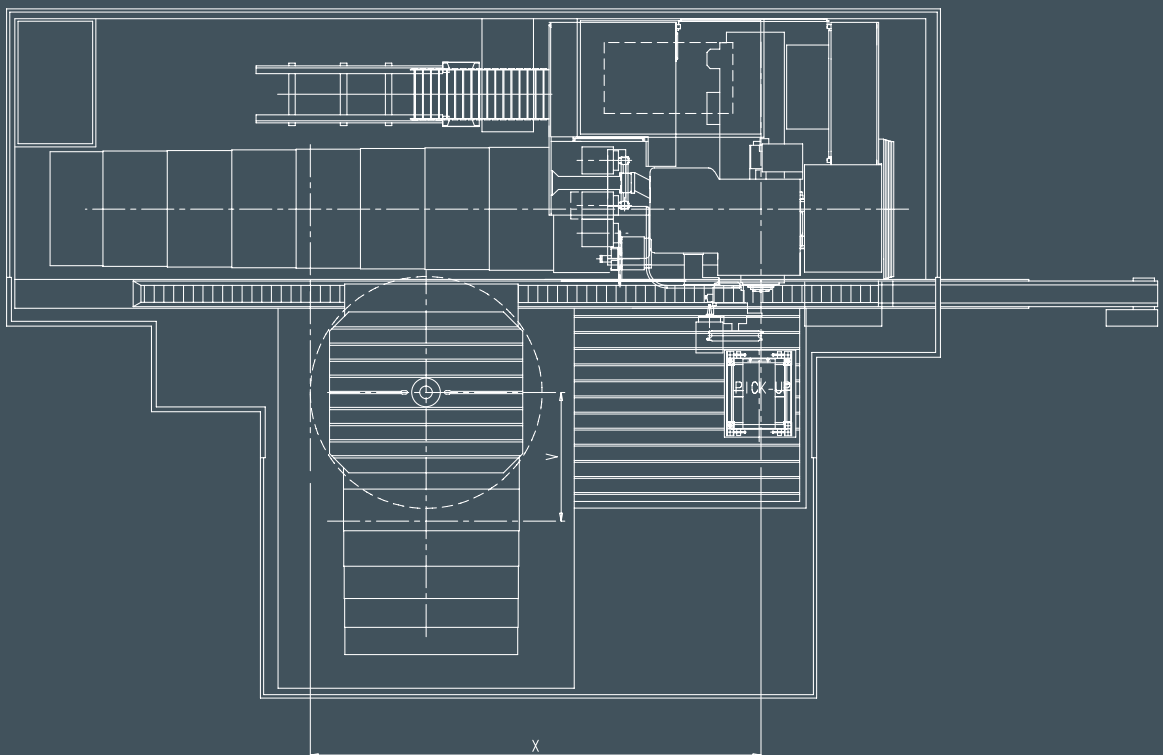
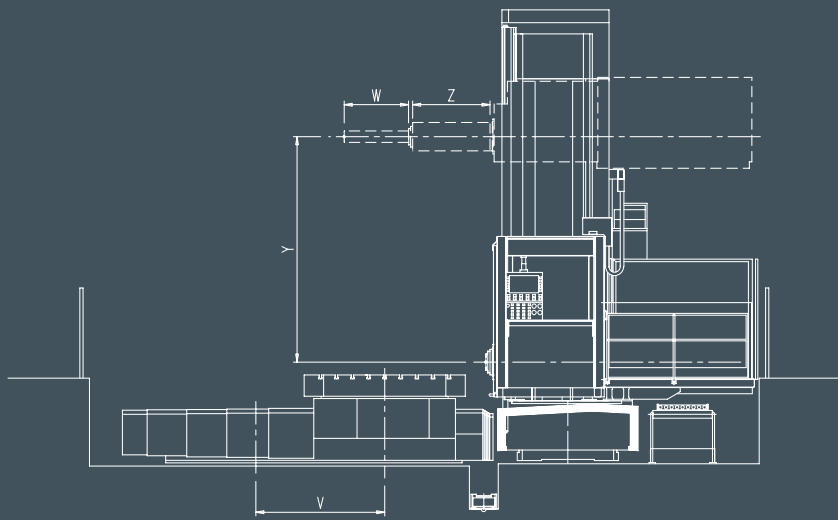
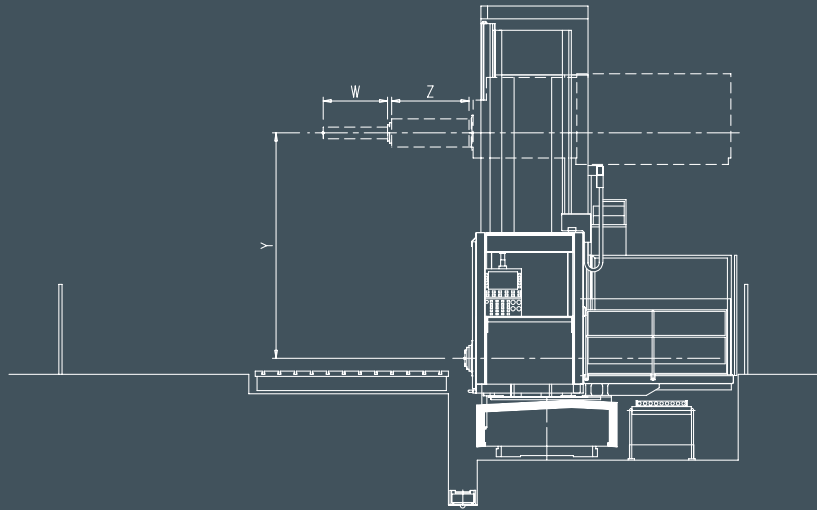


self adjusting hydraulic brakes on rotary table (B axis)



TECHNICAL SPECIFICATIONS

SPEEDRAM HP		2000 HP	3000 HP	4000 HP
Y axis stroke	mm	2500-5000	3500-6500	5000-8000
Z axis stroke	mm	1500	1750	2000
W axis stroke	mm	1000	1000	1000 1200
RAM section	mm	440x480	440x480	520x560
Boring Spindle diameter	mm	150-160	150-160	150-160 180
Spindle taper	mm	ISO50	ISO50	ISO50
Spindle speed	min ⁻¹	4000	4000	4000 3000
Spindle power	kW	94/125	94/125	94/125 91/150
Max torque	Nm	2590/3140	2590/3140	2590/3140 3900/5000
X axis rapid feed	mm/min	30000	25000	20000
Y axis rapid feed	mm/min	25000/20000	20000/15000	18000/15000
X axis acceleration	m/s ²	1,5	0,8	0,7
Y axis acceleration	m/s ²	1,5	0,8	0,7
Z axis acceleration	m/s ²	1,5	1,5	1





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