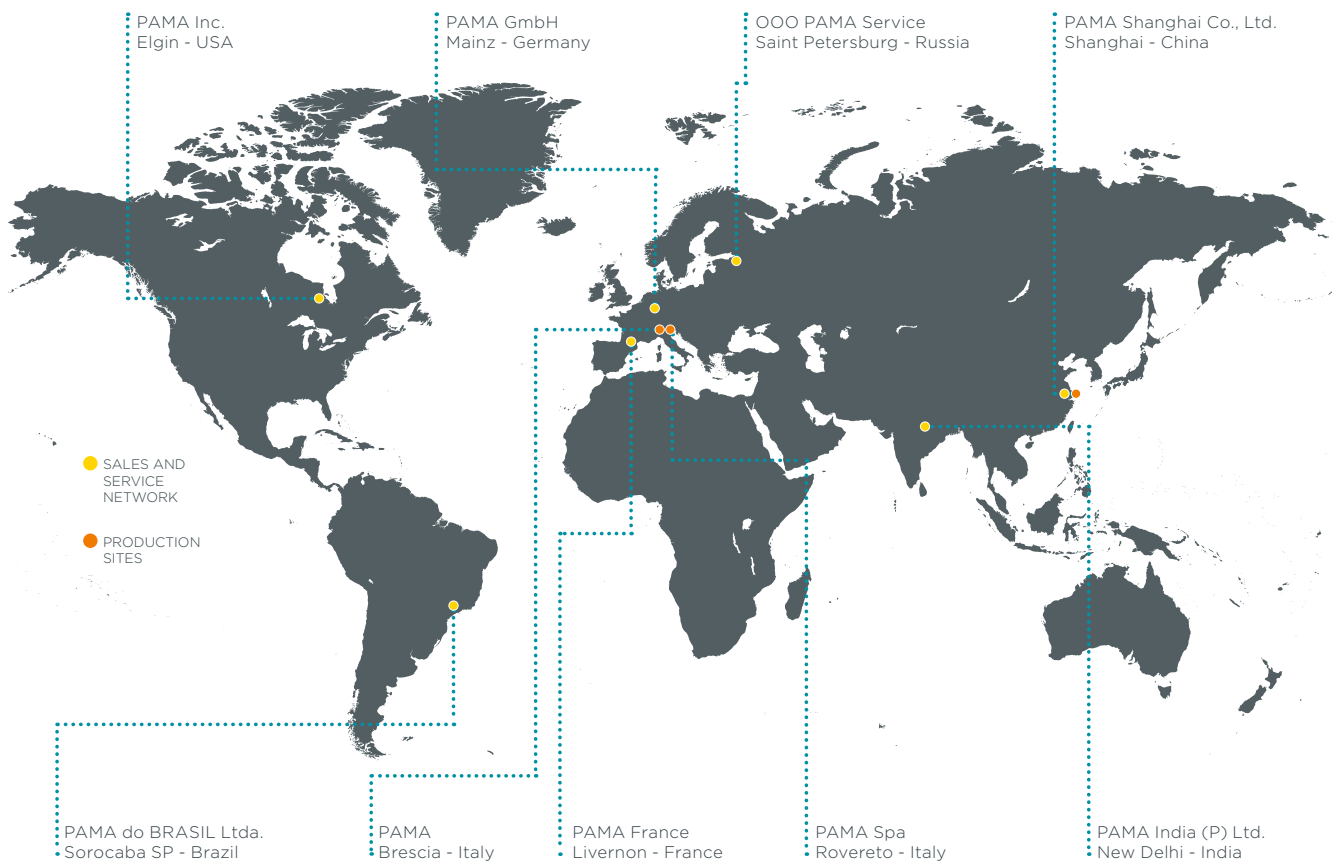




COMPANY PROFILE



your solution provider



the partner for demanding customers



THE COMPANY



ROVERETO - ITALY

ROVERETO - ITALY

ROVERETO - ITALY

established in 1926
90 years of know-how in the field of
boring and milling machines
leader among machine tool manufacturers
quality qualified ISO 9001 / Vision 2008
over 80% of production is exported

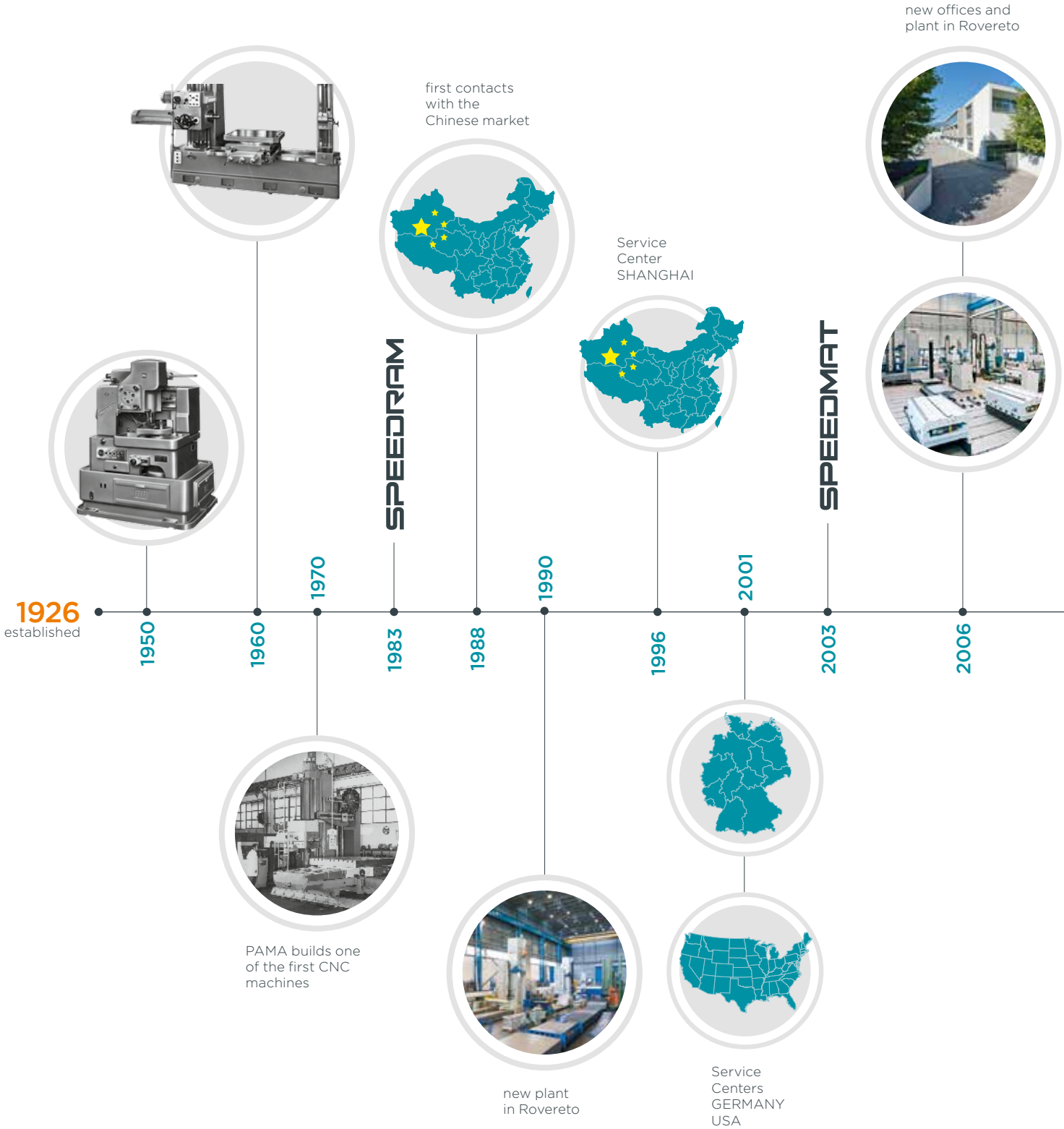


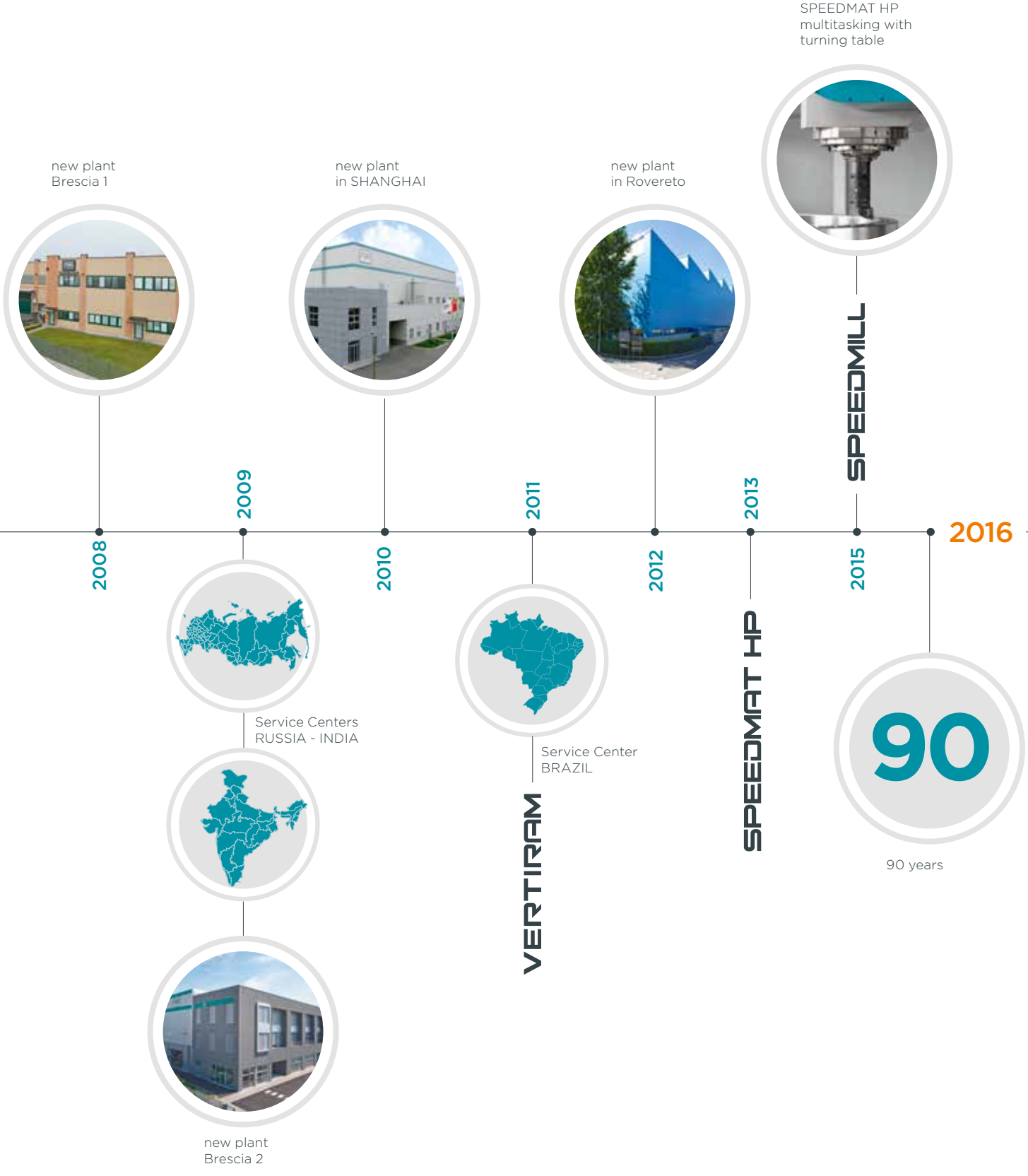
BRESCIA - ITALY

BRESCIA - ITALY

SHANGHAI - CHINA

TIMELINE

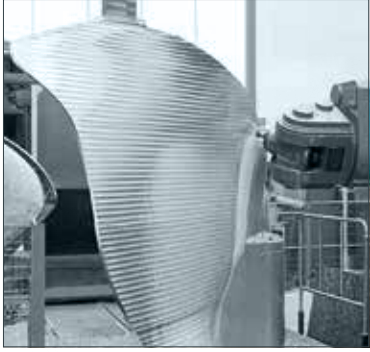




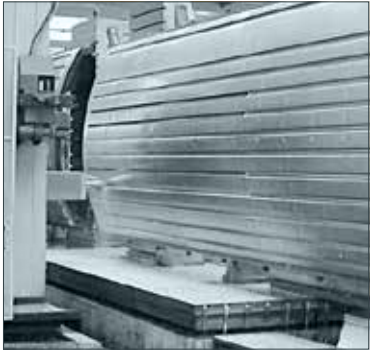
HEAVY MACHINERY



SHIPBUILDING



DIE & MOLD



ENERGY



AEROSPACE



DIESEL ENGINES



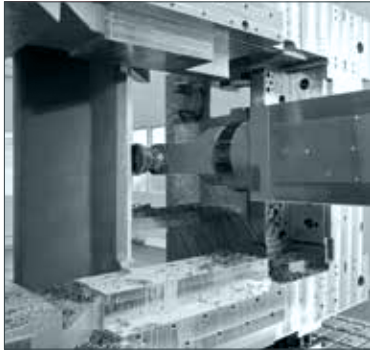
OIL & GAS



EARTH MOVING



GENERAL MACHINING



the partner for

ALSTOM | ANDRITZ | ANSALDO ENERGIA | AREVA |
AVIC | BHEL | BOSCH REXROTH | CASE NEW
HOLLAND | CATERPILLAR | CSSC | DALIAN HEAVY
INDUSTRY | DANIELI | DONG FANG TURBINES |
DRESSER WAUKESHA | EMAG | ENDAKI | ENGEL |
FAIRBANKS | FICEP | FINCANTIERI | FMC | FOMAS
GALBIATI GROUP | GENERAL ELECTRIC | HYUNDAI |
JINDAL STEEL | JOHN DEERE | KOENIG & BAUER | KRAUSS
MAFFEI | LARSEN & TOUBRO | LASCO UMFORMTECHNIK |

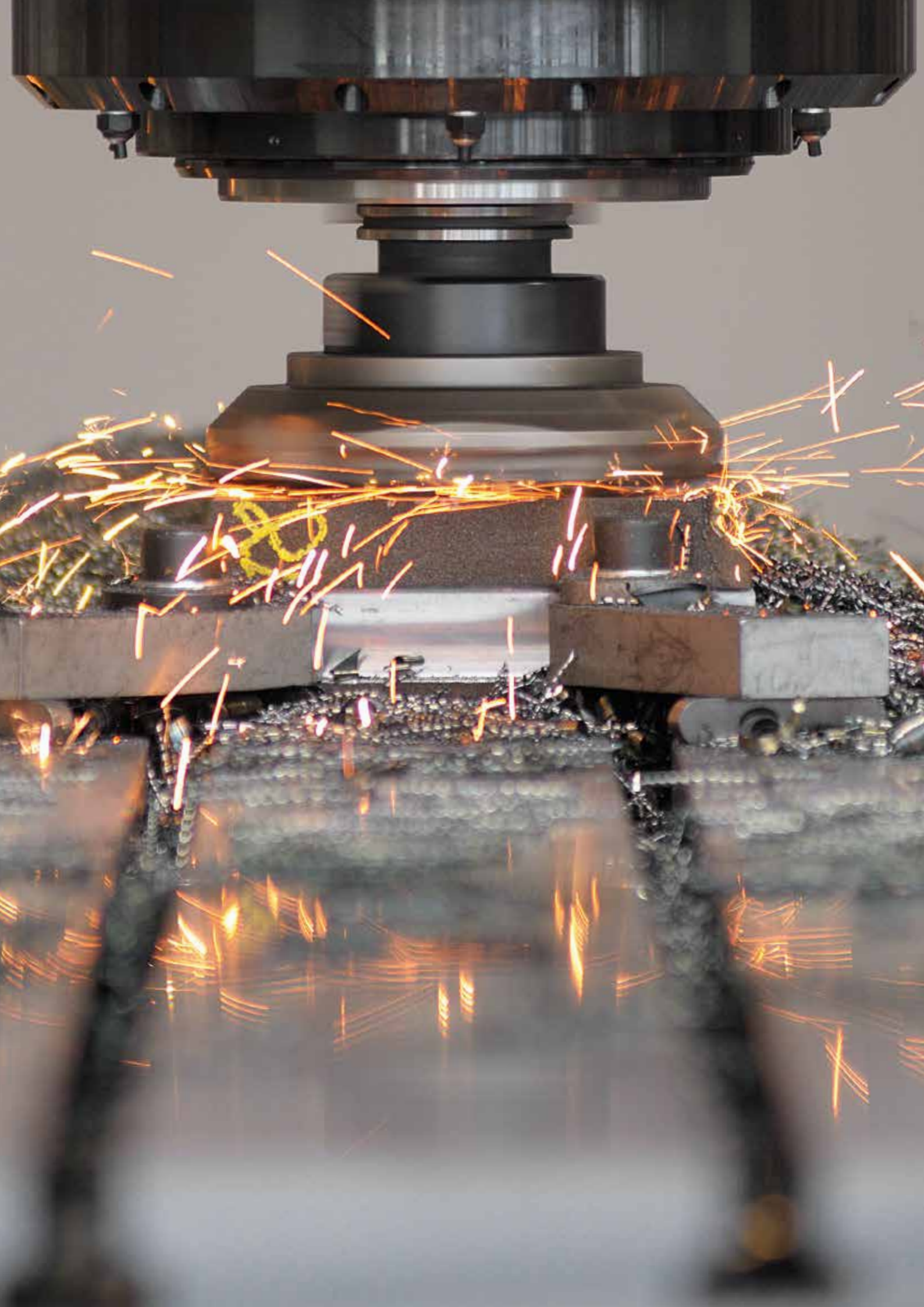
PAMA products can be customized
to meet specific requirements
for different application fields such as
power generation, oil and gas,
die & mold, earthmoving, heavy
mechanical engineering, shipbuilding,
large diesel engines and aerospace

demanding customers

LIEBHERR | LMZ | MAN DIESEL & TURBO | MAPNA | MESSIER
DOWTY | NANJING HIGH SPEED | NATIONAL OILWELL
VARCO | NORTHROP GRUMMAN | NUGO ROMANO |
NUOVO PIGNONE | OTO MELARA | POWER MACHINES |
REINTJES | ROLLS ROYCE | SACMA LIMBIATE | SHANGHAI
LINGANG | SHANGHAI STEAM TURBINES | SHW CASTING
TECHNOLOGY | SIEMENS | SMS SIEMAG | TECNOSTAMPI |
URALMASH | VESTAS WIND SYSTEMS | WESTINGHOUSE

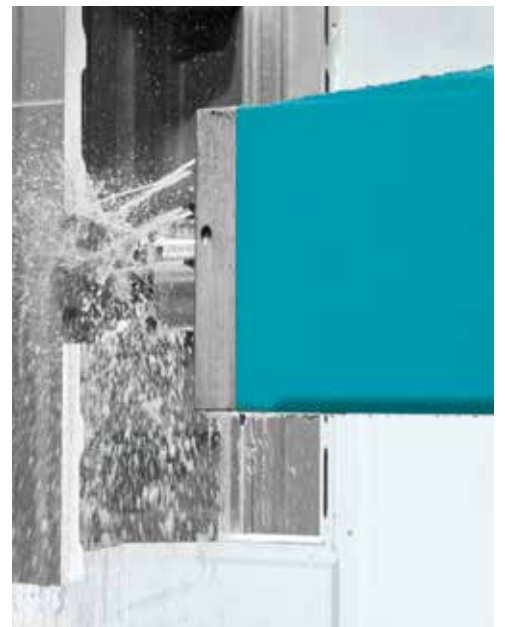
PRODUCTS

MULTITASKING
MACHINING
CENTERS,
FLOOR TYPE
HORIZONTAL
MILLING
MACHINES,
FLOOR TYPE
BORING AND
MILLING
MACHINES,
GANTRY TYPE
MACHINING
CENTERS,
BORING AND
MILLING
CENTERS



SPEEDMAT HP

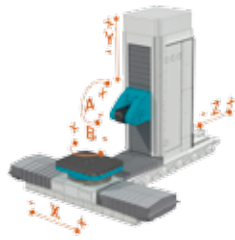
MULTITASKING MACHINING CENTERS



Speedmat HP technology provides the perfect solution for the most demanding machining application requiring utmost rigidity and precision even on the hardest materials. Multitasking capability allow for milling, boring and turning operation to be carried out in the same set up.

The Speedmat HP series consists of seven base models with: pallet sizes from 1000 x 1000 mm up to 2000 x 2500 mm with table load capacity from 3 to 35 t (metric ton) and work piece swing diameter from 2000 to 4600 mm





HP1
HP2
HP3
HP4
HP5
HP6
HP7

WORKING AREA

X axis (table)	mm	2000 - 4600
Y axis (headstock)	mm	1500 - 3500
Z axis (column)	mm	1500 - 3200
Max swing diameter	mm	2000 - 4600

TABLE

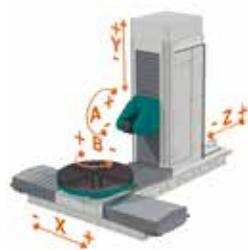
Table or pallet size	mm	1000 x 1000 - 2000 x 2500
Table capacity	t*	4 - 35
Pallet capacity	t*	3 - 32
B axis feed/rapid	rpm	2,5 - 10

Linear axes features (Headstock H - HV - A)

X axis rapid traverse/feed rate	m/min	25 - 50
Y and Z axes rapid traverse/feed rate	m/min	30 - 50
Max acceleration	m/s ²	3 - 4
X, Y, Z axes thrust	kN	20

Linear axes features (Headstock WD)

X axis rapid traverse/feed rate	m/min	25 - 40
Y and Z axes rapid traverse/feed rate	m/min	30 - 40
X, Y, Z, W axes thrust	kN	20



HP1/T
HP2/T
HP3/T
HP5/T

WORKING AREA

X axis (table)	mm	2000 - 3800
Y axis (headstock)	mm	1500 - 3000
Z axis (column)	mm	1500 - 3200
Max swing diameter	mm	2000 - 3800
Max turning diameter	mm	1600 - 3600
Max inner turning length	mm	800 - 1200

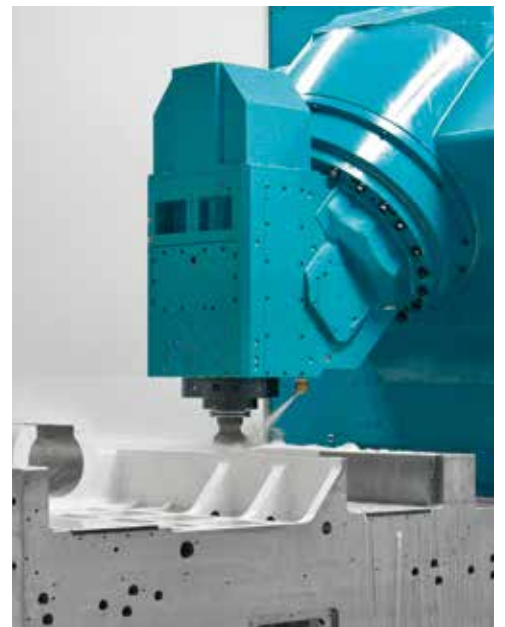
TURNING TABLE

Table or pallet size	mm	Ø 1250 - Ø 2500
Table/pallet capacity	t*	3 - 15
Max workpiece inertia	kg•m ²	3000 - 15000
B axis milling feed rate	rpm	5 - 10
Max spindle power (S1 - 100%)	kW	40 - 51
Max spindle torque (S1 - 100%)	kNm	5 - 16
Max turning speed	rpm	160 - 320

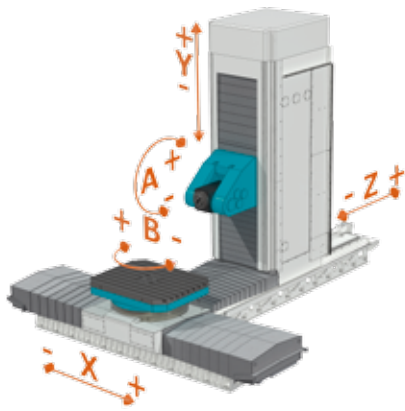
* t in metric ton

A A-HD H HV-HVA WD

HEADSTOCKS



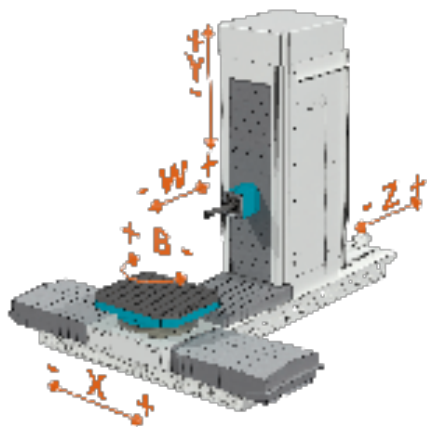
horizontal/vertical spindle orientation,
high dynamic performance
for easy machining of 5 sides of the
workpiece in one set-up



I HV HVR R R-HD

HEADSTOCK

Max. spindle speed	rpm	4500 - 12000
Max. spindle power (S1 - 100%)	kW	50 - 105
Max. spindle torque (S1 - 100%)	Nm	624 - 1210
A axis continuous torque (S1 - 100%)	Nm	4000 - 8000
A axis clamping torque	Nm	6000 - 12000



WD110
WD130
WD160

HEADSTOCK

Max. spindle speed	rpm	4000 - 6000
Max. spindle power (S1 - 100%)	kW	90
Max. spindle torque (S1 - 100%)	Nm	1500 - 2200
Boring spindle diameter	mm	110 - 160
W axis (boring spindle)	mm	500 - 800
W axis feed / rapid	m/min	30





SPEEDMART HP

SPEEDMILL

FLOOR TYPE HORIZONTAL MILLING MACHINES



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 up to 1600 mm.





1000
2000
3000

WORKING AREA

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

TOOL MAGAZINE

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

SPEEDMILL

PAMA





SPEEDMILL

SPEEDRAM HP

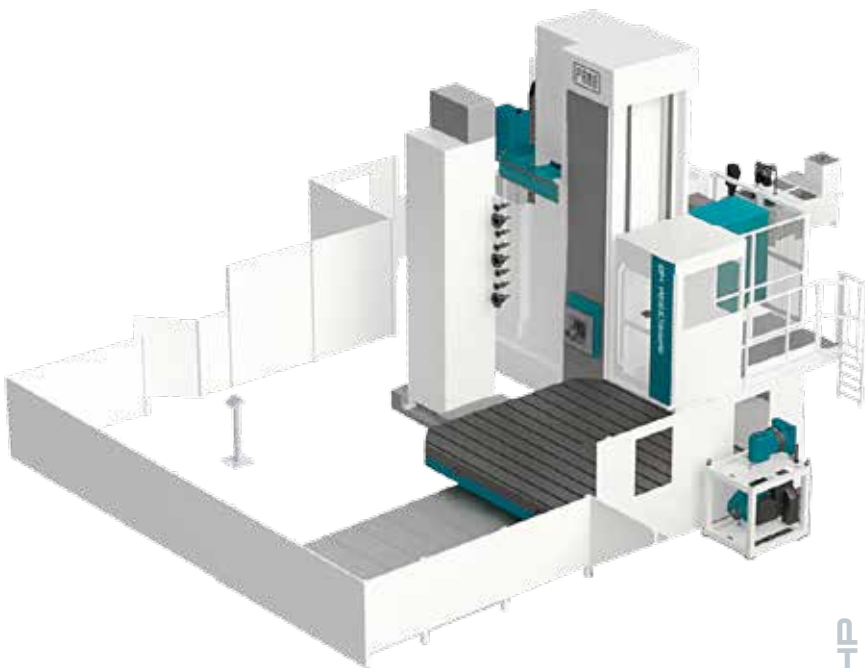
FLOOR TYPE BORING AND MILLING MACHINES



Speedram HP technology is the perfect solution for all the most demanding machining applications of large and heavy components, with tough to cut materials and important stock removal, calling for rigidity and power without forgetting precision.

Speedram HP product range consists of four models horizontal boring and milling machines with boring spindle diameter from 130 mm to 180 mm and vertical stroke from 2000 mm to 8000 mm.





1000 HP
2000 HP
3000 HP
4000 HP

WORKING AREA

X axis (column)	mm	4000 - 6000
	mm	+N x 1000
Y axis (headstock)	mm	2000 - 8000
Z axis (ram)	mm	1500 - 2000
W axis (boring spindle)	mm	800 - 1200
Z+W axes	mm	2000 - 3200

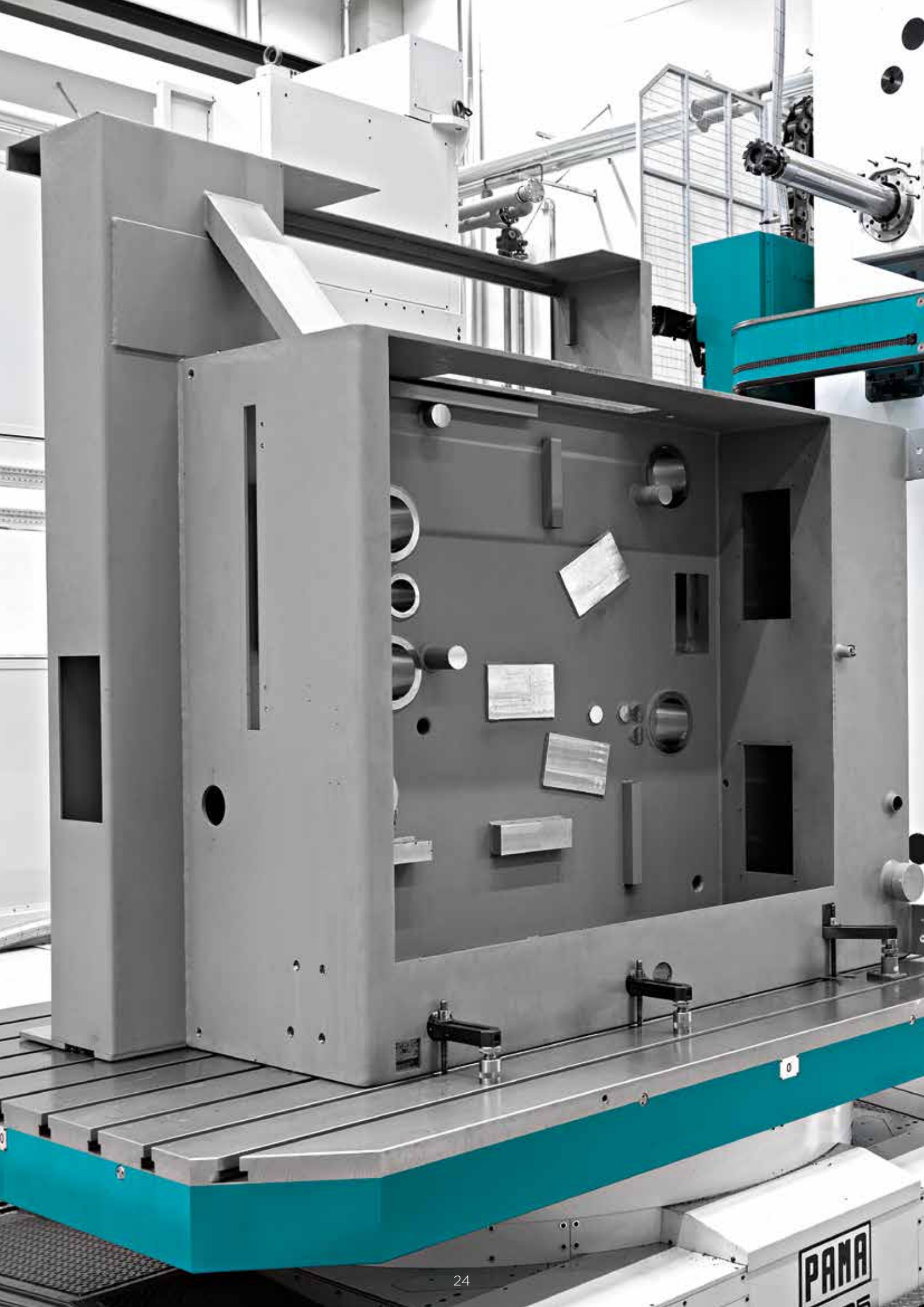
HEADSTOCK

RAM section	mm	440 x 480 - 520 x 560
Boring Spindle diameter	mm	130 - 180
Max. spindle speed	rpm	3000 - 5000
Spindle power	kW	90 - 150
Max torque	Nm	1800 - 5000
Spindle TAPER		ISO 50

AXES FEED RATES

X,Y,Z,W axis rapid traverse/ feed rate	m/min	up to 40
Max. acceleration	m/s ²	1 - 2,5

* t in metric ton





SPEEDORAM HP

SPEEDRAM

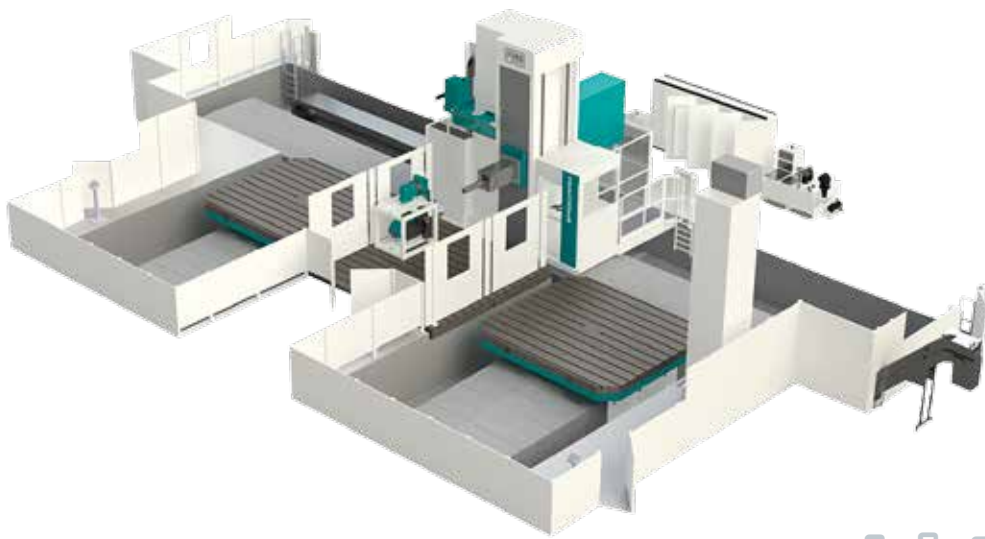
FLOOR TYPE BORING AND MILLING MACHINES



Speedram line is designed for high precision, power and structural rigidity, providing the perfect machining solution for the most demanding applications on all heavy, medium to large size components, requiring high material removal rate coupled to high precision and superior finishing even in hard-to-cut materials.

Speedram product range consists of six models of horizontal boring and milling machines with boring spindle diameter from 130 mm to 320 mm and vertical stroke from 2000 mm to 10000 mm.





1000
2000
3000
4000
5000
6000

WORKING AREA

X axis (column)	mm	4000 - 6000
	mm	+N x 1000
Y axis (headstock)	mm	2000 - 10000
Z axis (ram)	mm	1000 - 1900
W axis (boring spindle)	mm	700 - 1600
Z+W axes	mm	1700 - 3500

HEADSTOCK

Ram section	mm	360x400 - 600x640
Boring spindle diameter	mm	130 - 320
Max spindle speed	rpm	1370 - 4000
Spindle gear ranges		2 / 3
Max spindle power	kW	37 - 145
Max spindle torque	Nm	1526 - 30000
Spindle taper		ISO 50 / ISO 60

AXES FEED RATES

X-Y-Z-W axes rapid traverse / feed rate	m/min	up to 30
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SPEEDRAM

VERTIRAM

GANTRY TYPE MACHINING CENTER

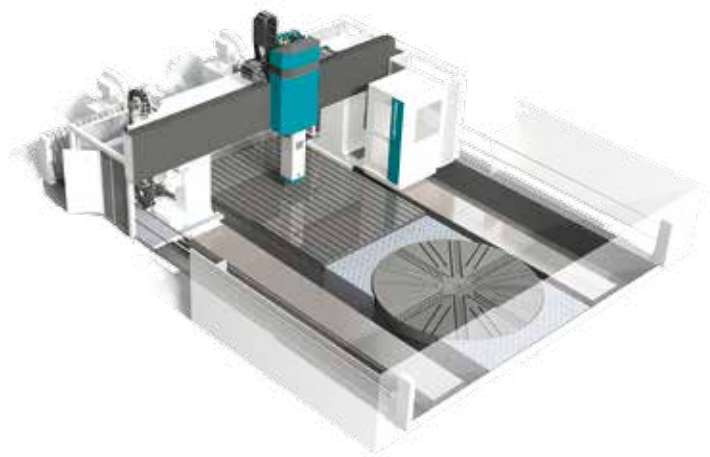


Vertiram is designed to be the perfect solution for large or heavy components whose machining is best performed in the vertical spindle plane. An unlimited number of boring, milling and turning operations can be performed in single set-up configuration.

The Vertiram range of portal machining centers is available in movable gantry type (GT) and movable table type (TT) models, both of which can be provided with fixed or movable crossrail and turning table options.

Wide range of clearance between the columns, from 2100 to 10100 mm. Clearance under spindle from 1700 to 5500 mm. Ram Z-axis stroke from 1300 to 2500 mm.





1000 - TT
2000 - TT
3000 - TT
4000 - TT

1000 - GT
2000 - GT
3000 - GT
4000 - GT

WORKING AREA

Clearance between columns	mm	2100 - 5100	3100 - 10100
Clearance under spindle (AL200)	mm	2000 - 5500	1700 - 5500
X axis (gantry)	mm	-	4000 - 6000
	mm	-	+N x 1000
X axis (table)	mm	5000 - 13000	-
Y axis (headstock)	mm	2500 - 6600	3100 - 11600
Z axis (ram)	mm		1300 - 2500
W axis (cross-rail - option)	mm		1100 - 3600

TABLE (FLOOR PLATES)

Table (floor plates) width	mm	1500 - 4000	2000 - 9000
Table length	mm	4000 - 12000	-
Loading capacity	t*	15 - 200	-

HEADSTOCK

Ram section	mm	500 x 500 - 590 x 590
Max. spindle speed	rpm	3000 - 7000
Spindle gear ranges		Direct Drive / 4
Max spindle power (S1)	kW	45 - 103
Max spindle torque (S1)	Nm	800 - 10730

AXES FEED RATES

X,Y,Z,V rapid traverse/feed rate	mm/min	up to 40000	up to 30000
W axis rapid traverse/feed rate	mm/min	3000 - 4000	3000

* t in metric ton

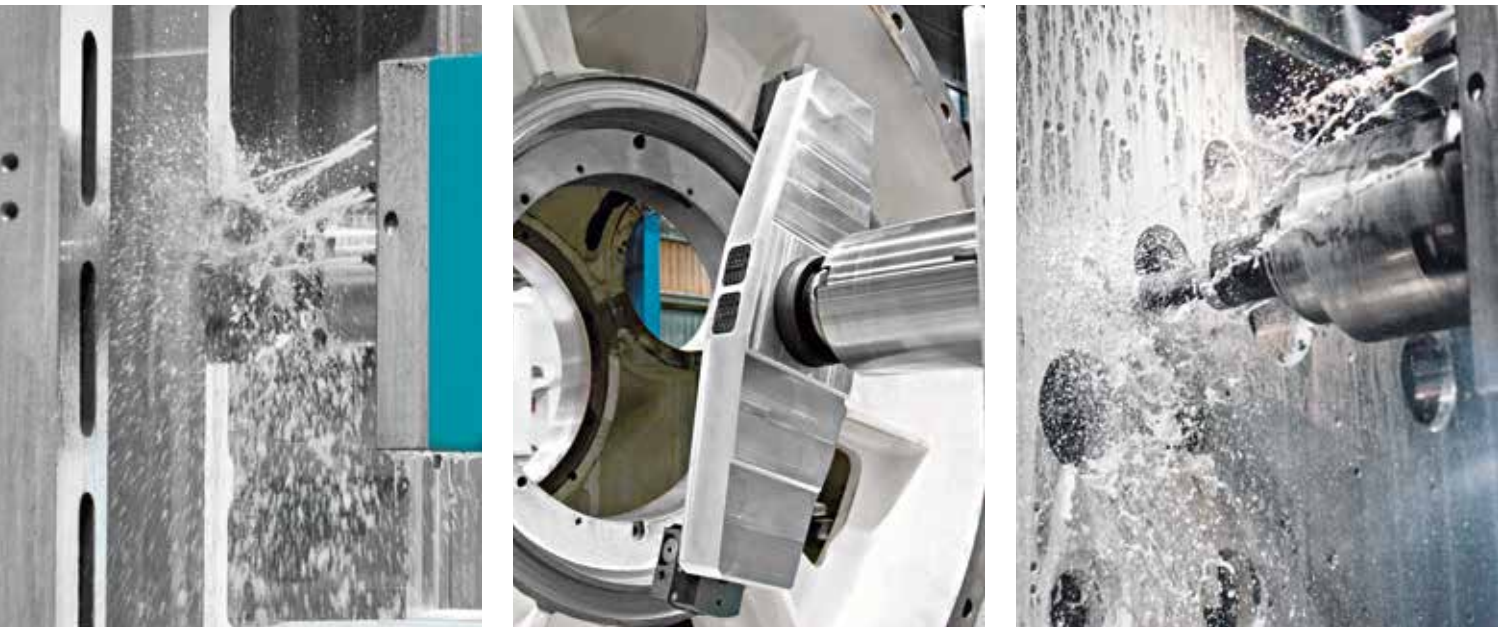




VERTIRAM

SPEEDMAT

BORING AND MILLING CENTERS



Speedmat technology is the perfect solution for all the most demanding machining applications requiring precise boring.

the Speedmat series consists of four base models with:
boring spindle diameter of 130 or 160 mm
pallet sizes from 1250 x 1250 mm up to 2000 x 2500 mm
with table load capacity from 10 to 25 t (metric ton)
and work piece swing diameter from 2000 to 4600 mm





2600/10
3000/10
3000/16
3800/16
3800/25
4600/25

WORKING AREA

X axis (table)	mm	2600 - 5000
Y axis (headstock)	mm	2000 - 3000
Z axis (column)	mm	2300 - 2700
W axis (boring spindle)	mm	800
Max. swing diameter	mm	2600 - 4600

TABLES

Table sizes	mm	1400 x 1600 - 2000 x 2000
Table capacity	t*	10 - 25
Pallet size	mm	1250 x 1250 - 2000 x 2500
Pallet capacity	t*	8 - 20

AXIS FEEDS

X axis rapid traverse/feed rate	m/min	20 / 25
Y,Z,W rapid traverse/feed rate	m/min	25
B axis feed rate/rapid traverse	rpm	3 / 4 / 5

HEADSTOCK

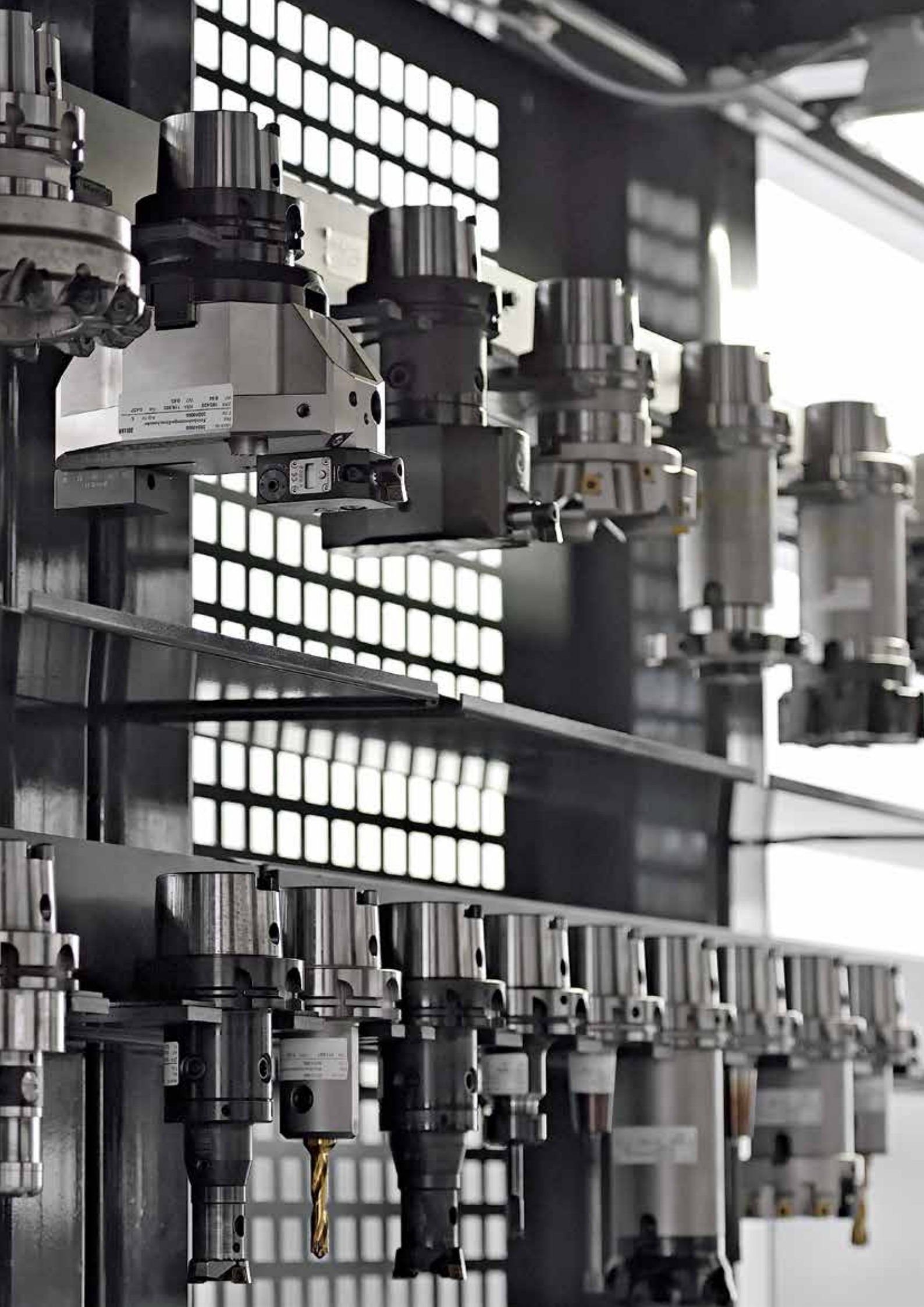
		W130	W160
Boring spindle diameter	mm	130	160
Max spindle speed	rpm	4000	3500
Spindle speed ranges		2	2
Max spindle power S1	kW	37	52
Max spindle torque S1	Nm	1530	2396

* t in metric ton





SPEEDMAT



HEAD ATTACHMENTS



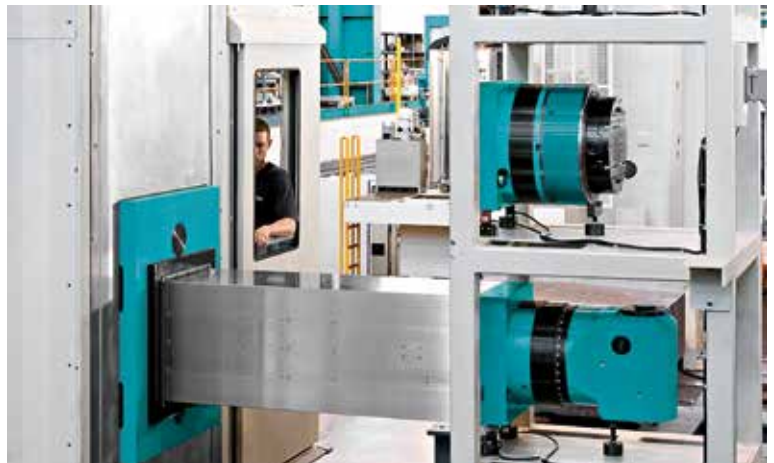
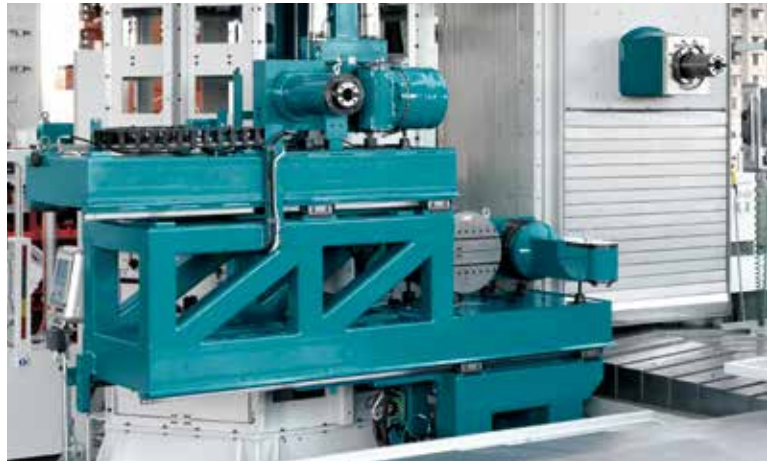
the versatility of PAMA machines is further enhanced by the wide range of attachments available, all capable of being automatically loaded / unloaded for maximum efficiency





TTL ME TW TU TS UT AL

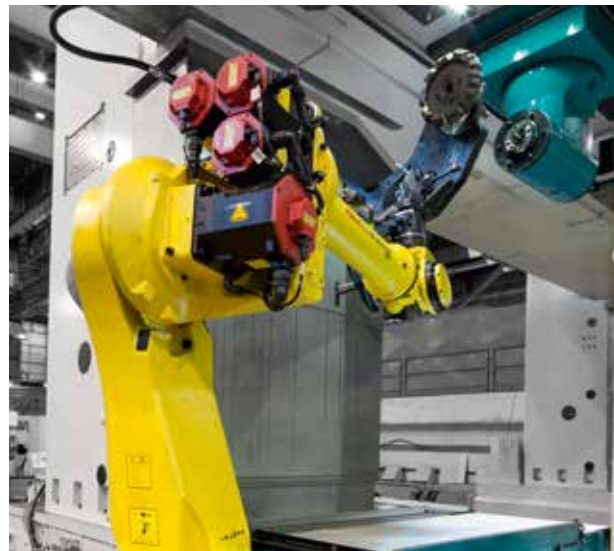
AUTOMATIC ATTACHMENT CHANGERS



TRUNNIONS AND STEADY RESTS

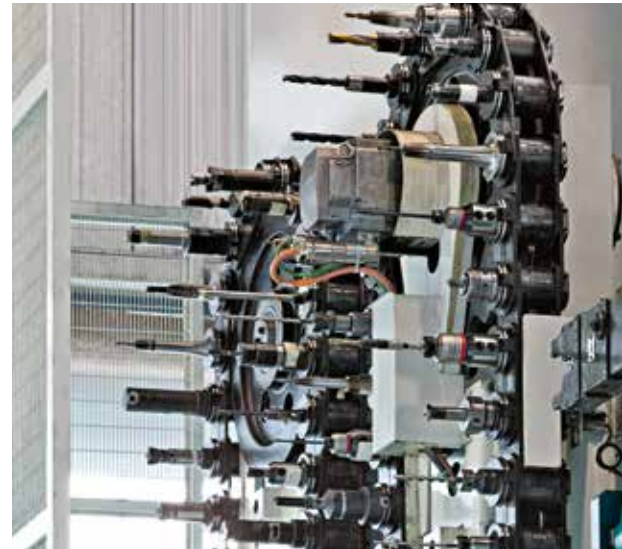
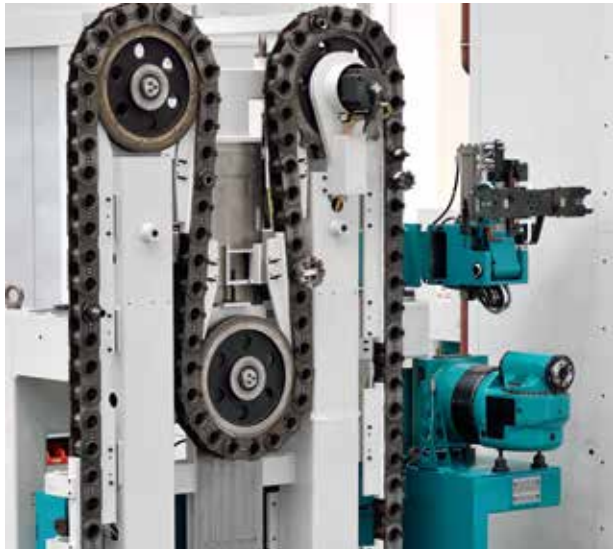


AUTOMATIC TOOL CHANGERS



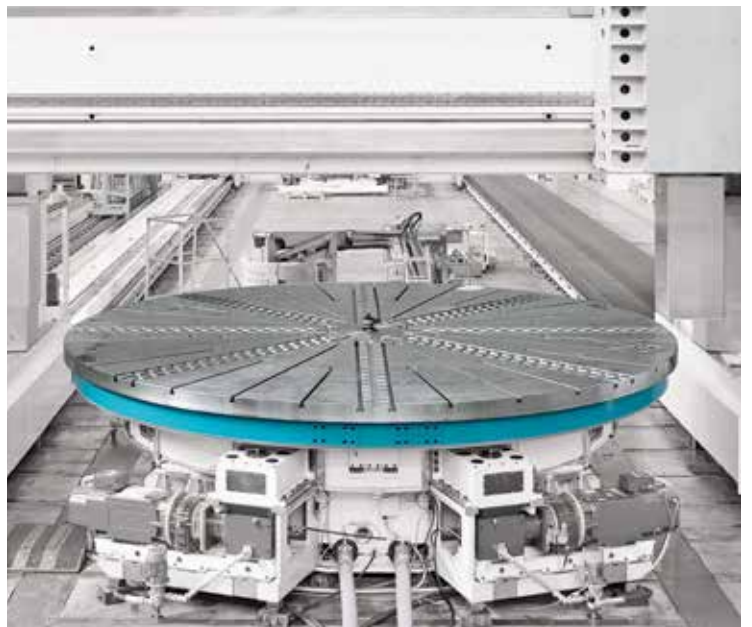
PAMA machines can be equipped with a variety of automatic tool change handling and tool storage solutions to fulfill any customer needs.

Other tooling options can include tool coding systems, tool length measurement and tool taper cleaning to further enhancement of the automation control.



TH TR TTH TRT

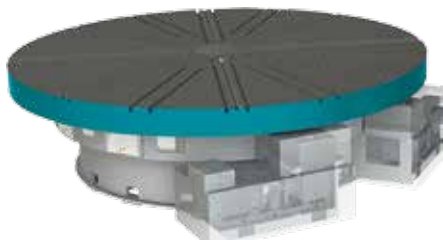
ROTO TRAVERSING
AND TURNING TABLES





ROTO TRAVERSING TABLES

		TR10 TR16 TR26 TR36	TH 50 TH 65 TH 80 TH 100 TH 120 TH 160 TH 250 TH 300 TH 600
loading capacity	t*	10 - 35	50 - 600
table surface - min.	mm	1250 x 1250 - 2000 x 2000	2000 x 2000 - 6000 x 6000
table surface - max.	mm	1600 x 1600 - 2500 x 2500	3000 x 3000 - 8000 x 12000
V axis longitudinal travel	mm	1500 - 4000	1500 - 8000
V axis guideways		roller	hydrostatics
B axis axial bearing		hydrostatic	hydrostatic

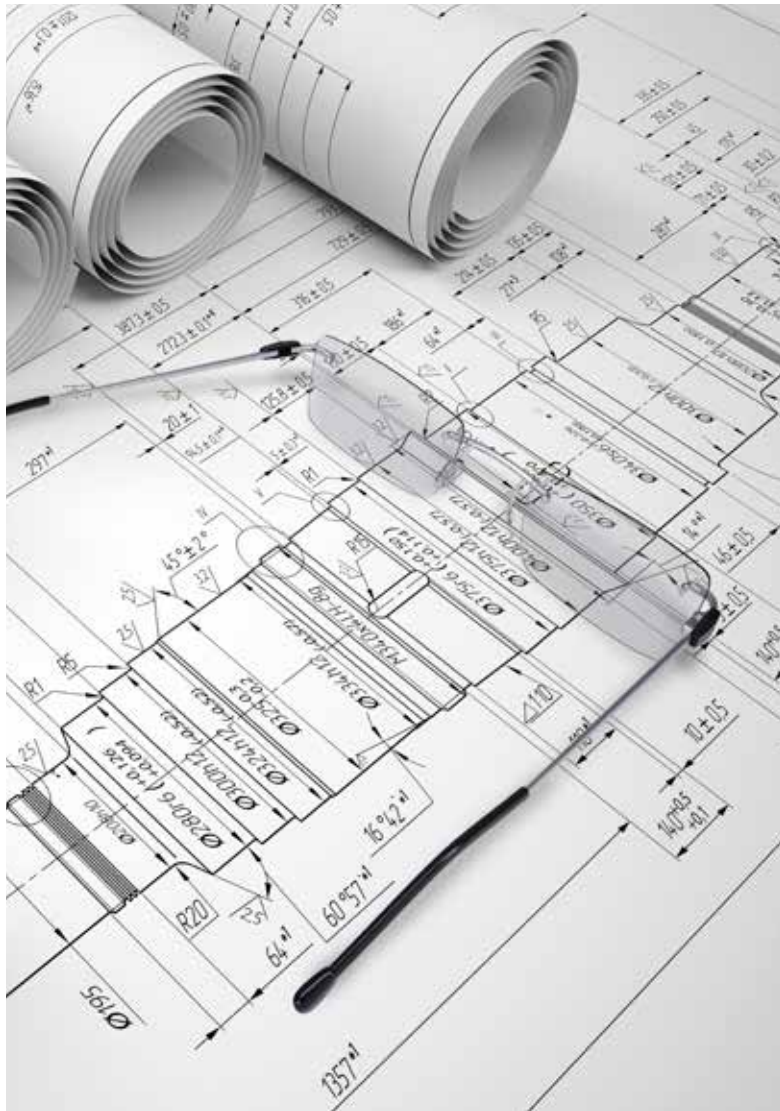
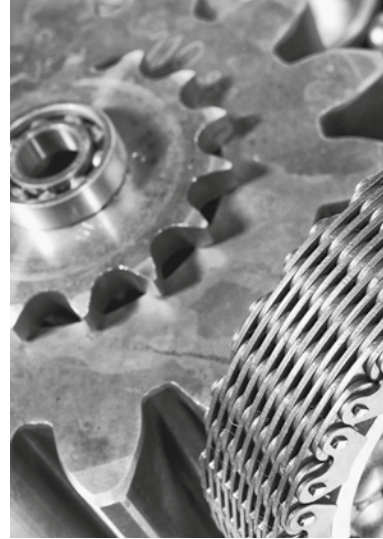
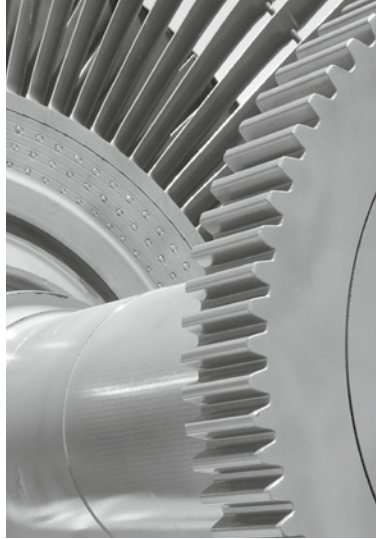


TURNING TABLES

		TRT 3 TRT 6 TRT 10 TRT 16 TRT 30	TTH 60 TTH 100 TTH 150 TTH 200 TTH 300
Table diameter	mm	1250 - 3200	4000 - 8000
Max loading capacity	t*	3 - 30	60 - 300
Turning power	kW	40 - 60/90	90/110 - 238
Max turning speed	rpm	120 - 320	45 - 100
Max turning torque	Nm	4000 - 32000/62500	90000 - 500000
Axial bearing		combined hydrostatic/roller	hydrostatic

* t in metric ton

TH TR TTH TRT



your solution

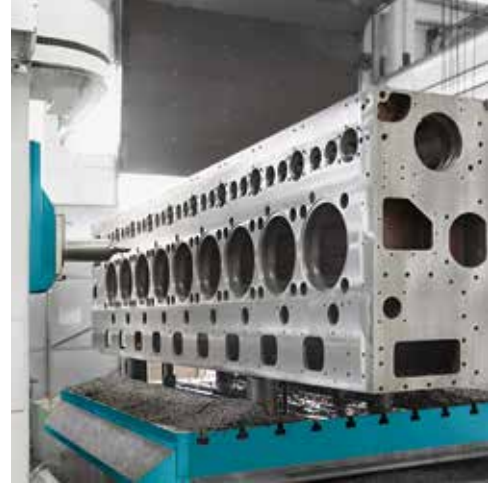


provider



APPLICATIONS









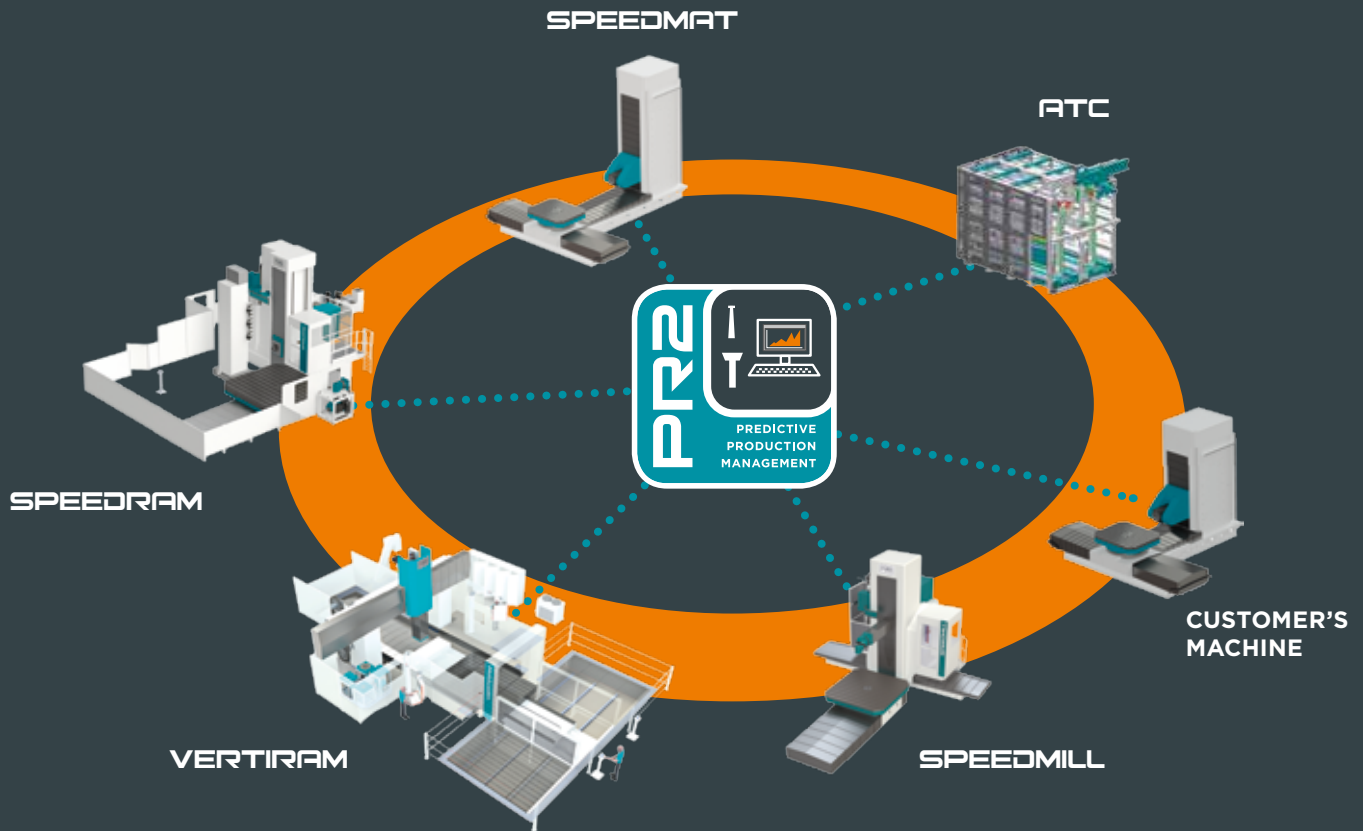
CUSTOMER SERVICE



**MAINTENANCE CONTRACTS,
HOT-LINE & REMOTE CONTROL,
PREVENTIVE CHECK-UP,
MACHINE CALIBRATION,
SPARE PARTS,
MACHINE RETROFITTING,
ASSEMBLY REPAIR AND SERVICE,
MACHINE TRANSFER**

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.

PR2 SUITE



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, MSM machine sensor monitoring and predictive maintenance, PR2 suite to optimize efficiency



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**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =**

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