TA | FA | SA

Performance Line

Born Reliable. Born Precise.

SORALUCE

As part of our premium solutions, the **Performance Line** offers the highest reliability and precision along with an outstanding flexibility. Three state-of-the-art families to boost **quality**, **competitiveness**, ease of use, ergonomics and safety.

Reliable
Precise
Flexible

TOP BENEFITS	RELIABILITY	PRECISION	PRODUCTIVITY	FLEXIBILITY
Design	■	■	■	■
Full cast iron structure	■	■	■	
Multiple configurations			■	■
Linear guiding & Damping Pads	■	■	■	
DAS+	■	■	■	
Driving system	■	■	■	

FA: Floor type milling machine
TA: Bed type milling machine
SA: Fixed table travelling column milling machine

Performance Line

Born Reliable.

Proven quality components

— High performance 7000 rpm heads.
— Direct drive inline motor.
— Robust software.

Born Precise.

Best geometric stability

— Water-based cooling.
— Real-time thermal compensation.

Born Flexible.

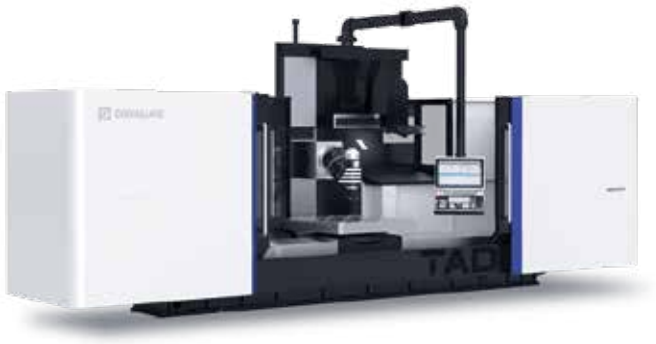
Solutions adapted to your needs

— Easy integration of milling & turning tables.
— New choice of milling heads with higher spindle speed.

Modularity made by you

One structure, three architectures, endless solutions.

3 models based on the same structure-concept, resulting on multiple solutions adapted to your machining requirements.



TA

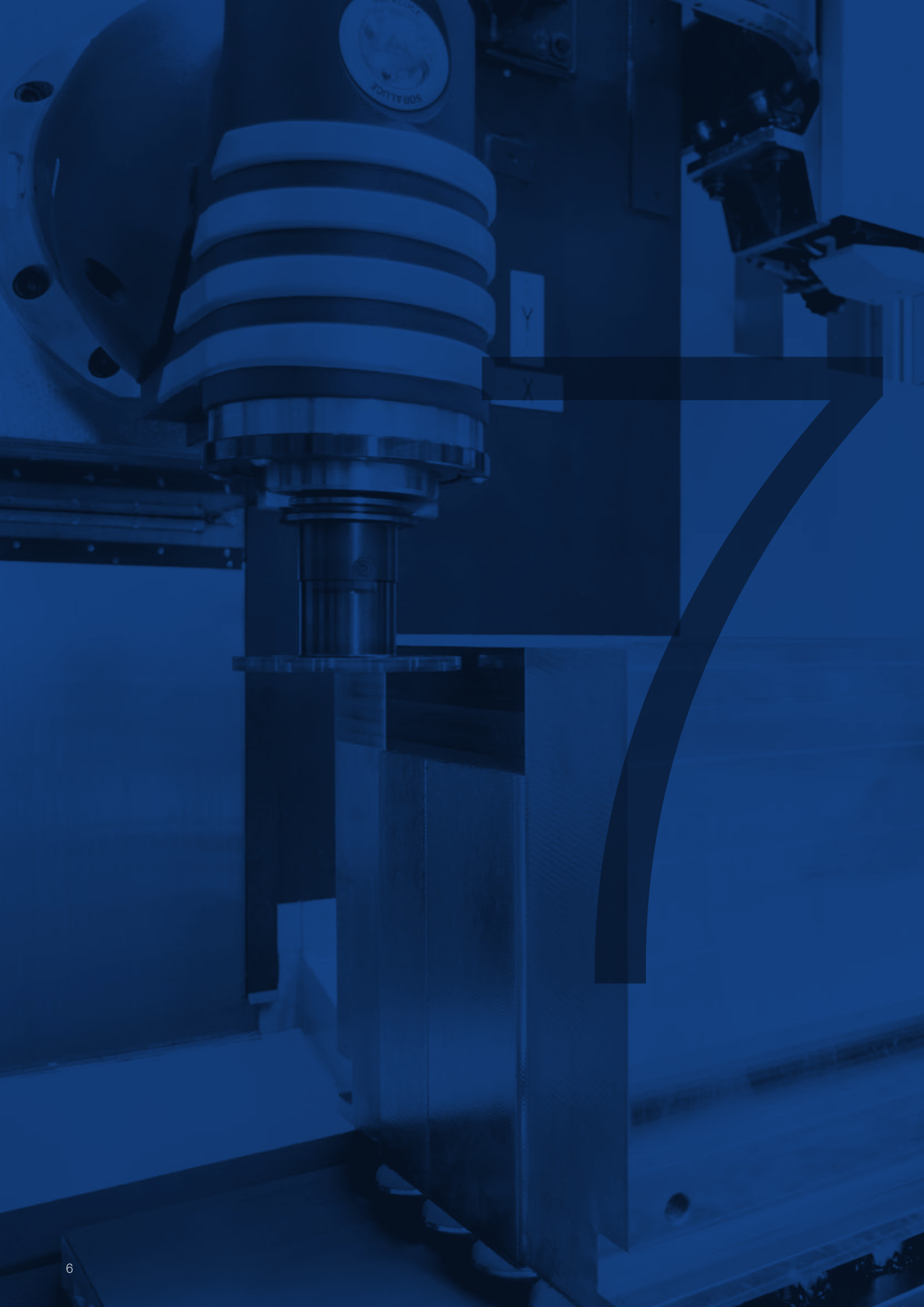
Bed type
milling machine

FA

Floor type
milling machine

SA

Fixed table travelling
column milling machine



Seven reasons to choose Performance Line

01.

A winning combination

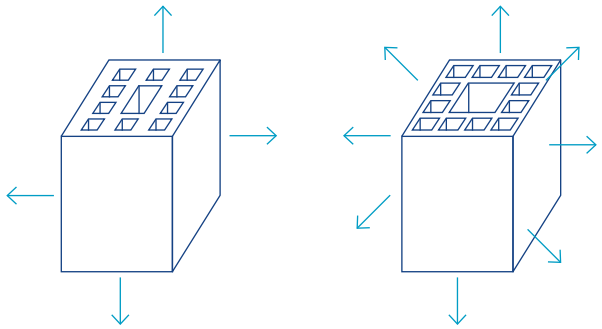
The most rigid and dynamic solution on the market

Full cast iron

Long term stability

Thermostability

— Expansion under control: quantity, speed, direction.
— Vibrations absorption, damping capacity.
— No need of electronic compensations.
— Best performance against temperature variations.
— Main structure: column, saddle, ram.



Cast iron

Fabricated steel

Linear guiding

Lifelong durability

— Soraluce is a pioneer in the use of linear guiding systems in large machines and heavyduty applications.
— Design proven since 1991.
— Lifelong durability > 10 years maintenance free at maximum performance.

TOP BENEFITS	Linear guiding	Prismatic guiding	Hydrostatic guiding
Precision	↑↑↑	→	↑↑
Dynamics	↑↑↑	↓	↑↑
Maintenance free	↑↑↑	↓	↓
Loading capacity	↑↑↑	↑↑	↑↑
Thermal stability	↑↑↑	→	→
Sustainability	↑↑↑	↑	↓↓↓
Foundation cost saving	↑↑↑	↑↑↑	↓↓

Full cast iron

— Accuracy
— Stiffness
— Productivity

Linear guiding

— Best precision
— High dynamics

DAS+

— No chatter, best stock removal rate
— Optimized process thanks to real time vibration surveillance

Damping pads

— Stability during machining process
— Vibration absorption

Damping pads

Great stability

— Own development of special damping pads combined with linear guides.
— Eliminates any vibration during machining processes.

DAS+

No chatter

Active damping system

— 100% cutting capacity through the complete workpiece volume.
— Reduced cycle time up to 45%.
— Increased productivity up to 300%.
— Improved surface quality.
— Extended tool life.
— Machine protected: long term precision as reduces machine's key components wear (ballscrew, guideway, gearbox, head), in both roughing and finishing operations.

How does DAS+ work?

DAS+ is a smart system which oversees the machining process and selects the best technological alternative to eliminate chatter:

— Active damping in the ram.
— Spindle speed tuning by automatic selection of optimum speed.
— Harmonic oscillation of spindle speed.

02.

Accuracy in the DNA

Increased effective stiffness

Design is conceived to obtain the best precision and rigidity. We keep maximum quality control of manufacturing and assembly until its final verification, using Smart 3D thermal compensation of the machine.

01 Stiffness forces triangle

— Compact saddle for best rigidity.

— The cutting forces are transferred directly from the cross axis roller bearings to the column, minimizing the deformation of the saddle.

— Special Soraluce saddle design with minimum distance between the ram and the column, providing excellent stability, precision and maximum cutting capacity.

— Ram saddle fully guided.

02 Torsion and deformation under control

— Provided by the best guiding system in the market.

— Straightness ensured through a perfect parallelism between guides supporting surfaces.

— Lateral ram torsion constrained by special ribbed design cast iron ram, all sides being solid.

— Full control over ram drop and flexion.

Torsion movement

03 Minimum distance

— Short distance from the column to the tool, thanks to the arrangement of the ballscrew and counterweight system.

— Minimum machine overhang.

04 No compensation

— Ram drop under control without electronic compensation.

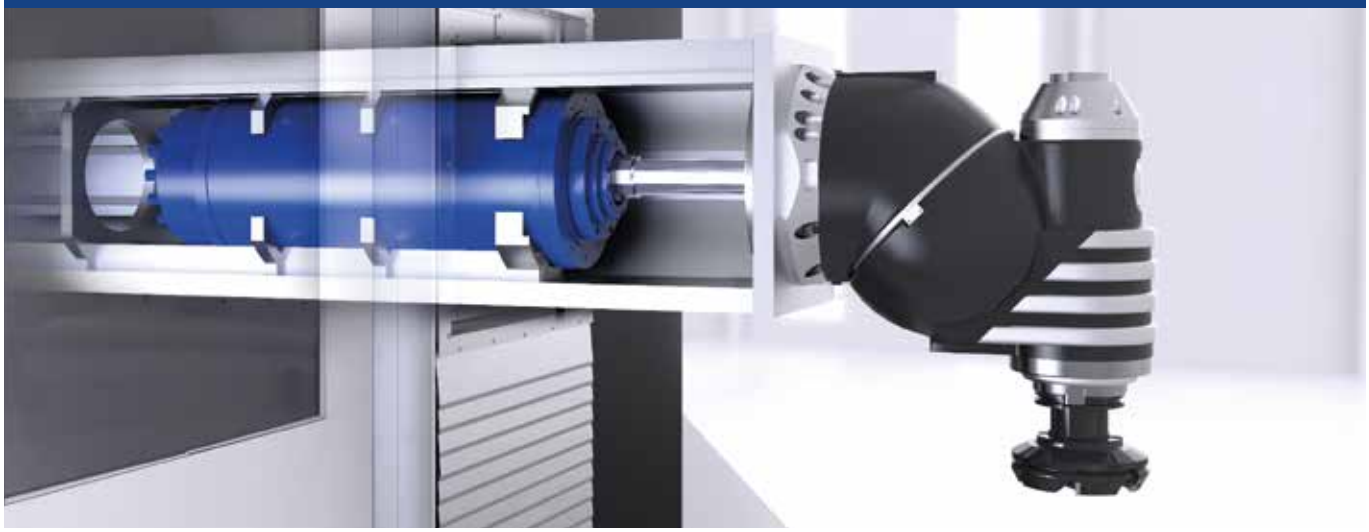
Inline spindle motor

— High efficiency.
— Minimum noise level.
— High performance thanks to optimized power-torque curve.
— Full power at low rpm.
— Short distance between main motor and head transmission.

Compact-design transmission shaft.

Placed at the front of the ram close to the head.

Up to
32 kW | 43 HP



Best reliability

No belts, no reducers, neither long transmission bars.

Great precision

Best thermal stability provided by cooled inline motor.

Enhanced rigidity

Frontal assembly, all sides of the ram are solid.

Ease of maintenance

Quick exchange of the main spindle motor.

03.

Smart Technology

ACCURA HEADS

Automatic re-setting of head kinematics to increase accuracy. It compensates the head articulation positioning deviation for one particular position of the head.

+ ACCURACY

DAS+

Eliminates any chatter that may arise during the machining process.

Machine protected: long term precision as reduces machine's key components wear.

+ PRODUCTIVITY
Patent no. EP 3017911

DWS

Eliminates chatter originated on either fixtures or workpieces.

+ PRODUCTIVITY
+ QUALITY

ENERGY SAVE

Energy save Package

+30% save
on energy consumption

You decide how and when the different components of the machine are switched on / off!

— Spindle
— Axes
— Machine power
— Control
— Lightning
— Air supply
— Hydraulic parts
— Warm-up program
— Calendar planning

ADAPTIVE CONTROL

Smart and automatic setting of defined cutting parameters according to actual machine power consumption.

30% time saved
in roughing process!

+ PRODUCTIVITY

SORALUCE DIGITAL by SORALUCE

Cloud based software suite that enables seamless production information flow and maximizes machine performance.

+ PRODUCTIVITY

04.

Soraluce heads

More than
300
head models

Precision &
High performance

The most advanced head manufacturing center

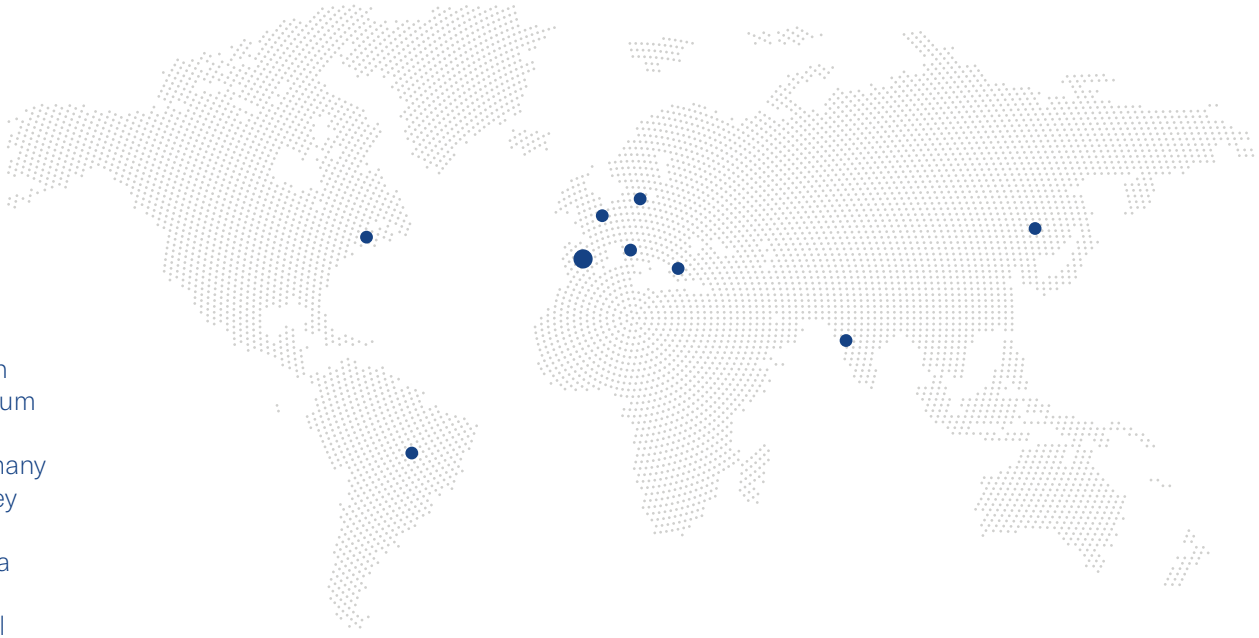
In-house made

Design — Manufacturing — Machining — Assembly — Running-in — Verification

Head service hubs

— Your trusted service partner.
— Know-how directly from the manufacturer.
— Maintenance & repair.
— Spare head service available.

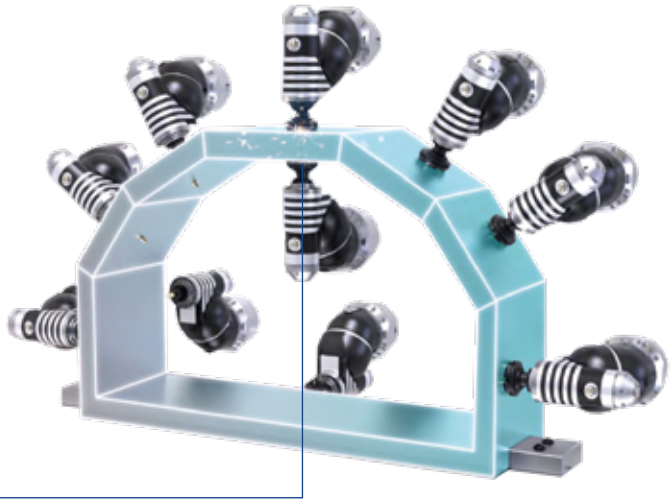
150
Spare heads available



Spain
Belgium
Italy
Germany
Turkey
India
China
USA
Brazil

High Performance Heads

— Up to 32 kW | 43 HP (S1-100%).
— High speed up to 6000 / 7000 rpm.
— Automatic mechanical heads.
— Optimum accessibility thanks to reduced size.
— Robust performance.
— Highest reliability.
— Water cooling heads for maximum thermal stability.
— Air-oil lubricated heads, assuring perfect lubrication with minimum oil quantity and reduced heat generation.



The power of indexing

Thousands of possibilities

Universal head

32 kW | 43 HP
2.5º x 2.5º / 1º x 2.5º / 0.001º x 0.001º
6000 / 7000 rpm

Multitasking head

32 kW | 43 HP
2.5º x 2.5º / 0.001º x 0.001º
5000 / 6000 / 7000 rpm

Orthogonal head

32 kW | 43 HP
1º x 1º
6000 / 7000 rpm

Orthogonal Head

Compact design, conceived for machines with inline motor.

— Inverse machining capacity: up to -45º.
— No additional set-ups.
— Improved cycle time.
— Better finishing quality.
— Minimum manipulation.
— Full advantage of machine travel.
— Same distance from spinde to table during lateral and front milling.


High dynamics.
Maintenance friendly: wear parts can be easily replaced on site.
Precise machining results due to high positioning accuracy.
Robust design.
Air-oil lubricated gears; extended operating hours.
High power and torque allowing maximum cutting capacity.
Customization: more than 300 head models at your disposal.
Water-cooled for best thermal stability.

05.

Multitasking

All in one: milling, turning, grinding and gear cutting in a single machine.

— Improved machining accuracy and overall part quality.
— Significant reduction in production lead time.
— Cost benefits: fewer fixtures, tools and labor requirements.
— Single machine investment for multiple processes.
— Optimized use of floor space.
— Machining of several morphologies, sizes and complexities.
— Improved precision due to minimum workpiece set-ups.
— Fewer operators involved in the machining process.

Milling & Turning Table		TAM	SAM
Table area	mm | in	Ø 1250 | 49”	Ø 1000 | 39”
Swing (max)	mm | in	Ø 2100 | 82”	Ø 1500 | 59”
Table capacity	kg | lbs	5000 | 11020 (milling) 2000 | 4405 (turning)	4000 | 8820 (milling) 2000 | 4405 (turning)
Turning spindle speed	rpm	400	
Turning spindle power	kW | HP	65 | 87	60 | 80

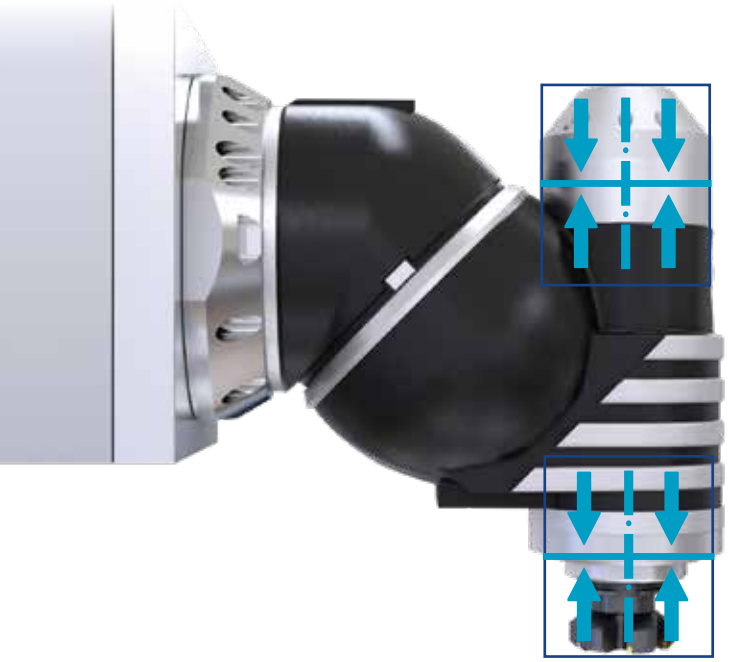
*Floor type FA can be adapted to multitasking.

High Torque Multitasking Head

Head and spindle orientation at any angle.

— Standard tools, no adapter needed.
— Automatic tool changing system.
— Standard range, availability of spare parts.
— Ease of use thanks to specific positioning cycle.

— 32 kW | 43 HP
— Up to 611 Nm | 450 lbf·ft
— 5000 / 6000 / 7000 rpm
— 2.5º x 2.5º / 0.001º x 0.001º



Mechanical transmission head with spindle clamping system: includes a clutch to clamp the spindle at any angle during turning operation.

The clamping system prevents bearing damage thanks to an internal retractable support ring.

Grinding capability

— Table mounted dressing unit.
— Wheel holder with integrated nozzle.
— Balancing unit.
— Full splash guarding.
— Fume extraction.
— Specific cooling system.
— Double protection for guideways and telescopics.
— Grinding cycles and functionalities by Soraluce Software Factory.

06.

Soraluce Software Factory

Smart HMI, Intelligent interface.

— Ergonomic and intuitive workspace.
— Soraluce's APPS available.
— Parallel work during NC program running.
— Minimized downtimes.
— Real time machine status.
— Energy consumption monitoring.
— Simplification of repetitive tasks.

Home Made

01

Modular and robust; configurable according to customer's requirements.

02

Own methodology; complete integration, approved in Soraluce.

03

Development of specific custom cycles.

04

Capability for automated system, flexibles lines, centralized tool magazines.

Softkeys & Customized masks

Manufacturing cycles

Dynamic collision monitoring

Advanced tool management

07.

Digital services

Advanced Digital Services, based on the Soraluce Data System comprehensive monitoring platform:

Reportya

Regular customized reports.

FactoryConnect

Machine park monitoring and integrations with corporate management systems (ERP, MES, etc.).

Autocheck

Self-Assessment using Fingerprint benchmark parameters.

JobManager

Traceablity of manufacturing orders, programs, tools and process incidences.

Emaintenance

Digital management of maintenance tasks.

OEEMonitor

Availability & Performance & Quality parameters calculation.


Z
X
C

Meet the machines

TA

Bed type milling machine

SORALUCE TA is much more than a machining center providing higher working volume, power, torque and cutting capacity.

Designed to offer optimum rigidity and mechanical stability, with the best ergonomic, accessibility and safety to operators.

Choose the configuration of your TA

TA

Standard table

TAD | TAM

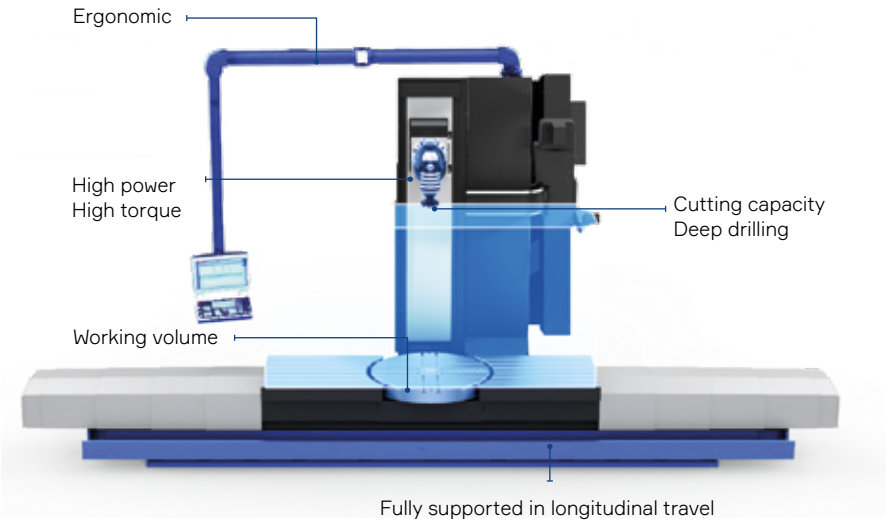
Rotary milling | turning table

TAD | TAM

Integrated rotary milling | turning table

Much more than a machining center

	Soraluce milling machine	Machining center
Working volume	↑	↓
High power	↑	↓
High torque	↑	↓
Cutting capacity	↑	↓
Deep drilling	↑	↓
Ergonomic	↑	↓
Compact	↑	↓



Best ergonomics

Standard peripherical or complete splash guarding:

— Easy front & rear access to work area.
— 2 sliding frontal doors.
— Extra back door.
— Sides opening for long workpiece loading / unloading tasks.
— Extra thickness for long-term resistance.
— Glass windows for long-term clear vision.
— Fumes extraction systems (as option).
— Automatic door opening (as option).
— CCTV camera (as option).
— Extra LED lighting (as option).

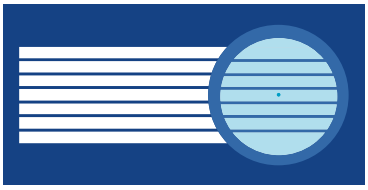
Choose the configuration of your table TAD | TAM

Swing (max.) Ø 2100 mm | 82”

Rotary table for milling (squared)

Rotary milling | turning table (round)

Integrated rotary milling | turning table (located in the center of the table)



Integrated rotary milling | turning table (located in the right lateral side of the table)

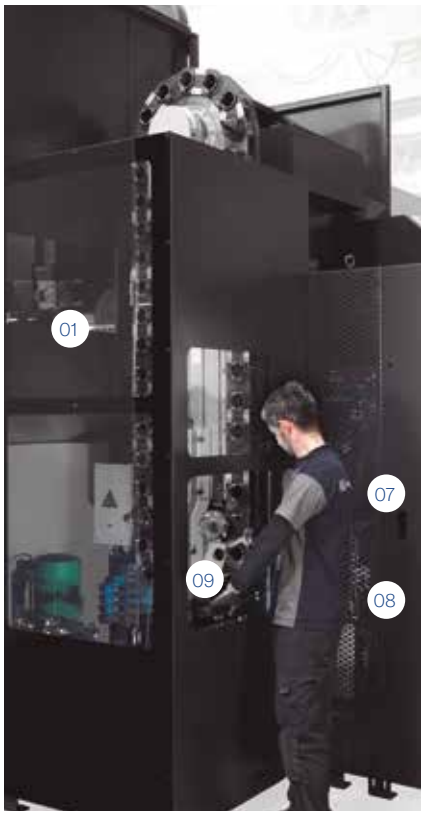
TAD Integrated B-axis rotary table

4 or 5 axes continuous machining

— Universal automatic indexing head, 4 axes (standard).
— Vertical high-speed head, 4 axes.
— Vertical high speed continuous positioning head (torque motor, C-axis), 5 axes.
— Universal automatic indexing head with electrospindle attachment, 4 + 2 axes.

— Five-sided machining.
— Ease of use with specific rotary table cycles.
— High accuracy thanks to the table center measuring and correction.
— Permanent table rotation compensation.

Ergonomics & Easy maintenance



01

Tool loading/unloading with machine in operation.

02

Accessible and spacious work area.

03

Working area perfectly lightened.

04

Flexible control panel arm: CNC control at the front or rear-side of the machine.

05

Protection of the critical areas of the equipment.

06

Wide glass surfaces.

07

Visible gauges and levels.

08

Accessible intervention areas to ease maintenance tasks.

09

Sliding doors and windows to prevent dismantling of panels.

Features TA

Technical characteristics

Common features TA | TAD | TAM			
Longitudinal traverse “X” axis	mm | in	2500 | 98”	3500 | 138”
Vertical traverse “Z” axis	mm | in	1500 | 59”	
Cross traverse “Y” axis	mm | in	1200 | 47”	
Spindle power	kW | HP	32 kW | 43 HP (S1)	
Spindle speed range	rpm	6000 / 7000	
Rapid traverse	mm/min | in/min	Y/Z: 35000 I 1378 | X: 30000 I 1181	
Tool magazine	No. Tools	40 / 60	
		TA25	**TA35**
Table area	mm | in	2700 x 1000 I 106” x 39”	3700 x 1000 I 145” x 39”
Table capacity	kg | lbs	6700 | 14770	9250 | 20390
		TAD25	**TAD35**
Table area	mm | in	1000 x 1000 / 1250 x 1250 / 1500 x 1500 | 39” x 39” / 49” x 49” / 59” x 59”	Ø 1000 / Ø 1250 | 3500 x 1050 | Ø 39”/ Ø 49” | 138” x 41”
Swing (max)	mm | in	2100 | 82”	
Table capacity	kg | lbs	7000 | 15430	9250 | 20390
		TAM25	**TAM35**
Table area	mm | in	Ø 1250 | 49”	Ø 1250 | Ø 49” (turning) | 3500 x 1050 | 138” x 41” (milling)
Swing (max)	mm | in	2100 | 82”	
Table capacity	kg | lbs	5000 | 11020 (milling) | 2000 | 4010 (turning)	
Turning spindle speed	rpm	400	
Turning spindle power	kW | HP	60 | 80	

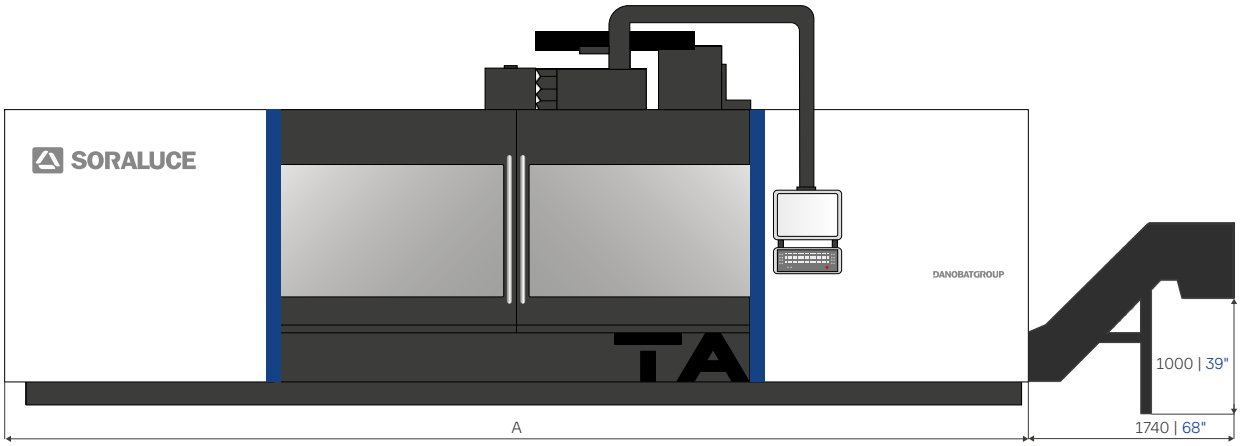
Technology at your disposal

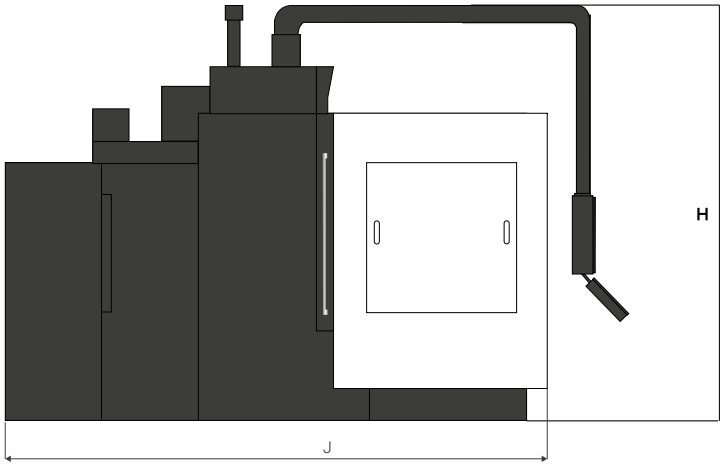
■ Basic machine ■ Optional

	TA	TAD	TAM
Full cast iron	■	■	■
Linear guiding & Damping Pads	■	■	■
Inline spindle motor	■	■	■
DAS+	■	■	■
Multitasking	-	-	■
Complete splash guarding	■	■	■
Soraluce Smart HMI	■	■	■

Set & Go

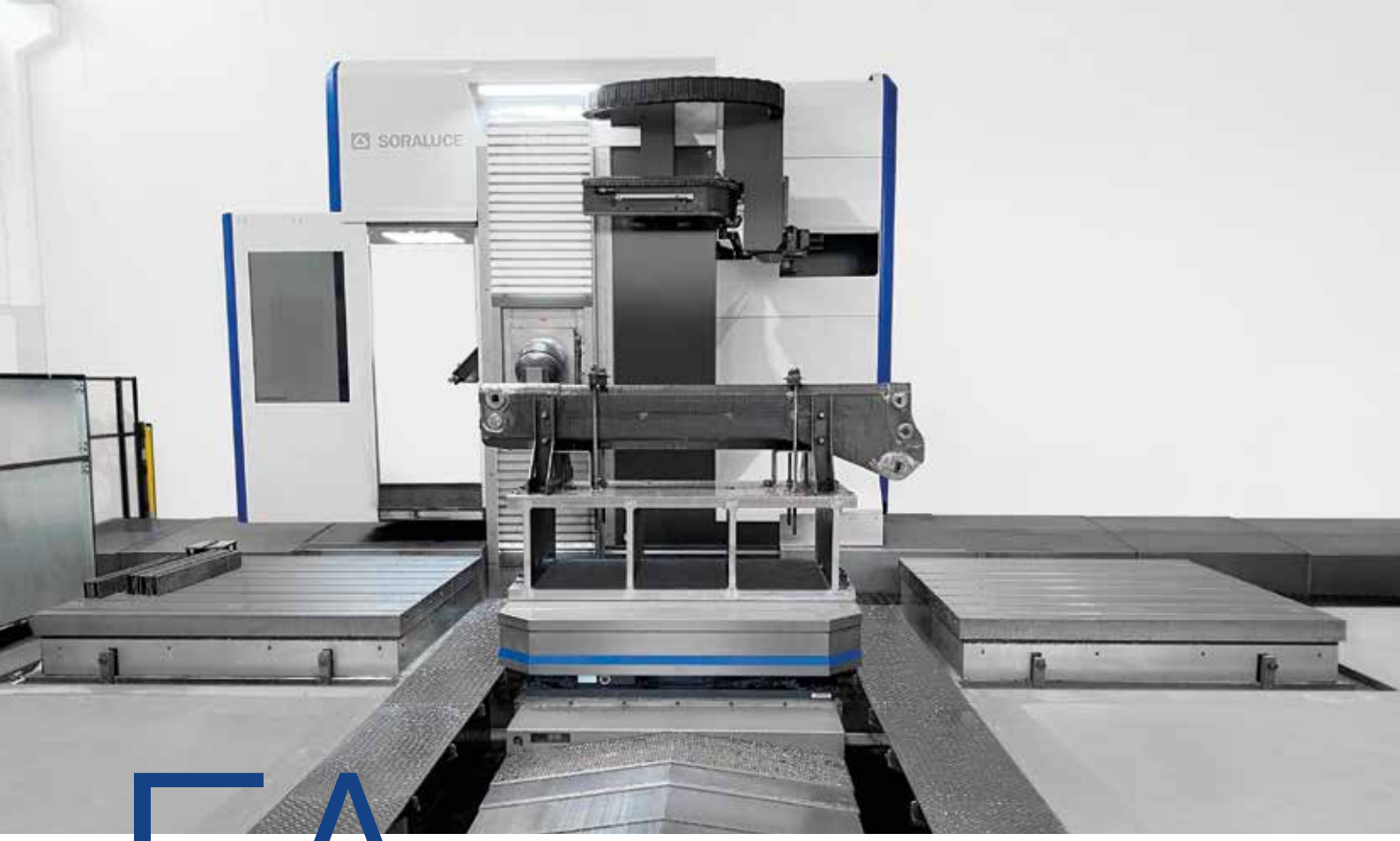
Less footprint in the workshop. Less expensive foundation. Easy transport & installation.





TA Layout	X	Z	Y	A	H	J
TA25	2500 | 98"	1500 | 59"	1200 | 47"	6760 | 266"	3720 | 146"	4600 | 181"
TA35	3500 | 138"			8760 | 345"		
TAD25	2500 | 98"			5960 | 234"	3790 | 149"	5200 | 205"
TAD35	3500 | 138"			8760 | 345"		
TAM25	2500 | 98"			5960 | 234"		
TAM35	3500 | 138"			8760 | 345"		

Dimensions in mm | in.



FA

Floor type milling machine

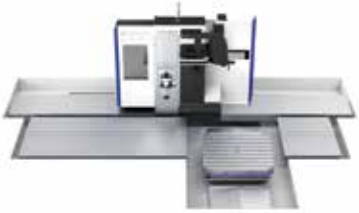
SORALUCE FA offers great versatility with multiple configurations available, customizing working area to customer's needs: boosting productivity rates.

Pendulum working

Choose the configuration of your FA

Basic configuration

Floor type



Flexible configuration

Minimum workplace set-ups

Multitasking configuration

Milling and turning workspaces

Monoblock structure

+ Rigidity:

— Column and longitudinal carriage in one piece for maximum stability.
— The best behavior against torsion and bending.

Column size 3 times larger than box-in-box concept.

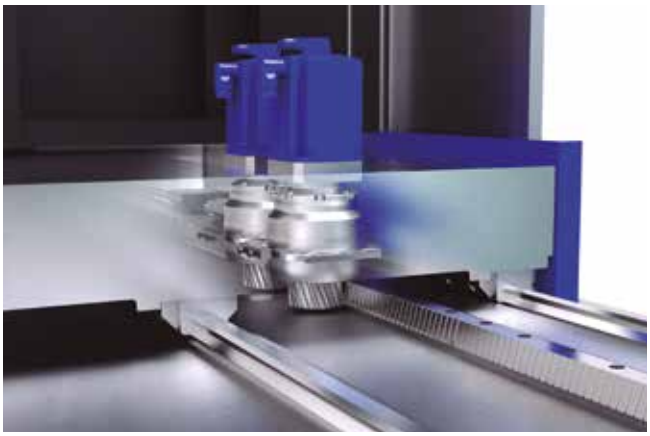
Driving system

Reliable
Double rack and pinion system in the longitudinal axis. The best existing solution for long travel axes.

Dynamic
Up to 35,000 mm/min I 1378 in/min.

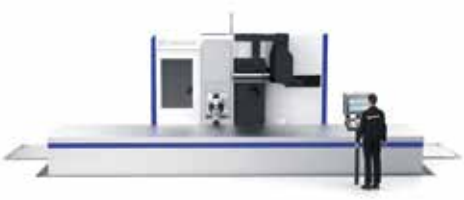
Long term accuracy
— No backlash, no wear.
— Highest surface quality.

Maintenance free
Automatic lubrication of the rack and pinion system.



In & Out
Portable rotary table

Duplex machine
Machining with two simultaneous spindles



Ergonomic
Table at operator's height

Features FA

Technical characteristics

		FA30	FA40	FA50	FA60	FA70	FAXX
Longitudinal traverse “X” axis	mm | in	3000 | 118”	4000 | 157”	5000 | 196”	6000 | 236”	7000 | 275”	as per request
Vertical traverse “Y” axis	mm | in	1500 | 59”					
Cross traverse “Z” axis	mm | in	1200 | 47”					
Spindle power	kW | HP	32 kW | 43 HP (S1)					
Spindle speed range	rpm	6000 / 7000					
Rapid traverse	mm/min | in/min	35000 I 1378					
Tool magazine	No. Tools	40 / 60					

Technology at your disposal

■ Basic machine ■ Optional

	FA
Full cast iron	■
Linear guiding & Damping Pads	■
Inline spindle motor	■
Monoblock	■
DAS+	■
Multitasking	■
Soraluce Smart HMI	■

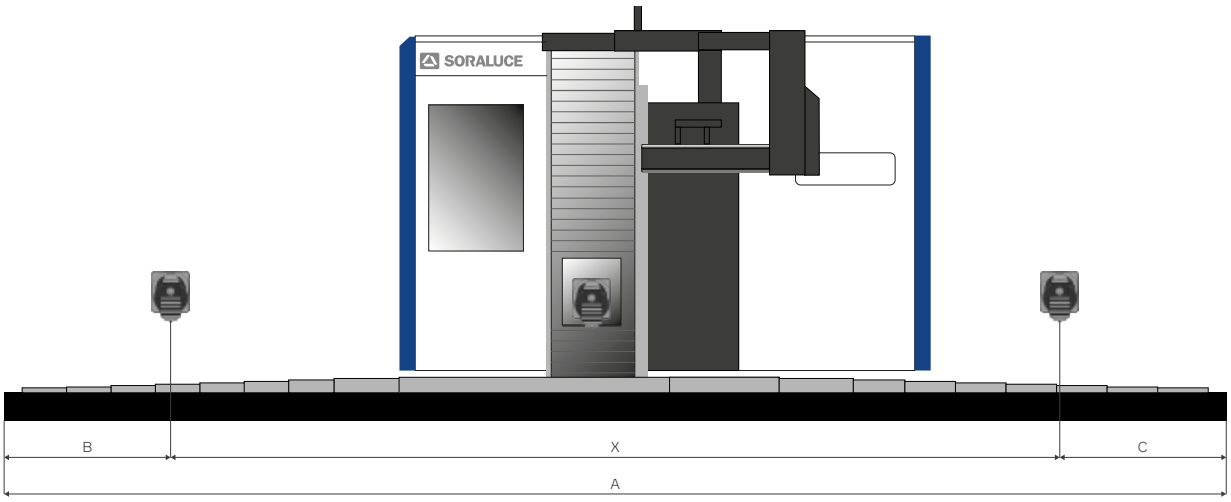
With or without pit

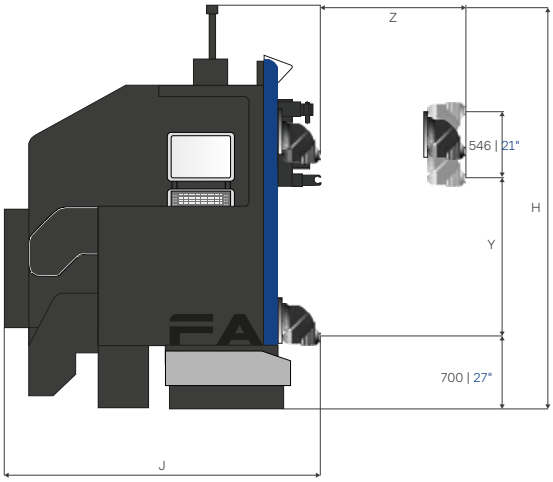
Ground level

Pit

Set & Go

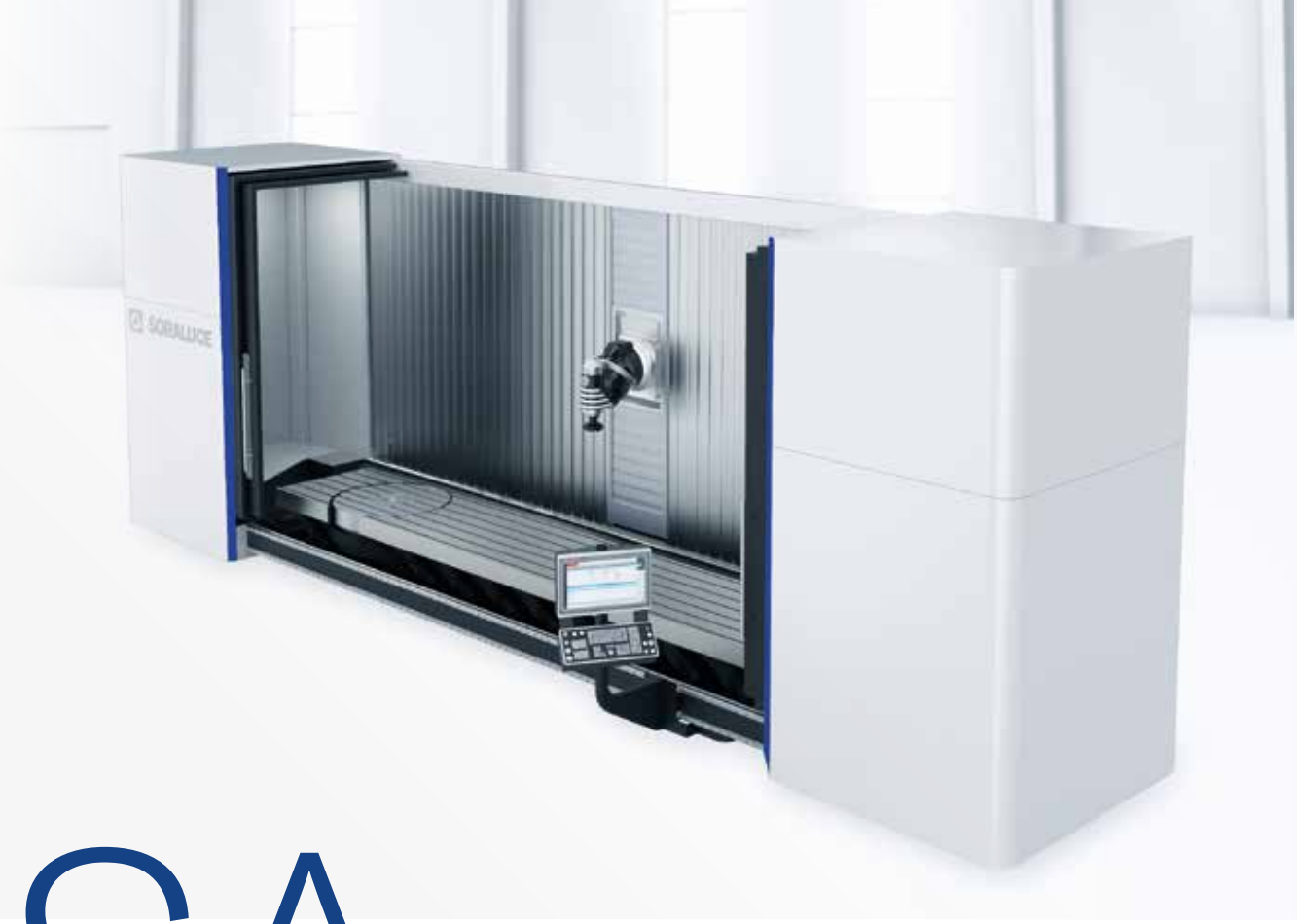
Less footprint in the workshop. Less expensive foundation. Easy transport & installation.





FA Layout	X	Y	Z	A	B	C	H	J
FA30	3000 | 118"	1500 | 59"	1200 | 47"	7480 | 294"	1590 | 62"	2890 | 114"	3790 | 149"	3120 | 123"
FA40	4000 | 157"			8480 | 334"				
FA50	5000 | 196"			9480 | 373"				
FA60	6000 | 236"			10480 | 412"				
FA70	7000 | 275"			11780 | 464"	1730 | 68"	33040 | 119"		
FA80	8000 | 315"			13080 | 515"	1880 | 74"	3390 | 133"		
FA100	10000 | 394"			15480 | 609"	2090 | 82"			
FA120	12000 | 472"			18000 | 708"	2350 | 92"	3650 | 143"		
FA140	14000 | 551"			20000 | 787"				

Dimensions in mm | in.



SA

Fixed table travelling column machines

SORALUCE SA has a unique machine architecture for the best stability. With a compact design, it is a machining center with mechanical head, offering high dynamics in all axes and great ergonomics, accessibility and safety to operators.

Pendulum working

Choose the configuration of your SA

SA

Fixed table

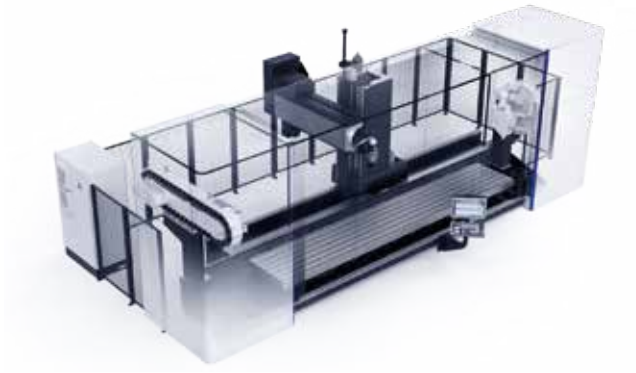
SAD | SAM

Fixed table and integrated milling or milling & turning table

SAD | SAM

Fixed table and integrated two milling or milling & turning tables

Monoblock structure



+ Rigidity:

— Column and longitudinal carriage in one piece for maximum stability.
— The best behavior against torsion and bending.

Column size 3 times larger than box-in-box concept.

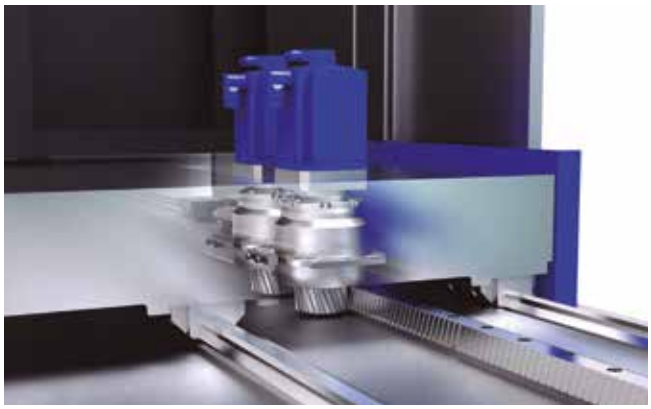
Driving system

Reliable
Double rack and pinion system in the longitudinal axis. The best existing solution for long travel axes.

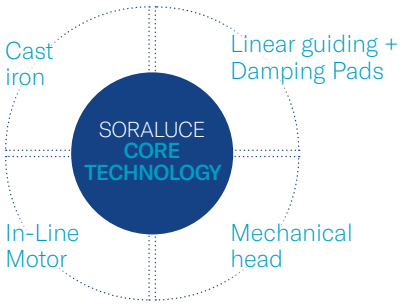
Dynamic
Up to 35,000 mm/min | 1378 in/min

Long term accuracy
— No backlash, no wear.
— Highest surface quality.

Maintenance free
Automatic lubrication of the rack and pinion system.



Much more than a machining center



TOP BENEFITS	Soraluce technology	Vertical Spindles	Prismatic guiding	Gearbox	Welded structure
Precision	↑↑↑	↑↑↑	→	↑	→
Maintenance free	↑↑↑	↑	↓	↓	
Productivity (less set-up)	↑↑↑	↓			
Thermal stability	↑↑↑	↑↑↑	→	↓	↑
Sustainable	↑↑↑	↑↑↑	→	↑	
Cutting capacity	↑↑↑	↓	↑↑	↑↑↑	↑
Damping capacity	↑↑↑		↑		↓

Best ergonomics

— Complete splash guarding.
— Complete front workpiece access.
— Workpiece at operator's height.
— CNC on a sliding guide in front of the machine.
— Integrated swarf collection.
— Pendulum working.

Ground level installation

Features SA

Technical characteristics

Common features	SA | SAD | SAM			
Longitudinal traverse “X” axis	mm | in	4000 | 157”	5000 | 197”	6000 | 236”
Vertical traverse “Z” axis	mm | in	1500 | 59”		
Cross traverse “Y” axis	mm | in	1200 | 47”		
Table area	mm | in	4000 x 1000 | 157” x 39”	5000 x 1000 | 197 x 39”	6000 x 1000 | 236” x 39”
Spindle power	kW | HP	32 kW | 43 HP (S1)		
Spindle speed range	rpm	6000 / 7000		
Rapid traverse	mm/min | in/min	35000 I 1378		
Tool magazine	No. Tools	40 / 40+24		
		SA40	**SA50**	**SA60**
Table capacity	kg | lbs	8000 | 17640	10000 | 22050	12000 | 26460
		SAD40	**SAD50**	**SAD60**
Integrated rotary table	mm | in	Ø 1000 | 39”		
Swing (max)	mm | in	1500 | 59”		
Table capacity	kg | lbs	4000 | 8820		
		SAM40	**SAM50**	**SAM60**
Integrated turning table	mm | in	Ø 1000 | 39”		
Swing (max)	mm | in	1500 | 59”		
Table capacity	kg | lbs	4000 | 8820 (milling) | 2000 | 4410 (turning)		
Turning spindle speed	rpm	400		
Turning spindle power	kW | HP	60 | 80		

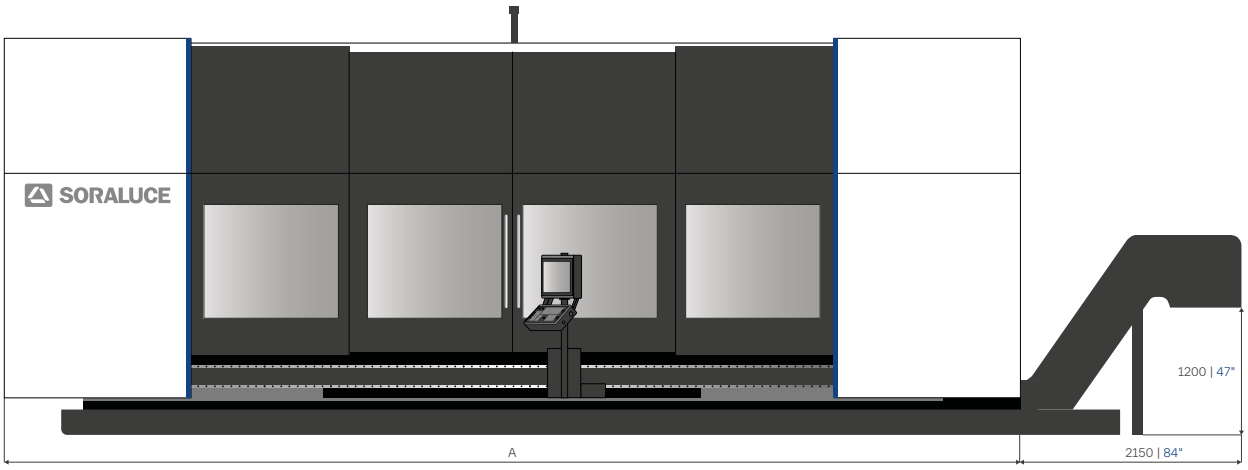
Technology at your disposal

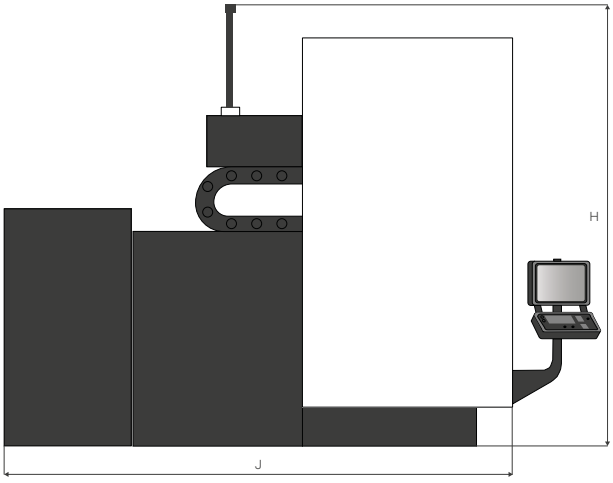
■ Basic machine ■ Optional

	SA	SAD	SAM
Cast iron	■	■	■
Linear guiding & Damping Pads	■	■	■
Inline spindle motor	■	■	■
Monoblock	■	■	■
DAS+	■	■	■
Multitasking	-	-	■
Complete splash guarding	■	■	■
Soraluce Smart HMI	■	■	■

Set & Go

Less footprint in the workshop. Less expensive foundation. Easy transport & installation.





SA Layout	X	Z	Y	A	H	J
SA40	4000 | 157"	1500 | 59"	1200 | 47"	7800 | 307"	4150 | 163"	4770 | 188"
SA50	5000 | 197"			8800 | 346"		
SA60	6000 | 236"			9800 | 385"		
SAD40	4000 | 157"			7800 | 307"		
SAD50	5000 | 197"			8800 | 346"		
SAD60	6000 | 236"			9800 | 385"		
SAM40	4000 | 157"			7800 | 307"		5370 | 211"
SAM50	5000 | 197			8800 | 346"		
SAM60	6000 | 236"			9800 | 385"		

Dimensions in mm | in.

Applications

FA
Capital Goods

FA
Capital Goods

TAD
Aerospace / Landing gear

FA
Industrial vehicles / Booms and frames

TAM
Engine

TAD
Molds

FA
Machine tools

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Soraluce
Osintxu Auzoa - E-20570 Bergara (Gipuzkoa) - Spain
+34 943 76 90 76
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