

EFA NRETTOE

*Vertical and Universal spindle
rotary table Grinding Machines
TRD AND TRCN SERIES*



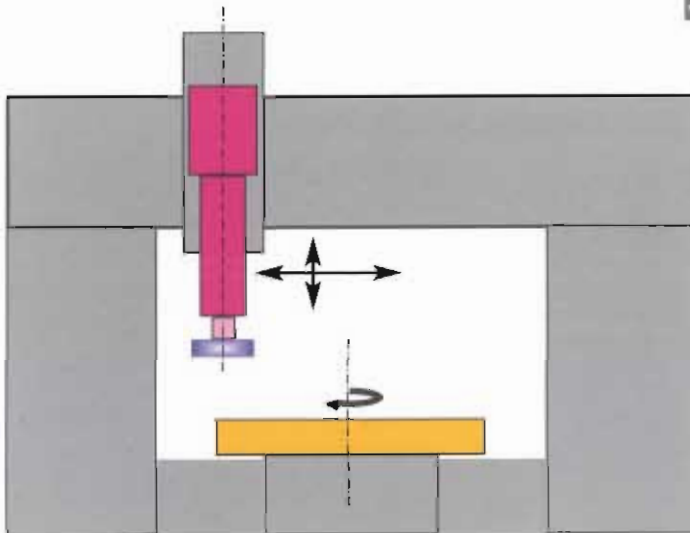
Specialist since 1934

Specialized in the manufacture
of surface and profile
grinding machines
since 1934

Summary

Double column machine with fixed rail and vertical spindle

TRD Series

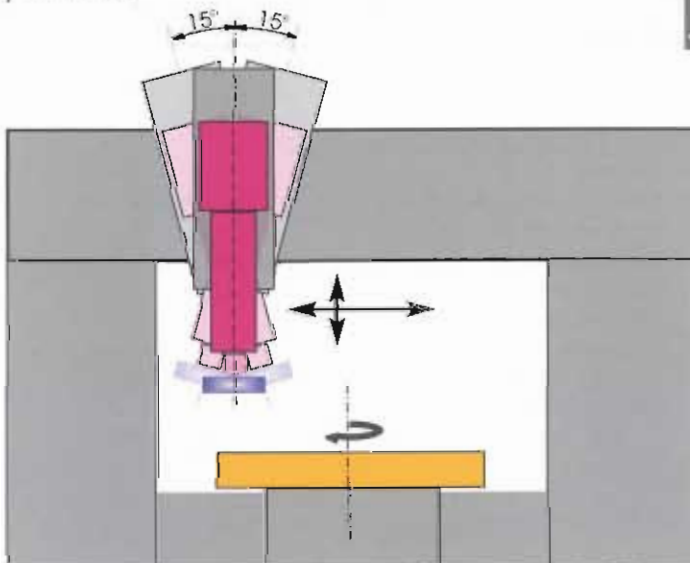


Main technical specifications:

- Max. grinding diameter : 1600 ⇔ 3100 mm.
- Max. Height of workpiece : 1000 mm.
- Power spindle motor : 10 ⇔ 15 kW
- Dimension of STD wheel
 - External diameter min - max : 270 ⇔ 508 mm.
- Dimension of wheel with extension
 - External diameter min - max : 150 ⇔ 300 mm.

Double column machine with fixed rail, swivelling saddle and vertical spindle

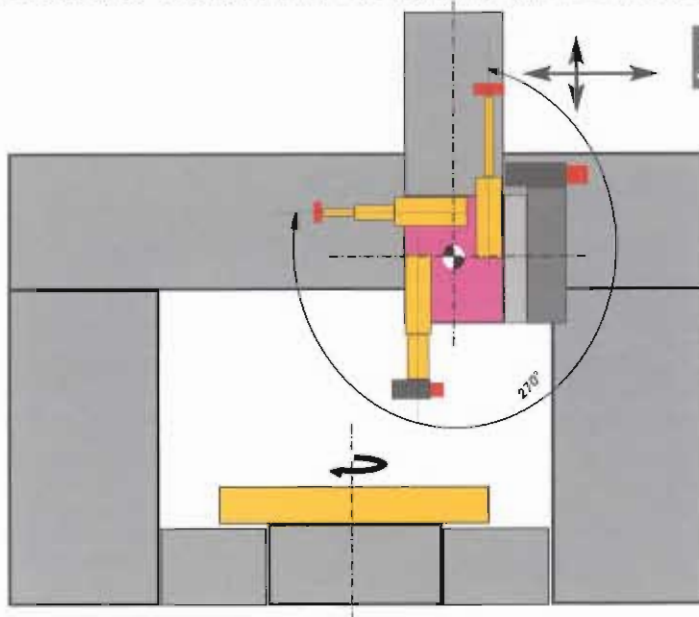
TRD/S Series



Main technical specifications:

- Max. grinding diameter : 1600 ⇔ 3100 mm.
- Max. Height of workpiece : 1000 mm.
- Power spindle motor : 10 ⇔ 15 kW
- Angular swivelling : +/- 15°
- Min angular position : 0° 10'
- Dimension of STD wheel
 - min - max external diameter : 270 ⇔ 508 mm.
- Dimension of wheel with extension
 - min - max external diameter : 150 ⇔ 300 mm.

Double column machine with fixed rail, multispindle

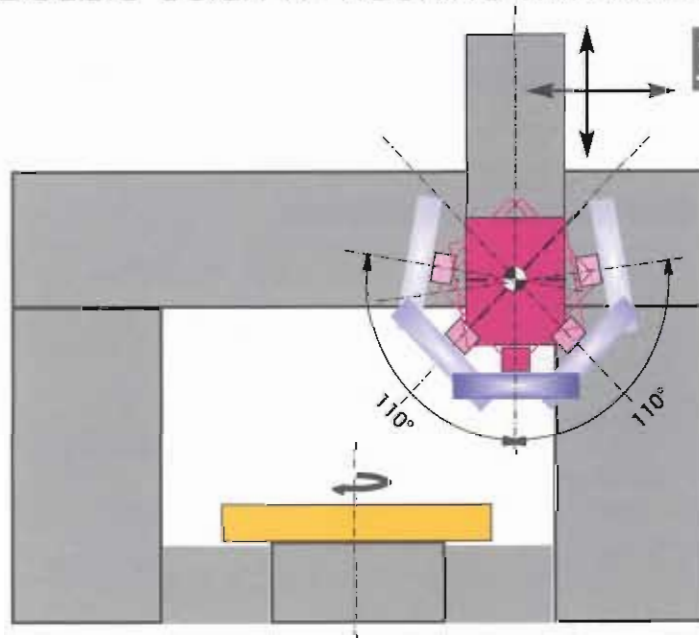


TRD/T Series

Main technical specifications:

- Max. Grinding diameter	: 2100 ⇔ 3100 mm
- Max. Grinding height	: 1000 mm
- Horizontal wheel spindle power	: 22 kW
- Wheel dimension	: 508 mm
- ID/OD wheel spindle power	: 22 kW
- Wheel dimension	: 508 mm
- ID wheel spindle Power	: 10 kW
- Wheel dimension min - max	: 250 - 175 mm
- ID wheel Spindlepower	: 10 kW
- Wheel dimension min - max	: 175 - 120 mm

Double column machine with fixed rail and universal spindle



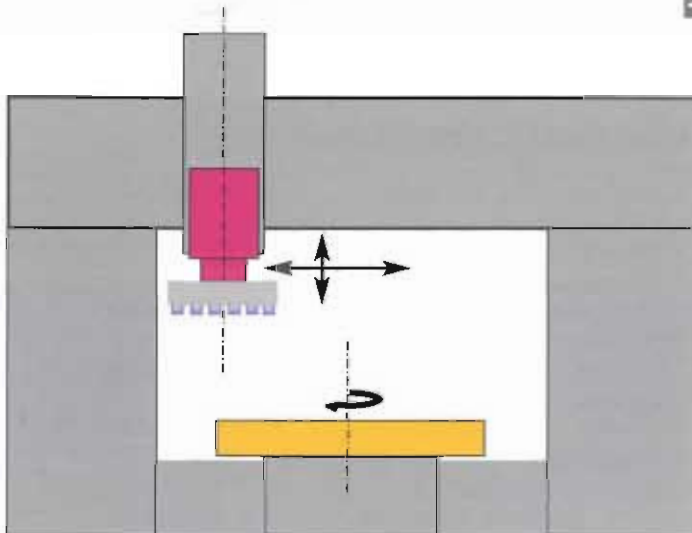
TRD/U Series

Main technical specifications:

- Max. grinding diameter	: 1600 ⇔ 3100 mm.
- Max. Height of workpiece	: 1000 mm.
- Power spindle motor	: 30 kW
- Angular swivelling	: +/- 110°
- Min angular position	: 1°
- Dimension of STD wheel	
min - max external diameter	: 450 ⇔ 610 mm.
- Dimension of wheel with extension	
min - max external diameter	: 80 ⇔ 406 mm.

Double column machine with fixed rail and vertical frontal head

TRD/V Series

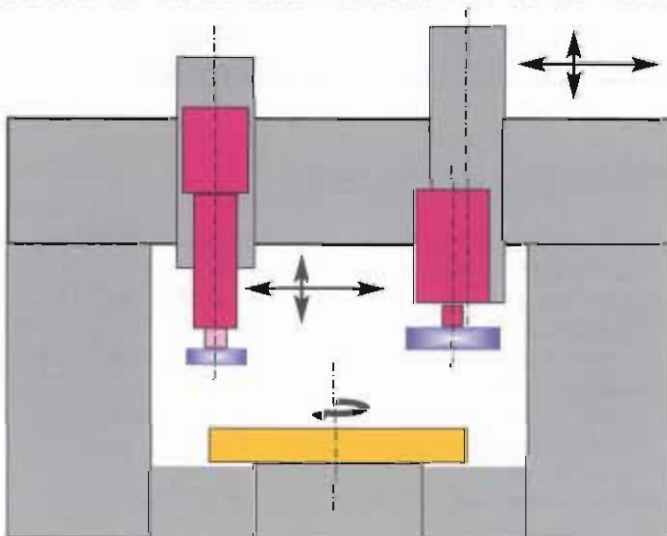


Main technical specifications:

- Grinding diameter: 2100 $\Rightarrow$ 3100 mm.
- Vertical capacity: 750 mm.
- Power of spindle motor: 60 kW
- Wheel diameter: 600 mm.

Double column machine with fixed rail and two Vertical heads

TRD-2H Series

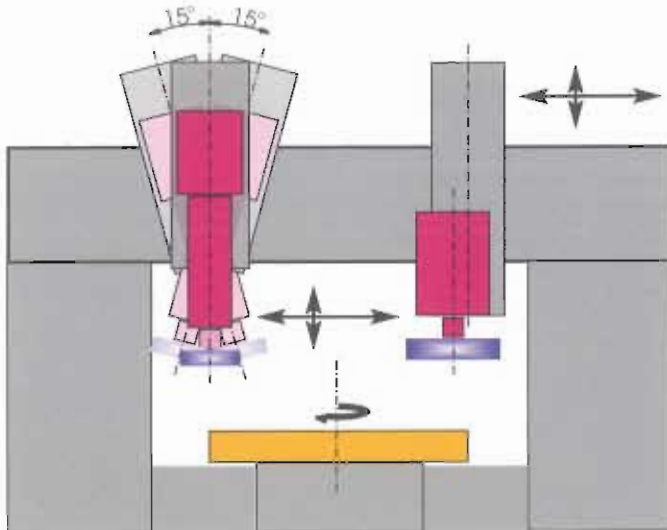


Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head Power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD wheel Internal head
min - max external diameter : 270 $\Rightarrow$ 508 mm.
- Dimension of wheel with extension
min - max external diameter : 150 $\Rightarrow$ 300 mm.
- External head Power spindle motor : 30kW
- Dimension of wheel
(diameter x bore x width) : 610 x 304,8 x 150

Double column machine with fixed rail and Vertical head, with swivelling saddle for internal diameter and vertical head for external diameter

TRD/S-2H Series

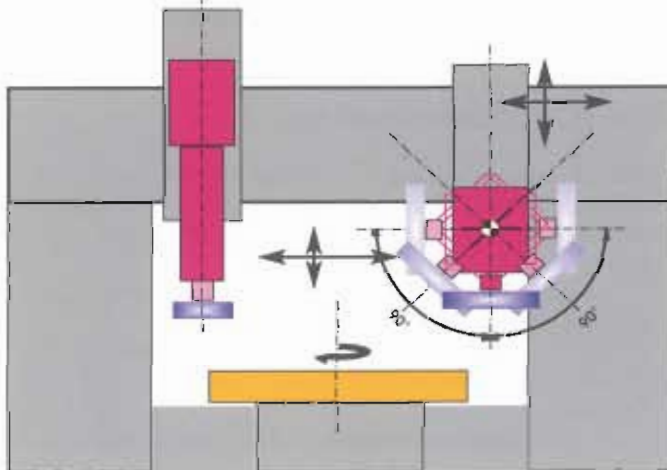


Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head Angular swivelling : $\pm 15^\circ$
- Min angular position : $0^\circ 10'$
- Internal head Power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD wheel internal head
min - max external diameter : 270 $\Rightarrow$ 508 mm.
- Dimension of wheel with extension
min - max external diameter : 150 $\Rightarrow$ 300 mm.
- External head Power spindle motor : 30kW
- Dimension of wheel
(diameter x bore x width) : 610 x 304,8 x 150

Double column machine with fixed rail and Vertical head for internal diameter and universal spindle

TRD/U-2H Series

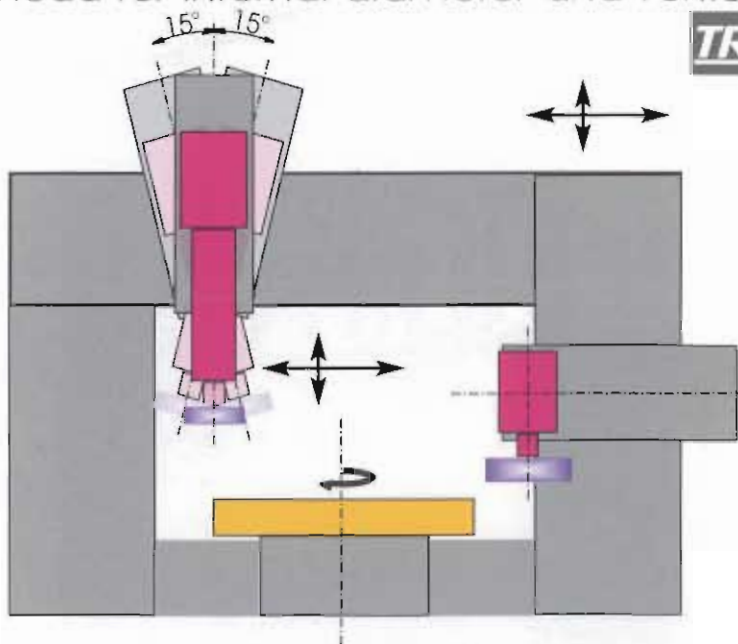


Main technical specifications:

- Max. grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head Power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD wheel internal head
min - max external diameter : 270 $\Rightarrow$ 508 mm.
- Dimension of wheel with extension
min - max external diameter : 150 $\Rightarrow$ 300 mm.
- Universal head Power spindle motor : 30kW
- Angular swivelling : $\pm 110^\circ$
- Min angular position : 1°
- Dimension of wheel
(diameter x bore x width) : 610 x 304,8 x 150

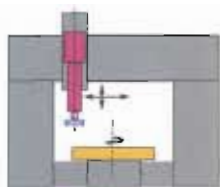
Double column machine with fixed rail, swivelling saddle and Vertical head for internal diameter and vertical head for external diameter

TR-CN Series



Main technical specifications:

- Max. Grinding diameter : 1600 ⇔ 3100 mm.
- Max. Height of workpiece : 1650 mm.
- Angular swivelling : +/- 15°
- Min. angular position : 0° 15°
- Internal head power spindle motor : 15 kW
- Dimension of STD wheel internal head
min - max External diameter : 350 ⇔ 508 mm.
- Dimension of wheel with extension
min - max external diameter : 200 ⇔ 300 mm.
- External head power spindle motor : 30kW
- Dimension of wheel
(diameter x bore x width) : 610 x 304,8 x 150



Double column machine with fixed rail and Vertical spindle

Modulo TRD series

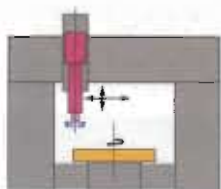


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1000 mm.
- Power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD Wheel
external diameter: Min. - Max. 270 x 508 mm
- Dimension of Wheel with extension
external diameter: Min. - Max. 150 x 300 mm

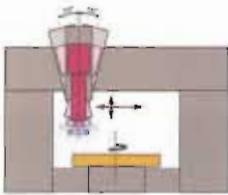


Double column technical specifications

Modulo TRD series

		TRD 1500	TRD 2000	TRD 2500	TRD 3000
Working capacity	Max Grinding external diameter x height (standard wheel) mm	1600x800	2100x800	2600x800	3100x800
	Min Int. grinding diameter x depth (standard wheel) in cavity -without cover mm	600x800 (with no extension)			
	Min Grinding diameter x depth with extension mm	100x350 ÷ 200x450 ÷ 300x500 (different extension on request)			
	Max. Grinding end face height (std wheel) mm	1000			
Vertical Spindle Head	Power Kw	10		15	
	STD wheel dimension Min - Max diameter mm	(400 ÷ 508) x 75			
	Wheel dimension with extensions Min - Max diameter mm	80 ÷ 406			
	Speed (Min. - Max.) rpm	1400 - 5000			
Rotary table	Diameter mm	1500	2000	2500	3000
	Speed (automatically adjustable with relation to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetic chuck) Kg	8500	11500	14000	16500
Cross axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	2730	3230	3730	4230
	Max travel mm	2810	3310	3810	4310
Vertical axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	1250			
	Max travel mm	1330			
Dimensions	LENGTH mm	5130	5630	6130	6630
	WIDTH mm	3650		4150	
	HEIGHT mm	5420		5470	
MACHINE WEIGHT Kg. (approx)		25000	28000	32000	37000
POWER REQUIREMENT Kw. (approx)		75		85	

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column machine with fixed rail, swivelling saddle and Vertical spindle

Modulo TRD/S series



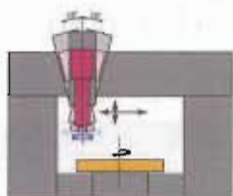
The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1000 mm.
- Power spindle motor : 10 $\Rightarrow$ 15 kW
- Angular Swivelling : $\pm 15^\circ$
- Min angular position : $0^\circ 10'$
- Dimension of STD Wheel
external diameter: Min. - Max. 270 x 508 mm
- Dimension of Wheel with extension
external diameter: Min. - Max. 150 x 300 mm

Double column

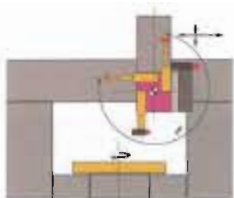


Double column technical specifications

Modulo TRD/S series

		TRD/S 1500	TRD/S 2000	TRD/S 2500	TRD/S 3000
Working capacity	Max Grinding external diameter x height (standard wheel) mm	1600x800	2100x800	2600x800	3100x800
	Min Int. grinding diameter x depth (standard wheel) In cavity -without cover mm	600x800 (with no extension)			
	Min Grinding diameter x depth with extension mm	100x350 ÷ 200x450 ÷ 300x500 (different extension on request)			
	Max. Grinding end face height (std wheel) mm	1000			
Vertical Spindle Head	Power Kw	10		15	
	STD wheel dimension Min - Max diameter mm	(400 ÷ 508) x 75			
	Wheel dimension with extension Min - Max diameter mm	80 ÷ 406			
	Speed (Min. - Max.) rpm	1400 - 5000			
Rotary table	Diameter mm	1500	2000	2500	3000
	Speed (automatically adjustable with relations to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetic chuck) Kg	8500	11500	14000	16500
Cross axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0.001			
	Working travel mm	2730	3230	3730	4230
	Max travel mm	2810	3310	3810	4310
Vertical axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0.001			
	Working travel mm	1250			
	Max travel mm	1330			
	Angle Swivelling degrees	+/- 15°			
	Min. indexing angle degrees	0° 10'			
Dimensions	LENGTH mm	5130	5630	6130	6630
	WIDTH mm	3650		4150	
	HEIGHT mm	5420		5470	
MACHINE WEIGHT Kg. (approx)		25000	28000	32000	37000
POWER REQUIREMENT Kw. (approx)		75		85	

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column

Double column machine with fixed rail multispindle

Modulo TRD/T Series

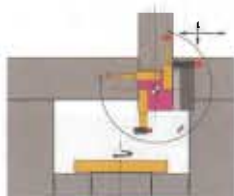


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter	: 2100 ⇄ 3100 mm.
- Max. Grinding height	: 1000 mm.
- Horizontal wheel power	: 22 kW
- Wheel dimension	: 508 mm
- I.D./O.D Wheel Spindle Power	: 22 kW
- Wheel dimension	: 508 mm
- I.D. Wheel Spindle Power	: 10 kW
- Wheel dimension min - max	: 250 - 175 mm
- I.D. Wheel Spindle Power	: 10 kW
- Wheel dimension min - max	: 175 - 120 mm

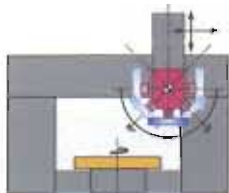


Double column technical specifications

Modulo TRD/T Series

			TRD/T 2000	TRD/T 2500	TRD/T 3000
Working capacity	Max. Diameter	mm	2100	2600	3100
	Max. Height	mm	1000		
Horizontal spindle Head	Power	Kw	22		
	Speed	rpm	1100 ÷ 2000		
	Wheel external diameter	mm	508		
	Width	mm	150		
Spindle Head for external - internal Diameters	Grinding external diameter	mm	0 ÷ 2100	0 ÷ 2600	0 ÷ 3100
	MIN. internal diameter	mm	700		
	MAX depth	mm	1000		
	Power	Kw	15		
	Speed	rpm	1100 ÷ 2200		
	Wheel external diameter	mm	508		
	Width	mm	100		
Spindle Head for internal Diameters	MIN. internal diameter	mm	240		
	MAX depth	mm	1000		
	Power	Kw	10		
	Speed	rpm	2200 ÷ 3600		
	Wheel external diameter	mm	250		
	minim diameter	mm	175		
	Width	mm	60		
Spindle Head for internal small diameters	MIN. internal diameter	mm	160		
	MAX depth	mm	500		
	Power	Kw	10		
	Speed	rpm	3000 ÷ 6000		
	Wheel external diameter	mm	175		
	minim diameter	mm	120		
	width	mm	50		
Idrostatic rotary table	Diameter	mm	2000	2500	3000
	Speed (automatically adjustable with relations to position of the Y axis)	rpm	1 ÷ 50		
	Load max (without magnetic chuck)	Kg	15000	20000	25000
	Load max (with magnetic chuck)	Kg	11500	14000	16500
Cross axis head	Rapid speed	m/min	10		
	Grinding feed infinitely variable	mm/min	0 ÷ 2000		
	Min. Programmable step feed	mm	0,001		
	Working travel	mm	2200	2600	3000
	Max travel	mm	2250	2650	3050
Vertical axis head	Rapid speed	m/min	5		
	Min. Programmable step feed	mm	0,001		
	Working travel	mm	800 ÷ 1200 optional		
	Max travel	mm	825 ÷ 1225 optional		
Dimensions	LENGTH	mm	5975		
	WIDTH	mm	3600		
	HEIGHT	mm	6500		
MACHINE WEIGHT		Kg. (approx)	28000	31000	40000
POWER REQUIREMENT		Kw. (approx)	80		

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column machine with fixed rail and Universal spindle

Modulo TRD/U series

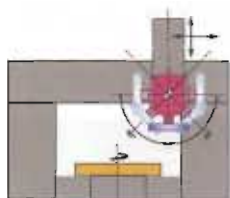


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1000 mm.
- Power spindle motor : 30 kW
- Angular Swivelling : $\pm 110^\circ$
- Min angular position : 1°
- Dimension of STD Wheel
min - max external diameter: 450 $\Rightarrow$ 610 mm
- Dimension of wheels with extension
external diameter: min. - max. 80 $\Rightarrow$ 406 mm

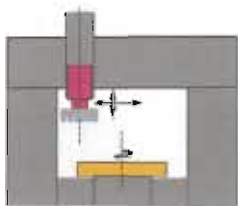


Double column technical specifications

Modulo TRD/U series

		TRD/U 1500	TRD/U 2000	TRD/U 2500	TRD/U 3000
Working capacity	Max Grinding external diameter x height (standard wheel) mm	1600x800	2100x800	2600x800	3100x800
	Min Int grinding diameter x depth (standard wheel) mm	900x300 (with no extension) 900x500 (with extension 200 mm length)			
	Min Grinding diameter x depth with extension mm	100x350 ÷ 200x450 ÷ 300x500 ÷ 400x600 ÷ 600x800			
	Max. Grinding end face height (std wheel) mm	1000			
Universal Spindle Head	Power Kw	30			
	Angle Swivelling degrees	+/- 110°			
	Min. indexing angle degrees	1°			
	STD wheel dimension (diameter x bore x width) mm	610 x 304,8 x 100			
	Wheel dimension with extensions Min. - Max diameter mm	80 ÷ 406			
	Speed (Min. - Max.) rpm	800 ÷ 5000			
For smaller wheels and extensions refer to different layout					
Rotary table	Diameter mm	1500	2000	2500	3000
	Speed (automatically adjustable with relations to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetick chuck) Kg	8500	11500	14000	16500
Cross axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	3600	4100	4600	5100
	Max travel mm	3680	4180	4680	5180
Vertical axis head	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	1250			
	Max travel mm	1330			
Dimensions	LENGTH mm	6400	6900	7400	7900
	WIDTH mm	3650		4150	
	HEIGHT mm	5420		5470	
MACHINE WEIGHT Kg. (approx)		27000	30000	34000	39000
POWER REQUIREMENT Kw. (approx)		75		85	

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column machine with fixed rail and Vertical frontal head

Modulo TRD/V series



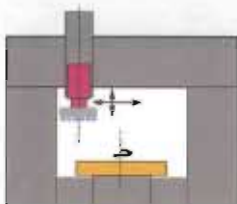
The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** *Digital electronic system with numerical control*

Main technical specifications:

- Grinding diameter : 2100 ⇒ 3100 mm.
- Vertical capacity : 750 mm.
- Power spindle motor : 60 kW
- Wheel diameter : 600 mm

Double column



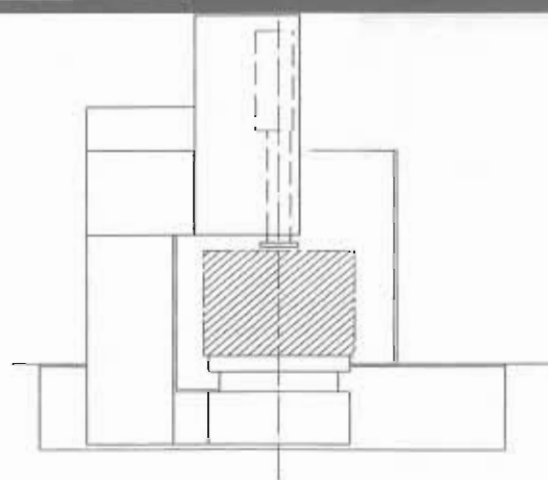
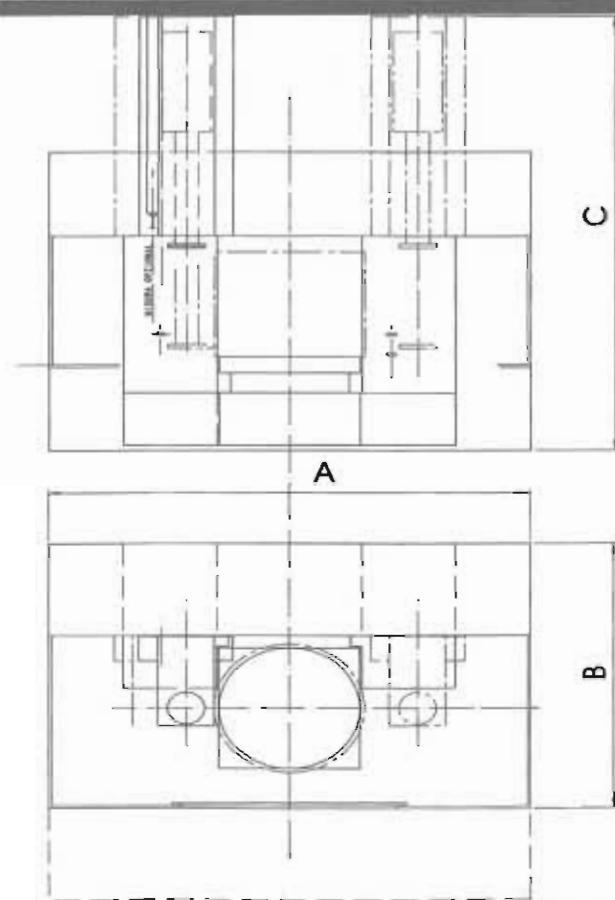
Double column technical specifications

Modulo TRD/V series

			TRD/V 2000	TRD/V 2500	TRD/V 3000
Working capacity	Max. Grinding Diameter	mm	2100	2600	3100
	Max. Grinding height	mm	750		
Spindle head	Power	Kw	60		
	Grinding wheel size diameter	mm	600		
	Wheel speed max.	rpm	800		
Rotary axis table	Speed	rpm	8,5 ÷ 42		
	Load capacity (Max. without magnetic chuck)	Kg	15000	20000	25000
	Working surface diameter	mm	2000	2500	3000
Cross axis head	Max. rapid speed	mm/min	10		
	Grinding head infinitely variable	mm/min	0 ÷ 2000		
	Min. programmable increment	mm	0,001		
	Working travel	mm	1200	1500	1700
	Max. travel	mm	1225	1525	1725
Vertical axis head	Max. rapid speed	mm/min	10		
	Min. programmable increment	mm	0,001		
	Working travel	mm	800		
	Max. travel	mm	825		
Dimensions	LENGTH	mm	5270	5520	5770
	WIDTH	mm	3750	4000	4250
	HEIGHT	mm	5450		
MACHINE WEIGHT		Kg. (approx.)	30000	34000	39000
POWER REQUIREMENT		Kw. (approx.)	95		

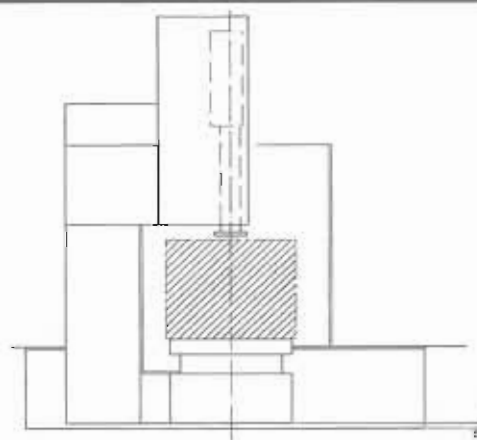
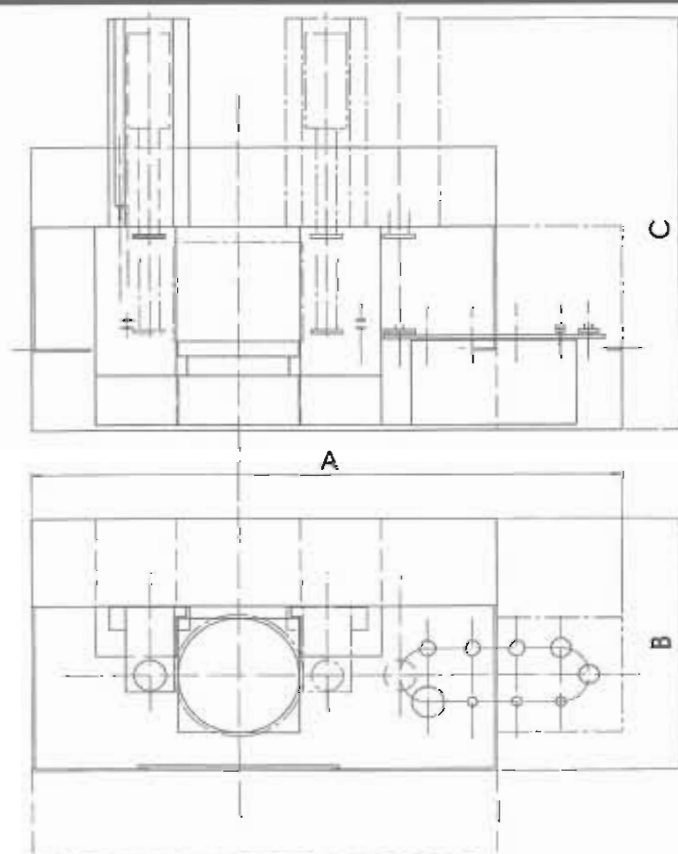
Dimensions, Weight, and Power may vary subject to optional equipment.

Machine dimensions TRD series



MODEL	A	B	C
TRD 1500	5130	3650	5420
TRD 2000	5630	3650	5420
TRD 2500	6130	4150	5470
TRD 3000	6630	4150	5470

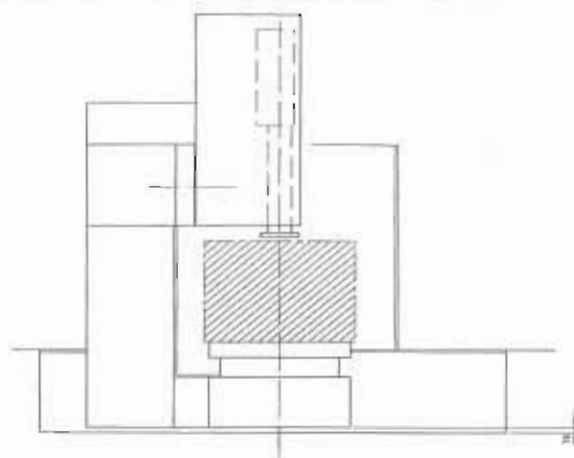
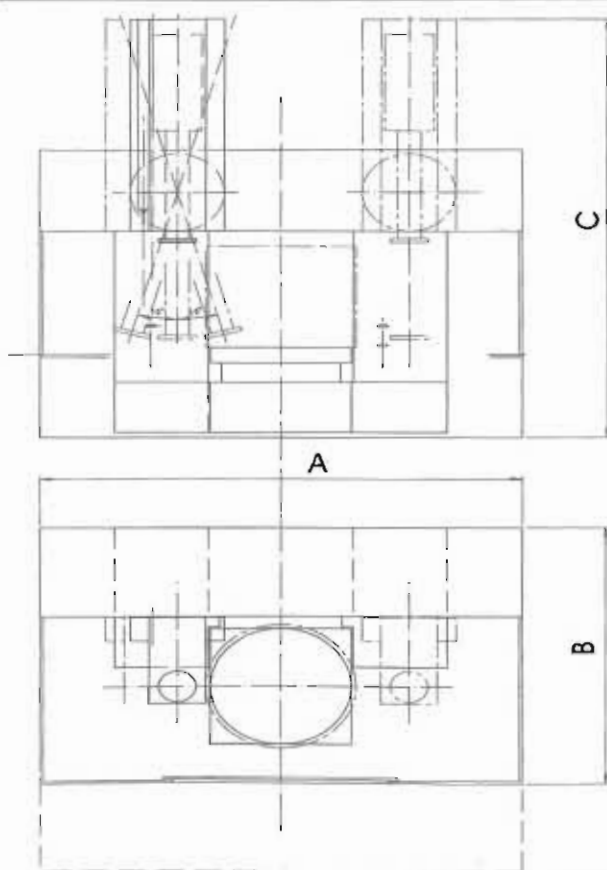
Machine dimensions TRD-ATC series



With automatic tool changer

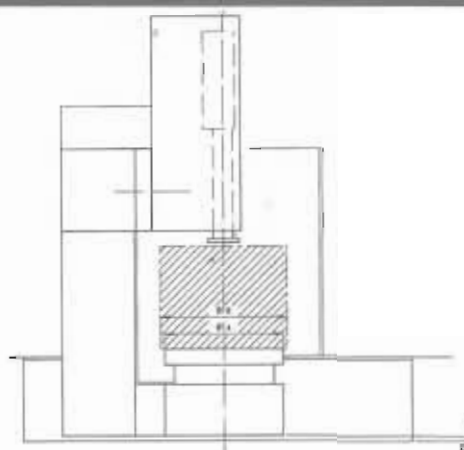
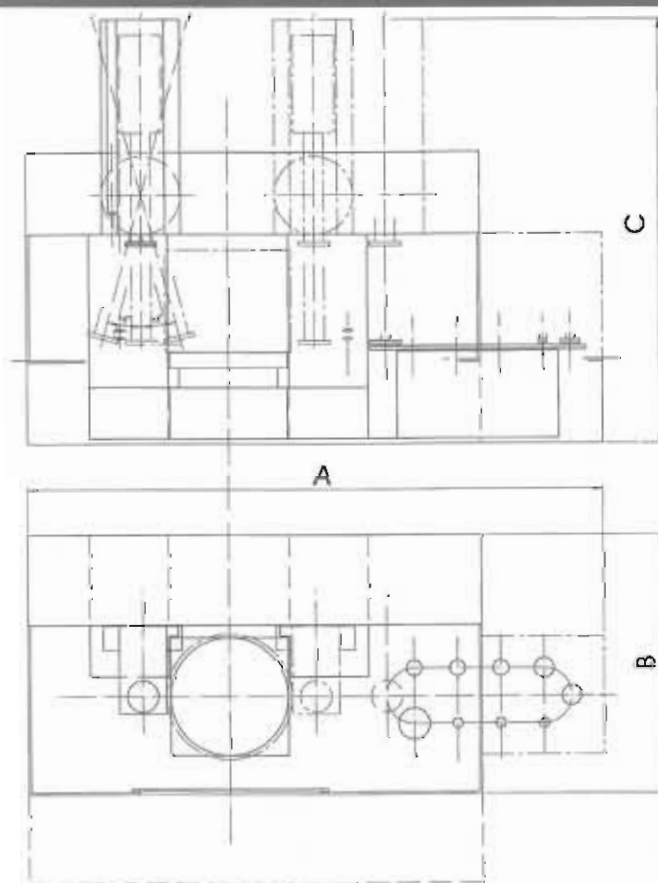
MODEL	A	B	C
TRD-ATC 1500	7315	3650	5420
TRD-ATC 2000	7815	3650	5420
TRD-ATC 2500	8315	4150	5470
TRD-ATC 3000	8815	4150	5470

Machine dimensions TRD/S series



MODEL	A	B	C
TRD/S 1500	5130	3650	5420
TRD/S 2000	5630	3650	5420
TRD/S 2500	6130	4150	5470
TRD/S 3000	6630	4150	5470

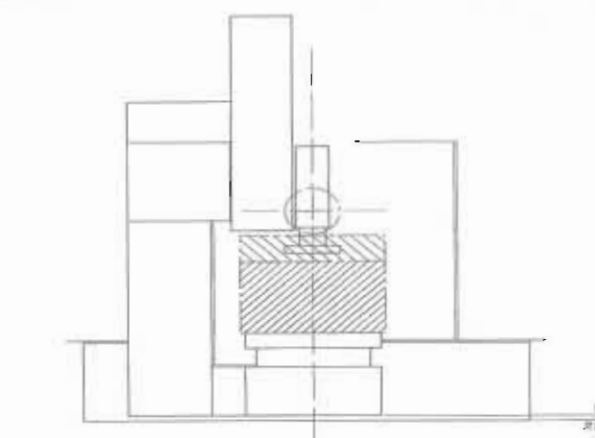
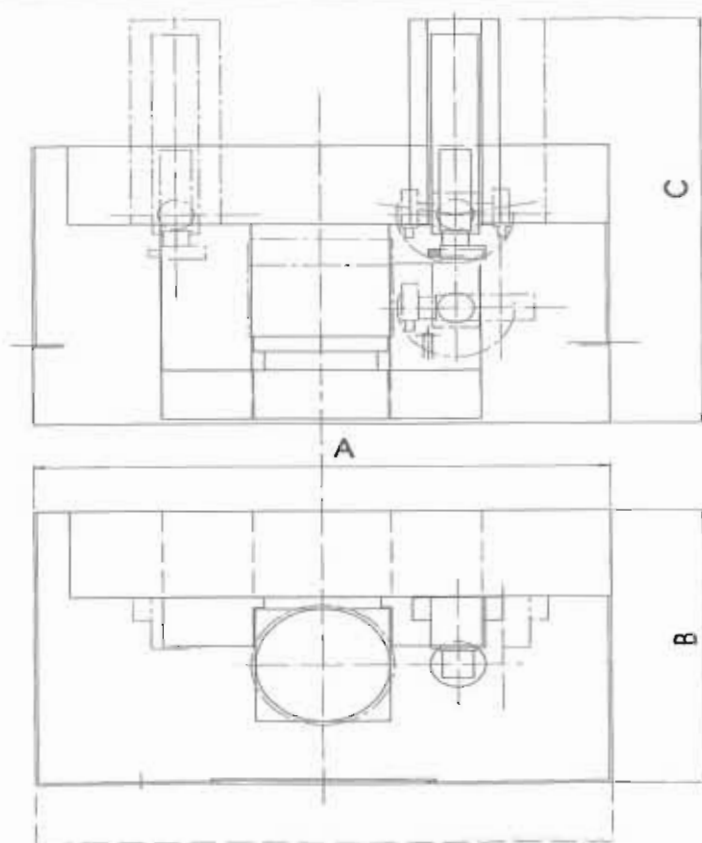
Machine dimensions TRD/S-ATC series



With automatic tool changer

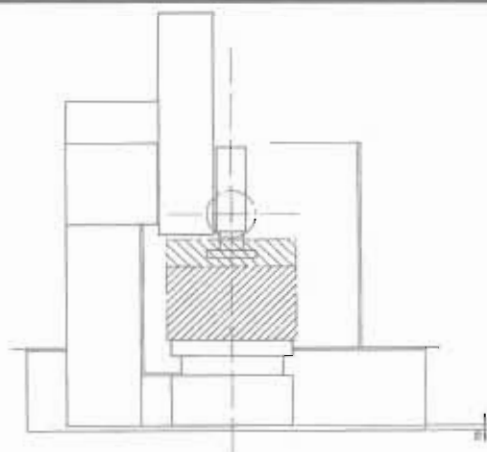
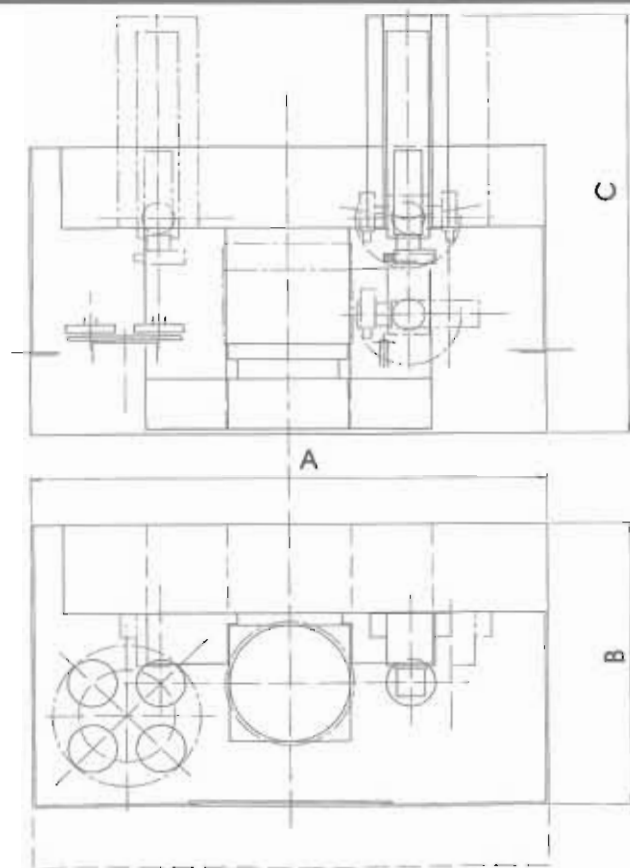
MODEL	A	B	C
TRD/S-ATC 1500	7315	3650	5420
TRD/S-ATC 2000	7815	3650	5420
TRD/S-ATC 2500	8315	4150	5470
TRD/S-ATC 3000	8815	4150	5470

Machine dimensions TRD/U series



MODEL	A	B	C
TRD/U-ATC 1500	5400	3650	5420
TRD/U-ATC 2000	5900	3650	5420
TRD/U-ATC 2500	6400	4150	5470
TRD/U-ATC 3000	6900	4150	5470

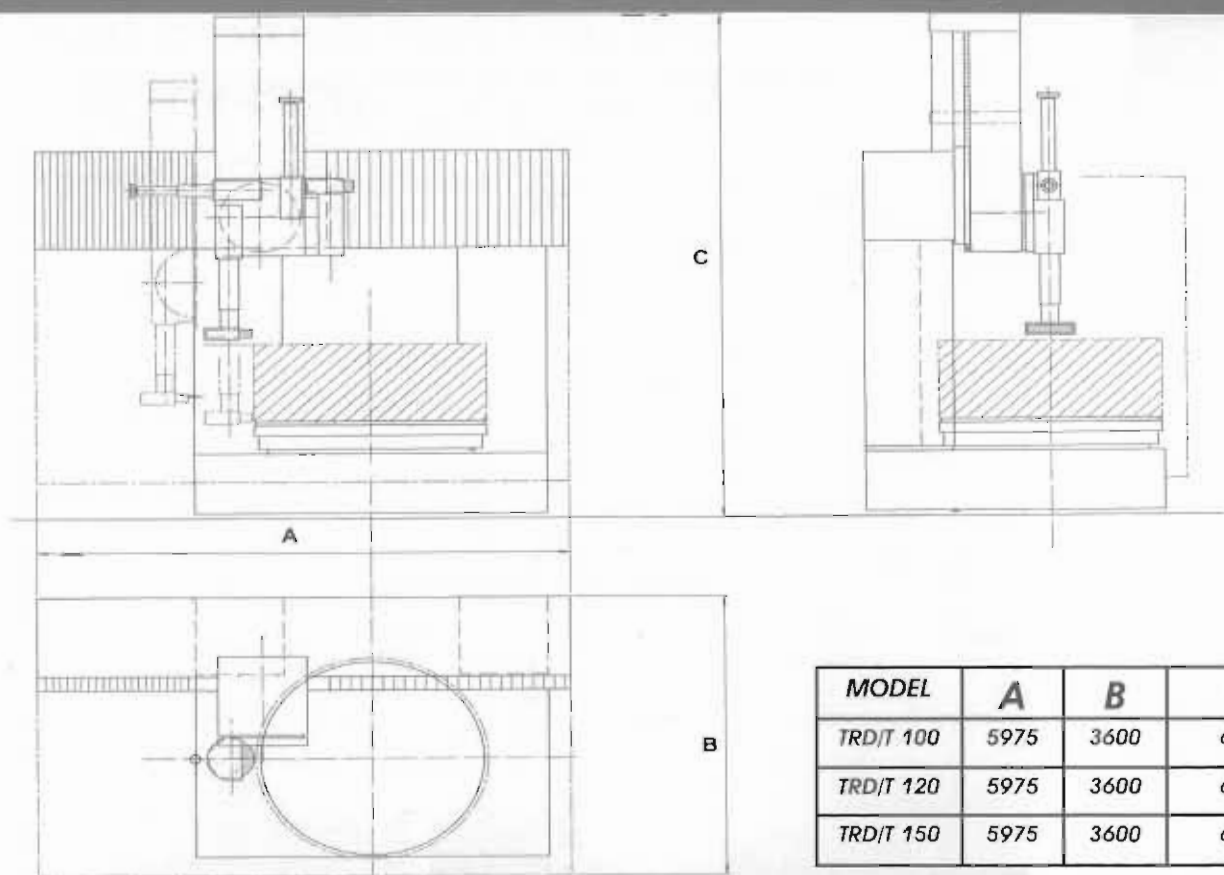
Machine dimensions TRD/U-ATC series



With automatic tool changer

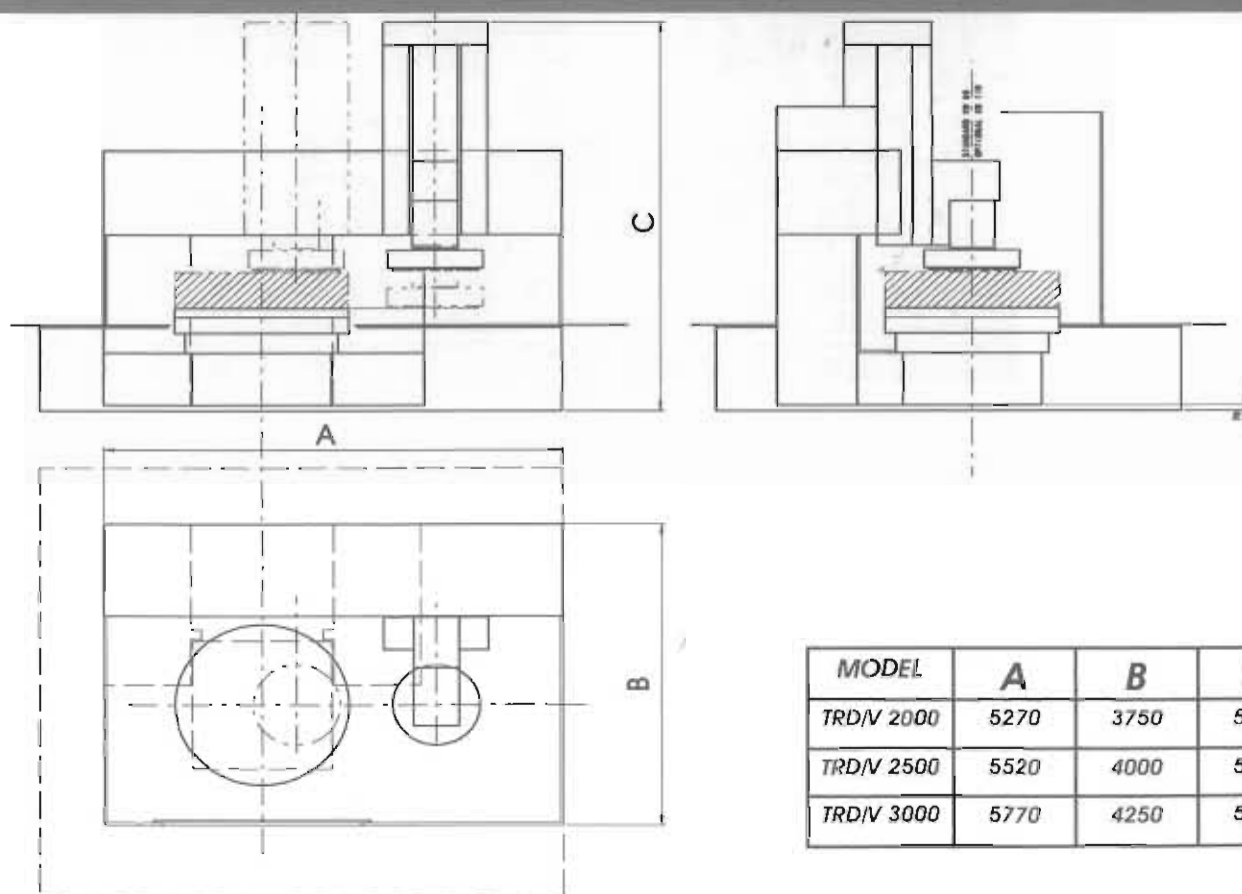
MODEL	A	B	C
TRD/U-ATC 1500	6400	3650	5420
TRD/U-ATC 2000	6900	3650	5420
TRD/U-ATC 2500	7400	4150	5470
TRD/U-ATC 3000	7900	4150	5470

Machine dimensions TRD/T series

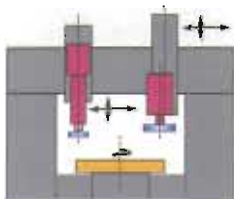


MODEL	A	B	C
TRD/T 100	5975	3600	6500
TRD/T 120	5975	3600	6500
TRD/T 150	5975	3600	6500

Machine dimensions TRD/V series



MODEL	A	B	C
TRD/V 2000	5270	3750	5450
TRD/V 2500	5520	4000	5450
TRD/V 3000	5770	4250	5450



Double column machine with fixed rail and two Vertical heads

Modulo TRD-2H series

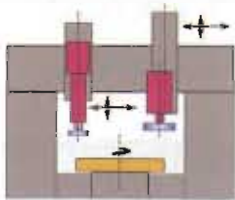


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD Wheel Internal head
Min - Max external diameter: 270 $\Rightarrow$ 508 mm
- Dimension of Wheel with extension
Min - Max external diameter: 150 $\Rightarrow$ 300 mm
- External Head Power spindle motor : 30 kW
- Dimension of Wheel (diameter x bore x width) : 610 x 304,8 x 150

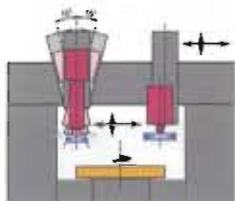


Double column technical specifications

Modulo TRD-2H series

		TRD-2H 1500	TRD-2H 2000	TRD-2H 2500	TRD-2H 3000
Working capacity	Max Grinding diameter mm	1600	2100	2600	3100
	Min. Grinding diameter internal (STD wheel) mm	300		400	
	Min. Grinding diameter Int. with extension mm	200		250	
	Max Grinding height (STD wheel) mm	1200			
	Max Grinding height with extension mm Extension length mm	900 300		800 400	
Spindle Head for internal	Power Kw	10		15	
	STD wheel dimension Min. - Max diameter mm	270 ÷ 406		350 ÷ 508	
	Wheel dimension with extension Min. - Max diameter mm	150 ÷ 250		200 ÷ 300	
	Speed (Min. - Max.) rpm	800 ÷ 5000			
Spindle Head for external	Power Kw	30			
	Wheel dimension (diameter x bore x width) mm	610 x 304,8 x 150			
	Speed (min. - max.) rpm	500 ÷ 2000			
Rotary table	Diameter mm	1500	2000	2500	3000
	Speed (automatically adjustable with relations to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetic chuck) Kg	8500	11500	14000	16500
Cross axis head for internal	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	2600	2850	3100	3350
	Max travel mm	2680	2930	3180	3430
Cross axis head for external	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	2360	2610	2860	3110
	Max travel mm	2440	2690	2940	3190
Vertical axis head for internal-external	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	1250			
	Max travel mm	1330			
Dimensions	LENGTH mm	8795	9295	9795	10295
	WIDTH mm	3650		4150	
	HEIGHT mm	5420		5470	
	MACHINE WEIGHT Kg. (approx)	34000	37000	41000	46000
	POWER REQUIREMENT Kw. (approx)	125		135	

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column machine with fixed rail and Vertical head with swivelling saddle for internal diameter and vertical head for external diameter

Modulo TRD/S-2H series

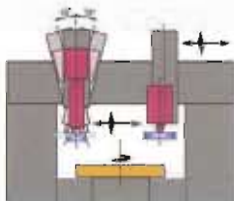


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD Wheel internal head
Min - Max external diameter: 270 $\Rightarrow$ 508 mm
- Dimension of Wheel with extension
Min - Max external diameter: 150 $\Rightarrow$ 300 mm
- External Head Power spindle motor : 30 kW
- Dimension of Wheel (diameter x bore x width) : 610 x 304,8 x 150

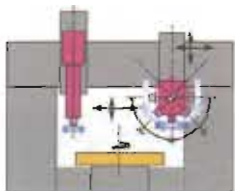


Double column technical specifications

Modulo TRD/S-2H series

		TRD/S-2H 1500	TRD/S-2H 2000	TRD/S-2H 2500	TRD/S-2H 3000	
Working capacity	Max Grinding diameter	mm	1600	2100	2600	3100
	Min. Grinding diameter internal (STD wheel)	mm	300		400	
	Min. Grinding diameter Int. with extension	mm	200		250	
	Max Grinding height (STD wheel)	mm	1200			
	Max Grinding height with extension	mm	900		800	
	Extension length	mm	300		400	
Spindle Head for internal	Power	Kw	10		15	
	STD wheel dimension		270 ÷ 406		350 ÷ 508	
	Min. - Max diameter	mm				
	Wheel dimension with extension		150 ÷ 250		200 ÷ 300	
	Min. - Max diameter	mm				
	Speed (Min. - Max.)	rprn	800 ÷ 5000			
Spindle Head for external	Power	Kw	30			
	Wheel dimension (diameter x bore x width)	mm	610 x 304,8 x 150			
	Speed (Min. - Max.)	rpm	500 - 2000			
Rotary table	Diameter	mm	1500	2000	2500	3000
	Speed (automatically adjustable with relation to position of the Y axis)	rpm	1 ÷ 50			
	Load max (without megnetic chuck)	Kg	10000	15000	20000	25000
	Load max (with magnetick chuck)	Kg	8500	11500	14000	16500
Cross axis head for internal	Rapid speed	m/min	10			
	Min. Programmable step feed	mm	0,001			
	Working travel	mm	2600	2850	3100	3350
	Max travel	mm	2680	2930	3180	3430
Cross axis head for external	Rapid speed	m/min	10			
	Min. Programmable step feed	mm	0,001			
	Working travel	mm	2360	2610	2860	3110
	Max travel	mm	2440	2690	2940	3190
Vertical axis head for internal	Rapid speed	m/min	10			
	Min. Programmable step feed	mm	0,001			
	Working travel	mm	1250			
	Max travel	mm	1330			
	Angle Swivelling	degrees	+/- 15°			
	Min. indexing angle	degrees	0° 10'			
Vertical axis head for external	Rapid speed	m/min	10			
	Min. Programmable step feed	mm	0,001			
	Working travel	mm	1250			
	Max travel	mm	1330			
Dimensions	LENGTH	mm	8795	9295	9795	10295
	WIDTH	mm	3650		4150	
	HEIGHT	mm	5420		5470	
MACHINE WEIGHT		Kg. (approx)	34000	37000	41000	46000
POWER REQUIREMENT		Kw. (approx)	125		125	

Dimensions, Weight, and Power may vary subject to optional equipment.



Double column

**Double column machine with fixed rail
and Vertical head for internal diameter
and Universal spindle**

Modulo TRD/U-2H series

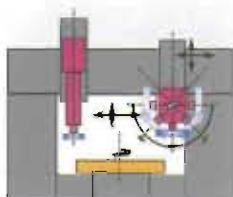


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1200 mm.
- Internal head power spindle motor : 10 $\Rightarrow$ 15 kW
- Dimension of STD Wheel Internal head
Min - Max external diameter: 270 $\Rightarrow$ 508 mm
- Dimension of Wheels with extension
Min - Max external diameter: 150 $\Rightarrow$ 300 mm
- External Head Power spindle motor : 30 kW
- Dimension of Wheel (diameter x bore x width) : 610 x 304,8 x 150



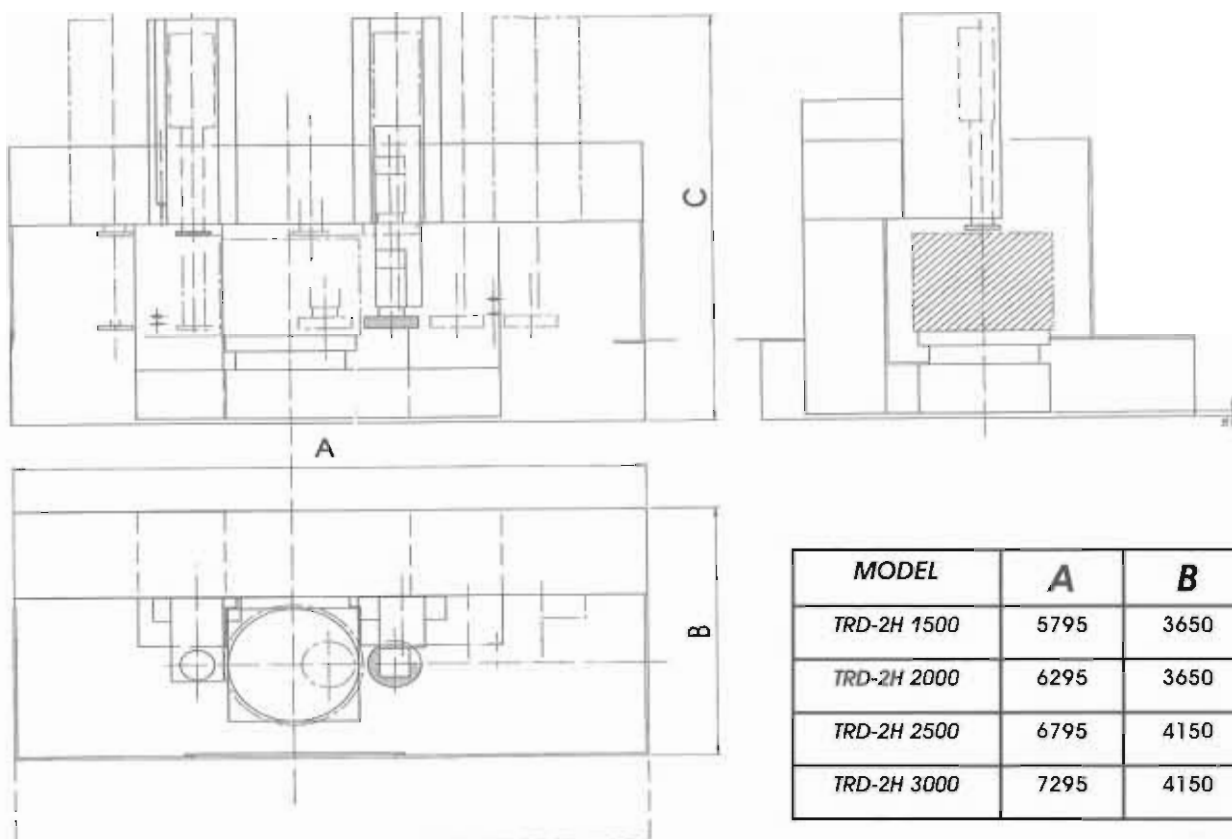
Double column technical specifications

Modulo TRD/U-2H series

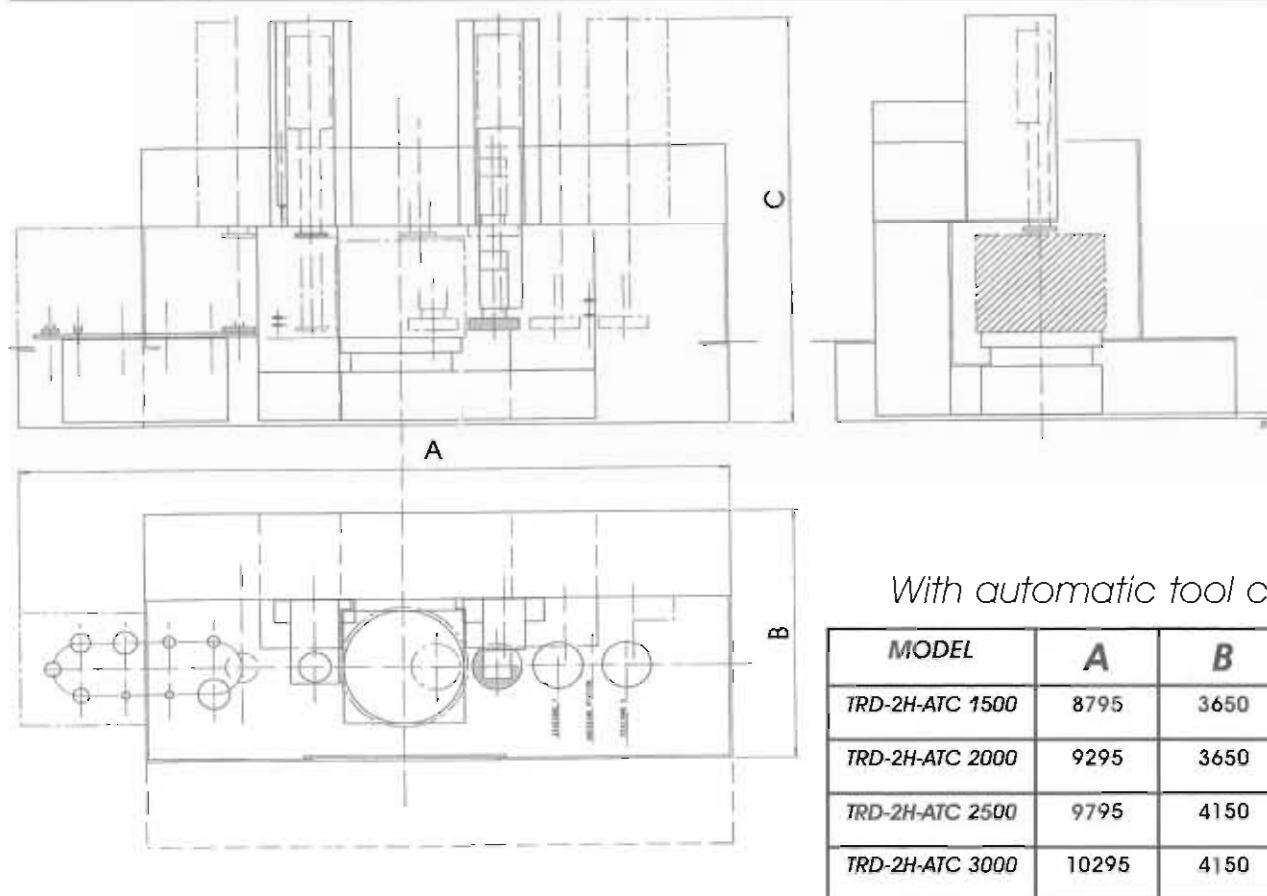
		TRD-2H 1500	TRD-2H 2000	TRD-2H 2500	TRD-2H 3000
Working capacity	Max Grinding diameter mm	1600	2100	2600	3100
	Min. Grinding diameter Internal (STD Wheel) mm	300		400	
	Min. Grinding diameter Int. with extension mm	200		250	
	Max Grinding height (STD wheel) mm	1200			
	Max Grinding height with extension mm Extension length mm	900 300		800 400	
Vertical Head for internal	Power Kw	10		15	
	STD wheel dimension Min. - Max diameter mm	270 - 406		350 - 508	
	Wheel dimension with extension Min. - Max diameter mm	150 - 250		200 - 300	
	Speed (Min. - Max.) rpm	1400 - 3500		800 - 2800	
Universal Spindle Head	Power Kw	30			
	Angle Swivelling degrees	+/- 110°			
	Min. indexing angle degrees	1°			
	STD wheel dimension (diameter x bore x width) mm	610 x 304,8 x 100			
	Wheel dimension with extension Min. - Max diameter mm	125 ÷ 200			
	Speed (Min. - Max.) rpm	800 ÷ 5000			
	For smaller wheels and extensions refer different layout				
Rotary table	Diameter mm	1500	2000	2500	3000
	Speed (automatically adjustable with relation to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetick chuck) Kg	8500	11500	14000	16500
Cross axis head for internal	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	2600	2850	3100	3350
	Max travel mm	2680	2930	3180	3430
Cross axis head for external	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	2360	2610	2860	3110
	Max travel mm	2440	2690	2940	3190
Vertical axis head for internal-external	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	1250			
	Max travel mm	1330			
Dimensions	LENGTH mm	8795	9295	9795	10295
	WIDTH mm	3650		4150	
	HEIGHT mm	5420		5470	
	MACHINE WEIGHT Kg. (approx)	34000	37000	41000	46000
	POWER REQUIREMENT Kw. (approx)	125		135	

Dimensions, Weight, and Power may vary subject to optional equipment.

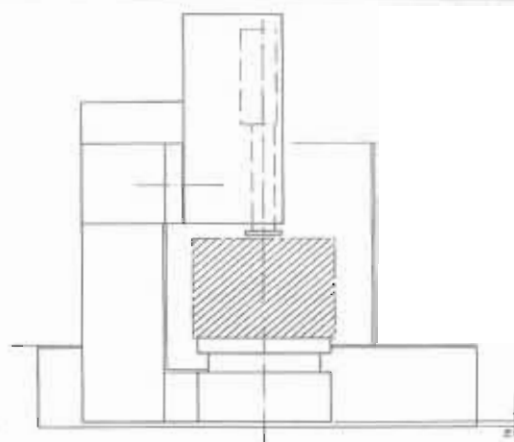
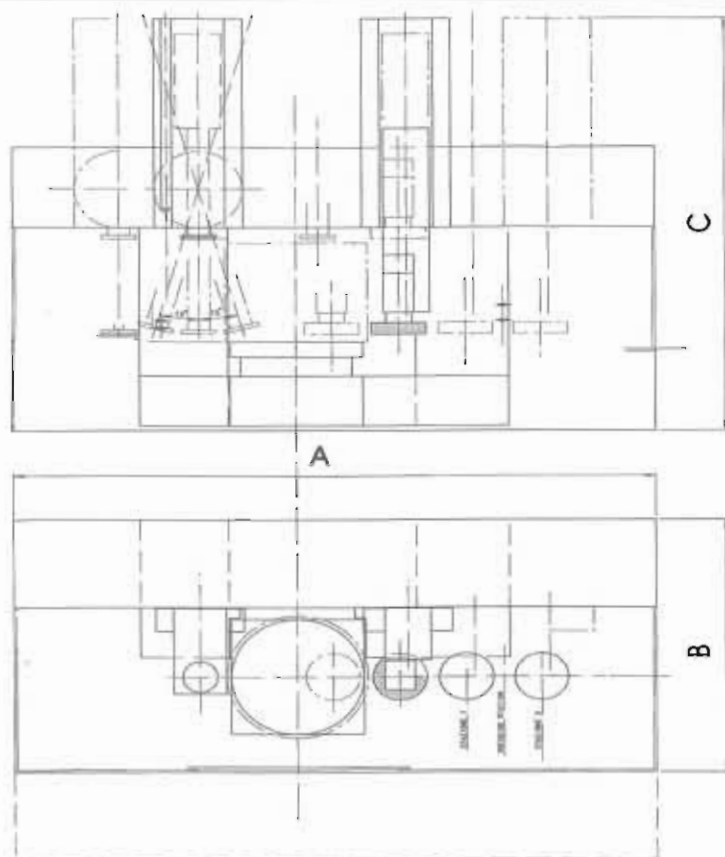
Machine dimensions TRD-2H series



Machine dimensions TRD-2H-ATC series

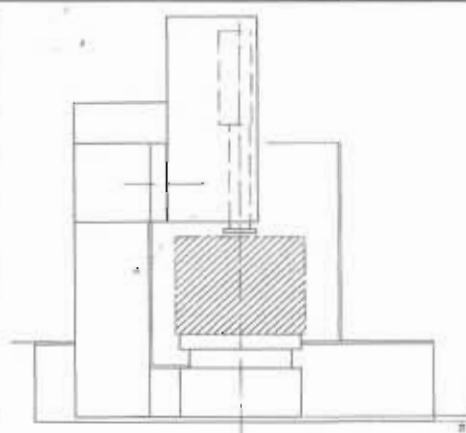
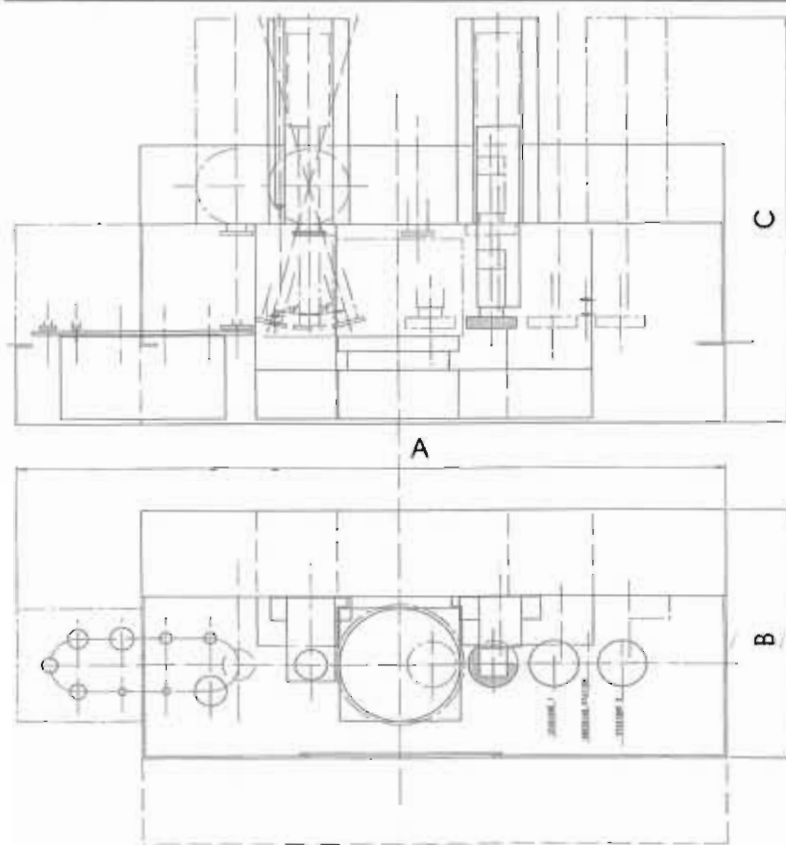


Machine dimensions TRD/S-2H series



MODEL	A	B	C
TRD/S-2H 1500	5795	3650	5420
TRD/S-2H 2000	6295	3650	5420
TRD/S-2H 2500	6795	4150	5470
TRD/S-2H 3000	7295	4150	5470

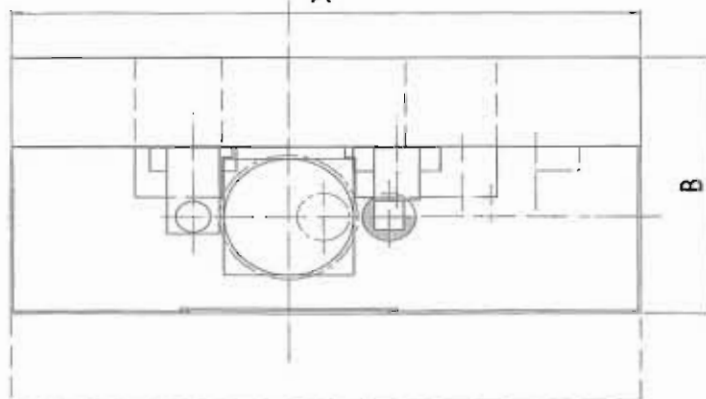
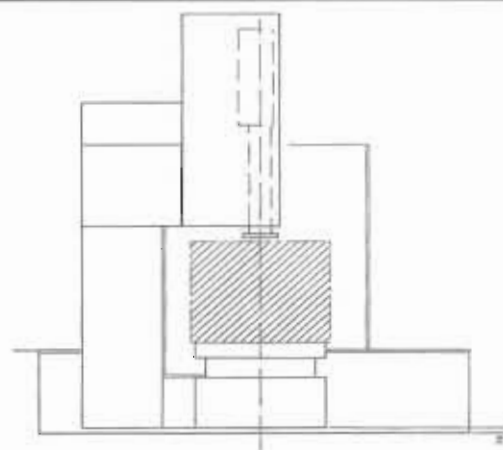
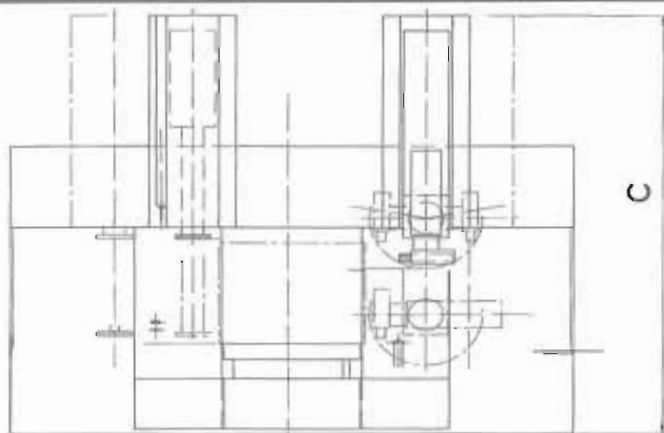
Machine dimensions TRD/S-2H ATC series



With automatic tool changer

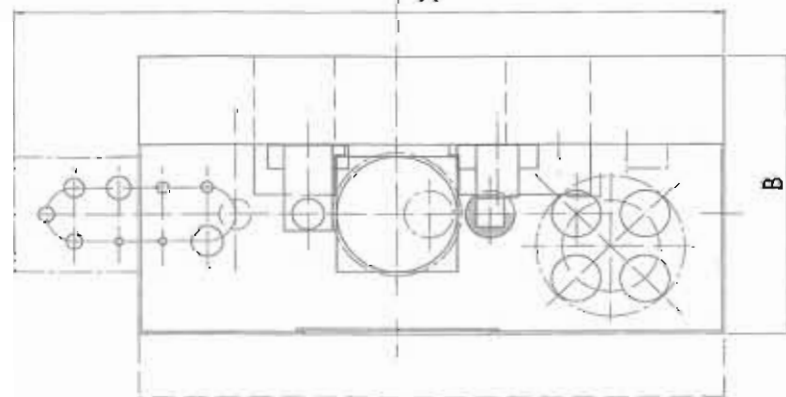
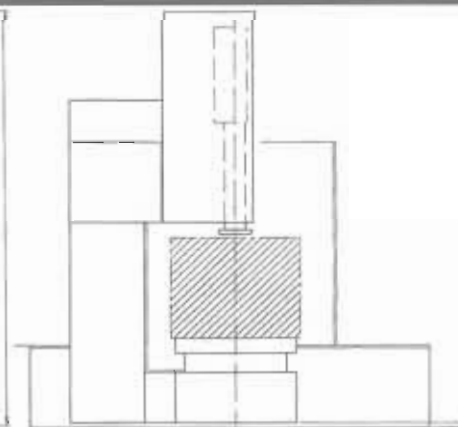
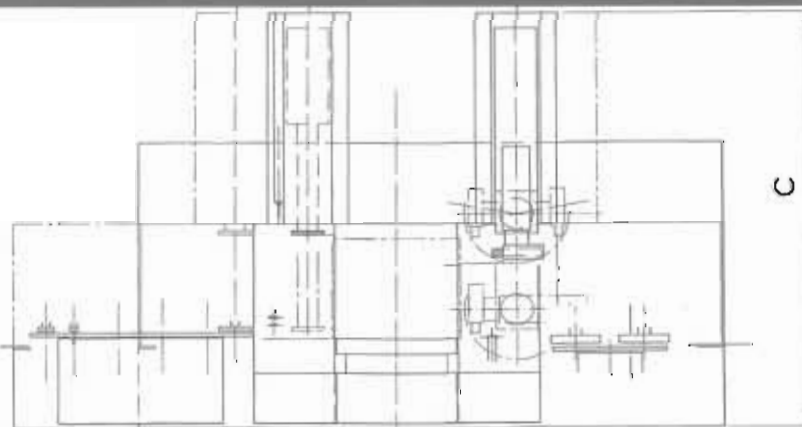
MODEL	A	B	C
TRD/S-2H-ATC 1500	8795	3650	5420
TRD/S-2H-ATC 2000	9295	3650	5420
TRD/S-2H-ATC 2500	9795	4150	5470
TRD/S-2H-ATC 3000	10295	4150	5470

Machine dimensions TRD/U-2H series



MODEL	A	B	C
TRD/U-2H 1500	6095	3650	5420
TRD/U-2H 2000	6550	3650	5420
TRD/U-2H 2500	7095	4150	5470
TRD/U-2H 3000	7595	4150	5470

Machine dimensions TRD/U-2H ATC series

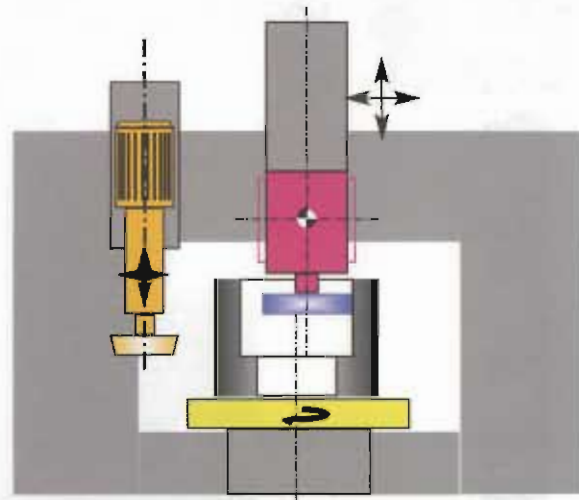
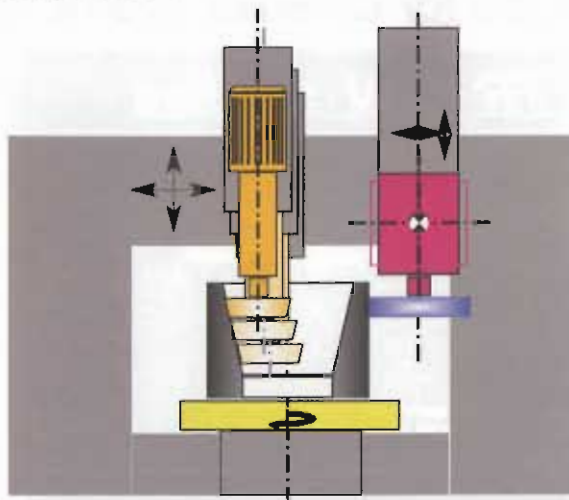


With automatic tool changer

MODEL	A	B	C
TRD/U-2H-ATC 1500	9095	3650	5420
TRD/U-2H-ATC 2000	9595	3650	5420
TRD/U-2H-ATC 2500	10095	4150	5470
TRD/U-2H-ATC 3000	10595	4150	5470

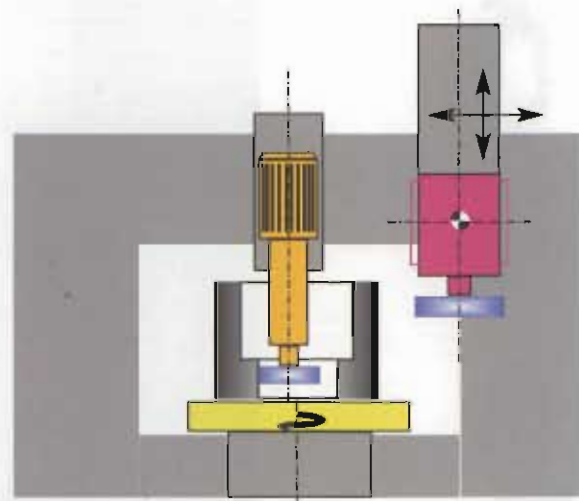
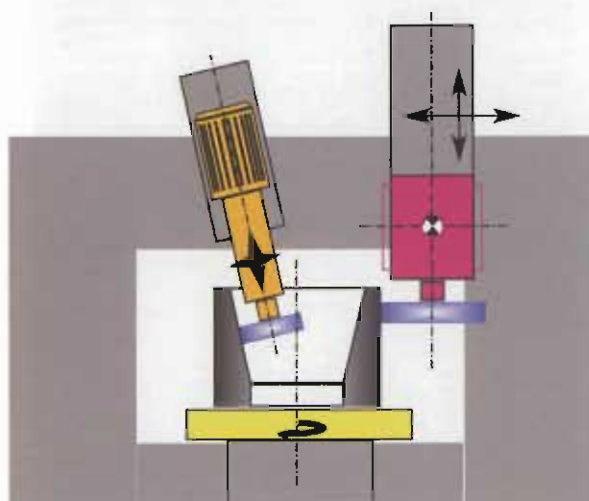
Example of application TRD-2H series

Interpolation

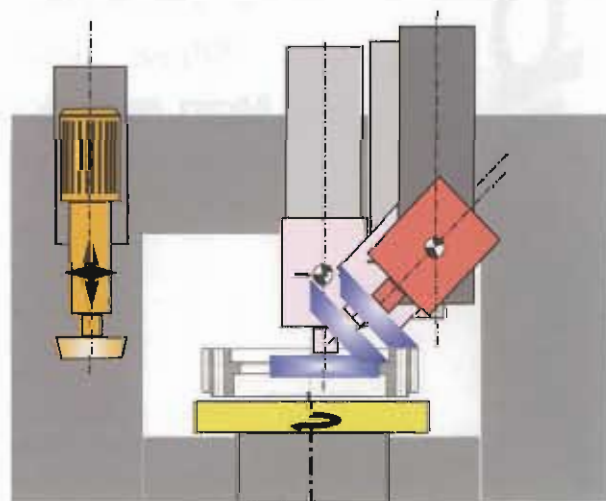
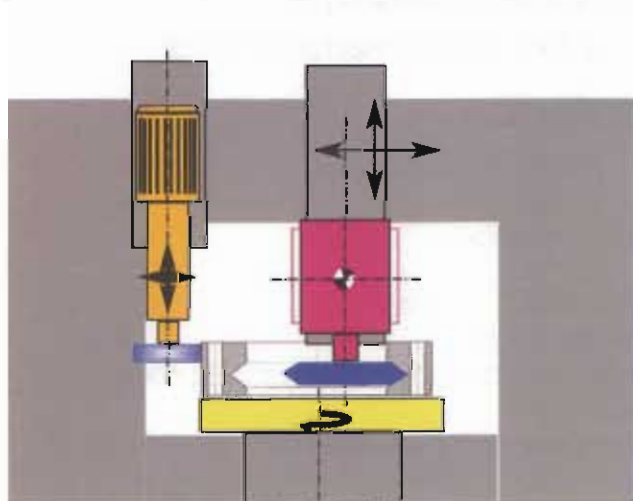


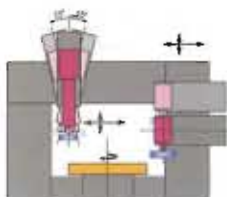
Example of application TRD/S-2H series

Angle Swivelling



Example of application TRD/U-2H series





*Double column machine with fixed rail and
Vertical head with swivelling saddle for internal
diameter and vertical head for external diameter*

Modulo TR-CN series

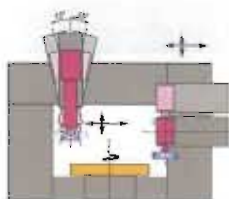


The equipment of the machine illustrated may differ from standard supply.

- **dgt_{cnc}** Digital electronic system with numerical control

Main technical specifications:

- Max. Grinding diameter : 1600 $\Rightarrow$ 3100 mm.
- Max. Height of workpiece : 1650 mm.
- Internal head power Angular swivelling : $\pm 15^\circ$
- Angular positions : $0^\circ 15'$
- Internal head power spindle motor : 15 kW
- Dimension of STD Wheel internal head
Min - Max external diameter: 350 $\Rightarrow$ 508 mm
- Dimension of Wheel with extension
Min - Max external diameter: 200 $\Rightarrow$ 300 mm
- External Head Power spindle motor : 30 kW
- Dimension of Wheel (diameter x bore x width) : 610 x 304,8 x 150



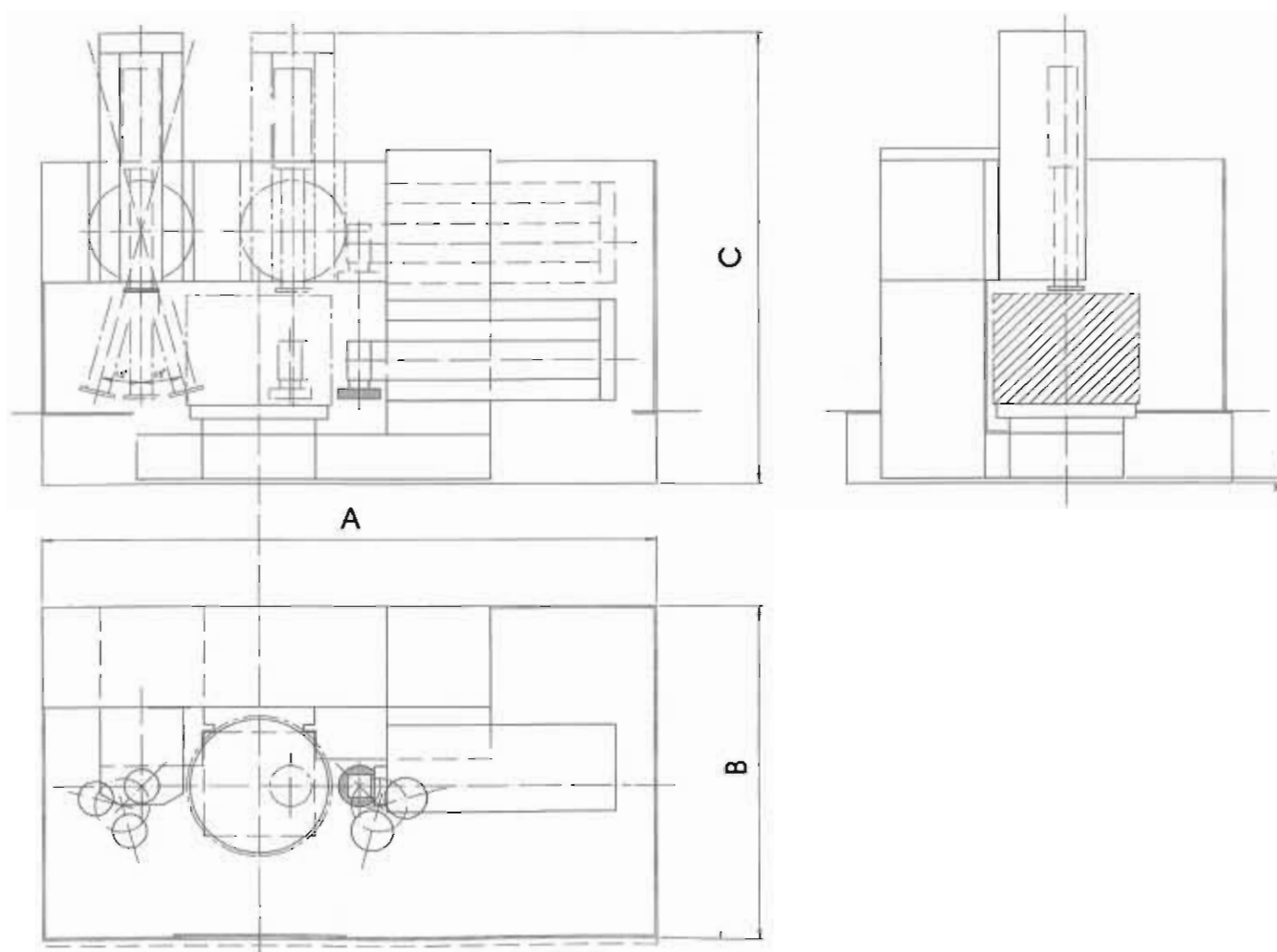
Double column technical specifications

Modulo TR-CN series

		TR-CNC 1500	TR-CNC 2000	TR-CNC 2500	TR-CNC 3000
Working capacity	Max Grinding diameter mm	1600	2100	2600	3100
	Min. Grinding diameter internal (STD wheel) mm	400			
	Min. Grinding diameter Int. with extension mm	250			
	Max Grinding height (STD wheel) mm	1550			
	Max Grinding height with extension mm Extension length mm	1150 400			
Vertical Head for internal	Power Kw	15			
	STD wheel dimension				
	Min. - Max diameter mm	350 ÷ 508			
	Wheel dimension with extension Min. - Max diameter mm	200 ÷ 300			
Vertical Head for external	Speed (Min. - Max.) rpm	800 ÷ 2800			
	Power Kw	30			
Rotary table	Wheel dimensions (diameter x bore x width) mm	610 x 304,8 x 150			
	Speed (Min. - Max.) rpm	500 ÷ 2000			
	Diameter mm	1500	2000	2500	3000
Cross axis head for internal	Speed (automatically adjustable with relation to position of the Y axis) rpm	1 ÷ 50			
	Load max (without magnetic chuck) Kg	10000	15000	20000	25000
	Load max (with magnetic chuck) Kg	8500	11500	14000	16500
	Rapid speed m/min	10			
Cross axis head for external	Min. Programmable step feed mm	0,001			
	Working travel mm	2200		2700	
	Max travel mm	2280		2780	
	Rapid speed m/min	10			
Vertical axis head for internal	Min. Programmable step feed mm	0,001			
	Working travel mm	1000		1450	
	Max travel mm	1080		1530	
	Rapid speed m/min	10			
Vertical axis head for external	Min. Programmable step feed mm	0,001			
	Working travel mm	1600			
	Max travel mm	1680			
	Angle Swivelling degrees	+/- 15°			
Dimensions	Min. indexing angle degrees	0° 10'			
	Rapid speed m/min	10			
	Min. Programmable step feed mm	0,001			
	Working travel mm	1750			
Vertical axis head for internal	Max travel mm	1830			
	LENGTH mm	8900		10400	
	WIDTH mm	4980			
	HEIGHT mm	6750		6800	
MACHINE WEIGHT	Kg. (approx)	122000	132000	142000	152000
	POWER REQUIREMENT Kw. (approx)	315			

Dimensions, Weight, and Power may vary subject to optional equipment.

Machine dimensions TR-CN series



MODEL	A	B	C
TR-CN 1500	6400	3650	5420
TR-CN 2000	6900	3650	5420
TR-CN 2500	7400	4150	5470
TR-CN 3000	7900	4150	5470

CNC Technology Favretto Innovative Grinding Solutions



Standard technical specifications cnc technology

Standard technical specifications cnc technology

dgtcnc *Simple to use*

CNC control

The Power of control



In FAVRETTO philosophy, Power of Control is an essential factor for success.

Power of Control - the use of the latest generation SIEMENS numeric control power allows advanced application software.

- it allows inexperienced operators to create and use formed wheels through extremely powerful graphical templates.
- it offers an easy and effective solution to all technical challenges with the simple combination of work cycles and the forming of wheels.

Standard technical specifications cnc technology

dgtcnc *functional advantages*

- **Guaranteed reliability**



In FAVRETTO philosophy, **Guaranteed Reliability** is an indispensable factor for success.

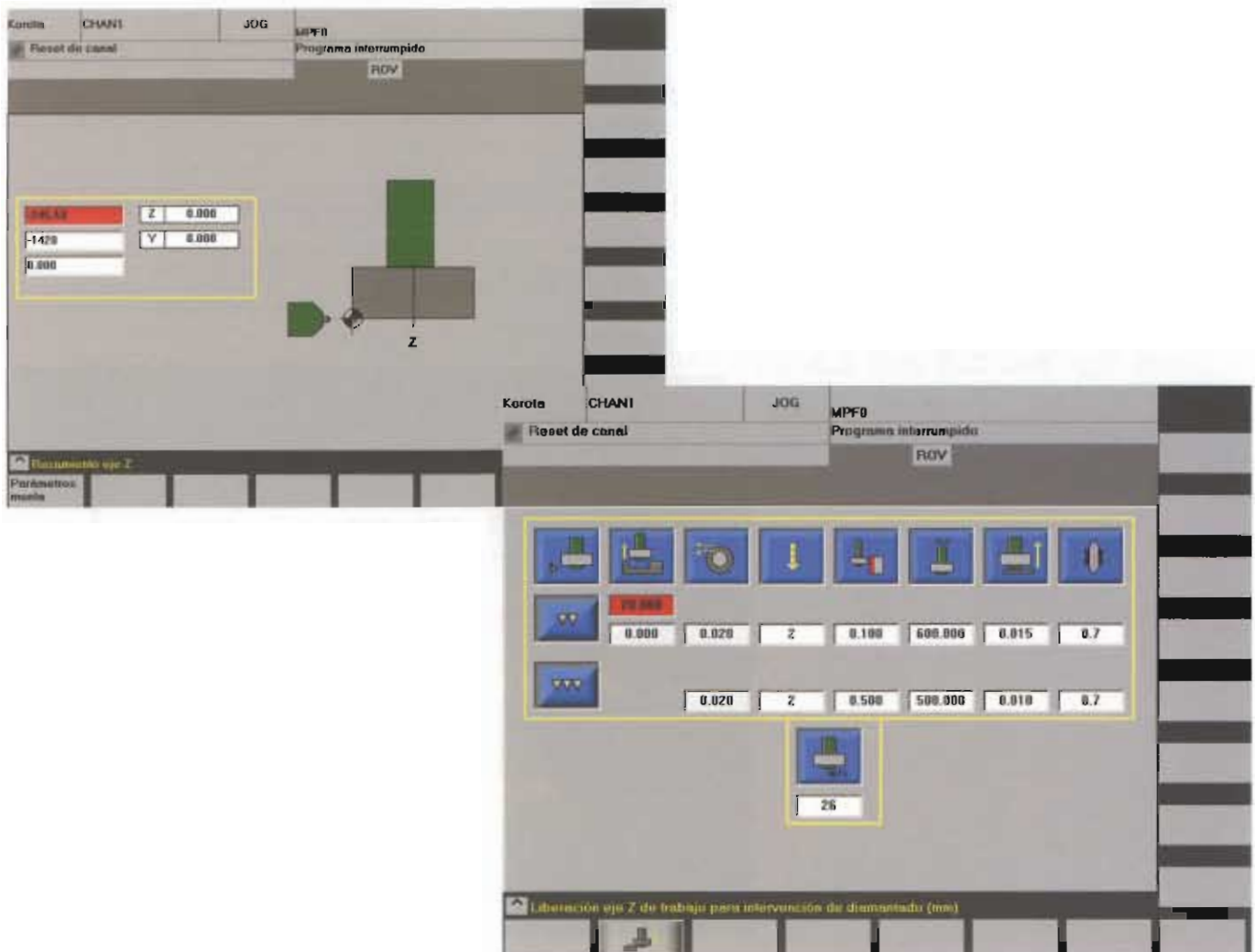
Guaranteed Reliability

- is a result of the use of "reliable" materials, components and systems.
- it considers the machine tool as an element of the productive system, including the operator and the environment.
- it foresees and solves those situations representing a threat to the productive system.
- it also means:
 Maximum comfort for the operator.
 Availability of an easy solution for each problem.
 Maximum operator's satisfaction for the results obtained by their work.

Standard technical specifications cnc technology

dgtcnc functional advantages

Functional technology



In FAVRETTO philosophy, **Functional Technology** is an important factor for the success.

Functional technology

- makes the operator experience simple.
- makes advanced grinding cycles simple to achieve.
- makes changing a wide variety of parameters easy to achieve which enables maximum optimisation of any work cycle.

Optional equipment and relative technical detailed lists

Operating Efficiency

Rotary magnetic chucks .



Endless paper belt type mechanical swarf separator for coolant equipment.



- Tank 350 l Flow rate 100 l/min.

- Tank 600 l Flow rate 200 l/min.

Static frequency converter for wheel speed control, maintaining a constant peripheral speed as the wheel diameter alters.



Dynamic balancing unit for the wheel including:

- balancing head*
- vibration transducer*
- electronic control system*

The system allows a balancing intervention by means of push button displaced on the machine keyboard panel.



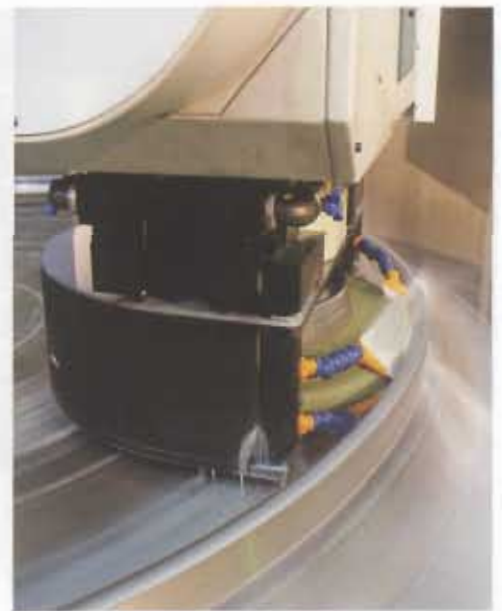
Working examples



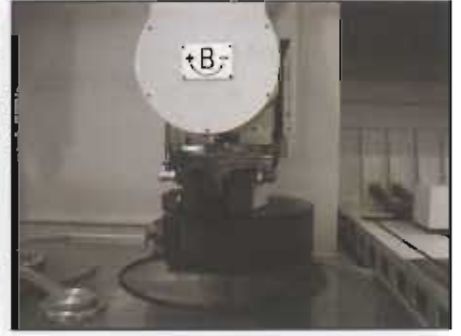
Working examples



Working examples



Tool Changer



Favretto technical service



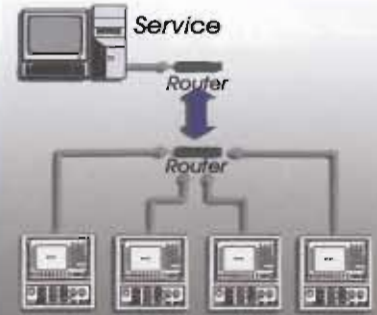
NET SERVICE

Contact our Specialists for immediate remote machine diagnostics. Our Engineers will identify problems and advise solutions, using high speed internet connections, reducing travelling and other costs.



SERVICE

Favretto offer immediate support in case of a machine breakdown. A quick telephone call will be enough to establish your needs and send the relevant components and Specialist Engineers to resolve the problems in a prompt and professional manner.



TELESERVICE

Favretto provide TELESERVICE support to worldwide Customers. By Teleservice connection Machines at the User Plant can be checked and operated by the Favretto Service Station. In this way it is easier and faster to provide service for operation, troubleshooting and maintenance.



INSTALLATION

We provide a complete service, not only installing and commissioning the machine, but our Specialists will remain with you to ensure that full training is carried out relative to your production requirements. Favretto believe the most efficient and professional method of installing machines is to leave only when the machine is functioning and producing your components.



USED MACHINES

Should you decide to acquire a used machine, Favretto can provide reliable machines which meet Favretto's high standards of quality, productivity, precision and reliability in a cost effective manner.



SPARE PARTS

Thanks to state of the art spares management software, we can identify and supply spare parts. This system is continually updated throughout the day to ensure that Favretto work on up to the minute stock positions enabling accurate and rapid order processing.

Notes

Notes

Notes



*Specialized in the manufacture of surface and profile grinding since 1934
with over 20.000 machines produced and distributed world wide*



FMT GROUP

FAVRETTO

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Cimat

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Representing: **FMT Group/ Favretto**

Sales, Service and Parts

DISTRIBUTORS WANTED