



Proposal No: T1411701
December 1, 2014

MultiSIGMA 8x24 EQUIPMENT SUMMARY

T1411701

NOTE: Machine will be equipped to run 440V-480V 60 Hz unless another voltage is requested.

Option Qty Description

<u>Option</u>	<u>Qty</u>	<u>Description</u>
272-0001	1	MultiSIGMA 8x24 Base Machine with; Parallel Control PNC-DECO 8 MOTORSPINDLES 6 COMPOUND SLIDES POS. 1 to 6 1 CUT-OFF CROSS SLIDE POS. 8 1 COUNTER-OPERATION SLIDE POS. 8 1 COUNTER SPINDLE POS. 8 6 END WORKING UNITS POS. 1 to 6 (requires option 0006 or 0007)

- Compact design with base in cast mineral compound and cover.
- Spindle barrel with location and locking by HIRTH curvic coupling.
- Motorspindle power 11,2 kW 17 (25)Nm speed from 0 to 8,000 RPM.
- 6 compound slides, X = 50mm stroke, Z1 = 80mm position 1, 2, 3, 4, 5, 6.
- 1 cross slide 65 mm stroke, pos. 8.
- 1 counter-operation slide, 65mm stroke.
- 6 end working units, 371mm stroke.
- 1 counter spindle capacity 20mm diameter. mounted on a slide
Z = 330mm stroke
independent motor 0 to 8,000 RPM.
- Electrical cabinet
- Operator's console set on a pendant high resolution color screen.
- Centralized automatic lubrication
- Machine lighting
- Set of spanners and servicing tools
- Set of coolant pipes
- Pneumatic group
- Standard interface for fire-fighting device (according to TORNOS specifications).



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SUNDRY

- Conformity with EC and CEM norms

NUMERIC CONTROL PNC-DECO

- Control FANUC 30i-TB
- AC motors and absolute encoders
- 99 tool geometries
- 31 tool compensators per axis
- Operation panel for operator/adjusting functions.
- Override functions
- Parts count
- Interface ETHERNET, RS 232.
- Interface for card PCMCIA

PROGRAMMING SOFTWARE TB-DECO

- Tool nose radius compensation
- Standard basic cycles: initialization, new part, new bar.
- Standard multiple threading cycle

TB-DECO requires options

750-0005 + 750-0710: TB-DECO ADV

272-0007 1 **MultiSIGMA 8x24 Adaptation Double Counterspindle**
Version dm2
1 CUT OFF CROSS SLIDE POS. 7
1 COUNTER-OPERATION SLIDE POS. 7
1 COUNTER SPINDLE POS. 7
- 1 cut off slide pos. 7, X = 65mm stroke
- 1 counter-operation slide, 65mm stroke
- 1 counter spindle capacity 20 mm diameter.
 mounted on a slide
 Z = 330mm stroke
 independent motor 0 to 8,000 RPM



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|----------|---|--|
| 750-0005 | 1 | <p>SOFTWARE TB-DECO ADV- Programming software TB-DECO ADV</p> <ul style="list-style-type: none"> - 1 license for a production site PC - Configuration in 5 languages (F, G, E, I, SP) - Programming in ISO language - Calculation of real machining time - Real path display per operation - Graphical simulation of the program (SIM-DECO) - Trigonometric calculation assistant - Macro language for parameter setting programming (PELD) - DNC-DECO, software for the transmission of workpiece program on lathe control - Configuration of customer PC: Equipped w/Windows 2000, Windows XP (Home/Pro) or Windows Vista (Business/Ultimate) previously installed in F, G, E, I or SP - To communicate with the machine, the PC must be equipped with at least one of these options: <ol style="list-style-type: none"> 1) Ethernet card w/UTP5 cable (crossover for point-to-point link) 2) PCMCIA reader with SRAM 2/4/8Mb card 3) RS-232 output with compatible cable (typical configuration example: Intel P4; 512Mb RAM; HD: 40GB; Ethernet 10/100 card) (requires 750-07XX) |
| 272-0053 | 1 | Operating instruction in English |
| 272-0063 | 1 | CNC machine language in English |
| 272-0116 | 1 | 110 V US plug and plate, US |
| 272-0121 | 1 | Standard TORNOS colors: grey RAL 7035 / blue RAL 5013 |
| 272-5200 | 1 | System of tool manager |
| 272-7651 | 1 | Function axis C in main operations, 8 spindles/increment 0,001 degree |
| 272-7652 | 1 | Function axis C in counter-operations, 1 or 2 spindle(s)/increment 0,001 degree |
| 272-7653 | 1 | <p>Milling function in polar coordinates (interpolation of the axis C with a linear axis)</p> <p>(requires 7651 in main operations or 7652 in counter-operations)</p> <p>(requires 750-0005)</p> |
| 272-7670 | 1 | <p>Remote Assistance Service allowing TORNOS the remote visualization of the machine CNC screen.</p> <p>Out of warranty intervention time not included.</p> <p>(requires a connection to the Internet)</p> |




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272-7680	1	Interface PC Including of basic: - Software TB-DECO - Operating instruction (factory installed only)
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272-0015	1	Preparation for 3 Y axe, including the drive for 3 rotating tool. Includes: - Plug for the work zone - FANUC amplifier - Electrical wiring (requires additional power supply 0016)
272-0016	1	Power Supply for motorquills and/or 2nd Y-axis and/or 3rd Y-axis (max. 1 per machine)
272-0023	1	8 clamping tubes for collets 9012E or SG9012BZ
272-0105	1	Line voltage 440-480 V 60 Hz +/- 5%
272-0411	1	Bar swing stop, Part length to 100mm
272-1921	1	Numeric linear manipulator dm1, 1,770 mm stroke. (requires 7152)
272-1922	1	Adaptation to a dm2 linear manipulator. (requires 0007) (requires 1921 and 7152 2x)
272-2444	1	Electrical adaptation necessary for cross drilling attachments PARVEX (for max. 3 drilling attachments)
272-2610	3	Adaptation for GOLTENBODT MODULAR 40 for end slides
272-2710	3	Stationary drilling attachment with adaptation kit for cooling through the center. (requires 2610 or 2630)
272-3255	2	Presettable tool holder GOLTENBODT for cut-off blade ISCAR (requires 3515)
272-3280	2	Blade holder of ISCAR, GOLTENBODT. (requires 3580)
272-3510	2	Base plate pos. 2-3-4-5-6-7
272-3515	4	Base plate for pos. 8-(7) for cut-off or counter-operation.
272-3521	4	Presettable tool holder GOLTENBODT with coolant pos. 1-2-3-4-5-6-7-8-9-10 for 16 x 16 mm section tools (requires 3510 or 3515)




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 272-2577 1 Coolant chiller for the cutting oil and spindles.
 Heat exchange power of 37 kW for installation and
 cooling of the oil when the total power of the additional
 HP pumps is above to 5 kW.
 (HP=high pressure, above 20 bars)
 For MAYFRAN conveyor or MSF HC

442-0012 1 **ROBOBAR MSF-HC-522/8 4M**
 (this integrated system can be mounted on a MA 8x20 or
 MS 8x24)

Bar loader module made up of:

Welded construction

Fully enclosed guard

Retractable pushrods

Return stock carriage by 580mm (manual)

Bar capacity max. diameter 22mm without preparation

Diameter 24mm with bar preparation

3 capacities according to choice (in option)

5-8mm, 8-13mm, 13-22,5mm.

Electronically controlled thrust

Lateral loading with bundle magazine

Calibration of bar at loading

Ejection of bar end at rear side

Oil supply of bar guides (closed circuit)

Electro-pneumatic control

Servo-system with SERVO BETA FANUC

For bars length 4'000 +/- 200

Bar reserve with bundle magazine

Basket module made up of:

- A 2,000 liters (530 gallons) coolant tank with a built in
 safety level.

- A 3,5 bars pump 200 l/min. (53 gallons/min.)

- A 40 bars pump 37,5 l/min. (10 gallons/min.)

- A pump to clean the filter

For oil with a viscosity between 7 and 36 cSt

Max. oil flowrate coming from the working zone:

380L/min (50Hz), 415L/min (60Hz)

(requires adaptation 004x)

(requires bar capacity 04xx)

(requires conveyor 3581or 3582)




(requires its own electrical hookup - no power supply
 from the machine - refer to the data in the instruction
 manual).



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- 442-0053 1 Operating instruction in English
- 442-0059 1 Operating instruction on a CD
- 442-0105 1 Line voltage 440-480 V 60 Hz +/- 5%
- 442-0121 1 Standard TORNOS colors: grey RAL 7035 / blue RAL 5013
- 442-3401 1 Paper Filter - 30 microns
Total volume of coolant oil filtered at 30 microns (at 90%).
Mounted on metal frame
(obligatory with 0001,0002,0011, or 0012)
- 442-3582 1 Evolution chip conveyor type HC
Side exit module made up of:
 - A chip conveyor with chip discharge toward the front or the back of the machine.
 - 1,200mm discharge height
 - A scraper type chip conveyor with an integrated 50 mu filter.
 - A transfer pump 350 l/min. (92 gallons/min.)
 - One detector for overflow
(requires bar loader 0001 or 0002 or 0011 or 0012)
(requires channel 3583 or extraction 3585)
- 442-3585 1 Channel to evacuate the chips from the machine.
Compatible with MultiSIGMA 8x24 and MultiALPHA 8x20.
(requires conveyor 3582)
- 442-3593 1 Additional pump 80 bars 52 l/min. 10.0 kW for HC system 3581 or 3582.
For the additional pumps 359x:
 - Maxi number: 2
 - Total maximum outputs: 140 l/min.
 - Calculate the sum of the electrical power
(requires chiller 2xx-2576 or 2577)
(requires filter 3597 or 3598)
(requires bar loader 0001 or 0002 or 0011 or 0012)
- 442-0413 1 Pushrods and bar guides, capacity 8 to 13 (16) mm
Length 4M, pushrod shaft 16 mm, bar guide diameter 17 mm
(requires 7013)

TOTAL STOCK MACHINE AT CURRENT MARKET PRICE
LESS PROMOTIONAL DISCOUNT
TOTAL STOCK MACHINE AT DISCOUNTED SALES PRICE

U.S.\$ 
U.S.\$ 
U.S.\$ 

*Based on availability and subject to prior sales



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272-2421	1	Motorization cross drilling attachment 2 Nm 0,75 kW Pos. 1-2-(3)-4-5-6-(7) Max. 3 motorizations 2421	[REDACTED]
272-2432	1	90° head for cross drilling attachment Max. RPM: 6,000 (8,000) (requires 2421)(requires 2444)	[REDACTED]
272-2446	1	Reduction 1:3 for cross drilling attachment Tool max. RPM: 1,670 Torque max. 6 Nm (requires 2431 or 2432)	[REDACTED]
272-2710	3	Stationary drilling attachment with adaptation kit for cooling through the center. (requires 2610 or 2630)	[REDACTED]
272-2755	4	Collet holder ESX-25 (requires 2610) (requires 2710 or 2720)	[REDACTED]
272-3510	3	Base plate pos. 2-3-4-5-6-7	[REDACTED]
272-3521	1	Presettable tool holder GOLTENBODT with coolant pos. 1-2-3-4-5-6-7-8-9-10 for 16 x 16 mm section tools (requires 3510 or 3515)	[REDACTED]
272-7012	1	1 Set of 9 clamping collets 9012E hexagonal bore 8 to 17 mm square bore 8 to 14 mm	[REDACTED]
272-7101	2	Pick up collet round bore capacity 6-20 mm with extractor	[REDACTED]
442-7023	1	Set of 10 bar feeder collets, capacity 13 to 22 (24)mm, shaft 25 mm	[REDACTED]

TOTAL REQUIRED ITEMS:

Note:

1. Some part feature dimensions, tolerances and capability requirements will require further review prior to a formal proposal if a part set-up and run-off package is required.