



NX Series

**High Performance Double Column
Vertical Machining Centers**

**Performance
Technology
Power
Accuracy**



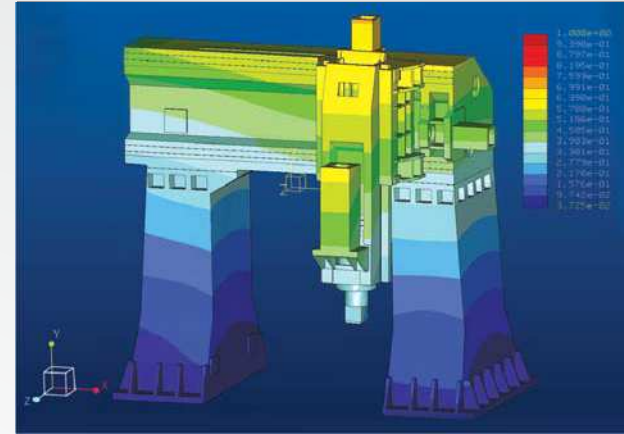


NX Series

Overview

NX Series Heavy Duty Double Column Vertical Machining Centers are suitable for multi axis heavy machining both in roughing and finishing of bigger components greatly increasing work envelop, permitting larger parts to be machined, and a wider range of tool lengths to be used in same setup. Combination of dynamics and accuracy allows to obtain very high quality surfacing even for complex workpiece such as injection molds, forging dies, big size plates, heavy engineering workpieces to help keep pace with market applications...

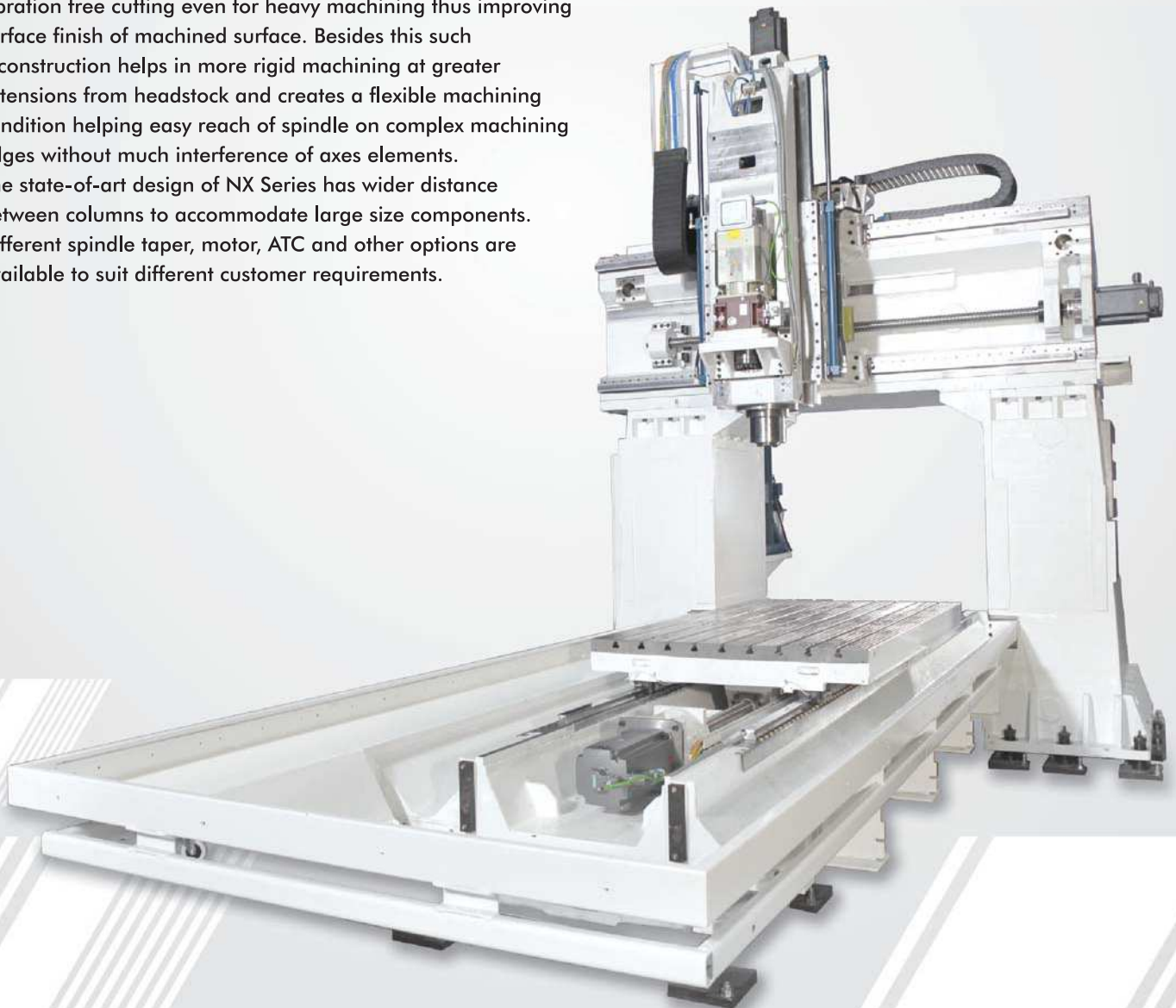
- Designed even for large mold and mold base machining
- Table load capacity up to 10.000 kg
- Options available in milling heads
- Greatly upgrades machining accuracy while lowering machining cost
- Z-axis hydraulically counterbalancing done for smooth motion during machine movement and better stability while actual machining at higher parameters...



Moving ram in Z-axis

An exclusive design of moving ram in Z-axis increases the dynamic characteristics and ensures rigidity, stability and vibration free cutting even for heavy machining thus improving surface finish of machined surface. Besides this such a construction helps in more rigid machining at greater extensions from headstock and creates a flexible machining condition helping easy reach of spindle on complex machining edges without much interference of axes elements.

The state-of-art design of NX Series has wider distance between columns to accommodate large size components. Different spindle taper, motor, ATC and other options are available to suit different customer requirements.





Structure : Rigidity and Accuracy

- Double column structure with Y-axis on rigid cross-beam, a moving table in X-axis and Z-axis on ram type h Head with better reach to table area.
- Wide gap maintained between both the columns enabling it to accommodate and machine large size components.
- Structure made of cast iron is capable to give high mechanical performance which maximizes structure rigidity and allows optimum harmonic stability and maximum damping during demanding cutting conditions.
- Machine can be placed on foundation with weight equally distributed over fixing points enabling extreme rigidity and very high geometrical stability.

Linear axes

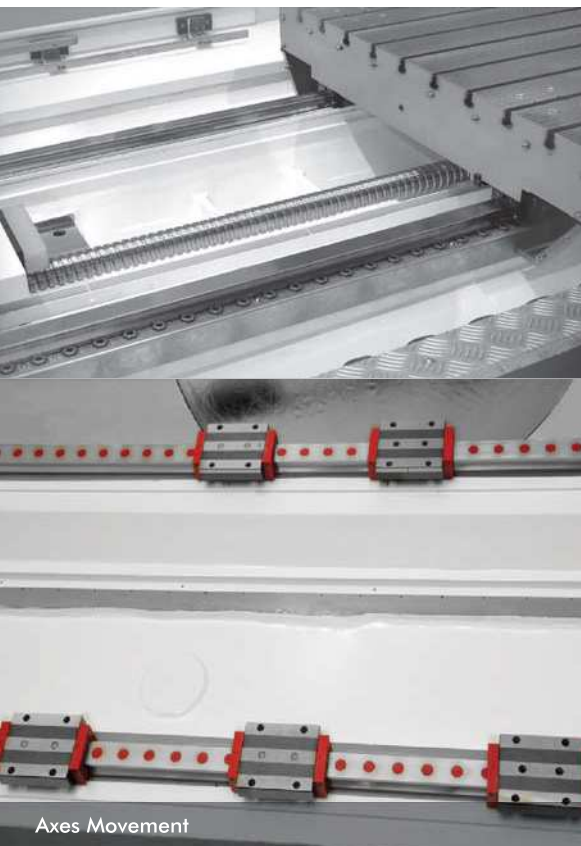
- Precision linear roller guideways on X & Y axes enabling higher rapids for better productivity and accuracy life.
- Z-axis moves on ram type head moving on hardened and ground surface.
- Preloaded ballscrews with integrated system of compensation for expansion with preloaded bearings to remove inversion backlash and axial stress on ballscrews enabling a high quality of surfacing
- Spring preloaded bearing at end of ball screw. Such an arrangement compensates effect of thermal expansion giving uniform preload on ball screw ultimately increasing bearing life.

Automatic tool changer

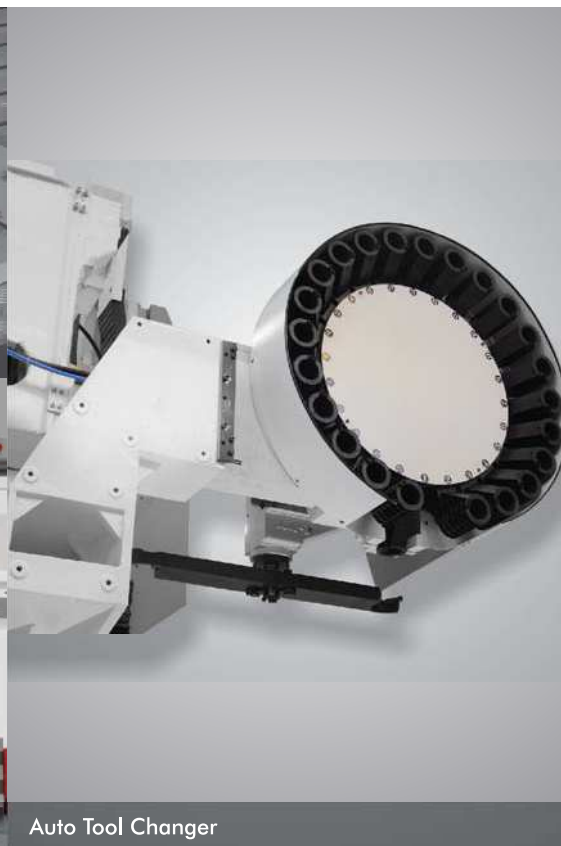
- 24 Tool Arm type ATC with ISO 50 taper for models having disk type magazine for feasibility of tool changing as standard with options of taper with respective spindles.
- Options available of high tool storage capacity tool changers 32, 40, 60 & 90.

Environment - Ergonomics

- Tool magazine outside of working area
- Safeguard ensuring a safety of the machine, the operator and environment
- Very large accessibility to the table and the work piece from top and side of the machine thanks to a large opening of doors and possibility to load with lifting equipment
- Operator panel with swing arm for easy accessibility to working area enabling better operator friendliness
- Check points in reach of operator for ease in maintenance.
- Wide opening of door for ease in workpiece loading/unloading



Axes Movement



Auto Tool Changer



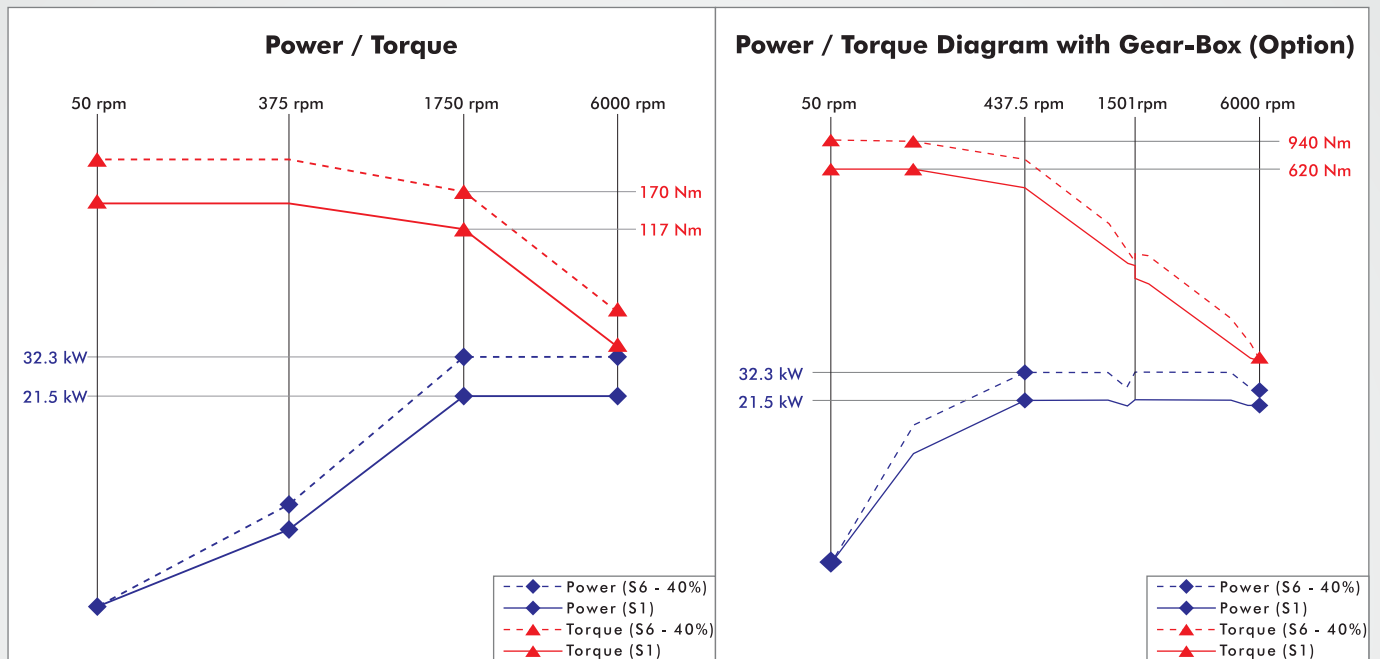
Control Panel



NX Series

Spindle

- NX Series machines are equipped with high torque spindle motors as standard for high metal removal rates. Spindle rests on a moving ram type head to reach greater extensions of working area without much interference of axes elements.
- Vertical spindle has been designed and manufactured in-house in a dedicated clean room facility having relative setup. These spindles are balanced and then extensively tested for performance. Angular contact bearings are used with life lubrication with properties of high speed and stability during heavy cutting loads.

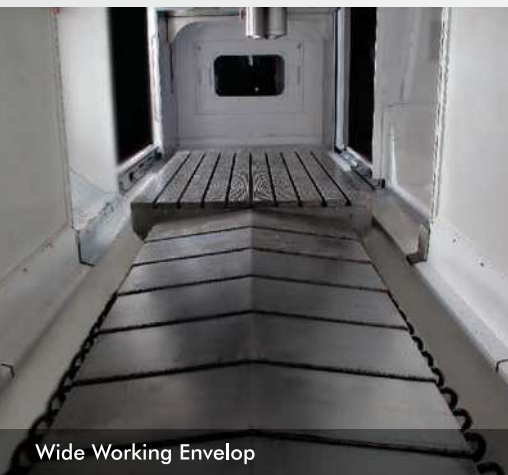


Nozzles for cutting tool coolant

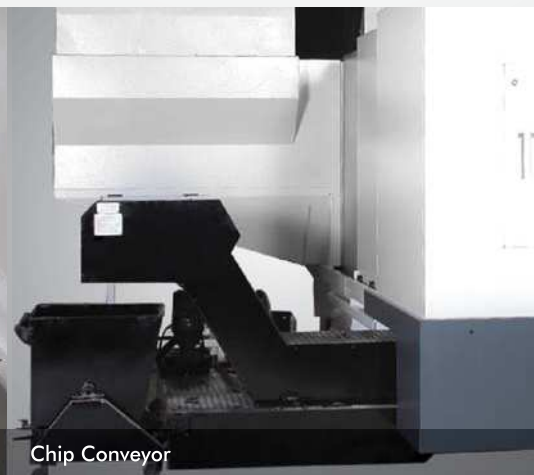
The coolant nozzles around the spindle face facilitates the manual adjustment of the nozzles for proper positioning of the coolant on the job while machining.

Swarf removal

Two side spring conveyors discharge the swarf to a third cross conveyor located at the front of the machine.



Wide Working Envelop



Chip Conveyor




Spindle



Head options

	Head changing	Indexing
Manual head	Manual	Manual
90° auto indexing head	Manual / Automatic	Automatic

Manual head changer (Horizontal type)

Taper size	ISO 50	
Spindle speed	2.000 rpm	
Max. tool length	300 mm	
Spindle power	18,5 / 25 kW	
Head clamping	Manual	

90° auto indexing head

<p>Key features</p> <ul style="list-style-type: none"> - Programmable indexing - 5 faces machining possible eliminating multiple set-up time - Hydraulic tool clamping <p>Auto indexing position locked by 2-Piece Hirth coupling thus assuring the indexing position under stronger cutting condition.</p>		
Taper size	ISO 50	
Spindle Speed	3.000 rpm	
Max. tool length	300 mm	
Spindle Power	22 kW	
Indexing angle	At every 5 degree	
Head clamping	Hydraulic	
Indexing	Automatic	

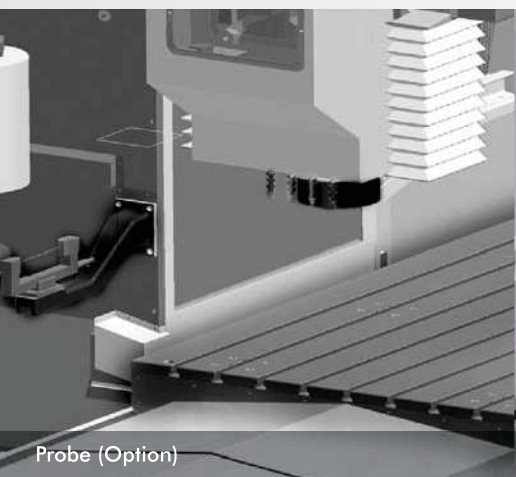


NX Series

Working table & T-slot dimensions



MACHINE	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	No. of Slots
NX 40	1.250	2.200	125	18	30	12	34	125	9
NX 50	1.250	3.000	125	18	30	12	34	125	9
NX 60	2.000	3.000	160	22	37	16	40	120	12
NX 70	2.000	3.500	160	22	37	16	40	120	12



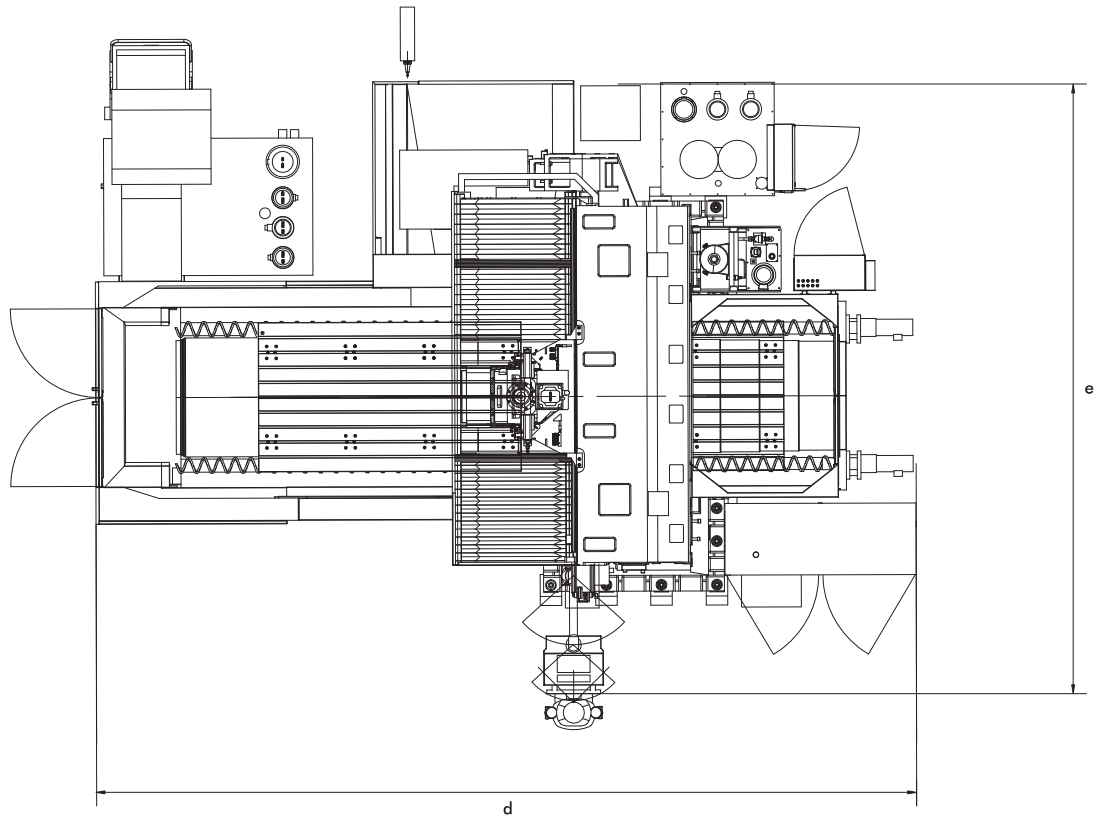
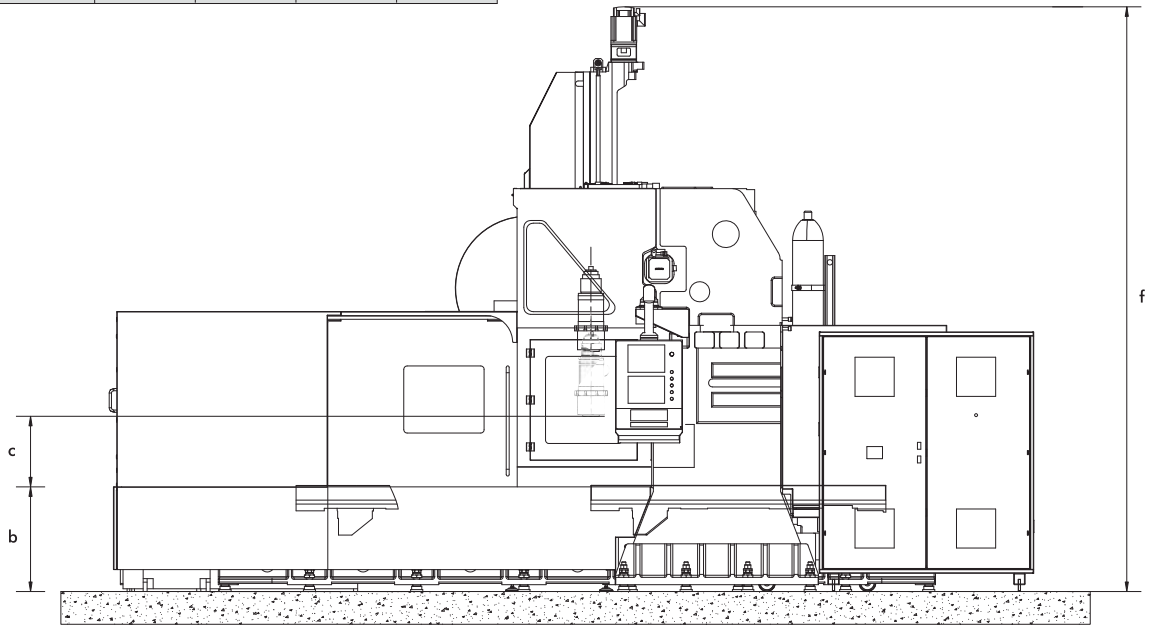
Probe (Option)

Gearbox (Option)



Layout diagram

Model	Dist. between two columns	Table to ground	Spindle to table top	Length	Width	Height
		b	c	d	e	f
NX 40	1.600	790	200	6.870	5.200	4.660
NX 50	1.600	790	200	8.900	5.200	4.660
NX 60	2.500	920	200	9.770	6.160	4.790
NX 70	2.500	920	200	10.770	6.160	4.790



		NX 40	NX 50	NX 60	NX 70
Table					
Table size	mm	2.200 x 1.250	3.000 x 1.250	3.000 x 2.000	3.500 x 2.000
T-Slot dimension	mm	9 x 18 x 125	9 x 18 x 125	12 x 22 x 160	12 x 22 x 160
Dist. from floor to table	mm	790	790	920	920
Max. load on table	kg	6.000	8.000	10.000	10.000
Distance between column	mm	1.600	1.600	2.500	2.500
Travels					
X-axis	mm	2.200	3.200	3.200	4.200
Y-axis	mm	1.500	1.500	2.200	2.200
Z-axis	mm	800 (1.000)	800 (1.000)	800 (1.000)	800 (1.000)
Dist. from spindle face to table top	mm	200	200	200	200
Rapid traverse (X / Y / Z)	m/min	20 / 20 / 15	15 / 20 / 15	15 / 15 / 15	15 / 15 / 15
Cutting feedrate	m/min	10	10	10	10
Spindle					
Spindle speed	rpm	6.000	6.000	6.000	6.000
Spindle power (S6 / S1)	kW	32,3 / 21,5	32,3 / 21,5	32,3 / 21,5	32,3 / 21,5
Spindle torque	Nm	170 / 117	170 / 117	170 / 117	170 / 117
Front bearing bore	mm	100	100	100	100
Spindle taper		ISO 50	ISO 50	ISO 50	ISO 50
Automatic tool changer					
No. of tools		24	24	24	24
Max. tool dia.					
Pockets : (All Full - Adj. Empty)	mm	127 - 254	127 - 254	127 - 254	127 - 254
Max. tool length	mm	350	350	350	350
Max. tool weight	kg	15	15	15	15
Change time :					
Tool to Tool - Chip to Chip	sec	6 - 15	6 - 15	6 - 15	6 - 15
Accuracy (VDI/DGQ 3441)					
Positioning Uncertainty (P)	mm	0,020	0,020	0,020	0,020
Repeatability (Ps medium)	mm	0,008	0,008	0,008	0,008
Other Data					
Weight	kg	26.500	28.500	34.800	37.100

Standard Features

- AC spindle drive
- AC SERVO axis drive
- Linear roller guideways (X & Y)
- Auto & manual coolant system
- Centralized & programmable lubrication
- Laser calibrated axis for high precise positioning accuracy and repeatability
- Chip conveyor

Options

- Linear glass scale for axes
- Coolant through spindle
- ATC (32/40/60/90)
- Oil mist collector system
- Auto indexing head (Horizontal)
- Manual horizontal head
- Y-axis extended stroke in model NX 60
- Rotary table
- Tool probe
- Job probe
- Gearbox (4.000 rpm)

Note : All above informations are subject to change arising out of continuous product improvement. The standard description, accessories and technical data conforms to our pricelists, not to the photo of machines shown in the catalogue.



Jyoti Group



www.jyoti.co.in

FRANCE : HURON GRAFFENSTADEN
 156, Route de Lyon - BP 30030
 67401 Strasbourg-IIIkirch Cedex
 Tel +33 (0)3 88 67 52 52
 Fax +33 (0)3 88 67 69 00
 www.huron.eu / commercial@huron.fr

CANADA : HURON CANADA
 408 Isabey
 St-Laurent, Québec H4T 1V3
 Tel +1 514 44 84 873
 Fax +1 514 44 84 875
 www.huron.fr / infocanada@huron.fr

GERMANY : HURON FRÄSMASCHINEN
 Siemensstrasse 56 - 70839 Gerlingen
 Tel +49 (0)7156 92836 12
 Fax +49 (0)7156 92836 50
 www.huron.de / verkauf@huron.de