

# ST Supertec



PRECISION SURFACE & GRINDER

## The Finest Solution



The **PLANOTEC** surface grinder excels due to the ease of the control settings in the manual and automatic grinding cycles. This grinder distinguishes itself with exceptional quality standards and workmanship. With simplified shop floor conversational programming it helps to increase productivity and is suitable for tool room or production application.

"Made By **SUPERTEC**" equals accuracy, precision and reliability.



## Saddle Type Structure

- The base utilizes a rigid box design that provides strong steady support to ensure the machines long term precision.
- The double Vee design of the base slideways provides greater rigidity and increased grinding accuracy.

Downfeed Increment Input 0.0001mm/0.000010"  
0.0001" flatness accuracy & Ra 6um finish

PLANOTEC is set to become the industry standard

**PLANOTEC-820NC / 1224NC / 1632NC**

## MACHINE CONSTRUCTION

### Hydraulic power pack

The stand alone hydraulic unit eliminates vibration and heat transfer. A cooling fan reduces the hydraulic oil temperature and limits thermal growth in the machine and allows for accurate smooth movement of the slideways



### Auto lubrication system

The automatic lubrication system continuously supplies re-circulated filtered lube oil to all slideways to prolong the machines life and provide smooth, low friction, stick-slip free movement.

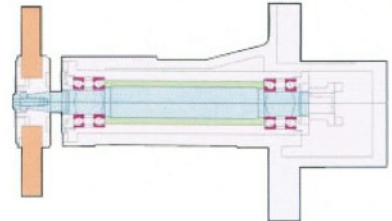
# The Finest Solution



## MACHINE CONSTRUCTION

### Spindle

High rigidity wheel spindle rotates in grease packed precision class 7 angular contact ball bearings. The cartridge spindle is interchangeable for easy maintenance and replacement. Spindle, coupling and class V3, 7.5HP spindle motor are precisely balanced for low vibration and powerful output to achieve grinding accuracy and superior finishes.

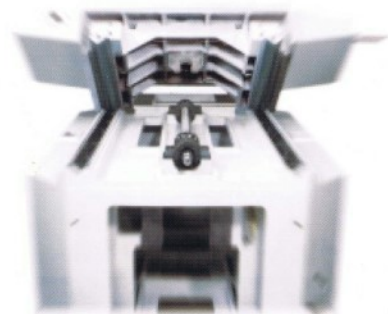


### Vertical movement (Y axis)

The column is a massive one piece casting that is heavily ribbed for maximum rigidity. The wheel head travels on high precision linear slideways via precision ballscrew and A.C. servo motor which is driven from the top to ensure a highly accurate downfeed. Manual control of the Y axis is done through the conveniently situated MPG.

### Cross movement (Z axis)

High grade Meehanite cast iron is used for the bed, saddle and other major castings. All castings are heat tempered and stress relieved during the manufacturing process to assure stability of the machine structure and resist deflection under load. The saddle movement is controlled through hydrostatic, precisely hand scraped, Turcite-B coated double Vee slideways that are driven via a precision ballscrew and A.C. motor.



### Longitudinal movement (X axis)

The hydraulically powered table traverses on hydrostatic, precisely hand scraped, Turcite-B coated, double Vee slideways which maintain a perfect fit for the life of the grinder. The double Vee design on the table is most important in maintaining accuracy during slot and shoulder grinding. The proximity switch style reverse trip dogs are properly covered and can easily set the table stroke. The table speed is infinitely variable.



## PLC control with LCD touchnology for simple operation

| GRINDING MODE  |            |        |       |      |
|----------------|------------|--------|-------|------|
| STEP-CROSS     | CRISSCROSS | PLUNGE |       |      |
|                |            |        |       |      |
| FEED SELECTION |            |        |       |      |
| FRONT          | REAR       | LEFT   | RIGHT |      |
| PARK SELECTION |            |        |       |      |
| LEFT           |            | RIGHT  |       |      |
|                |            |        |       | NEXT |

- Grinding Mode Selection
- Down Feed Selection
- Table Parking Selection



- Total stock removal
- Total fine grinding amount
- Coarse & Fine increment
- Sparkout passes & Clearance setting

### Data Screen

Position: \_\_\_\_\_

TOTAL STOCK REMOVAL : \_\_\_\_\_mm  
 FINE-FEED AMOUNT : \_\_\_\_\_mm  
 COARSE INCREMENT : \_\_\_\_\_mm  
 FINE INCREMENT : \_\_\_\_\_mm  
 SPARKOUT PASSES : \_\_\_\_\_  
 CLEARANCE : \_\_\_\_\_mm

### Data Input Keyboard

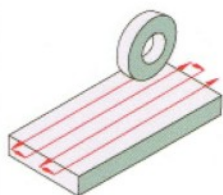
|   |   |     |     |
|---|---|-----|-----|
| 7 | 8 | 9   | CLR |
| 4 | 5 | 6   | ▲   |
| 1 | 2 | 3   | ▼   |
| 0 | - | ENT |     |

MAIN  
JOG

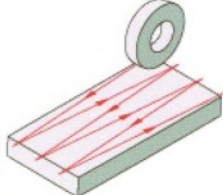
## The Finest Solution

### NC Grinding Cycle

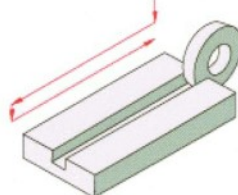
1. Step Grinding



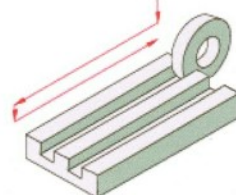
2. Criss-Cross Grinding



3. Plunge Grinding



4. Multi-slicing Grinding(opt.)





## Guarantees The Finest Solution



**PLANOTEC-24120NC**

### Column Type Structure

- The column type design uses less floor space than a saddle type.
- The column is a boxway design for enhanced stability.
- A precision ballscrew and A.C. servo motor on the downfeed insures maximum accuracy and repeatability.

## MACHINE CONSTRUCTION



### Column Type "T" shaped Base

- The integral "T" shaped base is manufactured from Meehanite casting that undergoes tempering and stress relief treatment to ensure structure stability.
- The base is 2.5 times longer than the working table insuring the table is fully supported during grinding operations.
- The working table has deepend double Vee slideways with an extra wide span enabling the table to move with smooth stick free operation.
- A hydrostatic lubrication system allows the working table to be fully supported by a pressurized film of oil, thus eliminating the friction between guideway surfaces. The lubrication system has a pressure sensor switch to make sure the machine has enough oil film pressure.

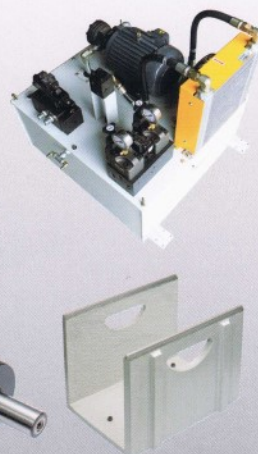
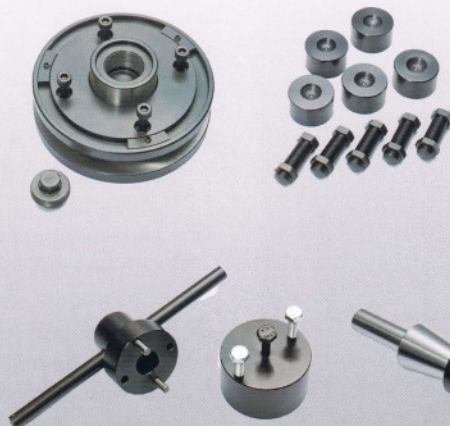
## CNC Surface Grinders



## MACHINE ACCESSORIES

### STANDARD ACCESSORIES

- Standard grinding wheel with flange
- Working lamp
- Leveling screws with blocks
- Balancing stand with arbor
- Wheel extractor
- Operation manual with part list
- Hand tools box with adjustment kits
- Diamond kit with holder
- Splash guard
- Standard coolant tank





## OPTIONAL ACCESSORIES

- Permanent magnetic chuck
- Tilting Permanent magnetic chuck
- Combine coolant and dust collector
- Dust collector
- Hydraulic parallel dressing attachment
- Automatic dressing attachment with compensation system
- Inverter for wheel head spindle
- Auto demagnetizer
- Manual demagnetizer
- Option scale
- Full Enclosure
- Oil and mist separator
- Spare wheel flange(5")



■ Coolant system with Magnetic separator and paper filter



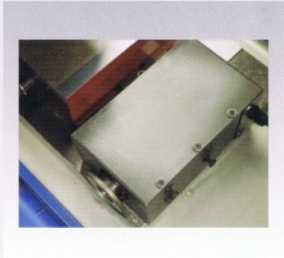
■ Coolant system with Magnetic separator



■ Chiller



■ Rotary table



■ Roller type dressing attachment



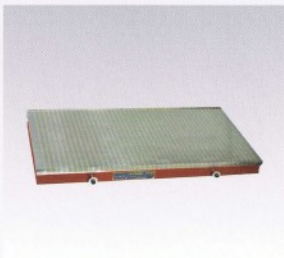
■ Diamond wheel dressing attachment



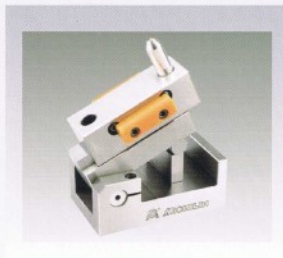
■ Magnetic chuck control (Standard)



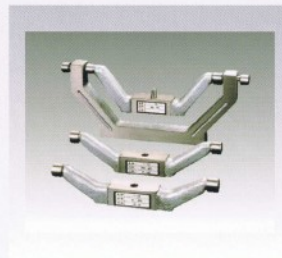
■ Magnetic chuck control (Hi power)



■ Electromagnetic chuck (fine pole)



■ Angle dressing attachment



■ Radius dressing attachment



■ Parallel dressing attachment (manual)



■ Scope type dressing attachment



■ Dual side dressing attachment



■ Roller type balancing stand



# SPECIFICATIONS

| DESCRIPTION /  |                                  | MODEL           | 820NC                 | 1224NC        | 1632NC        | 2040NC          | 2060NC                       | 2448NC                    | 2460NC       | 2480NC         | 24100NC        | 24120NC  |  |
|--|----------------------------------|-----------------|-----------------------|---------------|---------------|-----------------|------------------------------|---------------------------|--------------|----------------|----------------|----------|--|
| Table size   |                                  |                 | 8"x20"                | 12"x24"       | 16"x32"       | 20"x47"         | 20"x59"                      | 24"x47"                   | 24"x59"      | 24"x78"        | 24"x98"        | 24"x117" |  |
| Max. Grinding Length                                   | Longitudinal                     | 20"             | 24"                   | 34"           | 49"           | 61"             | 49"                          | 61"                       | 80"          | 100"           | 119"           |          |  |
| Max. Grinding Width                                    | Crosswise                        | 8"              | 12"                   | 16"           | 20"           | 20"             | 24"                          | 24"                       | 24"          | 24"            | 24"            |          |  |
| Standard Chuck Size                                    |                                  |                 | 8"x20"                | 12"x24"       | 16"x32"       | 20"x40"         | 20"x59"                      | 24"x47"                   | 24"x59"      | 24"x78"        | 24"x98"        | 24"x117" |  |
| Max. Distance from Table Surface to Spindle Centerline |                                  |                 | 20"                   | 22"           |               | 24"             |                              | 28"                       |              |                |                |          |  |
| "Table Longitudinal Travel(X axis)"                    | Hydraulic Traverse               | 22"             | 26"                   | 34"           | 44"           | 63"             | 49"                          | 61"                       | 80"          | 100"           | 119"           |          |  |
|  | Max. Traverse (Manual)           | 24"             | 28"                   | 36"           | 46"           | 65"             | 51"                          | 63"                       | 82"          | 102"           | 121"           |          |  |
|  | Table Speed, Infinitely Variable | 4~82fpm         | 10~82fpm              |               |               |                 | 10~105fpm                    |                           |              |                |                |          |  |
| "Cross Travel (Z axis)"                                | Rapid Travel, approx             | 2~3fpm          | 2~3fpm                |               |               |                 | 0.9~5fpm                     |                           |              |                |                |          |  |
|  | Automatic Traverse Increment     | 0.02"~0.4"      | 0.02"~0.4"            |               |               |                 | 0.04"~0.4"(opt.0.004"~1.57") |                           |              |                |                |          |  |
|  | Cross Traverse (Automatic)       | 8.5"            | 14.5"                 | 18.5"         | 22"           |                 | 25.5"                        |                           |              |                |                |          |  |
|  | Max. Traverse (Manual)           | 9"              | 15"                   | 19"           | 25"           |                 | 26"                          |                           |              |                |                |          |  |
|  | Handwheel per Revolution         | 0.2"            | 0.2"                  |               |               | 0.2"            |                              | MPG 0.01"/0.1"/0.5"       |              |                |                |          |  |
|  | Handwheel per Graduation         | 0.0125"         | 0.0008"               |               |               | 0.0008"         |                              | MPG 0.0001"/0.001"/0.005" |              |                |                |          |  |
| Wheelhead Vertical Infeed                              | Automatic Infeed                 | 0.00005"~0.004" | 0.00004"~0.002"       |               |               |                 |                              | 0.00004"~0.001"           |              |                |                |          |  |
|  | Handwheel per Revolution (MPG)   | 0.004"          | 0.004"/0.04"/0.4"     |               |               |                 |                              | 0.01"/0.05"/0.1"          |              |                |                |          |  |
|  | Handwheel per Graduation (MPG)   | 0.00004"        | 0.00004"/0.004"/0.04" |               |               |                 |                              | 0.0001"/0.0005"/0.001"    |              |                |                |          |  |
| Grinding Spindle                                       | Speed                            | 3600rpm         | 1780rpm               |               |               |                 |                              | 1800rpm                   |              |                |                |          |  |
|  | Motor                            | 3HP/5HP(OPT.)   | 7.5HP/10HP(OPT.)      |               |               | 10HP/15HP(OPT.) |                              | 15HP/20HP(OPT.)           |              |                |                |          |  |
| Grinding Wheel   | Diameter x Width x Bore          | ø8"x0.5"xø1.25" | ø14"x2"xø5"           |               |               | ø14"x2"xø5"mm   |                              | ø20"x2"xø5"mm             |              |                |                |          |  |
| Crossfeed Motor  |                                  |                 | 40W                   | 0.2KW         |               | 1/4HP           |                              | 1KW(SERVO)                |              |                |                |          |  |
| Elevating Motor  |                                  |                 | 40W                   | 1KW           |               | 1KW             |                              | 3KW(SERVO)                |              |                |                |          |  |
| Hydraulic Motor  |                                  |                 | 1HP                   | 2HP           |               | 5HP             |                              | 5HP                       |              |                |                |          |  |
| Weight   | Net Weight, approx.              | 3240LB          | 6614LB                | 8598LB        | 10560LB       | 15653LB         | 11905LB                      | 19400LB                   | 15565LB      | 17434LB        | 19467LB        |          |  |
|  | Gross Weight, approx.            | 3571LB          | 7055LB                | 9259LB        | 11880LB       | 18960LB         | 17813LB                      | 21605LB                   | 22046LB      | 24030LB        | 26433LB        |          |  |
| Packing Size   | Lengthxwidthxheight              | 87"x63"x87"     | 113"x89"x99"          | 121"x89"x101" | 131"x90"x100" | 177"x89"x100"   | 138"x90"x96"                 | 204"x90"x101"             | 178"x91"x99" | 300"x111"x103" | 300"x111"x103" |          |  |

Note:All specifications shown above are for reference.The manufacturer reserves the right to modify the design,specifications and its mechanisms etc.,of the machine without notice.

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