

# Double Column Machine



## SOGOTEC Precision Co., Ltd.

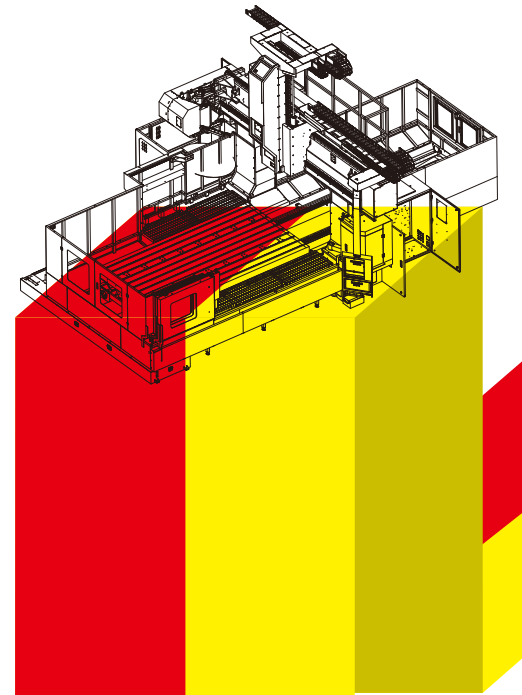
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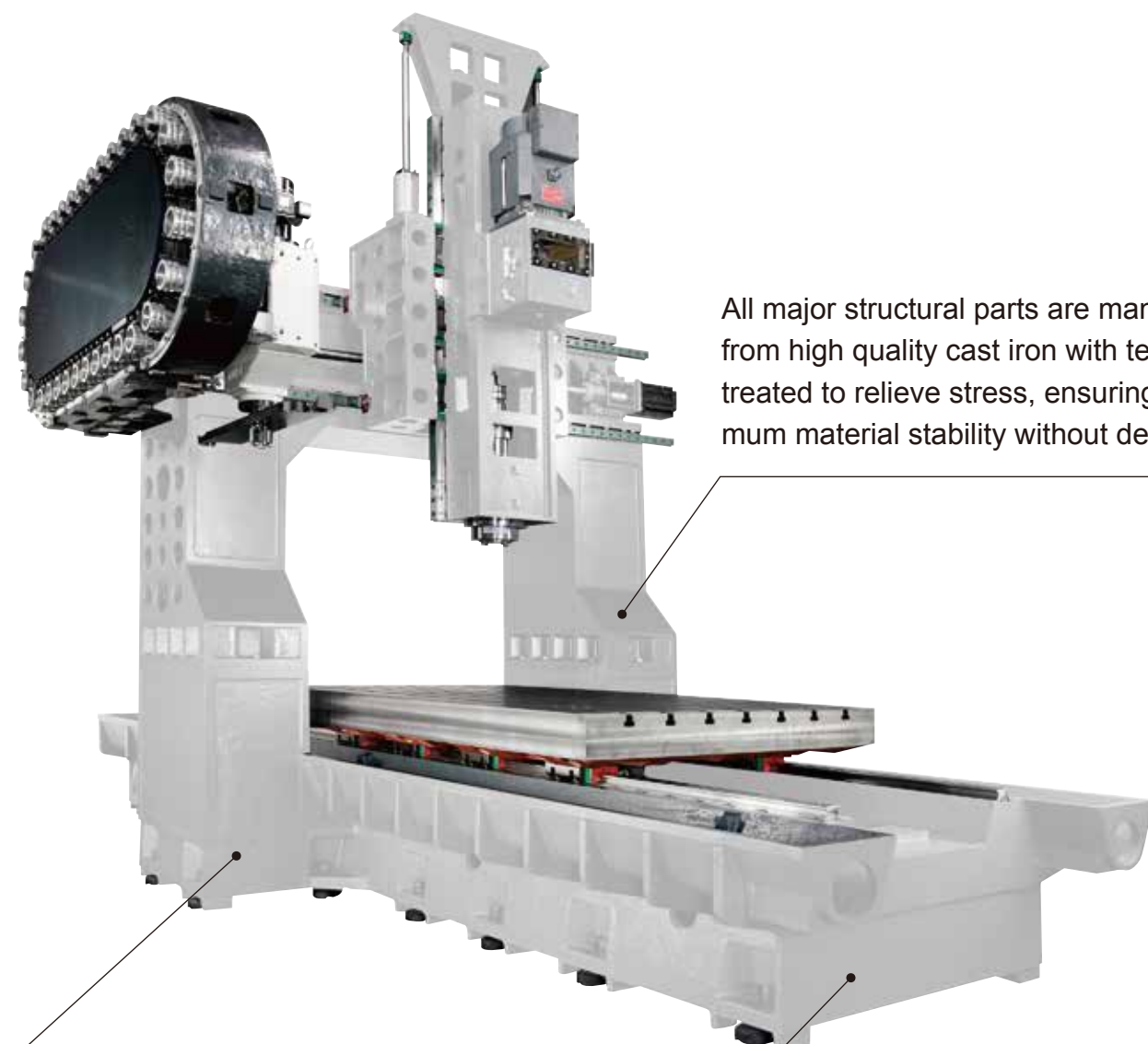
Universal Milling Head



- Rugged construction throughout guarantees superior rigidity and stability.
- BT-50, 8000RPM direct drive spindle combined with high/low speed gearbox meets the requirements of high speed, high precision and high torque output at low speed. Also, available to equip with coolant through spindle for efficient cooling on work piece and tool in heavy cutting. This also results in longer tool life and higher parts accuracy.



- The base and the column are box type, one-piece construction combined with solid support for maximum stability when loading extra large work piece.
- Wide range application for BT50 8000RPM spindle, can machining with 1700mm, max length 4000mm, height 900mm work piece
- The spindle head is a symmetrical layout with box type construction. Shortened distance between spindle center and Z-axis slideway faces. The spindle head operates together with a gearbox to fully exhibit extra heavy cutting capacity.



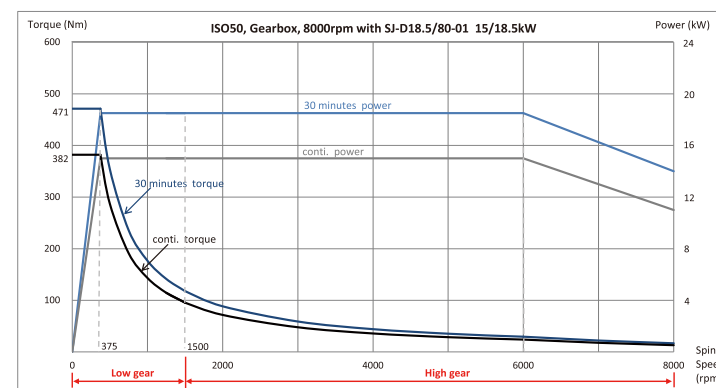
All major structural parts are manufactured from high quality cast iron with tempering treated to relieve stress, ensuring maximum material stability without deformation.

Box type structural parts are rib reinforced to increase structural strength and rigidity.

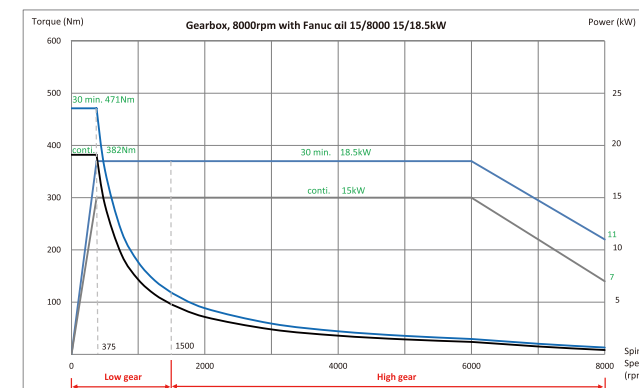
Extra heavy base complete support of table and resists heavy load without deformation.

### Spindle Motor

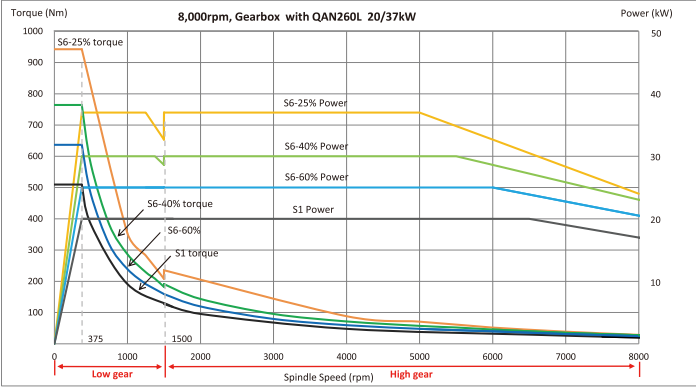
SJ-D18.5(15kW,8000rpm)



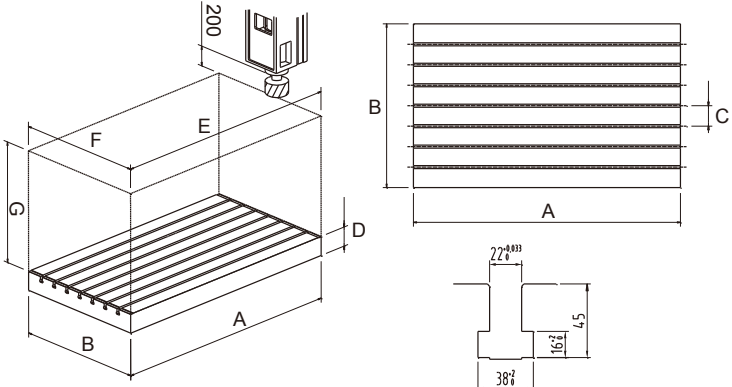
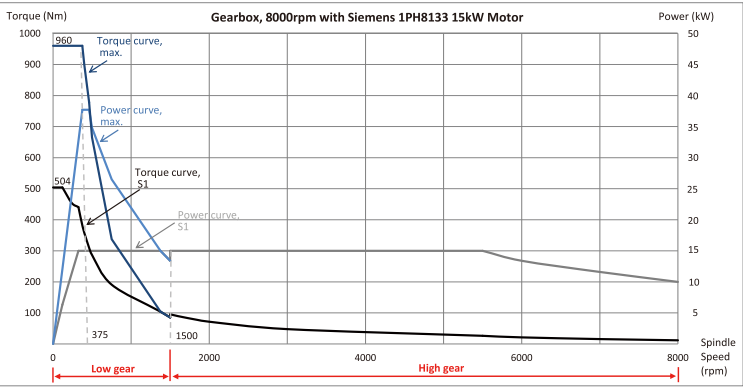
Fanuc-ai1-15(15kW,8000rpm)



QAN260L(20kw,8000rpm)

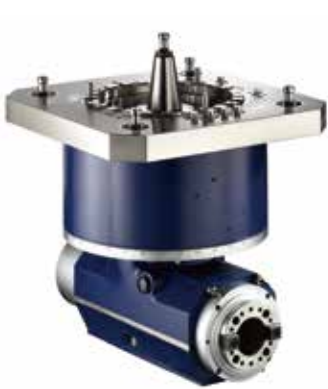


Siemens8133(15kw,8000rpm)



| Model           | A    | B    | C   | D   | E    | F    | G   |
|-----------------|------|------|-----|-----|------|------|-----|
| FDC1417         | 1700 | 1200 | 150 | 150 | 1700 | 1200 | 900 |
| FDC1422         | 2200 | 1200 | 150 | 150 | 2200 | 1200 | 900 |
| FDC1432         | 3200 | 1200 | 150 | 150 | 3200 | 1200 | 900 |
| FDC1442         | 4200 | 1200 | 150 | 150 | 4200 | 1200 | 900 |
| FDC1722         | 2200 | 1500 | 150 | 150 | 2200 | 1500 | 900 |
| FDC1732         | 3200 | 1500 | 150 | 150 | 3200 | 1500 | 900 |
| FDC1742         | 4200 | 1500 | 150 | 150 | 4200 | 1500 | 900 |
| FDC1922/FDC2122 | 2200 | 1700 | 150 | 150 | 2200 | 1700 | 900 |
| FDC1932/FDC2132 | 3200 | 1700 | 150 | 150 | 3200 | 1700 | 900 |
| FDC1942/FDC2142 | 4200 | 1700 | 150 | 150 | 4200 | 1700 | 900 |

Automatic changing head



45degree univerasl milling head



High RPM 90 degree milling head



Universal milling head



Hydraulic System

- For Z axis moving
- Making Z axis moving more smooth and stable.

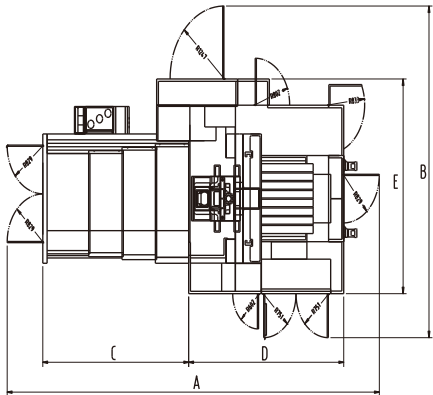


- Perpendicular linear guide way arrangement.
- High damping coefficiency,especially on axial and radial directions.

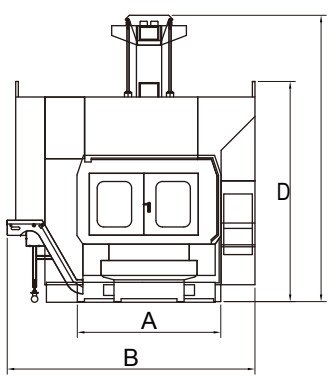


Gear Head (2 step)

- The spindle running is transmitted through a gear both making the machine excellent for heavy cutting application
- All gears and bearings in the gear box are oil-bath lubricated.

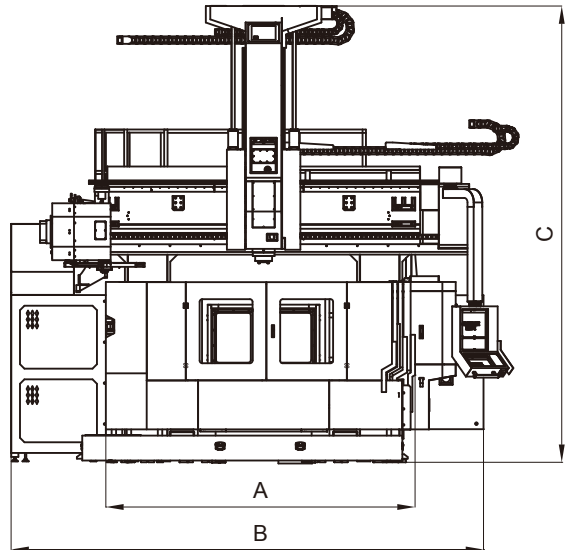
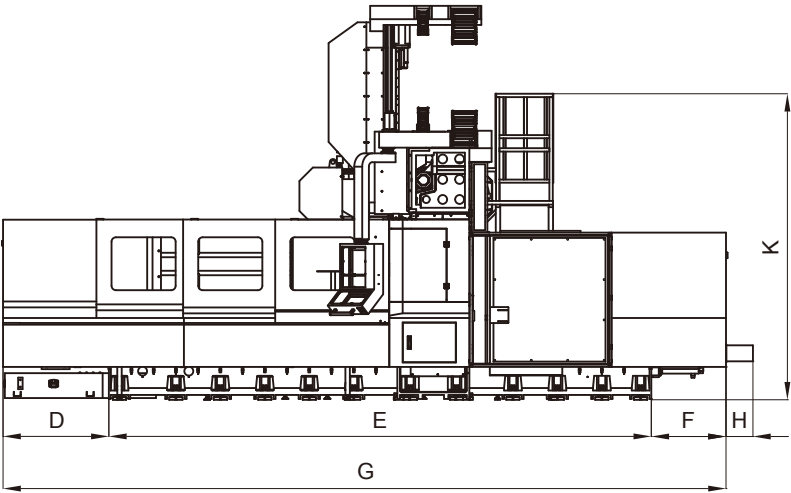


| Model   | A     | B    | C    | D    | E    |
|---------|-------|------|------|------|------|
| FDC1417 | 8600  | 5700 | 3370 | 3580 | 3685 |
| FDC1422 | 8600  | 5700 | 3370 | 3580 | 3685 |
| FDC1432 | 10600 | 5700 | 4460 | 4840 | 3685 |
| FDC1442 | 13300 | 5700 | 5520 | 6130 | 3685 |
| FDC1722 | 7260  | 5310 | 2990 | 2700 | 5150 |
| FDC1732 | 9300  | 5310 | 3500 | 4290 | 5150 |
| FDC1742 | 11480 | 5310 | 4770 | 5170 | 5150 |
| FDC1922 | 7260  | 5310 | 2990 | 2700 | 5150 |
| FDC1932 | 9300  | 5310 | 3500 | 4290 | 5150 |
| FDC1942 | 11480 | 5310 | 4770 | 5170 | 5150 |
| FDC2122 | 7260  | 5510 | 2990 | 2700 | 5350 |
| FDC2132 | 9300  | 5510 | 3500 | 4290 | 5350 |
| FDC2142 | 11480 | 5510 | 4770 | 5170 | 5350 |



| Model     | A    | B    | C    | D    | E    | F    | G    | H     | I    | J    | K   |
|-----------|------|------|------|------|------|------|------|-------|------|------|-----|
| FDC -1417 | 2210 | 3820 | 4440 | 3390 | 1995 | 4100 | 860  | 7250  | 4700 | 2270 | 303 |
| FDC -1422 | 2210 | 3820 | 4440 | 3390 | 1995 | 4100 | 860  | 7250  | 4700 | 2270 | 303 |
| FDC -1432 | 2210 | 3820 | 4440 | 3390 | 1995 | 6100 | 1200 | 9600  | 4700 | 2270 | 303 |
| FDC -1442 | 2210 | 3820 | 4440 | 3390 | 1995 | 8100 | 1550 | 11950 | 4700 | 2270 | 303 |

| Model     | A    | B    | C    | D    | E    | F   | G     | H   | J    | K    |
|-----------|------|------|------|------|------|-----|-------|-----|------|------|
| FDC -1722 | 3430 | 5120 | 4440 | 1260 | 4100 | 820 | 6490  | 303 | 2030 | 3440 |
| FDC -1732 | 3430 | 5120 | 4440 | 1185 | 6100 | 835 | 8440  | 303 | 2030 | 3440 |
| FDC -1742 | 3430 | 5120 | 4440 | 1110 | 8100 | 950 | 10480 | 303 | 2030 | 3440 |
| FDC -1922 | 3430 | 5120 | 4440 | 1260 | 4100 | 820 | 6490  | 303 | 2030 | 3440 |
| FDC -1932 | 3430 | 5120 | 4440 | 1185 | 6100 | 835 | 8440  | 303 | 2030 | 3440 |
| FDC -1942 | 3430 | 5120 | 4440 | 1110 | 8100 | 950 | 10480 | 303 | 2030 | 3440 |
| FDC -2122 | 3430 | 5320 | 4440 | 1260 | 4100 | 820 | 6490  | 303 | 2030 | 3440 |
| FDC -2132 | 3430 | 5320 | 4440 | 1185 | 6100 | 835 | 8440  | 303 | 2030 | 3440 |
| FDC -2142 | 3430 | 5320 | 4440 | 1110 | 8100 | 950 | 10480 | 303 | 2030 | 3440 |



Machine Specification

|                                    | 14 series                                       |               |               |               | 17 series                                       |               |               | 19 series                                       |               |               | 21 series                                       |               |               |
|------------------------------------|-------------------------------------------------|---------------|---------------|---------------|-------------------------------------------------|---------------|---------------|-------------------------------------------------|---------------|---------------|-------------------------------------------------|---------------|---------------|
| Model                              | 1417                                            | 1422          | 1432          | 1442          | 1722                                            | 1732          | 1742          | 1922                                            | 1932          | 1942          | 2122                                            | 2132          | 2142          |
| Travel ranges(X*Y*Z mm)            | 1700x1400x900                                   | 2200x1400x900 | 3200x1400x900 | 4200x1400x900 | 2200x1700x900                                   | 3200x1700x900 | 4200x1700x900 | 2200x1900x900                                   | 3200x1900x900 | 4200x1900x900 | 2200x2100x900                                   | 3200x2100x900 | 4200x2100x900 |
| Spindle nose to table surface (mm) | 200~1100 (optional 300~1400 with Z stroke 1100) |               |               |               | 200~1100 (optional 300~1400 with Z stroke 1100) |               |               | 200~1100 (optional 300~1400 with Z stroke 1100) |               |               | 200~1100 (optional 300~1400 with Z stroke 1100) |               |               |
| Spindle center to column (mm)      | 404                                             |               |               |               | 404                                             |               |               | 404                                             |               |               | 404                                             |               |               |
| Distance between column (mm)       | 1400                                            |               |               |               | 1900                                            |               |               | 1900                                            |               |               | 2100                                            |               |               |
| Table                              |                                                 |               |               |               |                                                 |               |               |                                                 |               |               |                                                 |               |               |
| Table size (mm)                    | 1700x1200                                       | 2200x1200     | 3200x1200     | 4200x1200     | 2200x1500                                       | 3200x1500     | 4200x1500     | 2200x1700                                       | 3200x1700     | 4200x1700     | 2200x1700                                       | 3200x1700     | 4200x1700     |
| T-slot (width*distance*number mm)  | 22x150x7                                        |               |               |               | 22x150x9                                        |               |               | 22x150x11                                       |               |               | 22x150x11                                       |               |               |
| Max. table load (kgs)              | 5000                                            | 5000          | 8000          | 8000          | 8000                                            | 10000         | 12000         | 8000                                            | 10000         | 12000         | 8000                                            | 10000         | 12000         |
| Spindle                            |                                                 |               |               |               |                                                 |               |               |                                                 |               |               |                                                 |               |               |
| Tool shank & pull stud             | ISO50                                           |               |               |               | ISO50                                           |               |               | ISO50                                           |               |               | ISO50                                           |               |               |
| Spindle inner diameter (mm)        | Ø100                                            |               |               |               | Ø100                                            |               |               | Ø100                                            |               |               | Ø100                                            |               |               |
| Spindle speed (rpm) Gear           | 8000                                            |               |               |               | 8000                                            |               |               | 8000                                            |               |               | 8000                                            |               |               |
| Draw bar force (kgf)               | 1800                                            |               |               |               | 1800                                            |               |               | 1800                                            |               |               | 1800                                            |               |               |
| Main motor (con/30min kW)          | 15/18.5                                         |               |               |               | 15/18.5                                         |               |               | 15/18.5                                         |               |               | 15/18.5                                         |               |               |
| Axis servo motor                   |                                                 |               |               |               |                                                 |               |               |                                                 |               |               |                                                 |               |               |
| Rapid feed rate (X/Y/Z m/min)      | 20/20/20                                        | 16/20/20      | 16/20/20      | 12/20/20      | 16/16/20                                        | 16/16/20      | 12/16/20      | 12/16/20                                        | 12/16/20      | 10/16/20      | 12/16/20                                        | 12/16/20      | 10/16/20      |
| Feed rate (X/Y/Z mm/min)           | 10000                                           |               |               |               | 10000                                           |               |               | 10000                                           |               |               | 10000                                           |               |               |
| Mitsubishi kW                      | HF703 7.0                                       |               |               |               | HF703 7.0                                       |               |               | HF703 7.0                                       |               |               | HF703 7.0                                       |               |               |
| Fanuc kW                           | a30/3000i 7.0                                   |               |               |               | a30/3000i 7.0                                   |               |               | a30/3000i 7.0                                   |               |               | a30/3000i 7.0                                   |               |               |
| Siemens kW                         | 1FK7105 8.2                                     |               |               |               | 1FK7105 8.2                                     |               |               | 1FK7105 8.2                                     |               |               | 1FK7105 8.2                                     |               |               |
| Fagor kW                           | FXM75.20 7.0                                    |               |               |               | FXM75.20 7.0                                    |               |               | FXM75.20 7.0                                    |               |               | FXM75.20 7.0                                    |               |               |
| Heidenhain kW                      | QSY190D 9.6                                     |               |               |               | QSY190D 9.6                                     |               |               | QSY190D 9.6                                     |               |               | QSY190D 9.6                                     |               |               |
| Auto tool changer                  |                                                 |               |               |               |                                                 |               |               |                                                 |               |               |                                                 |               |               |
| ATC type                           | Disk/Chain                                      |               |               |               | Disk/Chain                                      |               |               | Disk/Chain                                      |               |               | Disk/Chain                                      |               |               |
| Cam type                           | Arm                                             |               |               |               | Arm                                             |               |               | Arm                                             |               |               | Arm                                             |               |               |
| Tool selection (Bi-direction)      | Random                                          |               |               |               | Random                                          |               |               | Random                                          |               |               | Random                                          |               |               |
| Tool storage capacity (pcs)        | 24/32                                           |               |               |               | 24/32                                           |               |               | 24/32                                           |               |               | 24/32                                           |               |               |
| Max. tool diameter (mm)            | Ø 115/Ø 127 (Ø 160/Ø 250)                       |               |               |               | Ø115 / Ø127 (Ø160/Ø250)                         |               |               | Ø115/Ø127 (Ø160/Ø250)                           |               |               | Ø115/Ø127 (Ø160/Ø250)                           |               |               |
| Max. tool length (mm)              | 350                                             |               |               |               | 350                                             |               |               | 350                                             |               |               | 350                                             |               |               |
| Max. tool weight (kg)              | 20                                              |               |               |               | 20                                              |               |               | 20                                              |               |               | 20                                              |               |               |
| Miscellaneous                      |                                                 |               |               |               |                                                 |               |               |                                                 |               |               |                                                 |               |               |
| Air requirement (kg/cm2)           | 6                                               |               |               |               | 6                                               |               |               | 6                                               |               |               | 6                                               |               |               |
| Voltage                            | 220                                             |               |               |               | 220                                             |               |               | 220                                             |               |               | 220                                             |               |               |
| Power requirement (kVA)            | 50                                              |               |               |               | 50                                              |               |               | 50                                              |               |               | 50                                              |               |               |
| Coolant tank capacity (L)          | 900                                             |               |               |               | 900                                             |               |               | 900                                             |               |               | 900                                             |               |               |
| Machine weight (kgs)               | 15500                                           | 16000         | 17000         | 18000         | 21000                                           | 22500         | 24000         | 22000                                           | 23500         | 25000         | 23500                                           | 24000         | 25500         |
| Machine height (mm)                | 4440 (optional 5100 with Z stroke 1100)         |               |               |               | 4440 (optional 5100 with Z stroke 1100)         |               |               | 4440 (optional 5100 with Z stroke 1100)         |               |               | 4440 (optional 5100 with Z stroke 1100)         |               |               |
| Floor space (L*W mm)               | 5800x4150                                       | 6090x4150     | 8130x4150     | 10310x4150    | 6490x5120                                       | 8440x5120     | 10480x5120    | 6490x5120                                       | 8440x5120     | 10480x5120    | 6490x5320                                       | 8440x5320     | 10480x5320    |

|                                |                    |                                 |                         |                                   |  |
|--------------------------------|--------------------|---------------------------------|-------------------------|-----------------------------------|--|
| Standard Accessories:          |                    |                                 |                         | Options:                          |  |
| Air blast through spindle      | Gear head          | Chain type chip conveyor        | Transformer             | Auto tool length measurement      |  |
| Air blast for workpiece (nose) | Cooling system     | Z-axis pneumatic balance system | Full splash guard       | Auto workpiece measurement        |  |
| X-axis telescopic cover        | Air gun/water gun  | Levelling bolts and pads        | Coolant through spindle | Manual universal head (90 degree) |  |
| Automatic lubrication system   | MPG handwheel      | Semi-full splash safety guard   | Linear scales           | Auto universal head (90 degree)   |  |
| Working lamp                   | Air conditioner    |                                 | Rotary table            | 21 series Y stroke 2600           |  |
| Operation status light         | RS-232 interface   |                                 | Adjusting tools and box |                                   |  |
| Screw type chip conveyors      | Spindle oil cooler |                                 | Flushing device         |                                   |  |
| Chain type 32-tool ATC         | Tool box           |                                 | Foundation bolts        |                                   |  |