

Riferimento / Reference / Référence

CLV D10L



- Equipaggiato con CNC Siemens Sinumerik 828D o Fanuc 0i MF o Heidenhain TNC 620
- Il pre-tensionamento su tutti gli assi riduce al minimo la deformazione termica
- Le viti a sfera, classe C3 garantiscono la massima precisione e durata

ACCESSORI INCLUSI	STANDARD EQUIPMENT	ACCESSOIRES INCLUS
Cambio utensili a 24 posizioni (D10L), a 20 posizioni (D6L)	24 positions (D10L), 20 positions (D6L) umbrella tool changer	Magasin outils à 24 positions (D10L), 20 positions (D6L)
Quadro elettrico con aria condizionata (D10L)	Air-condition for electrical cabinet (D10L)	Climatisation pour l'armoire électrique (D10L)
Maschiatura rigida	Rigid tapping	Taraudage rigide
Porta Ethernet, scheda CF e interfaccia USB	Ethernet, CF card and USB interface	Port Ethernet, carte CF et interface USB
Sistema di lubrificazione automatico	Automatic lubrication system	Système de lubrification automatique
Lampada da lavoro a LED	LED working lamp	Lampe de travail à LED
Luce di fine ciclo	End of program light	Avis à la fin du cycle
Volantino elettronico (MPG)	Electronic handwheel (MPG)	Volant électronique (MPG)

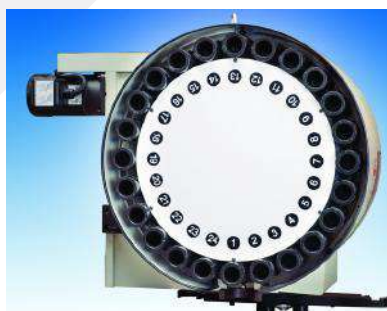
OPTIONAL	OPTIONAL	OPTIONAL
Velocità mandrino ad azionamento diretto 12.000⁻¹ rpm	Spindle speed 12.000 ⁻¹ , direct drive	Vitesse broche 12.000 min ⁻¹ à commande directe
Sistema di raffreddamento del mandrino	Spindle cooling system	Dispositif de refroidissement de la broche
Sistema di raffreddamento attraverso il mandrino	Coolant through spindle	Dispositif de refroidissement par le broche
Raccogliatore di trucioli a catena	Chain type chip conveyor	Système de rinçage des copeaux en chaîne
4° asse	4th axis	4ème axe
4/5° asse	4/5th axis	4/5ème axe
Sonda del pezzo	Tool probe	Sonde de pièce

- Equipped with CNC Siemens Sinumerik 828D or Fanuc 0i MF or Heidenhain TNC 620
- Pre-tension on all axes minimizes thermal distortion
- C3 class ballscrews ensure the highest accuracy and durability

- Equipé avec CNC Siemens Sinumerik 828D ou Fanuc 0i MF ou Heidenhain TNC 620
- La pré-tension sur tous les axes minimise la déformation thermique
- Les vis à billes, classe C3, garantissent une précision et une durabilité maximales



- 4° asse opzionale
- 4th axis optional
- 4ème axe optionnel



- Cambio utensili a 24 posizioni
- 24 stations pocket arm tool changer
- Magasin outils à 24 positions



Riferimento / Reference / Référence

CLV D6L

				CLV D10L	CLV D6L
Dimensioni della tavola	Dimensions table	Dimension de table	mm	1100 x 500	750 x 400
Dimensioni delle cave a T	T-slot	Dimensions rainures en T	mm	18 x 5 x 100	14 x 3 x 125
Corsa X/Y/Z	X/Y/Z Travel	Course axes X/Y/Z	mm	1020 / 520 / 550	600 / 400 / 450
Portata massima	Max. load	Charge maximale	kg	600	350
Cono mandrino	Spindle taper	Cône de la broche	mm	SK 40 / BT 40 / CAT 40	SK 40 / BT 40 / CAT 40
Velocità mandrino	Spindle speed	Vitesse de la broche	rpm	1-10.000 (opt. 1-12.000)	1-10.000 (opt. 1-12.000)
Motore mandrino	Spindle servo motor	Puissance de la broche	kW	9 / 22 Siemens; 7.5 / 11 Fanuc	7 / 15 Siemens; 5.5 / 7.5 Fanuc
Numero degli utensili	Number of tools	Nombre d'outils	pcs.	24	20
Avanzamenti rapidi	Rapid feed	Avances rapides	m/min	30 (opt. 48)	48
Avanzamento	Cutting speed	Vitesse d'avance	mm/min	1-12.000	1-12.000
Dimensioni	Dimensions	Dimensions	mm	2570x2220x2850	1800 x 2530 x 2700
Peso	Weight	Poids	kg	5000	3500

ALTRI MODELLI CONSULTABILI SUL NOSTRO SITO WWW.ECHO-ENG.IT /

OTHER MODELS AVAILABLE ON OUR WEBSITE WWW.ECHO-ENG.IT / AUTRES MODÈLES DISPONIBLES SUR NOTRE SITE WWW.ECHO-ENG.IT

Centri di lavoro verticali
Vertical machining centers
 Centres d'usinage verticaux



- Equipaggiato con CNC Siemens Sinumerik 828D o Fanuc 0i MF
 - La ghisa è temperata per garantire stabilità strutturale senza deformazione
- Equipped with CNC Siemens Sinumerik 828D or Fanuc 0i MF
 - Cast iron is tempered for stress relief to ensure structural stability without deformation
- Equipé avec Siemens Sinumerik 828D ou Fanuc 0i MF
 - La fonte est trempée pour assurer la stabilité structurelle sans déformation

Riferimento / Reference / Référence

CL MINI

ACCESSORI INCLUSI	STANDARD EQUIPMENT	ACCESSOIRES INCLUS
Cambio utensili a 12 posizioni	12 positions Tool changer	Magasin outils à 12 positions
Scambiatore di calore per quadro elettrico	Heat exchanger for electrical cabinet	Échangeurs de chaleur pour cabine électrique
Porta Ethernet, scheda CF e interfaccia USB	Ethernet, CF card and USB interface	Port Ethernet, carte CF e interface USB
Basamento progettato su due lati	Base designed on two side	Base conçue sur deux côtés
Pistola per liquido di raffreddamento	Handy coolant gun	Pistolet liquide de refroidissement
Pistola ad aria compressa	Air gun	Pistolet à air comprimé
Maschiatura rigida	Rigid tapping	Taroudage rigide
Porta Ethernet, scheda CF e interfaccia USB	Ethernet, CF card and USB interface	Port Ethernet, carte CF et interface USB
Sistema di lubrificazione automatico	Automatic lubrication system	Système de lubrification automatique
Lampada da lavoro a LED	LED working lamp	Lampe de travail à LED
Luce di fine ciclo	End of program light	Avis à la fin du cycle
Volantino elettronico (MPG)	Electronic handwheel (MPG)	Volant électronique (MPG)



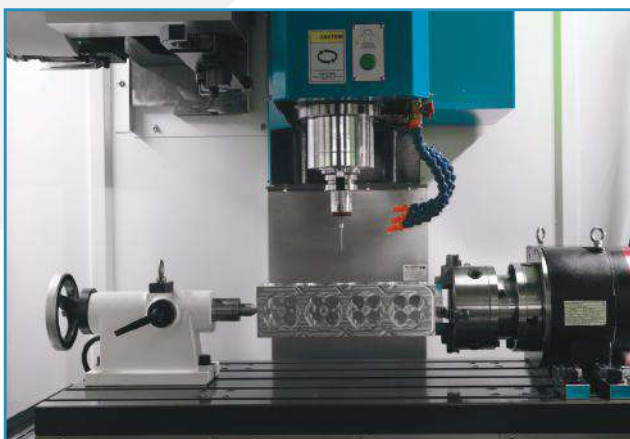
				CL MINI
Dimensioni della tavola	Dimensions table	Dimension de table	mm	650x300
Dimensioni delle cave a T	T-slot	Dimensions rainures en T	mm	14
Corsa X/Y/Z	X/Y/Z Travel	Course axes X/Y/Z	mm	500x300x400
Attacco mandrino	Spindle hole taper	Alésage de la broche		SK 40 / BT40 / CAT 40
Distanza mandrino-tavola	Distance from spindle nose to table surface	Distance broche-table	mm	120-520
Max. carico della tavola	Max load of table	Charge maximale de la table	kg	200
Velocità avanzamento rapido	Rapid feed speed	Vitesse de avance rapide	m/min	X/Y: 20, Z: 12
Velocità avanzamenti	Feed speed	Avance vitesse	mm/min	1-10.000
Velocità mandrino	Spindle speed	Vitesse broche	rpm	10.000
No. Utensili	Tool magazine capability	Nombre d'outils		12
Tipo del cambio utensili	Tool magazine type	Type de changeur d'outils		Umbrella
Peso max. utensili	Max. weight of tool	Poids max. de l'outil	kg	8
Dimensioni max. utensili	Max. dimension of tool	Dimension max. de l'outil	mm	Ø80-120
Lunghezza max. utensili	Max. length of tool	Longueur max. de l'outil	mm	280
Precisione posizionamento	Positioning accuracy	Précision de positionnement	mm	0.012
Precisione riposizionamento	Repositioning accuracy	Précision de repositionnement	mm	0.008
Motore	Motor	Moteur	kW	4.8 / 19 Siemens 5.5 / 7.5 Fanuc
Dimensioni	Dimensions	Dimensions	mm	1660 x 2000 x 2500
Peso	Weight	Poids	Kg	1800



- Cambio utensili a 12 posizioni
- 12 stations umbrella tool changer
- Magasin outils à 12 positions



- Lampada interna a LED
- LED internal lamp
- Lampe interne à LED



- Sonda del pezzo (opzionale)
- Workpiece probe (optional)
- Sonde de pièce (en option)



- Sonda utensile (opzionale)
- Tool probe (optional)
- Sonde d'outil (en option)



- Sistema di evacuazione trucioli
- Chip flushing system
- Système de rinçage des copeaux

Centri di lavoro verticali
Vertical machining centers
Centres d'usinage verticaux



- Equipaggiato con CNC Siemens 808D
Siemens 808D
- Le viti a ricircolo di sfere su 3 assi garantiscono precisione e durata
- Equipped with CNC Siemens 808D
- 3 axis ball leadscrews grant precision and duration
- Equipé avec CNC Siemens 808D
 - Les vis à billes à 3 axes garantissent précision et durabilité

Riferimento / Reference / Référence

CL 3 MINI

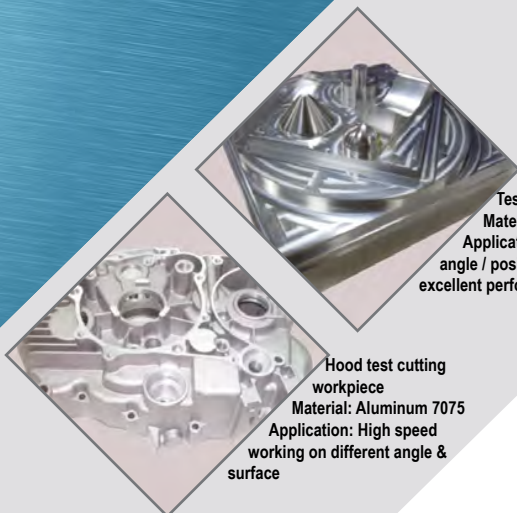
ACCESSORI INCLUSI	STANDARD EQUIPMENT	ACCESSOIRES INCLUS
Vite a ricircolo di sfere sui 3 assi	3 axis ball leadscrew made by TPI	3 axes vis à billes fabriquée en TPI
Guida a coda di rodine robusta e precisa con V-led regolabili senza gioco	Robust and precise dovetail guide with adjustable V-ledges free of play	Guide en queue d'aronde robuste et précise avec rebords en V réglables sans jeu
Azionamento elettronico controllabile	Electronic controllable drive	Entraînement électronique contrôlable
Sistema di lubrificazione automatico	Automatic lubricating system	Système de lubrification automatique
Porta frontale dotata di un interruttore di sicurezza	Front door equipped with a safety switch	Porte frontale équipée d'un interrupteur de sécurité

				CL 3 MINI
Dimensioni della tavola	Dimensions table	Dimension de table	mm	600x200
Dimensioni delle cave a T	T-slot	Dimensions rainures en T	mm	16
Corsa X/Y/Z	X/Y/Z Travel	Course axes X/Y/Z	mm	300 / 200 / 300
Distanza mandrino-colonna	Distance from spindle to column	Distance colonne-broche	mm	270
Velocità di avanzamento asse X	X axis feed speed	Vitesse d'avance axe X	mm/min	4000
Velocità di avanzamento asse Y	Y axis feed speed	Vitesse d'avance axe Y	mm/min	4000
Capacità massima di foratura (diametro)	Max. drilling capacity (diameter)	Capacité max. de perçage (diamètre)	mm	10
Capacità massima di fresatura (diametro)	Max. end milling capacity (diameter)	Capacité max. de fraisage verticale (diamètre)	mm	30
Capacità massima di fresatura frontale (diametro)	Max. face milling capacity (diameter)	Capacité max. de fraisage frontal (diamètre)	mm	30
Precisione posizionamento	Positioning accuracy	Précision de positionnement	mm	0.01
Precisione riposizionamento	Repositioning accuracy	Précision de repositionnement	mm	±0.008
Cono mandrino	Spindle taper	Cône de la broche		BT30
Velocità mandrino	Spindle speed	Vitesse de la broche	rpm	3000
Velocità di avanzamento	Feed speed	Vitesse d'avance	mm/min	4000
Distanza mandrino-tavola	Distance from spindle nose to table	Distance broche-table	mm	50-350
Pompa di raffreddamento	Coolant pump	Pompe de refroidissement	kW	0.25
Sistema di controllo (CNC)	Control systeme (CNC)	Contrôle (CNC)		Siemens 808D
Motore	Motor	Moteur	kW	1.5
Dimensioni	Dimensions	Dimensions	mm	1700x1700x2000
Peso	Weight	Poids	Kg	1000



CLV Series

3 axis



Test cutting workpiece
Material: Aluminum 7075
Application: Surface / acute
angle / positioning precision
excellent performance

Hood test cutting
workpiece
Material: Aluminum 7075
Application: High speed
working on different angle &
surface

The CLV series has been specially designed for the component and mold processing industry.

To meet the speed requirements, the 3 axes are equipped with linear guides, which allow an accurate processing speed and a rapid displacement up to 48 m / min.



- The 3 axes are equipped with high precision linear ball guides.
- Pre-load ball screws on 3 axes reduce thermal deformation.
- The STEPLESS motors controlled by Encoder allow perfect positioning accuracy.
- The innovative design of the ATC allows a particularly short tool change (1.31 s at 60 Hz), (from T to T).
- The lubrication system is managed by an automatic control unit that manages the correct dosage of the lubricating oil to avoid over-lubrication and waste.
- The inclined plane design of the frame, together with the cooling system, make chip removal effective.
- The machine is equipped with an integral casing that makes the job cleaner and safer.
- 3 axes, equipped with linear guides with recirculating balls and 4 guides on the X / Y / Z axis, allow rapid response to movement and great dynamic precision.
- The spindle lubrication and cooling system ensure optimal processing.



CLV Series

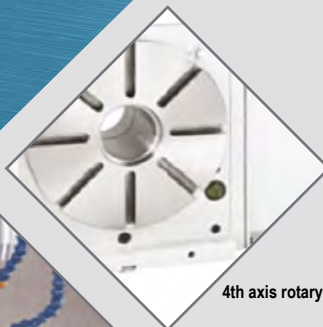
3 axis

Standard Accessories

1. FANUC 31iMB numerical control
2. 15,000 rpm, BT40, Built-in spindle
3. 24-30 seats, BT40 Arm type tool change
4. Controlled spindle temperature with conditioner
5. Centralized lubrication of the axes
6. Absolute axis position
7. Air blower for cleaning the spindle cone
8. Refrigerant system for workpiece machining
9. Total accident-prevention protection of the machine
10. Coolant gun and air gun for cleaning pieces
11. Coolant tank and liquid cleaning system
12. Carpet chip conveyor
13. Work area lighting lamp
14. Operator three-lamp warning light
15. Electrical cabinet conditioner
16. De-oiler for coolant
17. Remote electronic handwheel
18. Ethernet interface
19. Leveling feet
20. Toolbox for maintenance
21. Operating manuals and wiring diagram
22. Machine built in compliance with CE standards

Optional Accessories

1. HEIDENHAIN TNC620/TNC640 controller
2. Spindle 20,000 rpm, HSKA63, Built-in type
3. Tool magazine with 60 seats
4. Coolant through the spindle (25 bar)
5. Optical lines on three axes
6. Dredging chip conveyor
7. Minimal air/oil lubrication system
8. Oil mist aspiration system
9. Automatic presetting tool measurement system
10. Automatic probe piece measurement system
11. Rotating table (4th axis)



4th axis rotary table



Coolant through spindle

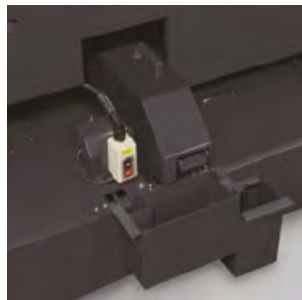


Workpiece measurement system

		CLV 852	CLV 1052	CLV 1200
Travels				
X-Axis	mm	860	1060	1270
Y-Axis	mm	520	520	660
Z-Axis	mm	610	610	610
Distance from spindle nose to table surface	mm	115-725	115-725	150-760
Table				
Table size	mm	1000 x 520	1160 x 520	1500 x 660
Max load of table	kg	500	650	1360
T-slot (width x pitch x number)	mm	18 x 100 x 5	18 x 100 x 5	18 x 100 x 6
Spindle				
Spindle type	–	Belt type	Belt type	Direct-drive
Max spindle speed	rpm	12000	12000	12000
Motor power	kW	7,5 / 15	7,5 / 15	7,5 / 15
Spindle taper	–	BT40	BT40	BT40
Feed				
Rapid traverse (X-Y-Z)	m/min	36 / 36/ 24	36 / 36/ 24	36 / 36/ 24
Cutting feedrate	mm/min	1-12000	1-12000	1-12000
Motor power (X-Y-Z)	kW	1.8/3.0/2.5	1.8/3.0/2.5	4.0/4.0/4.5
Tool change				
ATC Type	–	Arm type	Arm type	Arm type
Tool holder capacity	nr.	24	24	30
Max. tool diameter	mm	80 / 150	80/ 150	80/ 125
Max tool length	mm	300	300	300
Max weight of tool	Kg	7	7	7
Tool holders cone	–	BT40	BT40	BT40
Tang	–	MAS 407	MAS 407	MAS 407
Dimensions and utilities				
Pneumatic pressure	kgf/cm ²	6	6	6
Electrical power consumption	kVA	30	30	35
Machine net weight	Kg	6000	6200	9000
Machine dimensions (LxWxH)	mm	4629 X 3743 X 3099	4957 X 3743 X 3099	5280 X 3550 X 3100



Tool Length measurement system



Oil skimmer



Oil mist collector



Chip conveyor / Cart



CLU Series

5 axis



- Good C/P ration (cost/performance) - integrated with A- and C-axis rotary-&-tilting table, a C-frame 3-axis machining center is upgraded to 5-face machining capability, an economical choice for complicated but middle- or small-sized workpiece.
- Stable structure rigidity - the columns and the machine base are designed with wide spans, and the motor mount, the bearing mount and the casting iron are of one-piece design which greatly increase the integral rigidity.
- High efficiency - linear guideways for 3 axes are of roller-type, with the characteristics of the fast traverse, low friction coefficient and high rigidity.
The rapid traverse to X- and Y-axis is up to 36 m/min.

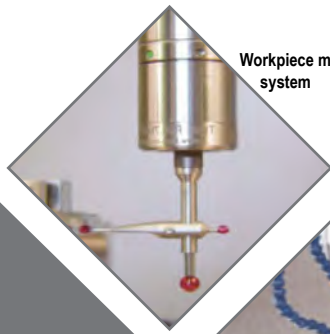


- High-performance spindle - the high-speed direct-drive spindle, 15Krpm, as a standard spindle, with 9/15KW spindle motor, can meet various machining demands.

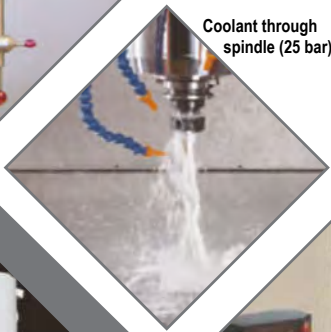
Avoiding from the cumulative deviations resulting from multi machining procedures, it can greatly shorten the machining time to practically achieve high-speed, high-accuracy and high-efficiency requirements.

For the deeper machining on the die-&-mold, it will be easier to find and to set the tools at its suitable angle and position, and obviously shorten the clamping length on the tool by which obtains the optimal cutting efficiency and accuracy.





Workpiece measurement system



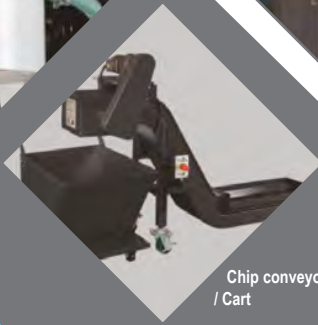
Coolant through spindle (25 bar)



Oil mist collector



Tool Length measurement system



Chip conveyor / Cart



Oil skimmer

CLU Series 5 axis



Standard Accessories

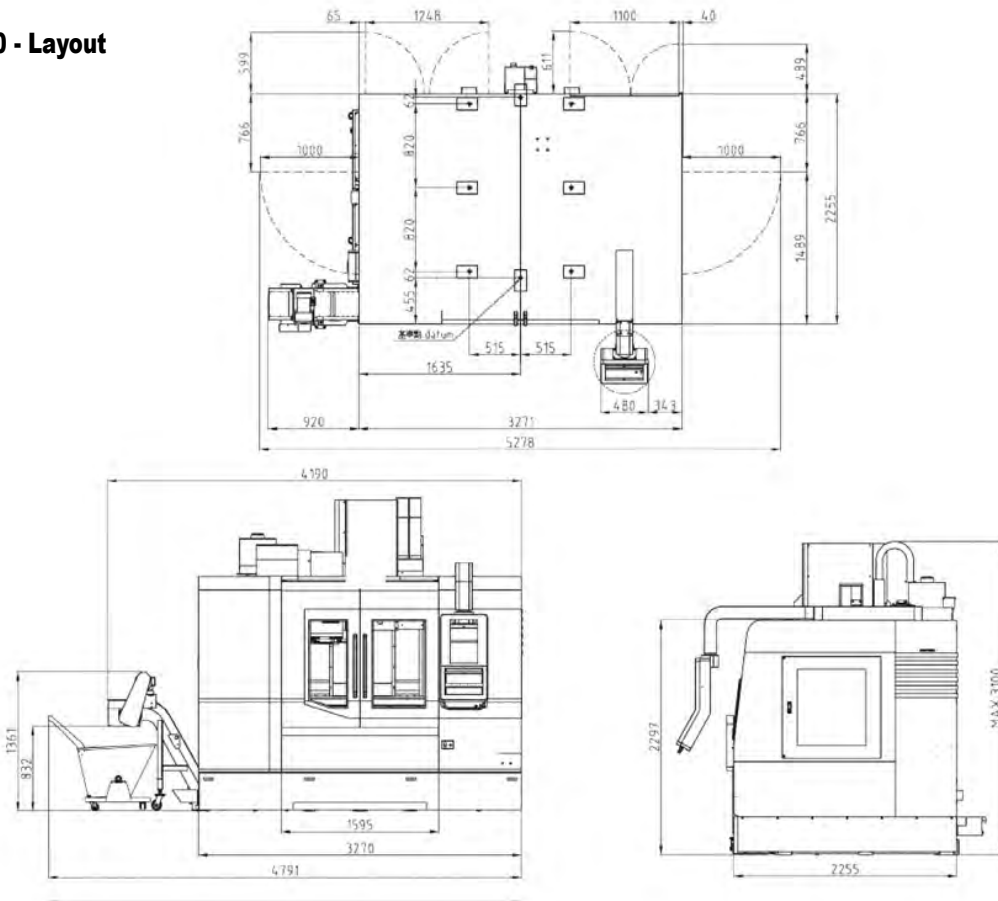
1. FANUC OiMF Controller
2. 15000 rpm, BT40 in line spindle
3. 24T, arm type ATC
4. Rotary Encoder for rotary axis
5. Spindle oil air lubrication device
6. Spindle cooling system
7. Centralized automatic lubrication system
8. Air blast through spindle taper
9. Cutting coolant system
10. Full enclosed splash guard
11. Washing gun & air gun
12. Coolant tank & coolant flushing system
13. Steel belt type chip conveyor
14. Oil skimmer
15. Working lamp
16. 3-color signal lamp
17. Heat Exchange
18. Foundation pads & bolts kits
19. Tool kits
20. Leveling feet
21. Operation manuals, PLC& electrical circuit diagrams
23. Machine built in compliance with CE regulations

Optional Accessories

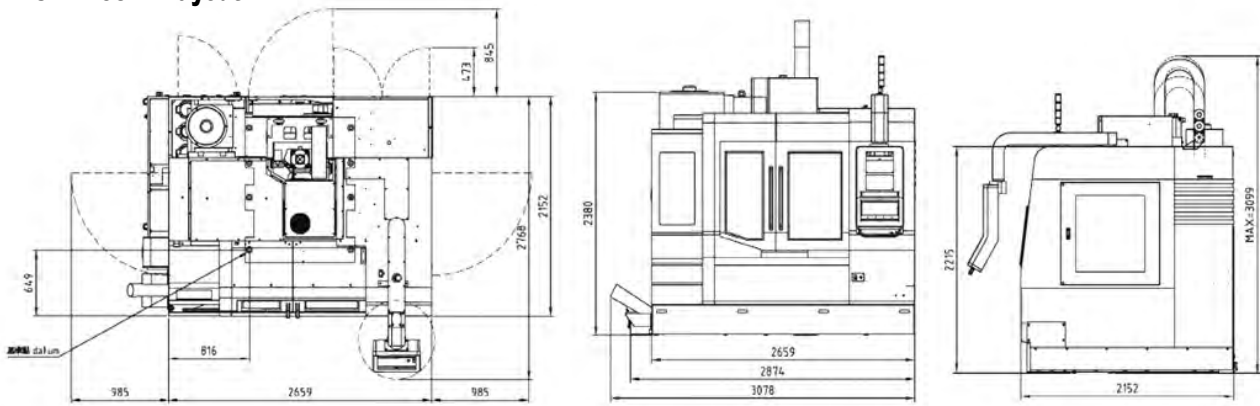
1. 32 tools, arm type ATC
2. 3-axis Linear Scales
3. Scraper type chip conveyor
4. Air through spindle system
5. Coolant through spindle system (30/70 bar)
6. Cutting oil mist cooling device
7. Oil mist collection device
8. Automatic tool length measurement system
9. Automatic workpiece measurement system
10. Transformer

		CLU 250	CLU 400
Travel			
Axes (FANUC OiMF)		4+1	4+1
X-Axis	mm	860	1067
Y-Axis	mm	520	610
Z-Axis	mm	610	520
Range (A/C)		+30° -110° / 360°	+30° -120° / 360°
Distance from spindle nose to table surface	mm	65 - 675	90 - 610
Table			
Table size	mm	ø255	ø400
Max load of table	Kg	200	250
T-Slot (width x pitch x number)	mm	12 x 90 x 4	45 x 12 x 8
Spindle			
Spindle type	–	In-linea	In-linea
Max spindle speed	rpm	15.000	15.000
Motor power	kW	7.5/15	7.5/15 kW (10 min)
Spindle taper	–	BT-40	BT-40
Feed			
Rapid traverse (X-Y-Z)	m/min	36 / 36 / 36	36 / 36 / 36
Cutting feedrate	m/min	12	12
Asse rotativo			
Table diameter	mm	ø255	ø400
Allowed rotation of the C axis	gradi	360	360
C-axis positioning accuracy	secondi	±10	±10
Rotation speed	rpm	25	22,2
Rotating torque	Nm	342	540
Asse basculante			
Allowed rotation of the A axis	gradi	+30° -110°	+30° -110°
A-axis positioning accuracy	secondi	±10	±10
Rotation speed	rpm	16.6	22,2
Rotating torque	Nm	720	2880
Change tools			
ATC Type	–	Arm Type	Arm Type
Tool holder capacity	nr.	24	24
Max. tool diameter	mm	75 / 120	75 / 120
Max dimension of tool	mm	250	250
Max tool weight	Kg	7	7
Dimensionis and utilities			
Refrigerant tank capacity	litri	300	300
Pneumatic pressure	kgf/cm²	6	6
Electrical power consumption	Kva	40	60
Machine net weight	kg	6.700	7.500
Machine dimensions (LxWxH)	mm	2660x2160x3300	3200x2250x3100

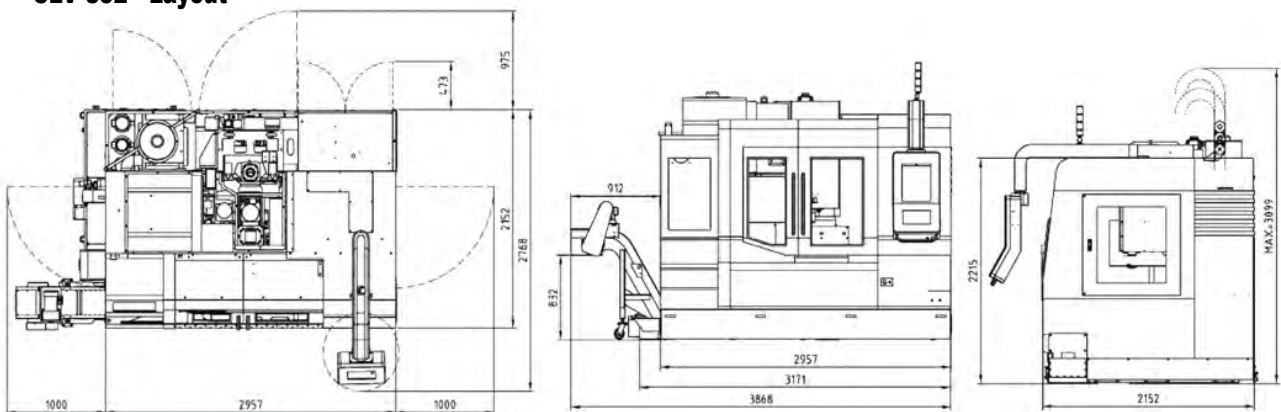
CLV 1200 - Layout



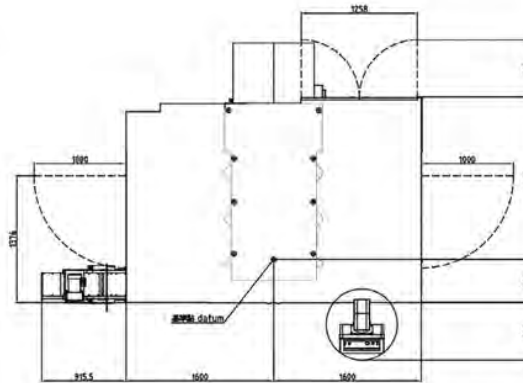
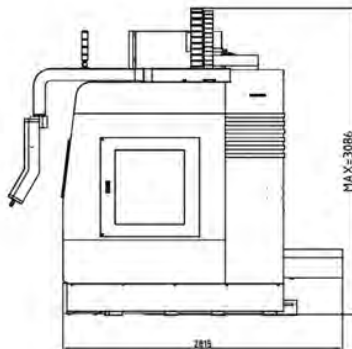
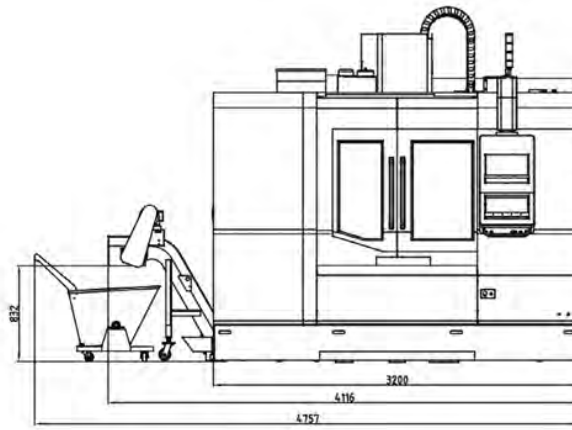
CLV 1052 - Layout



CLV 852 - Layout



CLU 400 - Layout



CLU 250 - Layout

