

Electromechanical Keyseating- and Profiling Machines



*RAPIDA CNCE 125-1250 APC
with automatic indexing table TA 900A and PC*



Machine description

Maschinenfabrik Frömag has been a partner of the industry, for keyseating, profiling, slotting and broaching machines, for more than 50 years.

Worldwide Frömag has more than 4.000 machines in use where there is a requirement for internal keyways, profiles, different teeth characteristics, oil grooves, helical splines in internal bores or keyways and profiles in blind holes.

Frömag electromechanical keyseating and profiling machines accomplish their jobs in a very reliable manner and offer cost savings due to their wide field of applications.

Our electromechanical keyseating and profiling machines, type Rapida CNCE-APC, are equipped with quick dynamic drives in all axis. The integrated absolute transmitters eliminate the reference run required with most hydraulic machines at the beginning of an operating cycle or after changeover of tooling.

The electromechanical drives on our machines, that are used in numerous demanding applications achieves the requirements demanded by the industry for a modern machine tool: high accuracy and quality, short machining and set-up times, energy savings, environmental concerns and operator friendliness.

The use of our machines compared to hydraulic keyseaters offered on the market, leads to immense advantages as a result of the wide fields of applications, cost effective solutions and productivity.

The ball screw dimension for the feed movement and the infeed axis match the power requirement of each machine for a long life of the ball screws and has been proven out hundreds of times for all kind of machining processes since the early nineties of the last century. Even the machining of surface hardened materials causes no problem to our electromechanical machines.

Due to the stiffness of the drive system, tool life and surface finish of the machined components is improved.

The modular built PC has two main units; i.e. the control panel with a 15" flat touch screen and the control system fitted inside the electro cabinet.

A swivel arm or a consol carrying the control panel can be set easily to the ergonomic best position for the machine operator.

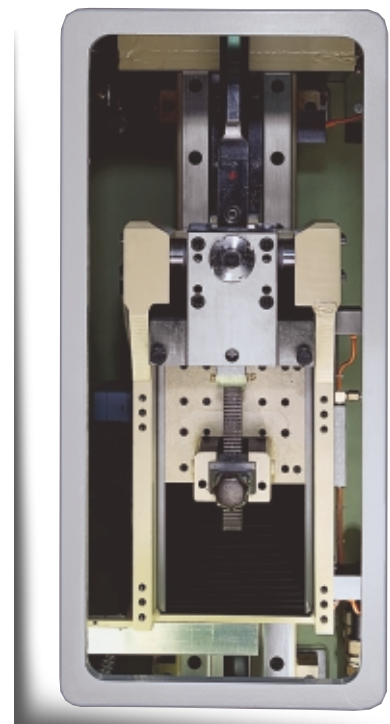
Operation through the control system is conducted interactively in natural language. The operator is guided through the program by easily followed menus and needs no special programming skills.

Besides the necessary basic functions, which are required for each movement, the PC provides more additional features as data file system, the control of automatic indexing tables for machining internal and multiple splines or different internal profiles. The control of the workpiece recognition (option) is also a component of the control. The custom continuous path control results in high positioning of the stroke and infeed axis and allows machining of helical internal keyways and splines, which are mostly required for injection moulding and extruder machines, by using the equivalent indexing tables and tooling.

Due to the more precise movements and stroke reversal points of the electro-mechanical drives compared to hydraulic machines the production of internal keyways and profiles in blind holes is easily accomplished.



PC Panel with 15" Touch Screen



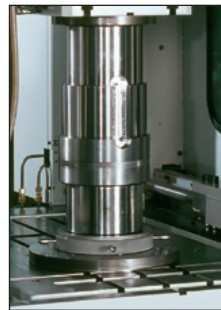
Feed slide and Tool carrier

Advantages and Technical Capabilities



Rapida CNCE 100-750 with vertical and horizontal moveable centring and receiving unit

By using the pneumatic centring and receiving unit the manual changing of the upper centring bushes for work piece changing is eliminated, leads to savings of set up times and minimizes production cost.



Compared to hydraulic keyseaters the Frömag electro-mechanical keyseating and profiling machines offer many advantages:

- High precise path controlled movements of stroke, infeed and indexing tables
- Servo drives with integrated absolute transmitters for all axis
- High accurate and stiff machine movements by using ball or planetary ball screws
- Improved tool life and surface finish of the machined components due to the stiffness of the driving system
- Stiff, heavy duty maintenance free slide ways in all axis
- Savings on hydraulic oil and the associated maintenance, oil changing, storage and disposal cost
- Reduced heat generation compared to hydraulics
- Saving of energy cost due to the obvious better efficiency of the servo drives compared to hydraulics
- Reduced noise than with hydraulic pumps
- Reduced fault liability due to integrated encoders into the drives instead of linear measuring systems
- Telephone modem for mobile or stationary phones (option)

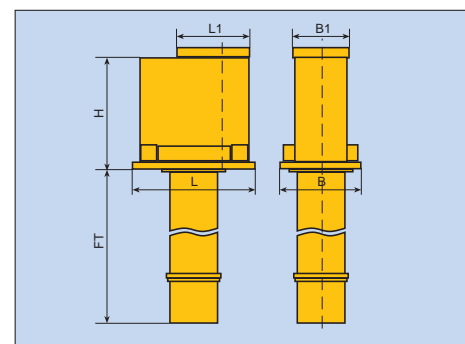
All these positive attributes result in high quality, cost savings and extend the efficiency of our electromechanical keyseating and profiling machines.

Features and Dimensions RAPIDA CNCE APC

According to the demands of our customers' production, Frömag electromechanical keyseating and profiling machines, Rapida CNCE-APC, can be built in various sizes to meet their different requirements.

– Subject to change without notice –

	CNCE 70	CNCE 100	CNCE 125	CNCE 150/200
Keyway width (mm)	3 – 70	3 – 100	3 – 125	6 – 150 6 – 200
Keyway length (mm) NL	750/1000	600/750/1000	600/750/1000/ 1250/1500	1000/1250/1500 1800/2000
Bore size (mm) Ø	10 – 500	10 – 500	10 – 500	20 – 750
Cutting- and return speed (m/min.)	0 – 38	0 – 38	0 – 38	0 – 38
Connected load of the main motor (kW)	15	22	30	37/45
Infeed rate (mm)	0,01 – 2	0,01 – 2	0,01 – 2	0,01 – 2
Workpiece weight(kN)	300	350	350	400
Machine dimensions (mm)	H L B	1290 1285 810	1290 1285 810	1305 2135 1115
Machine table size (mm) L1 x B1	800 x 600	800 x 600	800 x 600	2100 x 900



NL (mm)	FT (mm)
70/750/1000	745/995
100/125/600	595
750	745
1000	995
1250	1245
1500	1495
150/200/1800	2650
150/200/2000	2850

NL = Keyway length

FT = Foundation depth

The table size increases by using indexing tables from TA 680 and larger

