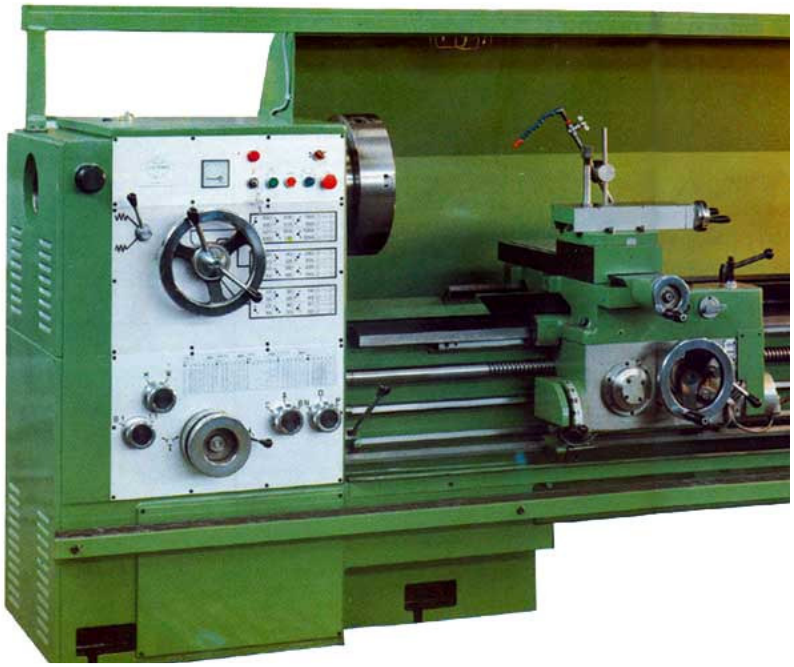
COSTRUZIONI MECCANICHE
FRACOM
s.a.s.
MAGNAGO (MI)

# FH 270/320/350



# MAIN FEATURES

Long experience in the manufacture of machine tools has resulted in this highly successful design giving a compact heavy duty lathe with minimum overall dimensions when compared with its capacity and robust construction. The outstanding technical features of this design ensure maximum efficiency, high accuracy and great durability.

### BASE

The base is in one-piece unit, adequately ribbed with a large bearing surface in order to assure absolute stability during the work. The motor and a tank for the cooling liquid are installed in the base.

### BED

The bed with double walls has been carefully designed to ensure absolute rigidity under the most severe working conditions. The slideways are induction hardened and are precision ground to close limits.

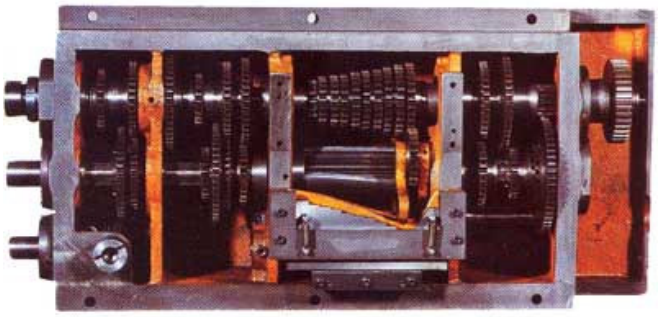
### HEADSTOCK

The headstock is a single casting heavily ribbed to give great mechanical strength. The drive and the reverse motion are obtained through a multidisc clutch. On disengaging the clutch an electromagnetic brake automatically disengages the spindle and brings it to rest.
All shafts and gears are of nickel-chrome- molybdenum alloy steel, casehardened and ground.

### SPINDLE

The spindle of sturdy construction, is of nickel-chrome- molybdenum alloy steel, casehardened and ground over its whole length. The rotation speeds are 36 in geometric progression. The spindle hole is diameter 105. The spindle is frontally supported by 2 high precise bearings TIMKEN 170/230 and on the back is supported by a bearing NU 1206 130/200.

## FEED AND SCREWCUTTING GEARBOX



The feed and screwcutting gearbox is a totally enclosed unit, capable of very high performance and giving a very wide selection of feed rates and screw pitches in metric module, Whitworth and diametral pitch systems. It offers a large number of threads (335). All gears are mounted on ball bearings and are oil rain lubricated assuring a good general lubrication .
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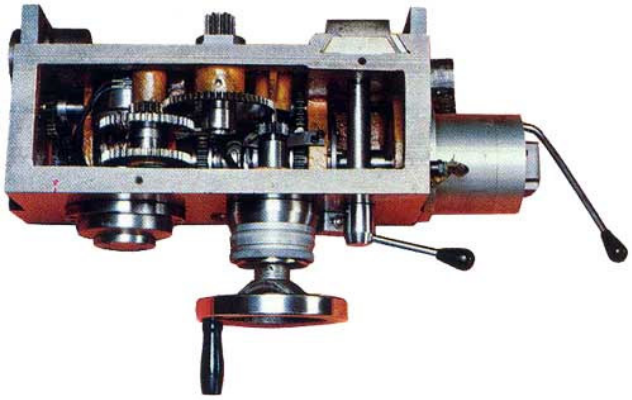
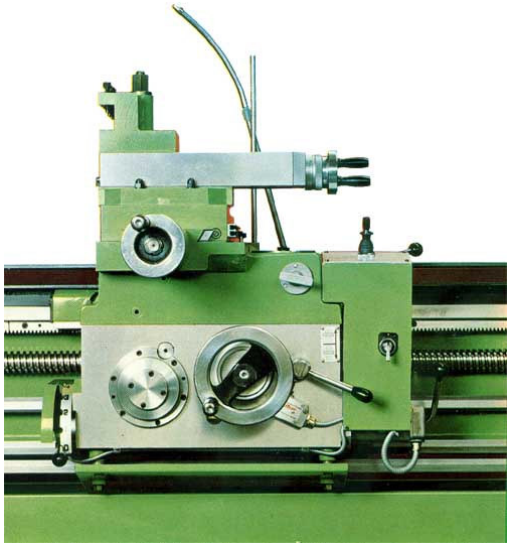
## APRON

The apron is totally enclosed with oil lubrication. It contains the mechanisms for automatic longitudinal and cross feed engagement and screwcutting engagement with mechanical interlock, preventing engagement of screwcutting simultaneously with automatic feed. A handpump provides pressure lubrication to saddle slideways and upperparts of apron.





## SADDLE

The saddle is of sturdy construction adequately proportioned and with large bearing surface of special wear resistant cast iron alloy to withstand heavy working stresses. Upon request the carriage slideways are induction hardened and ground. The carriage can be delivered cross and longitudinal rapid traverses obtained through a lever. Pressing a pushbutton placed near the lever, it is possible to obtain the feed selection in 4 directions. It is possible to obtain the automatic longitudinal stop in 4 positions and the stop of the cross movement. These stops are obtained by high precise micro-switches.

## DRIVE

The drive is obtained through V belts driven by an electric motor enclosed in the base under the head. The tension of the belts is easily adjustable pivoting the bearing cradle.

## COOLANT SYSTEM

The coolant system of tools is supplied by an electro pump, of the immersed type, situated on the right side of the base.

## ELECTRICAL EQUIPMENT

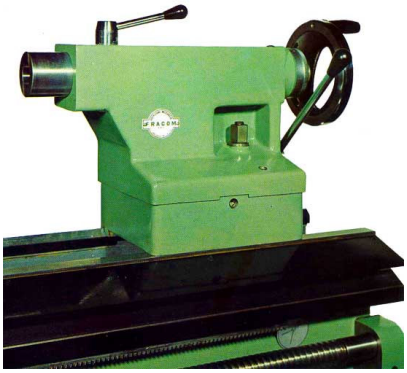
The electrical equipment is contained in a separate box in order to avoid overload during the work. In this way the cooling liquid cannot damage the relay, assuring them a long life.

## RESTS

Rests are very sturdy and provided with three bronze bearings. Upon request they can be mounted on bearings.

## TAILSTOCK

The tailstock is extremely well proportioned and provides great stability and rigidity. The main body has cross adjustment to alloy taper turning. The slideways are induction hardened.



## STANDARD ACCESSORIES

Main motor, electropump motor, electric equipment, cooling equipment, steady rest, follow rest, n. 2 centres, n. 1 spindle reducing cone, safety guard, forced lubrication in the head, pump by hand in the crass carriage, flange for self-centring chuck, service spanners.

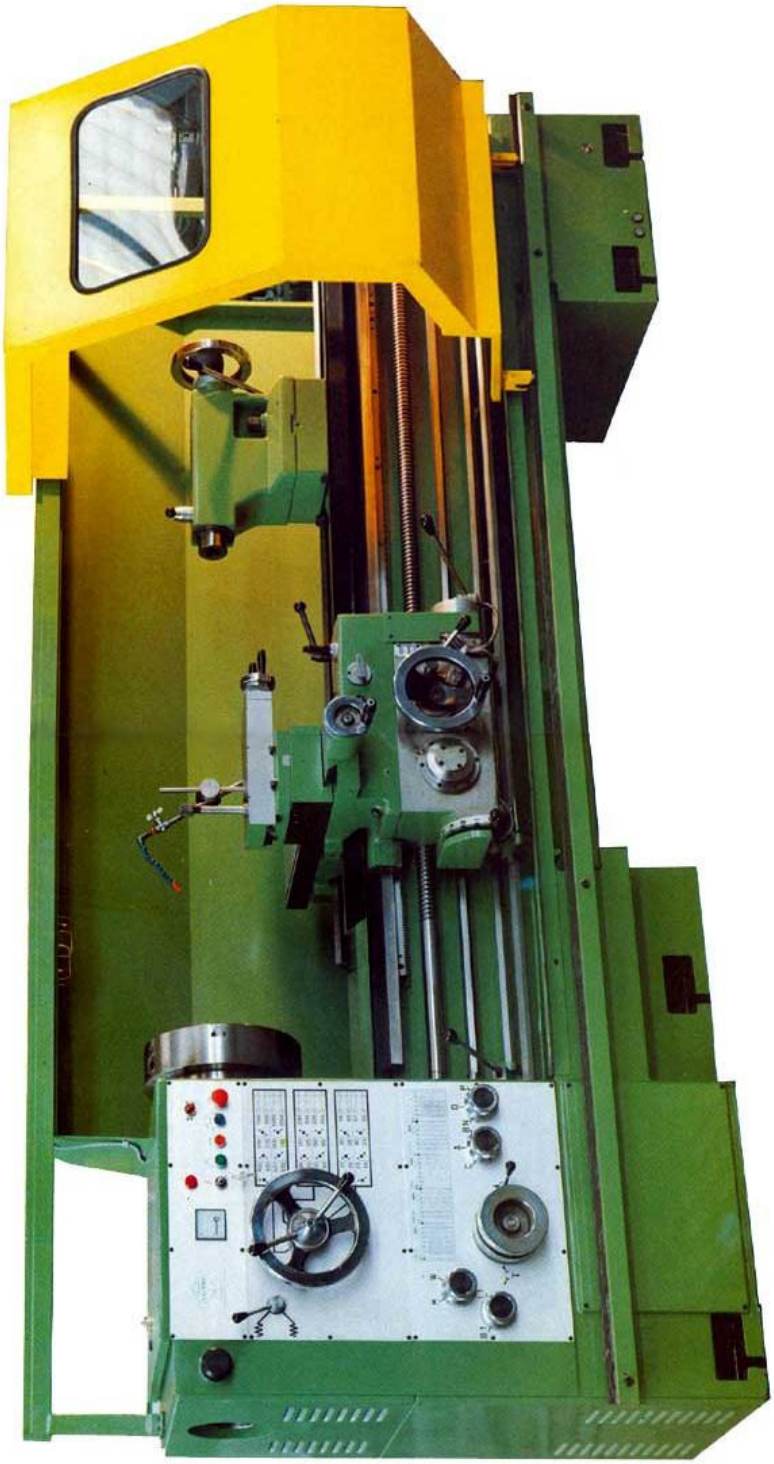
## ACCESSORIES ON REQUEST

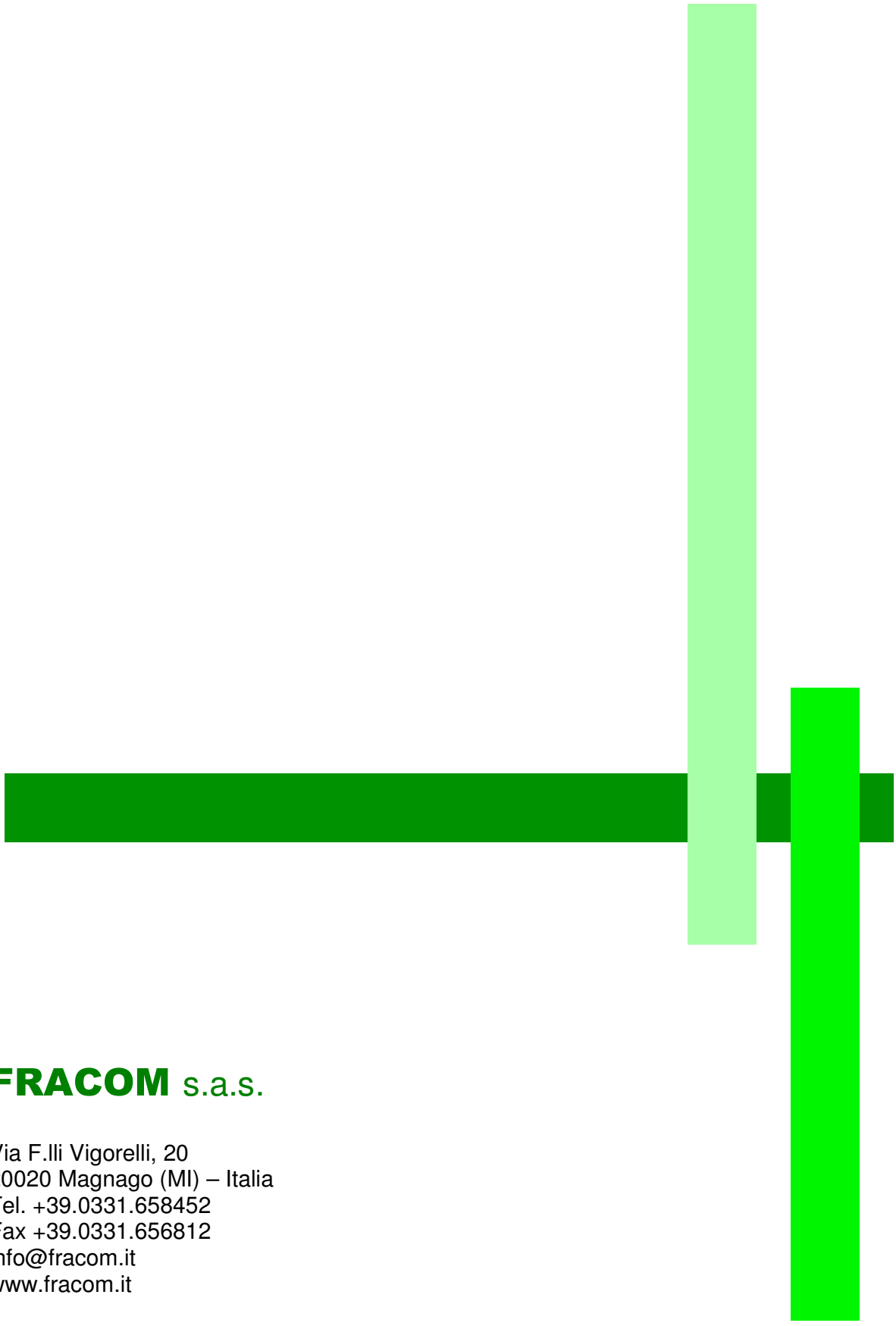
N. 4 jaws independent chuck, self-centring provided with double ways and flange, tool-holder, lamp-holder, rapid traverse on cross carriage and longitudinal displacements, 4th bar.

# TECHNICAL DATA

| | | FH270 | FH320 | FH350 |
|---|---|---|---|---|
| Height of centres | mm | 270 | 320 | 350 |
| Max. swing in gap | mm | 730 | 830 | 890 |
| Max. swing over bed | mm | 540 | 640 | 700 |
| Max. swing over carriage | mm | 308 | 408 | 468 |
| Max distance between centres | mm | 1500 2000<br>3000 4000 | 1500 2000<br>3000 4000 | 1500 2000<br>3000 4000 |
| Steady rest (Ø min/max) | mm | 15-220 | 15-220 | 15-300 |
| Follow rest (Ø min/max) | mm | 15-120 | 15-120 | 15-200 |
| **HEAD** | | | | |
| Spindle speeds | n | 36 | 36 | 36 |
| Spindle speeds r.p.m. | n | 18-1500 | 18-1500 | 18-1500 |
| Spindle bore | mm | 105 | 105 | 105 |
| Dia. of spindle front bearing | mm | 170/230 | 170/230 | 170/230 |
| Dia. of spindle back bearing | mm | 130/200 | 130/200 | 130/200 |
| CAMLOCK nose | n | 11 | 11 | 11 |
| **BED** | | | | |
| Hardened slideways | | | | |
| Total length of gap | mm | 450 | 450 | 450 |
| Length of gap in front table | mm | 210 | 210 | 210 |
| Width of bed | mm | 400 | 400 | 400 |
| **SADDLE** | | | | |
| Length of carriage ways | mm | 670 | 670 | 670 |
| Width of cross carriage | mm | 245 | 245 | 245 |
| Toolholder travel | mm | 200 | 200 | 200 |
| **TAILSTOCK** | | | | |
| Sleeve diameter | mm | 100 | 100 | 100 |
| Sleeve travel | mm | 250 | 250 | 250 |
| Morse taper | mm | 5 | 5 | 5 |
| **FEEDS AND STANDARD THREADS** | | | | |
| Lead screw diameter | mm | 45 | 45 | 45 |
| Load screw pitch | mm | 12,7 | 12,7 | 12,7 |
| 60 Longitudinal feeds | mm | 0,05-3 | 0,05-3 | 0,05-3 |
| 60 Cross feeds | mm | 0,025-1,5 | 0,025-1,5 | 0,025-1,5 |
| 60 Metric pitches | mm | 0,5-30 | 0,5-30 | 0,5-30 |
| 60 Whitworth pitches | thr./1 | 1-60 | 1-60 | 1-60 |
| 35 Module pitches | Mod | 0,25-15 | 0,25-15 | 0,25-15 |
| 60 Diametral pitches | Pitch | 2-120 | 2-120 | 2-120 |
| Motor quick movements | HP | 1 | 1 | 1 |
| Power of motor (50 Hz) | HP | 12 | 12 | 12 |
| Power of electropump motor | HP | 0,2 | 0,2 | 0,2 |
| **OVERALL DIMENSIONS** | | | | |
| Length | mm | 3150 3650<br>4650 5650 | 3150 3650<br>4650 5650 | 3150 3650<br>4650 5650 |
| Width | mm | 800 | 800 | 800 |
| Height | mm | 1400 | 1450 | 1480 |
| Approx. net weight for centre distance 1500 | Kg | 3500 | 3600 | 3800 |
| Approx. net weight for centre distance 2000 | Kg | 3600 | 3700 | 3900 |
| Approx. net weight for centre distance 3000 | Kg | 3700 | 3800 | 4000 |
| Approx. net weight for centre distance 4000 | Kg | 3800 | 3900 | 4100 |

Specifications to serve as a guide. Subject to modifications without notice.





**FRACOM** s.a.s.

Via F.lli Vigorelli, 20
20020 Magnago (MI) – Italia
Tel. +39.0331.658452
Fax +39.0331.656812
info@fracom.it
www.fracom.it