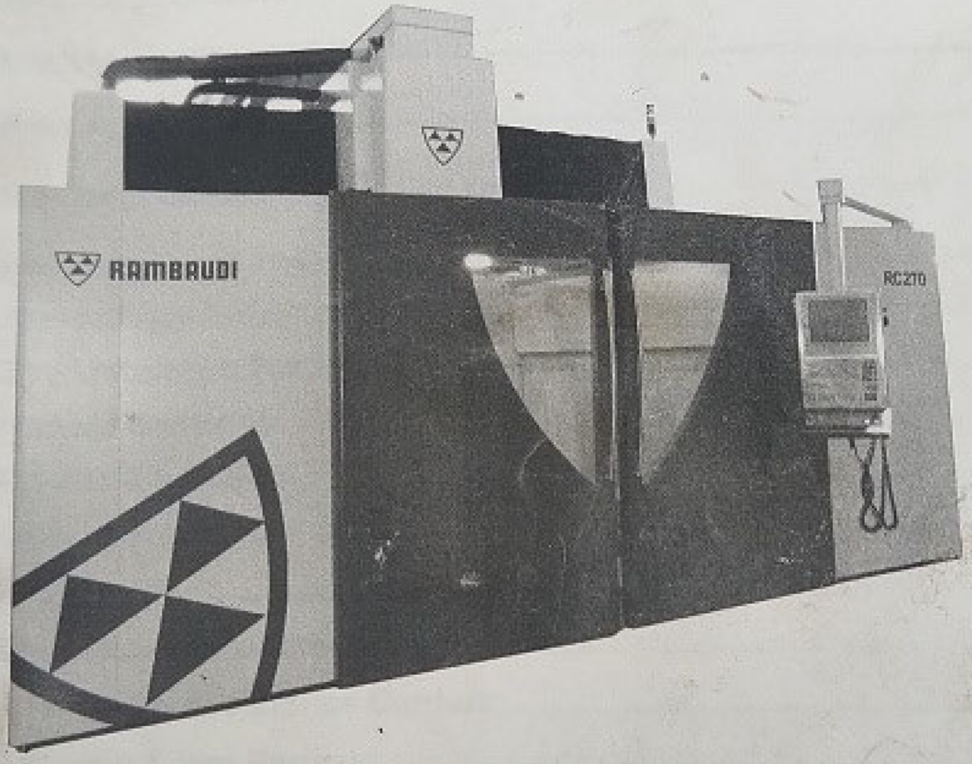
RAMBAUDI

Fair Friend Group

SKY THRIVE RAMBAUDI S.R.L.

USER AND MAINTENANCE MANUAL



Type : RC270

Serial Number : [redacted]

Manufacturing Year : 2014

Customer :

FFG EUROPE

CE

1.1 Main Components of the Machine

The **RC270** is a Numeric Control milling center with movable crossbeam, suitable for high-speed machining with 3 +2 or 5 axes.

This 3/5-axes structure allows the spindle positioning with respect to the workpiece and ensures the tool is at right angles with every point of the surface to be machined. In this way it is possible to cover a wide range of machining (from roughing to super-finishing), characterized by a high precision.

The **main structure** comprises:

A) Two lateral columns on which the crossbeam runs,

B) A crossbeam that supports the RAM holder cross saddle **(B1)** and slides on the columns,

C) A RAM that slides vertically inside the cross saddle,

D) A head fixed to the lower part of the RAM,

E) A working table in the center of the columns, with the following characteristics:

- Dimensions: 2500x2000
- Permissible load: 10000 Kg/m^2
- Thickness of cast iron table: 300 mm
- T-slots: No. 8 slots – width 28 mm (H7)

The machine in question is equipped with a 2-axis GLOB 89 G milling head (C and A continuous or indexed).

Inside of the head forks is housed the spindle having the following characteristics:

- **24000 RPM 28 kW (S1) / 33 kW (S6 40%), 89 Nm (S1) / 105 Nm (S6 40%) gripper for HSK-A63 tool taper**

It is then possible to identify the following main axes:

- X and X1 Axes (master and slave): longitudinal translation of the crossbeam on 2 columns.
- Y-Axis: transversal translation of the RAM holder cross saddle on the crossbeam.
- Z-Axis: vertical translation of the RAM on the cross saddle.
- C-Axis: rotation of the head around the RAM vertical axis.
- A-Axis: rotation of the electrospindle support inside the head fork.

1.2.1 Features of Machine Axes

WORKING TRAVEL OF THE AXES AND RESOLUTION

AXIS	WORKING TRAVEL	SPEED
X and X1	2200 mm	40 m/1'
Y	2700 mm	40 m/1'
Z	1250 mm	40 m/1'
C continuous	400 (± 200°)	10 rpm
A continuous	230° (+120°, -110°)	10 rpm

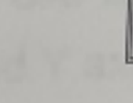
PRECISION OF LINEAR MACHINE AXES (ISO 230-2)

AXIS	P	TRANSDUCER
X, X1, Y, Z	0,015 mm	OPTICAL LINE

PRECISION OF POLAR MACHINE AXES (ISO 230-2)

AXIS	PRECISION OF POSITIONING	TRANSDUCER
C, A	15 arc sec – repeatability 10 arc sec	ENCODER

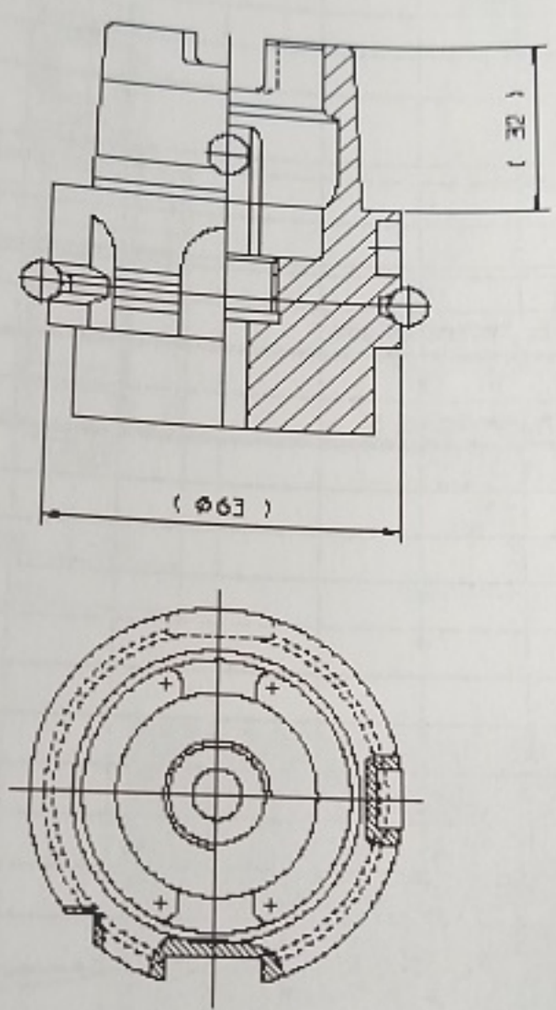
AXIS	TORQUE
C, A continuous	1000 Nm
C, A braked	4000 Nm



WARNING

It is absolutely forbidden to modify the data concerning axes and spindle performance from the numeric control. The Manufacturer rejects any responsibility for possible damages caused to the plant or injury to personnel if this warning is

1.5.2 Tool Taper DIN 69893 HSK-A63



.6 Hydraulic System

e hydraulic systems of the machine are supplied by a hydraulic unit located
inet located on the floor, next to the electrical cabinet.

Hydraulic Service Points of Milling Cent

level of protection).

The numerical control installed on the electrical cabinet of t

☐ SIEMENS 840D SL

☑ HEIDENHAIN iTNC530 HSCI

with digital drives HEIDENHAIN

5) Control unit. Panel from which the operator controls