

**Technical Specifications of Heads for CNC Horizontal
Boring Machine (RACEM-601) equipped with
SINUMERIK 840C**

A. Universal Milling Head

Size of the Machine Spindle taper	BT50
Spindle taper in Milling Head	BT50
Speed Ratio (transmission ratio)	1:1
Permissible speed	2500 rpm or more
Torque	1400 Nm or More
Head Clamping	Hydraulic
Tool clamping	Hydraulic
Indexing	360 deg with increment 1 deg

B. Right Angle Vertical Milling Head

Size of the Machine Spindle taper	BT-50
Spindle taper in Milling Head	BT-50
Speed Ratio (transmission ratio)	1:1
Permissible speed	1000 rpm or more
Torque	600 Nm or More
Head Clamping	Hydraulic
Tool clamping	Supplier to inform
Indexing	360 deg with increment 1 deg

C. Supplier to offer following spares, as used in the heads separately for each head

- (a) Bevel Gears : 1 set each type
- (b) Worm Gear and Worm Shaft: 1 set each type
- (c) Bearings : 1 no each type
- (d) Complete tool clamping and unclamping system : 1 set
- (e) Any electrical or electronic item used in the head: 1 set
- (f) Other spares as recommended by the supplier.

Prices for the above spares to be quoted separately.

(Sudhir Jol)

(Anshoms)

Vivek Prakash Singh


(A.K. Pandey)

D. Other requirements

- 1) The milling heads should be able hold BT-50 tool adapters.
- 2) The external dimensions (like head body width, Working length etc.) of the offered heads should be in line with the sketches of the already available heads which are attached at annexure-1 and annexure-2.
- 3) The offered head should be capable of mounting on the RAM with hydraulic clamping system.
- 4) Pull Stud for mounting the Head on the RAM and for mounting the Tools in the taper of the Head shall be supplied by the vendor. Pull studs design should be same as available on existing machine (RACEM-601). Supplier to provide detailed drawings of these pulls studs. Supplier may discuss the design of pull stud with BHEL prior to placement of P.O.
- 5) Supplier to provide all electrical, mechanical and other parts required for clamping and successful working of the above mentioned Head on the specified machine.
- 6) Commissioning of the Milling heads shall be carried out at BHEL Works by the supplier. Supplier shall demonstrate the performance of the heads separately by carrying out Facing, Milling, drilling, boring and tapping operations on a test piece, tooling to be provided by BHEL.
- 7) Warranty to be provided for minimum 12 months from date of commissioning.
- 8) The supplier shall supply complete assembly drawings along with drawing of components, their names and specifications in English language and identification numbers mentioned clearly, in two sets for each milling head.
- 9) 3 Nos. of operating manual in English language shall be supplied along with each milling head.
- 10) The supplier may be asked to visit the BHEL, Haridwar for technical discussion prior to placement of purchase order for any clarification regarding machine or specified requirement.


(Sudhir Joshi)


(Anshu)

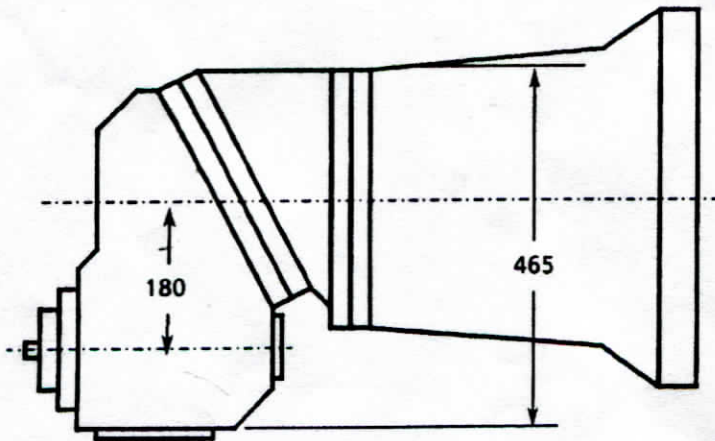
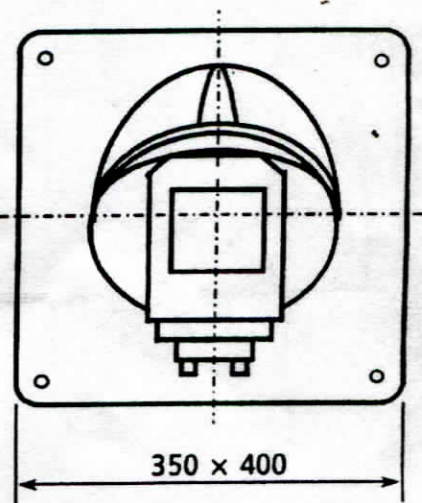
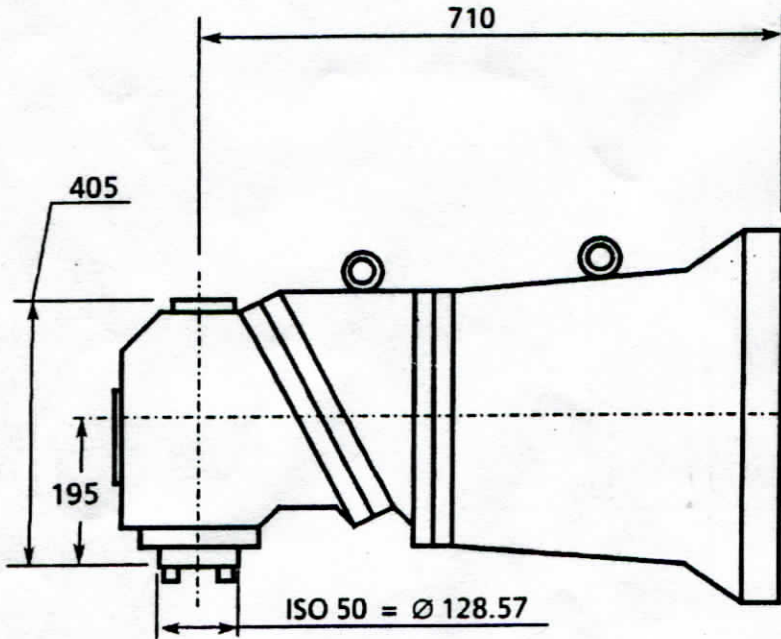

(VIVEK PAR SINGH)


(A.K. Bandyopadhyay)



Annexure - I

NR-10 UNIVERSAL MILLING HEAD



SPEED - 2500 rpm
 TORQUE - 1400 Nm
 TAPER - B7.56
 CLAMPING - HYDRAULIC

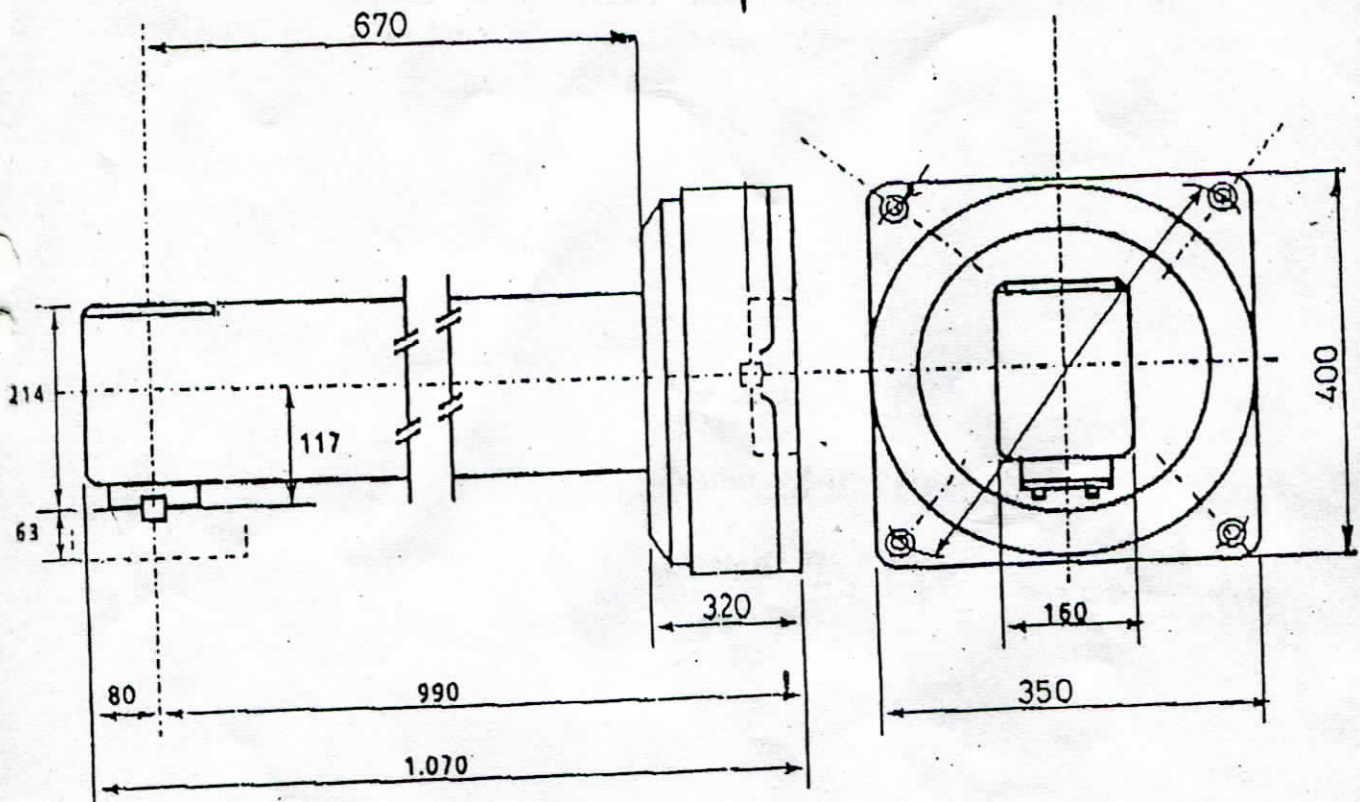
(Snehal Joshi)

Mishra

Pradeep

Sharma

NR-14 VERTICAL MILLING HEAD



SPECIFICATIONS

Speeds of cutter-holder spindle in continuous variation r.p.m.	Máx. 1000
Rotation of the head	360 x 1°
Spindle inside taper	ISO-50 / BT-50
External centring of the cutter-holder spindle	ISO-50 / BT-50
Transmission Ratio	1 : 1
Torque In te spindle	600 Nm.

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