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HEC

THE LEADING LARGE SIZE
MACHINE TOOLS MANUFACTURER



HEAVY ENGINEERING CORPORATION LIMITED

(A Government of India Enterprise)

The Company

Heavy Engineering Corporation Ltd. (A Govt. of India Enterprise), is the largest engineering complex in India with three manufacturing units: Heavy Machine Building Plant (HMBP), Foundry Forge Plant (FFP) and Heavy Machine Tools Plant (HMTP). These units design, manufacture and supply a wide range of heavy and sophisticated equipments catering to the needs of Core sector industries. Project Division, the fourth unit of HEC, executes Turnkey projects from concept to commissioning.

Heavy Machine Tools Plant (HMTP) of HEC, set up in technical collaboration with M/s Skodaexport of erstwhile Czechoslovakia, is one of the most sophisticated plant of its kind in the country. The plant covers an area of 2,13,500 sq meters and manufactures machine tools in heavier ranges serving vital industries such as Railways, Defence, Space, General Engineering Workshop, Ship Building, Steel etc.

HMTP is equipped with modern Machine Tools to meet production activities. It has a separate Quality Control and Services After Sales departments. The Plant has also a Reconditioning wing for refurbishment of used Machines.

The strong design team is adequately geared up to take the modern day challenges of the manufacturing industries. The design of series of different kinds of machine tools is based on long years of research coupled with technology absorption from world leaders like, O-M Ltd, Japan; Waldrich-Siegen, Germany; Herkules, Germany; Oerlikon-Boehring, Germany and Hegenscheidt-MFD, Germany. Our capability and strength, has made us the true leader among the machine tool manufacturers of India.

Our Products

Radial Drilling Machines : Our Excellence



Radial Drilling Machine, Model : DR 8A

Accessories

- Set of Change gears (2 nos.) for Spindle speed of 16 to 1400 rpm.
- Power Clamping of Drill Head on Arm
- Motorised Movement of Head Stock
- Hydraulic Clamping of Covering
- Hydraulic Clamping of Arm
- Hydraulic Clamping of Head Stock
- Coolant System
- Box Table
- Tilting Table
- Clamping Jibs

		DR8A	DRT8A	DR10	DRT10
Max. dia drilled in steel of 60kg/mm ² (tensile strength)	mm	80	80	100	100
Min. dist. axis of spindle to column	mm	530	530	530	530
Max. dist. axis of spindle to column	mm	2520/3070		3620/4470	
Main motor power	kW	9/10.5	9/10.5	10/15	10/15

Vertical Turning Lathes : Our Speciality



6 - Axis CNC Double Column Vertical Turning & Milling Machine, Model : BV40/50NM



2 - Axis CNC Vertical Turning Machine (Monoblock type) Model : BV 5 - 16 NS



3 - Axis CNC Single Column Vertical Turning & Boring Machine, Model : BVS 55/70NM

CNC VTL Double Column Type

		BV 30/40 NM	BV 40/50 NM*	BV 50/60 NM
Table Diameter	mm	3,000	4,000	5,000
Max turning dia	mm	4,000	5,000	6,000
Max turning height	mm	3,100	4,200	4,200
Max wt. of work piece	kg	30,000	50,000	80,000
Main Motor power	kw	75	75	75
Table Speed	rpm	0.45-60	0.2-50	0.23-30
Max. Cutting Forces	kg	6000	6,000	6,000

*6 Axis CNC VTB having X1, X2, Z1 Z2, C & B Axis was supplied to VSSC, Trivandrum.

CNC VTL Monoblock Type

		BV5 - 16NS	BV5 - 16N	BV5 - 20 N	BV5 - 25N
Table Diameter	mm	1,600	1,600	2,000	2,500
Max turning dia	mm	1,700	1,700	2,300	2,800
Max turning height	mm	1,600	1,600	1,800	2,200
Max wt. of work piece	kg	7,000	7,000	15,000	20,000
Crossrail		Fixed	Movable	Movable	Movable
Main Motor power	kw	45	45	60	60
Cutting Forces	kg	2,500	2,500	2,500	2,500

CNC VTL Single Column Type

		BVS 20/40	BVS 25/50N	BVS 30/70N	BVS 45/70NM	BVS 55/70NM
Table Diameter	mm	2,000	2,500	3,000	4,500	5,500
Max turning dia	mm	4,000	5,000	7,000	7,500	7,000
Max turning height	mm	1,600	1,650	2,850	2,850	2,850
Max wt. of work piece	kg	20,000	40,000	50,000	50,000	50,000
Main Motor power	kw	37	45	45	60	60
Cutting Forces	kg	2,500	2,500	4,000	4,000	4,000

Accessories

- 4 Independent Clamping jaws
- Electrical equipment complete with CNC system, motor & control cubicle etc
- Set of operating hand tools
- Set of foundation material
- Voltage Stabilizer
- Ultra isolation transformer
- Ram with live spindle
- Angular Milling Attachment
- C-Axis for table
- On-line tool measuring System
- On-line work piece measuring System
- Chip Conveyor System
- Coolant System

CNC Roll Turning & Centre Lathes : Our Strength



4 - Guideways CNC Roll Turning Lathe
Model : LRT 160N/8M Swing over bed - 1600 mm

CNC Centre Lathes
Model : LC 100N



CNC Roll Turning Lathes

		LRT65N	LRT100N	LRT120N	LRT160N
Swing over carriage	mm	650	1000	1200	1600
Distance between centres	mm	3000-6000		4000-10000	
Max. wt. of work piece	kg	8000	15000	30000	50000
Main motor power	kW	40	50	60	75
CNC System		Fanuc / Siemens (2 axes)			

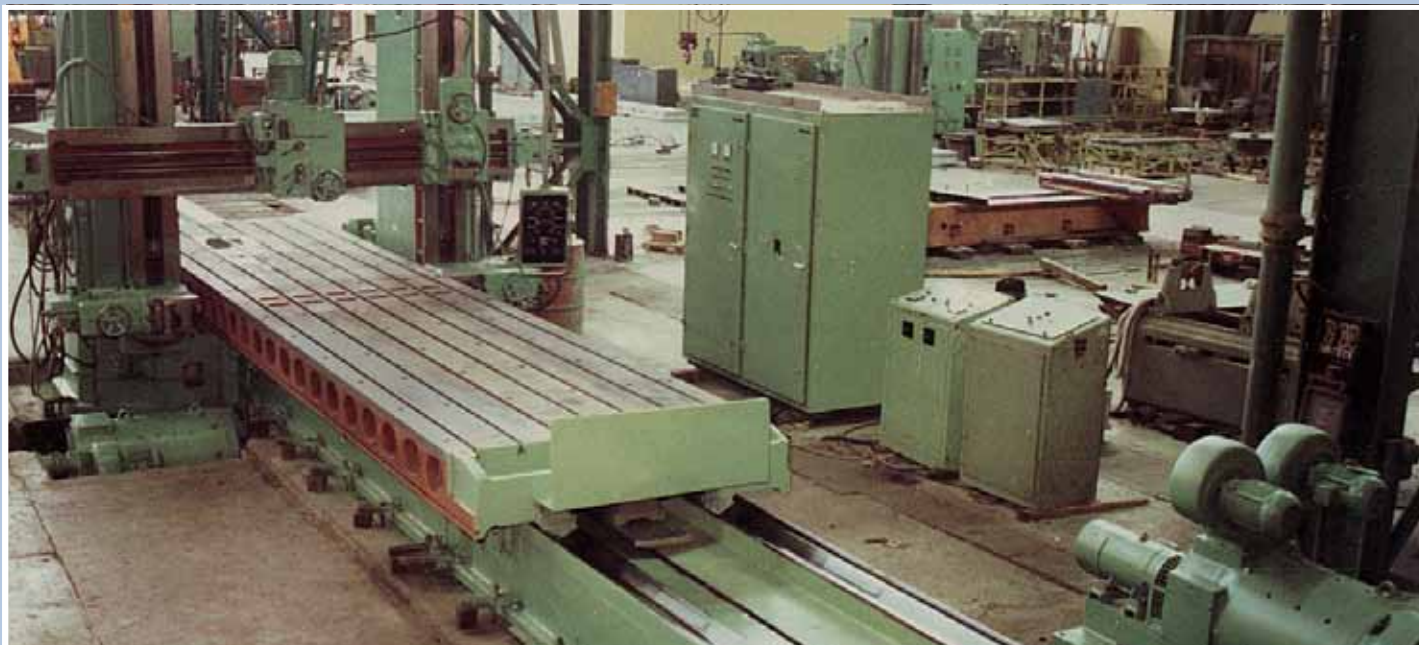
CNC Centre Lathes

		LC100N	LC140N
Swing over carriage	mm	650	1000
Distance between centres	mm	3000-6000	
Max. wt. of work piece	kg	8000	15000
Main motor power	kW	40	50
CNC System		Fanuc / Siemens (2 axes)	

Accessories

- Steady rests as per Customers request.
- Thread Cutting facility
- Face Plates / Chucks of different sizes
- Grinding attachment
- Coolant System
- Chip Conveyor System

Planing & Plano Milling Machines : Our Workhorse



Double Column Planing Machine Model : PD 16

Double Column Planing Machines

		CNC PD14/3N	PD16	PD20
Max. planing width	mm	1400	1600	2000
Max. planing height	mm	900	1600	2000
Max. planing length	mm	3000	4000-12000	
Max. job weight per m of planing length	kg	2000	2000	2000
Main motor power	kW	30	45	45
CNC System		Fanuc/Siemens (2 axes)	-	-

Double Column Plano Milling Machines

		MP 12L	MP14M	MP16M	MP20H
Max. milling width	mm	1250	1400	1600	2000
Max. job height	mm	1250	1400	1600	2000
Max. milling length	mm	10000	10000	10000	12000
Drive motors for quill heads	kW	15	15/30	15/30	30/45
Drive motors for ram heads	kW	-	30	30	50

Accessories (Planing Machines)

- Milling Head
- Grinding Attachment
- Angular Milling Attachment

Accessories (Plano Milling Machines)

- Power Clamping of tools
- Infinitely Variable infeeds of quills 1.6 - 800 mm/min
- Power Swivelling of quill type milling head on crossrail
- Milling heads
- Universal angular Milling heads
- DRO
- Tandem table

Horizontal Boring Machine: Our Legacy

		BH100HD	BH130A	BH160	BH200	BH200N
Dia. of work spindle	mm	100	130	160	200	200
Taper in spindle		Morse 6	Met. 80	Met. 100	Met. 120	ISO 60
Table size	mm ²	1250 x 1250	2000 x 2000	2000 x 2000	3000 x 3000	3150 x 3150
Spindle travel	mm	900	1000	1600	2000	2000
Min. travel of column on bed	mm	-	3200	3150	4000	4000
Main motor power	kW	11	15	50	75	75

Railway Machine Tools (SPM) : Our Promise of Performance



CNC Surface wheel lathe



CNC Under floor wheel lathe

CNC Surface Wheel Lathe

		Diesel / Electric Loco & C&W
		LW200 N
Gauge	mm	1676
Maximum tread diameter	mm	1250
Minimum tread diameter	mm	700
Maximum axle length	mm	2750
Minimum axle length	mm	1850
Maximum weight of wheel set	kg	3500

CNC Under Floor Wheel Lathe

		LUW176N
Gauge	mm	1676
Max. / Min. tread dia	mm	1250/700
Uncoupled axles	mm	1000
Coupled axles	mm	1500 - 2650
Max. axle load	kg	25000

CNC Deep Hole Boring Machines (SPM) : Our Pride



CNC Deep Hole Boring Machine model BDH 140N/12M with bottle boring facility (Customer : O.F. Kanpur)

CNC Deep Hole Boring Machines

Boring range in steel of strength (60-90kg/mm²)

		BDH140N
Solid drill dia. Max.	mm	100
Trepanning dia. Max.	mm	250
Boring depth max.	mm	12000
Weight of job max.	kg	10000
Main motor power	kW	100
CNC system		Fanuc / Siemens (1 axis)

Accessories

- Sealing pot for dia. 250 trepanning
- Boring Bar Steadies
- Boring Bar Clamping Bushes
- Back plate for head stock spindle
- Back plate and clamping plate for boring carriage spindle
- Head Stock for rotating boring bar
- Turning Saddle
- Two Roller Supports for large diameter job
- Lantern Chuck for back boring & reaming
- Facing and boring slide for boring pre-bores
- Sealing Pots at head stock end according to bore dia.
- Replaceable cutter heads for solid drilling, trepanning , counter boring
- Replaceable pressure head sleeves
- Boring bars
- Replaceable Boring bar guide bushes & housings for boring bars
- Guide bushes and clamping bushes for bony bar steadies
- Clamping bushes for boring bars
- Bed Extention
- Floor Plate

Vertical Trimming Mill (SPM) : Our Expertise



Vertical Trimming Mill, Model VMS 40N for ISRO, Sriharikota

The Single Column CNC Vertical Trimming Mill, Model – VMS40N supplied to ISRO, Sriharikota was designed to carryout rubber insulation machining operation at each end of the typical large cylindrical segment hardware of diameter upto 4000 mm and length of ring upto 9000 mm to the desired configuration.

Table diameter	4,800 mm
Max. height under milling head	11,000 mm
Max. wt. of work piece	36,000 kg
Max. milling power	15 kW

HEC Contributions in Core Sector

STEEL : Supplied over 550 thousand tons of equipment & spares to major steel plants of the country and has special contribution in :

- * Setting up of Bokaro & Vizag Steel Plant.
- * Expansion of Bhilai Steel Plant.
- * Modernisation of Rourkela Steel Plant.

MINING : Modernisation of Mining sector by providing following major mining equipment for last three decades.

- * More than 580 nos. of 5 Cum Excavators.
- * 15 nos. of Draglines (24/96)
- * More than 30 nos. of 10 Cum. Shovels
- * 89 nos. of OB Drills

RAILWAYS : Designed and Manufactured and supplied

- * Over 160 nos. of Special Purpose Railways Machine tools like Surface Wheel Lathe, Underfloor Wheel Lathe, Axle Journal Turning & Burnishing Machine etc.
- * More than 40 nos. of CNC & Conventional machine tools like Radial Drill, Vertical Turning Lathe etc.
- * More than 1500 nos. of Crankshafts for B G Diesel Locomotives

SPACE: Supplied following for Nation's Second Launch Pad

Project for Launching Medium and Heavy Size PSLV and Medium Size GSLV.

- * 400/60T & 200/30 T EOT Cranes
- * 10T Tower Crane for Umbilical Tower at a height of 80m.
- * FCVRP & Horizontal Sliding Coors for Vehicle Assembly Building.
- * MLP for GSLV mark-III Project (approx. Wt. 810T)
- * 6-Axis CNC Double Column & 3-Axis CNC Single Column Vertical Turning & Milling machine.

STRATEGIC SECTOR : Developed/manufactured and supplied:

- * Special steel for defence & nuclear sector
- * Made Magnet Poles for Super Conducting Cyclotron Magnet for VECC under Department of Atomic Energy.
- * More than 150 nos. CNC Machine Tools of higher capacity to VSSC, HAL, BHEL, Ordnance Factories.
- * Turrent Casting for T72 Tank, fabricatecd Hull & Turret for MBT Arjun
- * Stern Gear Systems & Rudder Stock Assembly and Propeller Shaft Assembly for Navy.

Awards

- "BT-Star PSU Excellence Award 2012" in Turnaround Category
- "BRPSE Turnaround Award 2010" on 10th March, 2011.
- "Innovation in HR Development & Change" at Asia Pacific HRM Congress 2010
- INDUSTRIAL EXCELLENCE award in the year 2009 given by Indian Nuclear Society, Mumbai for its brilliant contribution to nuclear sector
- "SCOPE AWARD" for Excellence and Outstanding contribution to Public Sector Management Special Institutional (Turnaround) Category 2007-08.

Other Unique Products of HEC : Our Prestige



Launching Pad for ISRO, Sriharikota



Electric Rope Shovel, 5 Cu. M.



EOT Crane for ISRO, Sriharikota



Silo, Ore Bedding and Blending Plant, RSP Rourkela



Dragline, 24cum Bucket capacity, 96m Boom length

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