

PART-B

SCHEDULE OF RATE

FOR HEAVY

DUTY RADIAL

DRILLING MACHINE

ITEM NO-1

ANNEXURE-1**Specification of machine (HEAVY DUTY RADIAL DRILLING MACHINE)**

1	<u>MAIN SPECIFICATIONS:</u>	
1.1	Drilling capacity in steel (50 Kgf/mm2) with normal speed and feed	: 50 mm (+_5%)
1.2	Tapping capacity in steel (50 Kgf/mm2) Metric fine threads Inch (whitworth)	: M56 x 2.5 : BSW 1 3/4"
1.3	Spindle speeds (Two speed) 1. standard	: 12:40-1800 rpm or (+_5%) : 12:50-2240 rpm (+_5%)
	1. Optional	: 12:16-710 rpm(+_5%)
1.4	<u>Spindle nose taper(two type)</u>	
	Standard	: MT5
	Optional	MT4
1.5	<u>Feed range(Two type)</u>	
	Standard	: 6:0.125-1.25 mm/rev(+_5%)
	Optional	: 6:0.063-0.63 mm/rev(+_5%)
1.6	<u>Frame size:</u>	
	Max drilling radius	: 1500 mm(+_5%)
	Dia of column sleeve	: 350 mm(+_5%)
1.7	<u>Main Motor(Two speed)</u>	
	Standard speeds	: 3.6/4.5 Kw-1440/2880 (+_5%)
	Optional Speeds	: 4/5.2 HP-750/1500 rpm (+_5%)

STANDARD ACCESSORIES: TO BE INCLUDED WITH THE MACHINE

	Description	UOM	Quantity
2.1	Electrical equipment suitable for 3 phase, 415 volts, 50 cycles AC supply.	SET	As per requirement
2.2	Service tools.	SET	1
2.3	Operation and Maintenance Manual along with spare part manual	SET	3
2.4	Electro hydraulic clamping mechanism.	SET	1

[Type text]

GENERAL DATA FOR EQUIPMENT

Information required	HEAVY DUTY RADIAL DRILLING MACHINE
SUPPLIER NAME	
EQUIPMENT NAME	
MAKE/MODEL	
Quantity	

SUMMARY OF SCHEDULE OF RATE (SOR)

SL NO	DESCRIPTION	HEAVY DUTY RADIAL DRILLING MACHINE	TOTAL PRICE (₹.)
1	SUPPLY PART	TOTAL PRICE AS FOUND IN ANNEXURE “1A” →	
2	INSTALLATION & COMMISSIONING & TRAINING PART	TOTAL PRICE AS FOUND IN ANNEXURE “1B” →	
3	LIST OF ACESSORIES	TOTAL PRICE AS FOUND IN ANNEXURE “1C” →	
4	MANDATORY SPARE	TOTAL PRICE AS FOUND IN ANNEXURE “1D” →	
SUB TOTAL (A) AMOUNT (₹.) -			

The above rate shall be inclusive all taxes /duties/cess including work contract Tax (WCT) etc.

[Type text]

		Annexure-1A							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@ %	VAT/CST @%	FREIGHT	TOTAL (RS.)
01	SUPPLY OF HEAVY DUTY RADIAL DRILLING MACHINE INCLUDING ALL STANDARD ACCESSORIES AS PER ANNEXURE -1	01							
		Total price for Annexure-1A							
		Annexure-1B							
Sl. No.	Description	UoM	Lum sum Rate (Rs.) in Figure	Lum sum Rate (Rs.) in Word	Service tax @%			Total (Rs.)	
01	Installation and commissioning of HEAVY DUTY RADIAL DRILLING MACHINE	Lump-sum							
02	Training at site for operation and maintenance for 3 man-days	Lump-sum							
		Total price for Annexure-1B							
		Bidder should quote lump-sum amount towards erection and commissioning and training at site which should include to and fro expenses, fooding-lodging, local conveyance and all incidental expenses .No additional payment on any account would be paid by BCPL.							

Annexure-1C								
LIST OF ADDITIONAL ACESSORIES HEAVY DUTY RADIAL DRILLING MACHINE								
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGES	EXCISE DUTY@%	VAT/CS T @%	TOTAL (RS.)
1	Attachment for Low speed	1Set						
2	Attachment for Low feed	1Set						
3	Universal table 725x500x600 mm	1Set						
4	Box table 600x500x500 mm	1Set						
5	Box table 1000x750x500 mm	1Set						
6	Coolant equipment with pump and motor	1Set						
7	Machine lamp for 220 or 24 volts	1No						
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-1C							

[Type text]

	Annexure-1D							
	LIST OF MANDATORY SPARES HEAVY DUTY RADIAL DRILLING MACHINE							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/CST @%	TOTAL (RS.)
1								
2								
3								
4								
5								
6								
7								
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-1D							

PART-B

**SCHEDULE OF RATE
FOR HEAVY
DUTY COLUMN
DRILLING MACHINE
ITEM NO-2**

ANNEXURE-2**Specification of machine (HEAVY DUTY COLUMN DRILLING MACHINE**

1	<u>MAIN SPECIFICATIONS:</u>	
1.1	Drilling capacity in steel (50 Kgf/mm2) with normal speed and feed	: 40 mm(+_5%)
1.2	Tapping capacity in steel (50 Kgf/mm2) Metric fine threads Inch (whitworth)	: M50 x 1.5 : 1 1/2"
1.3	Spindle speeds (Two type) 1.standard	: 12:40-1800 rpm or (+_5%) : 12:50-2240 rpm (+_5%)
	1. Optional	: 12:16-710 rpm(+_5%)
1.4	Spindle nose taper	
	Standard	: MT4
1.5	Feed range(Two type)	
	1. Standard	: 6:0.125-1.25 mm/rev(+_5%)
	2. Optional	: 6:0.063-0.63 mm/rev(+_5%)
1.6	Frame size:	
	Max. travel of table	: 1500 mm(+_5%)
1.7	Main Motor(Two speed)	
	1. Standard speeds	: 3.6/4.5 Kw-1440/2880 (+_5%)
	2. Optional Speeds	: 4/5.2 HP-750/1500 rpm (+_5%)

STANDARD ACCESSORIES

2.	Description	UOM	Quantity
2.1	Electrical equipment suitable for 3 phases, 415 volts, 50 cycles AC supply.	Set	As per requirement
2.2	One set of service tools.	Set	1
2.3	Operation and Maintenance Manual along with spare part manual	Set	3
2.4	Complete cooling equipment.	Set	1
2.5	Machine working Lamp	no	1

[Type text]

GENERAL DATA FOR EQUIPMENT

Information required	HEAVY DUTY COLUMN DRILLING MACHINE
SUPPLIER NAME	
EQUIPMENT NAME	
MAKE/MODEL	
Quantity	

SUMMARY OF SCHEDULE OF RATE (SOR)

SL NO	DESCRIPTION	HEAVY DUTY COLUMN DRILLING MACHINE	TOTAL PRICE (₹.)
1	SUPPLY PART	TOTAL PRICE AS FOUND IN ANNEXURE “2A” →	
2	INSTALLATION & COMMISSIONING & TRAINING PART	TOTAL PRICE AS FOUND IN ANNEXURE “2B” →	
3	LIST OF ACESSORIES	TOTAL PRICE AS FOUND IN ANNEXURE “2C” →	
4	MANDATORY SPARE	TOTAL PRICE AS FOUND IN ANNEXURE “2D” →	
SUB TOTAL (A) AMOUNT (₹.) -			

The above rate shall be inclusive all taxes /duties/cess including work contract Tax (WCT) etc.

[Type text]

		Annexure-2A							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@ %	VAT/CST @%	FREIGHT	TOTAL (RS.)
01	SUPPLY OF HEAVY DUTY COLUMN DRILLING MACHINE INCLUDING ALL STANDARD ACCESSORIES AS PER ANNEXURE -2	01							
		Total price for Annexure-2A							
		Annexure-2B							
Sl. No.	Description	UoM	Lum sum Rate (Rs.) in Figure	Lum sum Rate (Rs.) in Word	Service tax @%			Total (Rs.)	
01	Installation and commissioning of HEAVY DUTY COLUMN DRILLING MACHINE	Lump-sum							
02	Training at site for operation and maintenance for 3 man-days	Lump-sum							
		Total price for Annexure-2B							
		Bidder should quote lump-sum amount towards erection and commissioning and training at site which should include to and fro expenses, fooding-lodging, local conveyance and all incidental expenses .No additional payment on any account would be paid by BCPL.							

[Type text]

								Annexure-2C
LIST OF ADDITIONAL ACESSORIES FOR HEAVY DUTY COLUMN DRILLING MACHINE								
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGES	EXCISE DUTY@%	VAT/CS T @%	TOTAL (RS.)
1	Machine lamp for 220 volts	1 no						
2	Machine vice without swivel base 160 mm	1 no						
3	CLUTCH DISC OUTER	12 no						
4	CLUTCH DISC INNER	14 no						
5	BRAKE FORK LINING	2 no						
6	CSK HD.RIVETS 3 x 24	10 no						
7	OIL SEAL	1 no						
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-2C							

[Type text]

	Annexure-2D							
	LIST OF MANDATORY SPARES FOR HEAVY DUTY COLUMN DRILLING MACHINE							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/CST @%	TOTAL (RS.)
1								
2								
3								
4								
5								
6								
7								
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-2D							

PART-B

SCHEDULE OF RATE FOR HEAVY DUTY UNIVERSAL MILLING MACHINE ITEM NO-3

ANNEXURE-3**Specification of machine (HEAVY DUTY UNIVERSAL MILLING MACHINE)**

Sl no	Detail	UOM	Specification
1	Table size	mm	2060 X300 (+_5%)
2	Clamping area	mm	1600 X300 (+_5%)
3	Power operated Traverses		
3.1	Longitudinal	mm	950 (+_5%)
3.2	Cross	mm	320 (+_5%)
3.3	Vertical	mm	375 (+_5%)
4	Swivel of table	Deg	45 DEG IN EITHER SIDE
5	Spindle speeds	rpm	18:35.5-1800 (+_5%)
6	Spindle nose		ISO-50
7	Feed range		
7.1	Longitudinal & Cross :	mm/min	24:4-800 (+_5%)
7.2	Vertical	mm/min	24:1.6-320 (+_5%)
8	Rapid traverse		
8.1	Longitudinal & Cross :	mm/min	2000 (+_5%)
8.2	Vertical	mm/min	800 (+_5%)
9	Motor (Two type)		
9.1	1. Main motor	Kw/rpm	7.5 KW/1500 (+_5%)
9.2	2. Feed motor	Kw/rpm	3 KW/3000 (+_5%)

STANDARD ACCESSORIES TO BE INCLUDED WITH THE MACHINE

2.	Description	UOM	Quantity
2.1	Electrical equipment suitable for 3 phase, 415 volts, 50 cycles AC supply.	Set	As per requirement
2.2	Table skip-feed dogs	Set	1
2.3	Draw bolt with nut	Set	1
2.4	Service tools	Set	1
2.5	Operation and Maintenance Manual along with spare part manual	Set	3
2.7	Arbor support bearing brackets	No	2
2.8	Over arm brace	No	1
2.9	Machine working Lamp	no	1
2.10	Complete cooling equipment.	Set	1

[Type text]

GENERAL DATA FOR EQUIPMENT

Information required	<u>HEAVY DUTY UNIVERSAL MILLING MACHINE</u>
SUPPLIER NAME	
EQUIPMENT NAME	
MAKE/MODEL	
Quantity	

SUMMARY OF SCHEDULE OF RATE (SOR)

SL NO	DESCRIPTION	<u>HEAVY DUTY UNIVERSAL MILLING MACHINE</u>	TOTAL PRICE (₹.)
1	SUPPLY PART	TOTAL PRICE AS FOUND IN ANNEXURE “3A” →	
2	INSTALLATION & COMMISSIONING & TRAINING PART	TOTAL PRICE AS FOUND IN ANNEXURE “3B” →	
3	LIST OF ACESSORIES	TOTAL PRICE AS FOUND IN ANNEXURE “3C” →	
4	MANDATORY SPARE	TOTAL PRICE AS FOUND IN ANNEXURE “3D” →	
SUB TOTAL (A) AMOUNT (₹.) -			

The above rate shall be inclusive all taxes /duties/cess including work contract Tax (WCT) etc.

[Type text]

		Annexure-3A							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@ %	VAT/CST @%	FREIGHT	TOTAL (RS.)
01	SUPPLY OF HEAVY DUTY UNIVERSAL MILLING MACHINE INCLUDING ALL STANDARD ACCESSORIES AS PER ANNEXURE -3	01							
		Total price for Annexure-3A							
		Annexure-3B							
Sl. No.	Description	UoM	Lum sum Rate (Rs.) in Figure	Lum sum Rate (Rs.) in Word	Service tax @%			Total (Rs.)	
01	Installation and commissioning of HEAVY DUTY UNIVERSAL MILLING MACHINE	Lump-sum							
02	Training at site for operation and maintenance for 3 man-days	Lump-sum							
		Total price for Annexure-3B							
		Bidder should quote lump-sum amount towards erection and commissioning and training at site which should include to and fro expenses, fooding-lodging, local conveyance and all incidental expenses .No additional payment on any account would be paid by BCPL.							

LIST OF ADDITIONAL ACESSORIES FOR HEAVY DUTY UNIVERSAL MILLING MACHINE								
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/C ST @%	TOTAL (RS.)
1.01	BASIC PRICE INCLUDING STANDARD ACESSORIES AND PACKING.	1No						
2	ACCESSORIES :							
(a)	3 Axes DRO	1 Set						
(b)	2 Axes DRO	1Set						
2.01	Machine vice with swivel base 160 mm	1No						
2.02	Machine vice with swivel base 200 mm	1No						
2.03	Self centering vice 10-80 mm	1Set						
2.04	Stub Milling arbors ISO 50	1Set						
	a) dia 32 x 24/25 mm							
	d) Dia 40 x 27/63 mm							
2.05	Climb Milling Attachment	1Set						
2.06	Universal Dividing Head with Tailstock 180mm, Supporting Block & Train of Gear (For U Model)	1Set						
2.11	Reduction sleeve type-B ISO50/MT2	1Set						
2.12	Reduction sleeve type-B ISO50/MT3	1Set						
2.13	Reduction sleeve type-B ISO50/MT4	1Set						
2.16	Coolant equipment	1No						
2.17	Machine lamp for 220 volts	1No						
2.18	Angle plate and sine table	1Set						
2.20	Set of Mandatory spares(refer attached sheet)	1Lot						
2.21	Milling arbors ISO 50	1Set						
	a) Dia 32 x 800 mm							
	b) Dia 40 x 800 mm							
2.22	Vertical Milling head	1Set						
2.23	Universal Milling head	1Set						

2.24	Slotting attachment	1Set						
2.25	Parking bracket	1Set						
2.26	Rack Milling attachment with clamping device	1Set						
2.27	Rack Milling attachment with indexing unit & Clamping Unit	1Set						
2.28	Milling Kit	1Set						
a	160 mm dia Face Mill and Index able Inserts for Machining Steel, Cast Iron and other non ferrous metals with suitable arbor (ISO50)	1Set						
b	125 mm dia Face Mill and Index able Inserts for Machining Steel, Cast Iron and other non ferrous metals with suitable arbor (ISO50)	1Set						
c	200 mm dia Face Mill and Index able Inserts for Machining Steel, Cast Iron and other non ferrous metals with suitable arbor (ISO50)	1Set						
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-3C							

[Type text]

	Annexure-3D							
	LIST OF MANDATORY SPARES FOR <u>HEAVY DUTY UNIVERSAL MILLING MACHINE</u>							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/CST @%	TOTAL (RS.)
1								
2								
3								
4								
5								
6								
7								
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-3D							

PART-B

SCHEDULE OF RATE FOR HEAVY DUTY HORIZONTAL BORING MACHINE ITEM NO-4

ANNEXURE-4**Specification of machine (HEAVY DUTY HORIZONTAL BORING MACHINE)**

I.	TECHNICAL SPECIFICATION:		
1.	Spindle:		
1.1.	Diameter.	Mm	110(+_5%)
1.2.	Taper	Standard	ISO50
1.3.	Tool register diameter on milling spindle.	Mm	221.44 h5 (+_5%)
2.	Traverses:		
2.1.	Axial of boring spindle.	Mm	630 (+_5%)
2.2.	Vertical of head-stock.	Mm	1170 (+_5%)
2.3.	Cross of table	Mm	1570 (+_5%)
2.4.	Longitudinal of table	Mm	1370 (+_5%)
3.	Table:		
3.3	Width of slots	Mm	22 (+_5%)
3.4	Spacing	Mm	125 (+_5%)
3.5	Extended table	Mm	1200 x 1200 (+_5%)
3.6	Number of ' T' slots	Nos.	9
4.0	Maximum permissible weight (Centrally placed)	Kgs.	4000 (+_5%)
5.0	Indexing accuracy at 4 x 90°	Sec.	± 5
6.0	Speeds:		
6.1	Number		14
6.2	Range	RPM.	11.2-16-22.4-31.5-45-63-90-125-180-250-355-500-710-1000
7.0.	Feeds:		
7.1	Continuous variation of working feeds for vertical, cross and longitudinal traverses (Automatic).	mm/min	4 to 2000. (+_5%)
7.2	Continuous variation of working feed for spindle axial traverse(Automatic)	mm/min.	2 to 1000 (+_5%)
7.3	Positioning feeds for vertical, cross and longitudinal traverses.		

7.3.1.	Rapid	mm/min.	2000 (+_5%)	
7.3.2.	Intermediate.	mm/min.	400 (+_5%)	
7.3.3.	Extra slow.	mm/min.	4	
7.4.	Positioning feeds for spindle axial traverse:			
7.4.1.	Rapid	mm/min.	1000 (+_5%)	
7.4.2.	Intermediate.	mm/min.	200 (+_5%)	
7.4.3.	Extra slow.	mm/min.	2 (+_5%)	
7.4.4.	Manual feed for spindle axial traverse.	mm /rev. of hand wheel.	5 (+_5%)	
8.0.	Distances:			
8.1.	Table top to spindle axis			
8.1.1.	Minimum	Mm	15 (+_5%)	
8.1.2.	Maximum	Mm	1185 (+_5%)	
9.2.	Longitudinal of the Table	Mm size	1200 x 1200 (+_5%)	
	a. Without boring Stay & Facing head	Mm	1220 (+_5%)	
	b. With boring stay & facing head	Mm	461 (+_5%)	
	c. With boring stay only	Mm	750 (+_5%)	
	d. With facing head only	Mm	991 (+_5%)	
	Longitudinal of the table extended			
	a. Without boring Stay & Facing head	Mm	1620 (+_5%)	
	b. With boring stay & facing head	Mm	861(+_5%)	
	c. With boring stay only	Mm	1150 (+_5%)	
	d. With facing head only	Mm	1391(+_5%)	

STANDARD ACCESSORIES TO BE INCLUDED WITH THE MACHINE

2.	Description	UOM	Quantity
2.1	Electrical equipment suitable for 3 phase, 415 volts, 50 cycles AC supply.	Set	As per requirement
2.2	Service tools.	Set	1
2.3	Operation and Maintenance Manual along with spare part manual	Set	3
2.4	Complete cooling equipment.	Set	1
2.5	Machine working Lamp	no	1

GENERAL DATA FOR EQUIPMENT

Information required	HEAVY DUTY HORIZONTAL BORING MACHINE
SUPPLIER NAME	
EQUIPMENT NAME	
MAKE/MODEL	
Quantity	

SUMMARY OF SCHEDULE OF RATE (SOR)

SL NO	DESCRIPTION	HEAVY DUTY HORIZONTAL BORING MACHINE	TOTAL PRICE (₹.)
1	SUPPLY PART	TOTAL PRICE AS FOUND IN ANNEXURE “4A” →	
2	INSTALLATION & COMMISSIONING & TRAINING PART	TOTAL PRICE AS FOUND IN ANNEXURE “4B” →	
3	LIST OF ACESSORIES	TOTAL PRICE AS FOUND IN ANNEXURE “4C” →	
4	MANDATORY SPARE	TOTAL PRICE AS FOUND IN ANNEXURE “4D” →	
SUB TOTAL (A) AMOUNT (₹.) -			

The above rate shall be inclusive all taxes /duties/cess including work contract Tax (WCT) etc.

[Type text]

		Annexure-4A							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@ %	VAT/CST @%	FREIGHT	TOTAL (RS.)
01	SUPPLY OF HEAVY DUTY HORIZONTAL BORING MACHINE INCLUDING ALL STANDARD ACCESSORIES AS PER ANNEXURE -4	01							
		Total price for Annexure-4A							
		Annexure-4B							
Sl. No.	Description	UoM	Lum sum Rate (Rs.) in Figure	Lum sum Rate (Rs.) in Word	Service tax @%			Total (Rs.)	
01	Installation and commissioning of HEAVY DUTY HORIZONTAL BORING MACHINE	Lump-sum							
02	Training at site for operation and maintenance for 3 man-days	Lump-sum							
		Total price for Annexure-4B							
		Bidder should quote lump-sum amount towards erection and commissioning and training at site which should include to and fro expenses, fooding-lodging, local conveyance and all incidental expenses .No additional payment on any account would be paid by BCPL.							

Annexure-4C								
LIST OF ADDITIONAL ACESSORIES FOR HEAVY DUTY HORIZONTAL BORING MACHINE								
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/CS T @%	TOTAL (RS.)
1.1.	Horizontal Precision Boring Machine with packing charges. The basic machine includes scale and illuminated vernier having least count of 0.02 mm for measurement of vertical cross and longitudinal traverses.	1 NO						
	Optional : Longitudinal traverse extended to 1770mm instead of 1370mm.	1 No						
	Optional : Extended table dimensions of 1200 x 1200mm instead of 900 x 1200mm. (Longitudinal traverse of table gets reduced by 180mm)	1 No						
	MEASURING SYSTEM:							
1.1.2	Digital readout system with a resolution of 0.005mm for: (Fager / equivalent make)	1 set						
1.1.2.1	Two axes system for standard vertical and cross traverses.	1 set						
1.2	ACCESSORIES							
1.2.1	DETACHABLE FACING HEAD	1 set						
	- Diameter : 630 mm							
	- Speed range : 11.2-180RPM in 9 steps.							
	- Feed range : Twice the feed rates of							

	spindle							
	- Slide traverse :150 mm.							
	- Max.boring and facing dia. :900 mm.							
	- Max.turning dia. :800 mm							
1.2.2	THREAD CUTTING: Thread cutting gear box to give following threads: 13 Metric Pitches(mm): 1-1.25-1.5-2-2.5-3-3.5-4-4.5-5 - 5.5-6 and 10mm. 13 Inch Threads(TPI): 4-5-6-7- 8-9-10-11-12-14-16-18 and 20 TPI.	1 set						
1.2.3	POWER DRIVE FOR TABLE: - Rapid speed : 1.35 RPM - Working speeds : 0.0015 to 0.675 RPM	1 set						
1.2.4	BORING STAY							
	Boring stay with scale and vernier having vertical traverse of 1170mm.(Longitudinal traverse of table gets reduced by 450mm)	1 set						
1.2.5	Coolant equipment.	1 set						
1.2.6	Thermal stabilization of headstock through refrigerated lubrication oil							
1.3	ACCESSORIES:							

1.3.1	Spindle guiding support.	1 set						
1.3.2	Universal milling attachment with ISO40 taper (draw bolt) in spindle.	1set						
1.3.2.1	Distance piece thickness:160mm	1 no						
1.3.2.2	Distance piece thickness:315mm	1 no						
1.3.3	Milling attachment orientable in one plane with ISO40 taper (draw bolt) in spindle.	1 set						
1.3.3.1	Distance piece thickness:160mm	1 set						
1.3.4	Ball bearing bush for boring stay - Bore size: 80mm dia.	1 set						
1.4	TOOLING:							
1.4.1	Standard tooling set consisting of :	1 set						
	- Boring heads (8 Nos.) suitable for microbore units covering boring range of ϕ 13.5 to ϕ 142mm.	1 set						
	- Boring collars (2 Nos.) suitable for microbore units and an adaptor, covering boring range of ϕ 140mm to ϕ 249mm.	1 set						
	- Micro-bore units with K10 carbide grade tips for above boring heads and collars suitable for machining cast iron jobs.	1 set						
	- Spare cartridges of various	1 set						

[Type text]

[illegible]

[Type text]

	Annexure-4D							
	LIST OF MANDATORY SPARES FOR HEAVY DUTY HORIZONTAL BORING MACHINE							
SL. NO.	DESCRIPTION	NO. OF UNIT	UNIT RATE (RS.) in Figure	UNIT RATE (RS.) in WORD	P&F CHARGE S	EXCISE DUTY@%	VAT/CST @%	TOTAL (RS.)
1								
2								
3								
4								
5								
6								
7								
	Total							
	Lum sum Freight Charges							
	Total price for Annexure-4D							