

'ANNEXURE-A1'

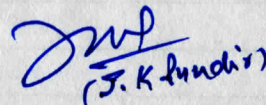
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SCOPE OF SUPPLY OF AC SERVO DRIVE FOR DC VERTICAL BORING MACHINE

Indent No: S/6399/2017/2119/V

S.No.	Items	Qty.	Vendor's Remarks	Compliance (Yes/No)
1.0	- Servo Drive System of ABB/Siemens make having capability to run Servo motors, AC asynchronous motors and inverter grade induction motors with or without encoder feedback for 4-Quadrant operation of 3-phase asynchronous Table motor of <u>40 kW</u> (at S1 duty) having following features : - Input Supply 415 V +/- 10%, 3 phase, 3 wires AC, 50 Hz - Output Voltage: 0 to 415 V, 3 phase, 3 wire - Current Rating 72 Amps at S1 duty - Drive shall have the capability for the speed control of the motor from zero to base speed and base speed to maximum speed - Drive shall have regenerative braking. - System shall have min. 4 nos. digital inputs, 4 nos. digital outputs, 2 nos. analog inputs and 2 nos. analog outputs - Drive shall have the capability to run the motor with and without encoder feedback Note: Complete specifications such as part no./Model/Type, power, torque, of the drive controllers shall be stated in the offer by the vendor. Ordering brochure/catalogue should be attached in which offered parts are highlighted.	01 No.		
2.0	EBM/ Rittal-make exhaust fan of minimum capacity 1800 m3/hr.	02 Nos.		
3.0	Siemens/ABB/L&T make MCCB of rating 150 Amps	01 No.		
4.0	Power contactor of suitable rating for drive incoming	01 No.		
5.0	Suitable rating semiconductor fuses with fuse base	03 Set		
6.0	Suitable rating Three Phase High frequency line reactor (in-built in drive or external) for input of drive.	01 No.		
7.0	Digital energy meter of reputed make to measure active, reactive, apparent power, level of harmonics, voltage & current. Energy meter shall be supplied along with suitable CT as per requirement.	01 Set		
8.0	Door operated panel LED lights with by-pass switch and 5 Amp 3-pin service socket and switch.	3 Set		
9.0	Switched Mode Power Supply 24VDC, 12.5 Amps of Siemens/Meanwell/M-System/Phoenix make.	02 No.		
10.0	X 8 Channel Relay boards preferably Phoenix contact makes.	14 Nos.		
11.0	Schneider/Siemens /ABB / L&T make 3 Pole, 2A MCB	3 Nos.		

Vendor's Signature & Seal


(J. K. Pandey)

21/06/2017
Ramvaras Yadav
SE (W&E-MR)

11.1	Schneider/Siemens /ABB / L&T make 1 Pole, 4A MCB	3 Nos.		
11.2	Schneider/Siemens /ABB / L&T make 1 Pole, 6A MCB	3 Nos.		
11.3	Schneider/Siemens /ABB / L&T make 2 Pole, 4A MCB	15 Nos.		
11.4	Schneider/Siemens /ABB / L&T make 2 Pole, 2A MCB	6 Nos.		
11.5	Switched Mode Power Supply 10VDC, 5 Amps of Siemens/Meanwell/M-System/Phoenix make.	1No.		
12.0	Schneider/Siemens /ABB / L&T make power contactor of rating 12A having coil voltage 110V	9 Nos.		
12.1	Schneider/Siemens /ABB / L&T make power contactor of rating 16A having coil voltage 110V	9 Nos.		
12.2	Schneider/Siemens /ABB / L&T make power contactor of rating 32 A having coil voltage 110V with 1 NC auxiliary contact block	6 Nos.		
13.0	Schneider/Siemens /ABB / L&T make MPCB of rating 14-20A	3 Nos.		
13.1	Schneider/Siemens /ABB / L&T make MPCB of rating 3.2-5A	6 Nos.		
13.2	Schneider/Siemens /ABB / L&T make MPCB of rating 2.4-4A	3 Nos.		
13.3	Schneider/Siemens /ABB / L&T make MPCB of rating 2-3.2A	6 Nos.		
14.0	2.5 Sq.mm Screw type Terminal Block with 2A Fuse	100		
14.1	Pin Type Lugs of size 0.5 Sq.mm	1000 Nos.		
14.2	Pin Type & Ring type Lugs of size 35 Sq.mm	20 Nos. each		
14.3	Pin Type Lugs of sizes 1 Sq.mm & 1.5 Sq.mm	500 Nos. of each		
14.4	Pin Type Lugs of size 2.5 Sq.mm	200 Nos.		
15.0	4 way connector with short ring	100		
16.0	Two winding Transformer (750VA, Pri. 400V / Sec. 110V, 24V tapping)	01 No.		
16.1	Two winding Transformer (500VA, Pri. 400V / Sec. 220V)	01 No.		
17.0	Bridge rectifier (10 Amps & PIV 2200 V) mounted on proper heat sink	02 Nos.		
18.0	AC Over Current Relay (0.5 – 5 Amps) with CT (5Amps) of Siemens/ABB/Rishabh/ Minilec make with automatic reset facility.	01 Nos.		
19.0	1 phase 16Amps MCB DB box.	01 No.		
20.0	Machine light having LED lights with flexible long arm to be installed on the heads	02 No.		
21.0	Supply of engraved front plate (Anodized Aluminium 3 mm thick) for Hanging operator panel as per attached Annexure-1	01 set		
21.1	Red push buttons with holder	4 Nos.		

21.2	Red Luminous push buttons with holder	1 No.		
21.3	Green push buttons with holder	2 Nos.		
21.4	Green Luminous push buttons with holder	12 Nos.		
21.5	Single turn 10K Born make Pot with suitable vernier dial knob	1 Nos.		
21.6	Schneider/Salzer/Siemens /ABB / L&T make 3 Position Selector switch with center off.	3 Nos.		
21.7	Schneider/ Salzer/ Siemens /ABB / L&T make 4 Position Selector switch.	3 Nos.		
21.8	Push Button NC block	4 Nos.		
21.9	Push Button NO block	17 Nos.		
21.10	24V DC Luminous Lamp for Push Buttons	13 Nos.		
22.0	R,Y,B Phase indication Lamp (220V AC)	3 Nos. each		
23.0	Cutter of Sizes 22.5 Sq.mm, 15.8 Sq.mm, 42.5 Sq.mm & 54.0 Sq.mm	1No. each		
24.0	Shielded signal cable (0.5 sq.mm, 4 core)	100 meter		
25.0	Cable Duct of size 50mm*70mm*1000mm(width*depth*length)	36 Nos.		
26.0	Phoenix DIN Rails size 35mm*15mm*1000mm	20 Nos.		
27.0	LAPP make Hose Pipe coupler of sizes 15.8 Sq.mm, 21.2 Sq.mm, 28.5 Sq.mm, 34.5 Sq.mm, 42.5 Sq.mm & 54.0 Sq.mm	14 Nos. each		
28.0	Commissioning and service manuals(including hardware and software required) of the Servo Drive	02 Sets		
29.0.	The Materials to be supplied should be as per IS standards.			

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Remains valid
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(J.K. Pundir)

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'ANNEXURE-A2'

SCOPE OF SUPPLY OF AC SERVO DRIVE FOR SC VERTICAL BORING MACHINE

Indent No: S/6399/2017/2119/U

S.No.	Items	Qty.	Vendor's Remarks	Compliance (Yes/No)
1.0	Servo Drive system of Siemens / Rexroth Bosch/ABB make having capability to run Servo motors, AC asynchronous motors and inverter grade induction motors with or without encoder feedback with regenerative braking for 4-Quadrant operation of 3-phase asynchronous Table motor of 28 kW (at S1 duty) having following features : • Input Supply 415 V +/- 10%, 3 phase, 3 wires AC, 50 Hz • Output Voltage: 0 to 415 V, 3 phase, 3 wire • Current Rating at least 58 Amps at S1 duty • Drive shall have the capability for the speed control of the motor from zero to base speed and base speed to maximum speed • Drive shall have regenerative braking. • System shall have min. 4 nos. digital inputs, 4 nos. digital outputs, 2 nos. analog inputs and 2 nos. analog outputs • Drive shall have the capability to run the motor with and without encoder feedback. Note: Complete specifications such as part no./Model/Type, power, torque, of the drive controllers shall be stated in the offer by the vendor. Ordering brochure/catalogue should be attached in which offered parts are highlighted.	01 No.		
2.0	EBM/ Rittal-make exhaust fan of minimum capacity 1800 m3/hr.	02 Nos.		
3.0	Siemens/ABB/L&T make MCCB of rating 100 Amps	01 No.		
4.0	Power contactor of suitable rating for drive incoming	01 No.		
5.0	Suitable rating semiconductor fuses with fuse base	03 Nos.		
6.0	Suitable rating Three Phase High frequency line reactor (in-built in drive or external) for input of drive.	01 No.		
7.0	Digital energy meter of reputed make to measure active, reactive, apparent power, level of harmonics, voltage & current. Energy meter shall be supplied along with suitable CT as per requirement.	01 Set		
8.0	Door operated panel LED lights with by-pass switch and 5 Amp 3-pin service socket and switch.	03 Set		
9.0	Switched Mode Power Supply 24VDC, 12.5 Amps of Siemens/Meanwell/M-System/Phoenix make.	02 Nos.		
10.0	X 8 Channel Relay boards preferably Phoenix contact makes.	7 Nos.		

Vendor's Signature & Seal

J.K. Pandey
(J.K. Pandey)

21 made
Ramwans Yadav
SELWEX-MK

11.0	Schneider/Siemens /ABB / L&T make 3 Pole, 2A MCB	3 Nos.		
11.1	Schneider/Siemens /ABB / L&T make 1 Pole, 4A MCB	3 Nos.		
11.2	Schneider/Siemens /ABB / L&T make 1 Pole, 6A MCB	3 Nos.		
11.3	Schneider/Siemens /ABB / L&T make 2 Pole, 4A MCB	15 Nos.		
11.4	Schneider/Siemens /ABB / L&T make 2 Pole, 2A MCB	6 Nos.		
11.5	Switched Mode Power Supply 10VDC, 5 Amps of Siemens/Meanwell/M-System/Phoenix make.	01 No.		
12.0	Schneider/Siemens /ABB / L&T make power contactor of rating 12A having coil voltage 110V	9 Nos.		
12.1	Schneider/Siemens /ABB / L&T make power contactor of rating 16A having coil voltage 110V	9 Nos.		
12.2	Schneider/Siemens /ABB / L&T make power contactor of rating 32 A having coil voltage 110V with 1 NC auxiliary contact block	6 Nos.		
13.0	Schneider/Siemens /ABB / L&T make MPCB of rating 14-20A	3 Nos.		
13.1	Schneider/Siemens /ABB / L&T make MPCB of rating 3.2-5A	6 Nos.		
13.2	Schneider/Siemens /ABB / L&T make MPCB of rating 2.4-4A	3 Nos.		
13.3	Schneider/Siemens /ABB / L&T make MPCB of rating 2-3.2A	6 Nos.		
14.0	2.5 Sq.mm Screw type Terminal Block with 2A Fuse	100 Nos.		
14.1	Pin Type Lugs of size 0.5 Sq.mm	1000 Nos.		
14.2	Pin Type & Ring type Lugs of size 35 Sq.mm	20 Nos. each		
14.3	Pin Type Lugs of sizes 1 Sq.mm & 1.5 Sq.mm	500 Nos. of each		
14.4	Pin Type Lugs of size 2.5 Sq.mm	200 Nos.		
15.0	4 way connector with short ring	100 Nos.		
16.0	Two winding Transformer (750VA, Pri. 400V / Sec. 110V, 24V tapping)	01 No.		
16.1	Two winding Transformer (500VA, Pri. 400V / Sec. 220V)	01 No.		
17.0	Bridge rectifier (10 Amps & PIV 2200 V) mounted on proper heat sink	02 Nos.		
18.0	AC Over Current Relay (0.5 – 5 Amps) with CT (5Amps) of Siemens/ABB/Rishabh/ Minilec make with automatic reset facility.	01 No.		
19.0	1 phase 16Amps MCB DB box.	01 No.		
20.0	Machine light having LED lights with flexible arm to be installed on the heads	02 Nos.		
21.0	Supply of engraved front plate (Anodized Aluminium 3 mm thick) for Hanging operator panel as	01 set		

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	per attached Annexure-1			
21.1	Red push buttons with holder	4 Nos.		
21.2	Red Luminous push buttons with holder	1 No.		
21.3	Green push buttons with holder	2 Nos.		
21.4	Green Luminous push buttons with holder	12 Nos.		
21.5	Single turn 10K Born make Pot with suitable vernier dial knob	1 No.		
21.6	Schneider/Salzer/Siemens /ABB / L&T make 3 Position Selector switch with center off.	3Nos.		
21.7	Schneider/ Salzer/ Siemens /ABB / L&T make 4 Position Selector switch.	3 Nos.		
21.8	Push Button NC block	4 Nos.		
21.9	Push Button NO block	17 Nos.		
21.10	24V DC Luminous Lamp for Push Buttons	13 Nos.		
22.0	R,Y,B Phase indication Lamp (220V AC)	3 Nos. each		
23.0	Cutter of Sizes 22.5 Sq.mm, 15.8 Sq.mm, 42.5 Sq.mm & 54.0 Sq.mm	1 Nos. each		
24.0	Cable Duct of size 50mm*70mm*1000mm(width*depth*length)	36 Nos.		
25.0	Phoenix DIN Rails size 35mm*15mm*1000mm	20 Nos.		
26.0	LAPP make Hose Pipe coupler of sizes 15.8 Sq.mm, 21.2 Sq.mm, 28.5 Sq.mm, 34.5 Sq.mm, 42.5 Sq.mm & 54.0 Sq.mm	14 Nos. each		
27.0	Commissioning and service manuals(including hardware and software required) of the Servo Drive	02 Sets		
28.0.	The Materials to be supplied should be as per IS standards.			

Vendor's Signature & Seal

21/06/20
Ramadas Yadav
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(J.K. Sundar)