

Ref: OD/PB/WO/US/2020/09
Date: JUNE 05, 2020

PIP Reference: NA
PIP Date: NA
CS Status: NA
PIP Status: NA

M/S. Cross-world Power Limited
Plot 1/B, Road 90
Gulshan 2,
Dhaka 1212

Reference: Cross World
NA

Contact Person: Md. Mosiur, Manager
Phone: +88 01755 514703
Email: moshiur@cross-world.com

Subject: Work Order for Supply, Installation, Testing & Commissioning of Complete Switchgear and PFI panel.

Dear Concern,

With reference to your offer and subsequent negotiation & discussion with you, we are pleased to issue work order in favor of you to carry out the following works under the term & condition listed below.

M/S Cross-world Power Limited to be read as "Contractor" & Unitex Spinning Limited to be read as "Owner".

Terms & Conditions:

1. That contractor has agreed to carry out all the works at mutually agreed rate as mentioned in Annexure – 1.
2. Unitex shall monitor the progress of work and depending on it the work quantity mentioned in the work order may increase or decrease.
3. That contractor has visited the site and got acquainted with the site constraints and satisfied of the appropriate technology to be adopted in the prevailing situations.
4. That all equipment's or materials when brought to site by contractor shall be deemed to be exclusively intended for the work and shall not be removed or taken out of site without written consent of the Owner authority.
5. That safety of Contractor worker during execution is entirely contractor's responsibility. Contractor agrees to take adequate measures against damage, injuries and/or deaths of contractor workers at site and appropriate measures for the same and remain bound to compensate for such occurrence.

Head Office:

C & F Tower (12th floor), 1712, Sk. Mujib Road,
Agrabad C/A, Chittagong
Tel: 031-2519861-3, Fax: 031-2519860

Dhaka Corporate Office:

Saiham Tower (10th floor), House-34, Road-136,
Block-SE(C-1), Gulshan Model Town,
Gulshan-1, Dhaka-1212
Tel: 02-9858386, 02-9858389

Factory:

Banshbaria, Sitakund,
Chittagong, Bangladesh

6. Contractor shall bear total responsibility of taking precautionary measures for protection of property of the company. Any Damage done by contractor or contractor's employee to equipment during execution of the job under this assignment must be rectified at contractor expense and disruption of project work caused by such damage shall be adequately compensated by contractor.
7. Contractor must maintain strict checks against theft, pilferage, mishandling of materials supplied free of cost by the company. Cost of material consumed in wasteful manner without any justifiable reason shall be recovered from contractor.
8. All staffs and laborers of contractor engaged in the work shall have to pass through owner's security check and strictly adhere to the rules, regulations and discipline as demanded by owner's security office.
9. Contractor is ready to accept any assignment related to the work under this order or leading to under this work order at a rate which shall be mutually decided as and when such works are identified.
10. Log sheet must be maintained for each day by the contractor's supervisor.
11. Experienced Project Engineer need to be deployed to complete the whole job.

Scope of Works:

01. All the design drawing should be duly approved by Unitex. 3rd party inspection will be on Unitex Scope. Contractor has to comply all the requirements of 3rd party inspector.
02. Total works to be completed **within 15th August 2020.**
03. Contractor has to appoint experienced site engineers as many as required who will coordinate the works. Engineer from owner's side shall check the work progress, but this will not relieve the contractor of their responsibility.
04. Power/Electricity & Water will supply by Unitex and contractor need to use suitable approved service cable and pipe for the utility use as per direction of Engineer In Charge.
05. All materials brought to the site will be unloaded by contractor at their own costs and expenses. The contractor will load and unload all such materials inside the premises and will not raise any carrying bills.
06. All the package shall be opened in front of owners personal along with contractor site engineer.
07. Owner will have the right to reject any out of specification works.
08. The Contractor shall pay liquidated damages to the Employer at the rate of **0.1%** (zero point one percent) of the contract price per day of delay from the Completion Date up to a maximum of **20%** (twenty percent) of the contract price. Force majeure conditions for delay will be recorded and considered in calculating compensation.
09. Contractor must clean the project site as a part of De-mobilization, as per site engineer instruction.
10. Contractor will have supervisors to cover 24 hours works.
11. The contractor has to accept any assignment related to the work order but rate which is not included in price schedule, shall be mutually decided as and when such works are identified.

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12. One year warranty will be applicable for all the supplied items from the date of commissioning.

Payment Terms:

01. 100% LC at site.

Total estimated value of work order -----

Sl.	Details	Amount
1	Supply, Installation, Testing & Commissioning of Complete Switchgear and PFI panel.	USD 1,80,000.00
	Total	USD 1,80,000.00
In Words: One Hundred Eighty Thousand Only. (Inc. Freight Cost. i.e. CFR Chittagong)		

We assure you of our best co-operation in successful completion of works. Please sign a copy of this Work Order and return to us a confirmation of your acceptance of the Work Order and Terms of the contract.

For Unitex Spinning Limited.



Mr. Zobaidul Islam Chowdhury
Operation Director,
Unitex Group

For Super Star Engineering Ltd



Mr. Mosiur Rahman
Manager,
Cross World Power Ltd

Witness:

Witness:



Mr. Pranoy Barua
Project Manager, Unitex Steel

Cross World Power Ltd

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Page 3 of 10

Factory:

Banshbaria, Sitakund,
Chittagong, Bangladesh

Copy to:

1. *Managing Director, Unitex Spinning Limited*
2. *Operation Director, Unitex Group*
3. *Director, Unitex Spinning Limited*
4. *CFO, Unitex Spinning Limited*
5. *Engineering Department, Unitex Spinning Limited*
6. *Accounts, Unitex Spinning Limited*
7. *Cross World Power Limited*
8. *Record File*



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06/07/20

TECHNICAL SPECIFICATION

01) LT COS PANEL

Unit	Customer Scope Qty	CWPL BOQ Qty
Set		1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type LT Panel with Hard Drawn Copper Busbar.

Set of components required for the manufacture of LT Panel comprising :-

INCOMING :

From Transformer :

4000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release (Customer Scope)

Pcs 1 0

4000/5A Current Transformer 10/5VA, Class-1 .

Energy Meter PM 2130.

Phase Indication lamp.

CB ON OFF TRIP Indication lamp.

ON & OFF Push Button .

1x6A,TP MCB for the protection of control circuit.

1x2A,SP MCB for the protection of control circuit.

Pcs 3
Pcs 1
Pcs 3
Pcs 3
Pcs 2
Pcs 1
Pcs 4

From Generator :

2000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release. (Customer Scope-Future)

Pcs 1 0

2000/5A Current Transformer 10/5VA, Class-1.

Energy Meter PM 2130.

Phase Indication lamp.

CB ON OFF TRIP Indication lamp.

ON & OFF Push Button.

1x6A,TP MCB for the protection of control circuit

1x2A,SP MCB for the protection of control circuit

Electrical Interlock

Pcs 3
Pcs 1
Pcs 3
Pcs 3
Pcs 2
Pcs 1
Pcs 4
Set 1

From Control Panel :

5000A, 100KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

Pcs 1

5000/5A Current Transformer 10/5VA, Class-1

Energy Meter PM 2130

Phase Indication lamp.

CB ON OFF TRIP Indication lamp

ON & OFF push button Siemens

1x6A,TP MCB for the protection of control circuit

1x2A,SP MCB for the protection of control circuit

Pcs 3
Pcs 1
Pcs 3
Pcs 3
Pcs 2
Pcs 1
Pcs 4

OUTGOING :

1600A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxiliary Contact	Pcs	4
1 X Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		

1600/5A Current Transformer 10/5VA, Class-1

Energy Meter PM 2130	Pcs	6
CB ON OFF TRIP Indication lamp	Set	2
1x6A,TP MCB for the protection of control circuit	Pcs	12
Electrical Interlock	Pcs	2
	Set	2

1250A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxiliary Contact	Pcs	2
1 X Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		

1250/5A Current Transformer 10/5VA, Class-1

Energy Meter PM 2130	Pcs	3
CB ON OFF TRIP Indication lamp	Set	1
1x6A,TP MCB for the protection of control circuit	Pcs	6
Electrical Interlock	Pcs	1
	Set	1

630A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

Pcs	1	0
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630A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs	2
-----	---

Mechanical Interlock

Set	1
-----	---

500A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

Pcs	2	0
-----	---	---

500A,TP, MC, AC-3

Pcs	2
-----	---

Electrical Interlock

Set	1
-----	---

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs	4
-----	---

250A,TP, MC, AC-3

Pcs	4
-----	---

Electrical Interlock

Set	2
-----	---

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Spare)**

Pcs	4
-----	---

BUSBAR Details

4000A TPN + 1/2E Common Busbar, PDB

7000A TPN + 1/2E Common Busbar, GEN

1x5000A TP Terminal Busbar

1x4000A TP Terminal Busbar

1x2000A TP Terminal Busbar

4x1600A TP Terminal Busbar

2x1250A TP Terminal Busbar

3x630A TP Terminal Busbar

2x500A TP Terminal Busbar

5x250A TP Terminal Busbar

ENCLOSURE Details :

2x(700X2000X800)mm

Set	6
-----	---

2x(1000X2000X800)mm

Set	1
-----	---

02) CONTROL PANEL

Set

1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type Panel with Hard Drawn Copper Busbar.

Set of components required for the manufacture of Panel comprising :-

INCOMING :

From GAS GENERATOR-1 :

4000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs 1 0

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release (**Customer Scope**)

4000/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Pcs 1

Phase Indication lamp.

Pcs 3

CB ON OFF TRIP Indication lamp

Pcs 3

ON & OFF push button

Pcs 2

1x6A,TP MCB for the protection of control circuit

Pcs 1

1x2A,SP MCB for the protection of control circuit

Pcs 4

From GAS GENERATOR-2 :

4000A, 66KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs 1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release.

4000/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Pcs 1

Phase Indication lamp.

Pcs 3

CB ON OFF TRIP Indication lamp

Pcs 3

ON & OFF push button

Pcs 2

1x6A,TP MCB for the protection of control circuit

Pcs 1

1x2A,SP MCB for the protection of control circuit

Pcs 4

From GAS GENERATOR-3 :

2500A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs 1 0

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release (**Customer Scope**)

2500/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Pcs 1

Phase Indication lamp.

Pcs 3

CB ON OFF TRIP Indication lamp

Pcs 3

ON & OFF push button Siemens

Pcs 2

1x6A,TP MCB for the protection of control circuit

Pcs 1

1x2A,SP MCB for the protection of control circuit

Pcs 4

From SYNC Panel :

6300A, 100KA, 1P fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact	Pcs	1	0
1 X Closing Coil			
1 X Gear motor for spring charge			
1 X Under Voltage Release (Customer Scope)			

6300/5A Current Transformer 10/5VA, Class-1
Energy Meter PM 2130
CB ON OFF TRIP Indication lamp
1x6A,TP MCB for the protection of control circuit

Pcs	3
Pcs	1
Pcs	3
Pcs	1

BUSCOUPLER :

6300A, 100KA, 1P fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact	Pcs	1
1 X Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		

CB ON OFF TRIP Indication lamp
1x2A,SP MCB for the protection of control circuit

Pcs	3 ✓
Pcs	2

OUTGOING :

5000A, 100KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact	Pcs	1
1 X Closing Coil		
1 X Gear motor for spring charge		
1 X Under Voltage Release		

5000/5A Current Transformer 10/5VA, Class-1
Energy Meter PM 2130
CB ON OFF TRIP Indication lamp
1x6A,TP MCB for the protection of control circuit

Pcs	3
Set	1
Pcs	3 ✓
Pcs	1

4000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact	Pcs	0	1
1 X Closing Coil			
1 X Gear motor for spring charge			
1 X Under Voltage Release			

4000/5A Current Transformer 10/5VA, Class-1
Energy Meter PM 2130
CB ON OFF TRIP Indication lamp
1x6A,TP MCB for the protection of control circuit

Pcs	3
Set	1
Pcs	3 ✓
Pcs	1

2500A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs 2 0

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release **(Customer Scope)**

2500/5A Current Transformer 10/5VA, Class-1

Pcs 6

Energy Meter PM 2130

Set 2

CB ON OFF TRIP Indication lamp

Pcs 6 ✓

1x6A,TP MCB for the protection of control circuit

Pcs 2

3200A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs 1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

3200/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Set 1

CB ON OFF TRIP Indication lamp ✓

Pcs 3 ✓

1x6A,TP MCB for the protection of control circuit

Pcs 1

500A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

Pcs 1 0

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

Pcs 4 ✓ 0

BUSBAR Details

6300A TPN + 1/2E Common Busbar
1x5000A TP Terminal Busbar
3x4000A TP Terminal Busbar
1x3200A TP Terminal Busbar
3x2500A TP Terminal Busbar
1x6300A TP Terminal Busbar
1x500A TP Terminal Busbar
2x250A TP Terminal Busbar

ENCLOSURE Details :

(700X2000X1000)mm
(1000X2000X1000)mm

Set	4
Set	2

03) GROUND FLOOR BBT-01 B PANEL

Set	1
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Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type Panel with Hard Drawn Copper Busbar.

Set of components required for the manufacture of Panel comprising :-

INCOMING :

2500A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs	1	0
-----	---	---

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release. (Customer Scope)

2500/5A Current Transformer 10/5VA, Class-1

Pcs	3
-----	---

Energy Meter PM 2130

Set	1
-----	---

CB ON OFF TRIP Indication lamp

Pcs	3
-----	---

1x6A,TP MCB for the protection of control circuit

Pcs	1
-----	---

1x2A,SP MCB for the protection of control circuit

Pcs	4
-----	---

OUTGOING :

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs	1
-----	---

BUSBAR Details

2500A TPN + 1/2E Common Busbar
1x2500A TP Terminal Busbar

ENCLOSURE Details :

(700X2000X800)mm

Set	2
-----	---

04) 1st Floor BBT -02 B

Set

1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type Panel with Hard Drawn Copper Busbar.

Set of components required for the manufacture of Panel comprising :-

INCOMING :

3200A, 65KA, IP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs

1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

3200/5A Current Transformer 10/5VA, Class-1

Pcs

3

Energy Meter PM 2130

Pcs

1

CB ON OFF TRIP Indication lamp

Pcs

3

1x6A,TP MCB for the protection of control circuit

Pcs

1

1x2A,SP MCB for the protection of control circuit

Pcs

4

OUTGOING :

1600A, 65KA, IP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs

1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release.

1600/5A Current Transformer 10/5VA, Class-1

Pcs

3

Energy Meter PM 2130

Pcs

1

CB ON OFF TRIP Indication lamp

Pcs

3

1x6A,TP MCB for the protection of control circuit

Pcs

1

2000A, 65KA, IP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

Pcs

1

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release.

2000/5A Current Transformer 10/5VA, Class-1

Pcs

3

Energy Meter PM 2130

Pcs

1

CB ON OFF TRIP Indication lamp

Pcs

3

1x6A,TP MCB for the protection of control circuit

Pcs

1

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs

1

BUSBAR Details

3200A TPN + 1/2E Common Busbar

1x3200A TP Terminal Busbar

1x1600A TP Terminal Busbar

1x2000A TP Terminal Busbar

ENCLOSURE Details :

(700X2000X800)mm

Set

3

05) 1st Floor BBT-03 B

Set

1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type Panel with Hard Drawn Copper Busbar.

Set of components required for the manufacture of Panel comprising :-

INCOMING :

4000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:

1 X Auxilliary Contact

1 X Closing Coil

1 X Gear motor for spring charge

1 X Under Voltage Release

Pcs

0

1

4000/5A Current Transformer 10/5VA, Class-1

Energy Meter PM 2130

CB ON OFF TRIP Indication lamp

1x6A,TP MCB for the protection of control circuit

1x2A,SP MCB for the protection of control circuit

Pcs

3

Set

1

Pcs

3

Pcs

1

Pcs

4

OUTGOING :

250A,TP,36KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection.

Pcs

1

BUSBAR Details

4000A TPN + 1/2E Common Busbar

1x4000A TP Terminal Busbar

ENCLOSURE Details :

(700X2000X800)mm

Set

2

06) PFI-5_550kVAR auto/manual

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 1000A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

INCOMING :

1000A,TP,50KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

4X100(25X4) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.

1X 50(25X2)kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

2X 25(25X1)kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 12.5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

3X 10kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 2.5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.(Fixed)

Set		1
Nos	1	0
Nos.		16
Nos.		2
Nos.		2
Nos.		1
Nos.		3
Nos.		1
Nos.		1

100A ,triple phase magnetic contactor for 50Kvar capacitor.	Nos	9
60A ,triple phase magnetic contactor for 25Kvar capacitor.	Nos	2
32A ,triple phase magnetic contactor for 12.5Kvar capacitor.	Nos	1
25A ,triple phase magnetic contactor for 10Kvar capacitor.	Nos	3
12A ,triple phase magnetic contactor for 5Kvar capacitor.	Nos	1
160A, TP, MCCB	Nos	9
63A TP, MCCB	Nos	2
32A TP, MCB	Nos	1
25A TP, MCB	Nos	3
16A TP, MCB	Nos	2
Indiaction Lamp, ON, OFF PUSH Button.	No	12
Auto/ manual selector switch with adder block.	No	1
2A SP MCB	No	6
10A TP MCB	No	1
1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.	No	1
1000/5A Current Transformer 10/5VA, Class-1	No	1
1x1000A TP Common Busbar	No	1
ENCLOSURE Details : (700X2000X800)mm	Set	2

* Include ON/OFF push button & switch for manual operation.

07) PFI-6_900kVAR auto/manual

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 1600A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

INCOMING :

1600A,TP,50KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. **(Customer Scope)**

3X200(25X8) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.

2X100(25X4) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.

2X 25(25X1)kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 12.5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

3X 10kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.

1X 2.5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.(Fixed)

Set		1
Nos	1	0
Nos.		24
Nos.		8
Nos.		2
Nos.		1
Nos.		3
Nos.		1
Nos.		1

100A ,triple phase magnetic contactor for 50Kvar capacitor.	Nos	16
60A ,triple phase magnetic contactor for 25Kvar capacitor.	Nos	2
32A ,triple phase magnetic contactor for 12.5Kvar capacitor.	Nos	1
25A ,triple phase magnetic contactor for 10Kvar capacitor.	Nos	3
12A ,triple phase magnetic contactor for 5Kvar capacitor.	Nos	2
160A, TP, MCCB	Nos	16
63A TP, MCCB	Nos	2
32A TP, MCB	Nos	1
25A TP, MCB	Nos	3
16A TP, MCB	Nos	2
Indication Lamp, ON, OFF PUSH Button.	No	12
Auto/ manual selector switch with adder block.	No	1
2A SP MCB	No	6
10A TP MCB	No	1
1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.	No	1
1600/5A Current Transformer 10/5VA, Class-1	No	1
1x1600A TP Common Busbar		
ENCLOSURE Details : (700X2000X800)mm	Set	3

* Include ON/OFF push button switch :-

08)	PFI-7 1080kVAR auto/manual	Set	1
Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 2000A hard drawn copper busbar.			
Set of components required for the manufacture of PFI Panel comprising :-			
INCOMING :			
2000A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:			
1 X Auxilliary Contact		Nos	0
1 X Closing Coil			
1 X Gear motor for spring charge			
1 X Under Voltage Release (Customer Scope)			
3X200(25X8) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.		Nos.	24
3X100(25X4) kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing compact PF capacitors bank with discharge resistor.		Nos.	12
2X 50(25X2)kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.		Nos.	4
2X 25(25X1)kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.		Nos.	2
2X 12.5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.		Nos.	2
1X 5kVAR,415V,50 Hz, 3 Phase, normal duty type, self healing . compact PF capacitors bank with discharge resistor.(Fixed)		Nos.	1

100A ,triple phase magnetic contactor for 50Kvar capacitor.	Nos	20
60A ,triple phase magnetic contactor for 25Kvar capacitor.	Nos	2
32A ,triple phase magnetic contactor for 12.5Kvar capacitor.	Nos	2
160A, TP, MCCB	Nos	20
63A TP, MCCB	Nos	2
32A TP, MCB	Nos	3
Indiaction Lamp, ON, OFF PUSH Button.	No	12
Auto/ manual selector switch with adder block.	No	1
2A SP MCB	No	6
10A TP MCB	No	1
1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.	No	1
2000/5A Current Transformer 10/5VA, Class-1	No	1
1x2000A TP Common Busbar		
ENCLOSURE Details : (700X2000X800)mm	Set	3

* Include ON/OFF switch.

09) **PFI-3_300kVAR auto/manual**

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 630A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

160A, TP, MCCB
63A TP, MCCB
32A TP, MCB
25A TP, MCB
16A TP, MCB

Set 1
Nos 4
Nos 2
Nos 1
Nos 2
Nos 4
No 12
No 1
No 12
No 1

Indication Lamp, ON, OFF PUSH Button.
Auto/manual selector switch with adder block.
2A SP MCB
10A TP MCB

1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.

No 12
No 1
No 12
No 1

630/5A Current Transformer 10/5VA, Class-1
1x630A TP Common Busbar

No 1
No 1

ENCLOSURE Details :
(700X2000X800)mm

Set 2

Main PFI breaker, Capacitor, MC, Breaker - Customer Scope. ✓

10) **PFI-1 490kVAR auto/manual**

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 800A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

160A, TP, MCCB
63A TP, MCCB
32A TP, MCB
25A TP, MCB
16A TP, MCB

Set 1
Nos 8
Nos 1
Nos 1
Nos 5
Nos 1
No 12
No 1
No 12
No 1

Indication Lamp, ON, OFF PUSH Button.
Auto/manual selector switch with adder block.
2A SP MCB
10A TP MCB

1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.

No 1

800/5A Current Transformer 10/5VA, Class-1

No 1

1x800A TP Common Busbar

ENCLOSURE Details :
(700X2000X800)mm

Set 2

Main PFI breaker, Capacitor, MC, Breaker - Customer Scope. ✓

* Include ON/OFF switch.

* Include ON/OFF switch.



11) PFI-2_430kVAR auto/manual

Set

1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 800A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

160A, TP, MCCB	Nos	7
63A TP, MCCB	Nos	1
32A TP, MCB	Nos	1
25A TP, MCB	Nos	2
16A TP, MCB	Nos	5

Induction Lamp, ON, OFF PUSH Button.	No	12
Auto/manual selector switch with adder block.	No	1
2A SP MCB	No	12
10A TP MCB	No	1

1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.	No	1
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800/5A Current Transformer 10/5VA, Class-1	No	1
1x800A TP Common Busbar		

ENCLOSURE Details :
(700X2000X800)mm

Set

2

Main PFI breaker, Capacitor, MC, Breaker - Customer Scope. ✓

* Include ON/OFF switch.

12) PFI-4_500kVAR auto/manual

Set 1

Sheet steel clad powder coated (14 & 16SWG), dust and vermin proof, free standing, floor mounting, 415V, 50 Hz, Indoor type PFI Panel with 1000A hard drawn copper busbar.

Set of components required for the manufacture of PFI Panel comprising :-

160A, TP, MCCB	Nos	8
63A TP, MCCB	Nos	2
32A TP, MCB	Nos	1
25A TP, MCB	Nos	3
16A TP, MCB	Nos	2
Indication Lamp, ON, OFF PUSH Button.	No	12
Auto/manual selector switch with adder block.	No	1
2A SP MCB	No	12
10A TP MCB	No	1

Include ON/OFF switch

1x12 Steps reactive power regulator which performs the switching of capacitor bank in automatic power factor correction equipments depending on charges of reactive power complete with p.f.lumini-escent indicators & digital power factor meter.

No 1

1000/5A Current Transformer 10/5VA, Class-1
1x1000A TP Common Busbar

No 1

ENCLOSURE Details :
(700X2000X800)mm

Set 2

Main PFI breaker, Capacitor, MC- Customer Scope.

- 13) 3200A, 65KA, TP fixed type ACB with closing solenoid and store -energy spring charged operating mechanism and solid state microprocessor controlled adjustable thermal overload and short-circuit releases with following accessories:
1 X Auxilliary Contact
1 X Closing Coil
1 X Gear motor for spring charge
1 X Under Voltage Release (Chiller DB)

Pcs 1

14) 1250A ACB-Panel

Set of components required for the manufacture of Panel comprising :-

INCOMING :

1250A,TP,50KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. (Customer Scope)

Nos 0

1250/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Set 1

CB ON OFF TRIP Indication lamp

Pcs 3

1x6A,TP MCB for the protection of control circuit

Pcs 1

ENCLOSURE Details :
(800X2000X800)mm

Set 2

15) 1600A ACB - Panel

Set of components required for the manufacture of Panel comprising :-

INCOMING :

1600A,TP,50KA,415V,50Hz, MCCB with having adjustable overcurrent & magnetic short circuit protection. (Customer Scope)

Nos 0

1600/5A Current Transformer 10/5VA, Class-1

Pcs 3

Energy Meter PM 2130

Set 1

CB ON OFF TRIP Indication lamp

Pcs 3

1x6A,TP MCB for the protection of control circuit

Pcs 1

ENCLOSURE Details :
(700X1600X800)mm

Set 2

BRAND DETAILS :

ACB,MCCB,MCB, MC, Energy Meter.
Brand : Schneider Electric.

PFI Capacitor :
Brand : EPCOS.

PFI PFC RELAY :
Brand : MIKRO.

Country of origin?