CLIENT: AL KARAM TOWEL

PROJECT: M/S Supply of PANELS FOR AL KARAM TOWEL

COMPONENTS COSTING AS PER PROVIDED B.O.Q.

DESCRIPTION	RAT	ING	MAKE	QTY
SUPPLY OF NEW 2500A BREAKER, COPPER MA	AMP	SC EXISTING PANEL		<u> </u>
INCOMING FROM K.E 1	1			
ACB TP (ADJ.)	2500A	100kA	ABB	1
MOTOR MECHANISM 220V AC			ABB	1
UVT			ABB	1
SHUNT OPENING			ABB	1
SHUNT CLOSING			ABB	1
CTs	3200/5A		METLEX	3
PHASE INDICATION LIGHTS (R/Y/B)			S.A./CAMSCO	3
CONTROL MCB / FUSE + BASE	2A		CAMSCO / HIMEL	6
BUSBAR PER PHASE + NEUTRAL	1X100 X 5	SERVICES	LOVATA	4
BUSBAR EARTH	80 X 05	SERVICES	LOVATA	1
SUPPLY OF 3200A AUTO PHASE REVERSAL PA	NEL			
ACB TP(ADJ.)	3200A	100kA	ABB	2
UVT	220VAC		ABB	2
SHUNT OPENING	220VAC		ABB	2
SHUNT CLOSING	220VAC		ABB	2
MOTOR MECHANISM	220VAC		ABB	2
CTs			FICO/METALEX	3
ENERGY ANALYZER	220VAC	R/Y/B	CIRCUTOR / EQU	1
PHASE INDICATION LIGHTS (R/Y/B)	2A		CAMSCO / HIMEL	3
CONTROL MCB / FUSE + BASE	3200/5A		CAMSCO / HIMEL	3
CONTROL SECTION				•
CONTROL SECTION: EVR RELAY			INTER/EQU.	1 1
TIMER WITH BASE			AUTONICS/ EQU.	2
INDICATION LIGHTS (NORMAL G)	220VAC		CAMSCO / HIMEL	1
INDICATION LIGHTS (ABNORMAL R)	220VAC		CAMSCO / HIMEL	1
CONTROL MCB / FUSE + BASE	2A		CAMSCO / HIMEL	2
PHASE SEQUENCE RELAY	ZA		EMIREL/EQU.	1
CONTROL RELAY WITH BASE			PHOENIX	1
THERMOSTATE RELAY				
			IMPORTED	1
				2
EXHAUST FAN WITH FILTER			IMPORTED	2
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL	20004	40014	IMPORTED	<u>'</u>
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.)	2000A	100kA	IMPORTED ABB	1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT	220VAC	100kA	IMPORTED ABB ABB	1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING	220VAC 220VAC	100kA	IMPORTED ABB ABB ABB	1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING	220VAC 220VAC 220VAC	100kA	ABB ABB ABB ABB	1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING	220VAC 220VAC	100kA	IMPORTED ABB ABB ABB	1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM	220VAC 220VAC 220VAC 220VAC		ABB ABB ABB ABB ABB	1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.)	220VAC 220VAC 220VAC 220VAC 220VAC	100kA 100kA	ABB ABB ABB ABB ABB ABB	1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT	220VAC 220VAC 220VAC 220VAC 220VAC		ABB ABB ABB ABB ABB ABB ABB	1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC		ABB ABB ABB ABB ABB ABB ABB ABB ABB	1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING SHUNT CLOSING	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC 220VAC		ABB	1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC		ABB ABB ABB ABB ABB ABB ABB ABB ABB	1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS	220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC		ABB	1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM	220VAC 220VAC 220VAC 220VAC 220VAC 2000A 220VAC 220VAC 220VAC		ABB	1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS	220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC 220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 3
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 3
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B)	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION:	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 3 1 6 6
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION: TIMER WITH BASE	220VAC	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION: TIMER WITH BASE INDICATION LIGHTS (NORMAL G)	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION: TIMER WITH BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R)	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL RELAY WITH BASE CONTROL RELAY WITH BASE	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION: TIMER WITH BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL SECTION: TIMER WITH BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER SUPPLY OF 900KVAR PFI	220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER SUPPLY OF 900KVAR PFI ACB TP	220VAC 2A 3200/5A 220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL MCB / FUSE + BASE CONTROL MCB / FUSE + BASE OONTROL MCB / FUSE + BASE MOO-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER SUPPLY OF 900KVAR PFI ACB TP CTS 12 STAGE PFI RELAY	220VAC 2A 3200/5A 220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXHAUST FAN WITH FILTER SUPPLY OF 2000A CHANGE OVER PANEL ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM ACB TP(ADJ.) UVT SHUNT OPENING SHUNT CLOSING MOTOR MECHANISM CTS ENERGY ANALYZER PHASE INDICATION LIGHTS (R/Y/B) CONTROL MCB / FUSE + BASE CONTROL MCB / FUSE + BASE INDICATION LIGHTS (NORMAL G) INDICATION LIGHTS (ABNORMAL R) CONTROL RELAY WITH BASE CONTROL MCB / FUSE + BASE M-O-A SELECTOR SWITCH THERMOSTATE RELAY EXHAUST FAN WITH FILTER SUPPLY OF 900KVAR PFI ACB TP CTS	220VAC 2A 3200/5A 220VAC 2A 3200/5A	100kA	ABB	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

1

MCCB TP	100A	25kA	OWNER PROVIDED	3			
6 X 25KVAR = 150 KVAR (3 VARIABLE STAGE)							
POWER FACTOR CAPACITOR @ 415VAC	25KVAR		OWNER PROVIDED	5			
POWER FACTOR CAPACITOR @ 415VAC	25KVAR		NOKIAN / EQU.	1			
MAGNETIC CONTACTOR TP @ AC-3	50A		FUJI / EQU.	3			
MCCB TP	50A	25kA	TERASAKI	3			
6x100KVAR=600KVAR (6 VARIABLE STAGE):							
POWER FACTOR CAPACITOR @ 415VAC	50KVAR		NOKIAN / EQU.	12			
MAGNETIC CONTACTOR TP @ AC-3	105A		FUJI / EQU.	12			
MCCB TP	100A	25kA	TERASAKI	12			
	•						
MANUAL - OFF - AUTO SWITCH		G/R	CAMSCO	12			
ON/OFF PUSH BUTTON (G/R)			S.A./CAMSCO	24			
ON/OFF INDICATION LIGHT (G/R)	2A	2A/5	CAMSCO / HIMEL	24			
CONTROL MCB / FUSE + BASE			EMAS	3			